

Islands at the Crossroads: Biocultural Diversity, Heritage, and Sustainable Futures

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Received 12 April 2026, Accepted 16 April 2026, Available online 30 April 2026

 10.21463/jmic.2026.15.1.01

1. Anchoring the Conversation: The Yeosu Forum and Its Legacy

This special issue of the *Journal of Marine and Island Cultures* grows out of a sustained and generative intellectual encounter: the 2025 International Island Forum held in Yeosu, Republic of Korea. Convened under the theme “The Present and Future of Island Cultural Diversity,” the Forum brought together scholars, community advocates, policymakers, and practitioners whose work spans archipelagos from the East China Sea to the Mediterranean, from the Pacific Northwest to the Seto Inland Sea. What united them was not a single methodology or disciplinary allegiance, but a shared conviction that islands matter, and that the way we think about islands must change.

The Forum took place at a moment of heightened urgency. Island communities worldwide face converging crises: accelerating biodiversity loss, the cultural homogenization driven by globalization, demographic collapse in peripheral archipelagos, and the mounting impacts of climate change on coastal and low-lying environments. Yet Yeosu was not a gathering defined by crisis alone. The conversations and the scholarship gathered in this issue consistently demonstrated that island cultures are not simply victims of global forces. They are, in many instances, among humanity's most sophisticated living systems where we can observe co-production of ecological and cultural knowledge. The challenge is not to freeze islands in time, but to create the conditions that allow island communities to navigate contemporary change on their own terms.

Yeosu also carries particular significance as the host city of the upcoming 2026 World Island Exhibition, whose theme, “Islands and the Sea: Sustainable Future,” offers an opportunity to shift global narratives about islands from vulnerability and marginality toward agency, innovation, and knowledge production. Several contributions in this issue speak directly to that ambition, and we return to it in our closing remarks.

2. Islands Recentred: From Margin to Nexus

A defining intellectual commitment runs through this special issue: the refusal to frame islands as peripheral, isolated, or simply “small.” This move, now well-established in island studies, has a distinguished genealogy. Epeli Hau’ofā’s (1994) foundational reframing of Oceania as a “Sea of Islands” rather than “islands in a far sea” redirected attention from bounded territory to relational networks, the sea as connector, not barrier. This archipelagic imaginary has since been extended through postcolonial scholarship in the Caribbean, Mediterranean, and East Asian contexts (Baldacchino, 2004; Grydehøj, 2017; Hayward, 2014; Stratford et al., 2011), and it infuses the six contributions assembled here.

The **opening paper** by Sun-Kee Hong, Jae-Eun Kim, and Gyeong-Ah Lee provides the conceptual scaffolding for the entire issue. Drawing on multidisciplinary scholarship and comparative cases from East Asia, Southeast Asia, and the Pacific, their synthesis proposes six interrelated analytical lenses through which island cultures can be understood: biocultural diversity, islandness, social-ecological systems, commons and community resilience, archipelagic thinking, and place-based knowledge. Hong and colleagues resist any single lens in isolation. Their argument is that explanatory power emerges only when these frameworks are read together, as a composite optic adequate to the complexity of island life. Their paper also highlights gaps in existing literature regarding regional imbalance, disciplinary fragmentation, insufficient engagement with power and inequality, and limited dialogue with broader theoretical currents such as the Anthropocene and the Blue Humanities. This contribution points toward the kind of epistemological pluralism, relationally oriented, comparative, and glocal scholarship that a maturing field requires.

The concept of “biocultural diversity”, the co-evolution of biological and cultural systems as a single, intertwined phenomenon, serves as a unifying thread across this issue. First articulated in the 1988 Declaration of Belém and developed through Luisa Maffi’s foundational synthesis (Maffi, 2001, 2005; Sterling et al., 2017), biocultural diversity insists that the erosion of cultural systems and the decline of biological systems are not parallel crises but a single one. Several papers in this issue both draw on and deepen this framework, each adding texture from a distinct geographic and disciplinary vantage point.

3. The Papers in Dialogue

3.1 Oceans of Knowledge: Biocultural Connections in the Marine World

Annette Breckwoldt and Ron Vave’s contribution, “Cultural Diversity and Marine Biodiversity: Bridging What Is Already Connected,” offers the most direct theoretical engagement with the marine dimensions of biocultural diversity. Writing from the Leibniz Centre for Tropical Marine Research in Bremen and the Department of Pacific Islands Studies, University of Hawai’i, Breckwoldt and Vave argue that the relationship between cultural diversity and marine biodiversity on islands is not one of co-location but of “co-constitution”, each sustaining, shaping, and reinforcing the other through biocultural feedback loops. Their paper makes a striking observation. To their knowledge, no systematic literature review has

yet examined the connections between cultural diversity and marine biodiversity explicitly from an island studies perspective. This gap is both a scholarly failing and an opportunity, and this paper begins to address it.

Drawing on the concept of Two-Eyed Seeing (Etuaptmumk), as articulated by Elder Dr. Albert Marshall of the Mi'kmaw Nation (Bartlett et al., 2012), Breckwoldt and Vave propose a methodology for knowledge coexistence that goes beyond the familiar call to “integrate” Indigenous knowledge into Western science. Two-Eyed Seeing asks practitioners to see from one eye with the strengths of Indigenous ways of knowing and from the other with the strengths of Western science, using both together “for the benefit of all.” Applied to marine stewardship, this framework grounds the case study of reef passages in New Caledonia, where these ecological features function simultaneously as biocultural keystones: spaces of fish passage, ceremonial significance, social memory, and customary governance. These passages are not merely features of marine geography; they are inscribed with generations of relational knowledge and practice. Breckwoldt and Vave’s analysis is complemented by their engagement with the clam garden traditions of the Pacific Northwest, where Coast Salish peoples have cultivated intertidal ecosystems for millennia in ways now being recognized by conservation science as models of adaptive management.

Breckwoldt and Vave’s paper situates itself explicitly within the editorial vision of island epistemology, ways of knowing that emerge from and are shaped by island-human-ocean relations. Their conclusion is characteristically forward looking. Rather than lamenting the marginalization of Indigenous knowledge, they call for governance frameworks and research partnerships that treat it as “a co-equal epistemological foundation.”

3.2 Islandscapes: Landscape, Seascape, and Biocultural Participation

Gloria Pungetti’s article, “Isandscape Biocultural Diversity and Community Participation,” brings a European-Mediterranean dimension to the issue while extending the biocultural diversity framework into landscape studies. Pungetti introduces the concept of the “isandscape”, the full landscape of an island, understood as the meeting point of landform, seascape, and cultural heritage, and argues for its analytical and policy value in island governance.

Drawing on decades of European research, including the ESLAND (European Culture Expressed in Landscapes) and Seascapes projects, as well as her own work in Sardinia, Pungetti demonstrates how natural and cultural forces have co-shaped island environments across the Mediterranean over millennia. Her Sardinian case study is organized around three methodological pillars: an interdisciplinary and biocultural dimension; active community participation; and shared results with structured follow-up. The finding that community members’ perceptions of their own isandscape differ systematically from expert assessments, and that mapping these perceptions is itself a form of governance, has direct implications for conservation planning and cultural heritage management in island contexts worldwide.

Pungetti's paper also makes a normative argument that "biocultural, transdisciplinary and collaborative approaches for resilient island cultures" are not merely desirable but necessary if island landscape biocultural diversity is to be preserved against the twin pressures of standardization and demographic decline. Her articulation of green-blue infrastructures as governance instruments for islandscapes connects to broader European policy frameworks while remaining firmly grounded in the lived realities of island communities.

3.3 Voices from the Edge of Memory: Oral History and Endangered Heritage

Perhaps the most poignant contribution in this issue is Yuji Ankei and Takako Ankei's account of the Fuganutu Epic, an oral history preserved on Yonaguni Island, Japan's westernmost point in the paper "The Fuganutu Epic Connecting Remote Islands: An Oral History of 15th-Century Drifters from Jeju to Yonaguni."

Yonaguni is a place of extraordinary cultural precariousness. It sits at the edge of Japan geographically and linguistically. Its indigenous language, Dunan munui, has been designated endangered by UNESCO, and as of 2025, the island's population of 1,660 includes a substantial proportion of Self-Defense Forces personnel. Against this backdrop, Ankei and Ankei describe a 36-year collaborative relationship with a Yonaguni-born artist and storyteller known as Wakaranko (1954–2025), who over the course of those years transmitted to him an oral epic of approximately 80,000 characters in Dunan munui, a narrative that no previous researcher had recorded.

The Fuganutu Epic recounts the arrival of three men from Jeju Island in 1477 and their six-month stay on Yonaguni. The authors' remarkable discovery is that this oral tradition correlates closely with entries in the Veritable Records of the Joseon Dynasty (1479), a documentary source that the Yonaguni storytellers had no access to. This convergence is powerful evidence that the Fuganutu tradition was transmitted independently on Yonaguni, not derived from written historical sources. The Epic is richer and more detailed than the written record, containing life-wisdom teachings about food, fiber, weather forecasting, and tidal patterns that reflect sustained cultural exchange across the Ryukyu archipelago in an era before Japanese or Ryukyuan sovereignty consolidated these islands.

Yuji and Takako Ankei's methodological approach, what they call "narrator-led oral history through remote collaboration", raises important questions about ethics, authorship, and the politics of cultural heritage. Wakaranko chose to "throw" her knowledge at the researchers; they positioned themselves as editors, not extractors. The authors' discussion of plagiarism, privacy, and the ethical hazards of making indigenous artists visible to a curious public reads as an unusually frank account of the real dilemmas of collaborative ethnography. The article reaches its most affecting moment in noting that Wakaranko's picture book, the culmination of her lifetime's work, was published four months before her death in 2025. The timing is a reminder of how much irreplaceable knowledge departs with individual lives, and of how narrow the window can be for collaborative preservation.

3.4 Heritage Under Pressure: UNESCO, Tourism, and the “Amami Model”

Evangelia Papoutsaki's ethnographic research on Amami Ōshima, “Narratives of Heritage, Tourism, and Community in Amami Ōshima: Reflections on an Animate Island and the Implications of the UNESCO World Natural Heritage Inscription”, addresses the double-edged consequences of global heritage recognition. When Amami Ōshima and three associated islands in the Ryukyu archipelago were inscribed as Japan's fifth UNESCO World Natural Heritage site in July 2021, the designation was welcomed as international validation of the islands' extraordinary endemic biodiversity. But as Papoutsaki's fieldwork demonstrates, inscription is not arrival but threshold: the beginning of a complex negotiation among competing interests, scales of governance, and visions of the island's future.

Papoutsaki's research combines stakeholder interviews with conservation advocates, media practitioners, local government officials, tour guides, and community members, alongside a survey of professional tour guides and participant observation. The resulting portrait is of a community at once proud and anxious, aware that UNESCO status is an asset but alert to the risks of overtourism, cultural commodification, and governance failures. A consensus is emerging around what Papoutsaki calls the “Amami Model”: a “high-value, low-impact” approach to tourism that foregrounds ecological integrity and cultural authenticity. But the model remains aspirational rather than operational, frustrated by infrastructure deficits, limited community participation in planning, and unresolved tensions between municipal, prefectural, and national authorities.

Drawing on David Abram's (1996) phenomenological distinction between islands as “relational/animate places” and as “visual/consumable destinations,” Papoutsaki articulates what is at stake in these negotiations: not only economic outcomes but the very character of human–island relationships. Tour guides emerge in her account as underappreciated custodians of this relationship, interpreters who mediate between global visitors and local worlds, yet they remain economically precarious and institutionally marginal. This finding resonates with the broader pattern across the issue: those who do the daily work of cultural and ecological stewardship are often the least protected by governance systems.

A further resonance concerns cultural heritage. The UNESCO designation, which pertains to the natural environment, does not directly protect cultural heritage, and the pressure to commodify the island experience may have an adverse effect on it. Papoutsaki's contribution thus speaks implicitly to a tension that runs through many UNESCO World Heritage sites: the designation of “outstanding universal value” can paradoxically undermine the locally-embedded values that made a place worth designating.

3.5 Revitalization at What Price? Art Festivals and Peripheral Archipelagos

Meng Qu's article, "Revitalization at a Price? Intermittent Art Festivals on Peripheral Archipelagos," shifts the focus from heritage governance to the political economy of cultural revitalization, using Japan's Setouchi Triennale, a large-scale contemporary art festival spread across twelve islands in the Seto Inland Sea, as its primary case. Drawing on a decade of mixed-methods fieldwork (2015–2025), including business surveys and in-depth interviews, Qu's analysis offers a valuable longitudinal and empirically granular account in this collection.

The Setouchi Triennale runs for several months once every three years, attracting millions of visitors to islands facing severe depopulation and aging. In the official narrative, it is a model of art-based rural revitalization. Qu's findings complicate this story without dismissing it. The Triennale does generate social exchange, cultural energy, and economic activity, particularly for the small tourism businesses whose labour makes festival hospitality possible. But it also creates what Qu terms "Intermittent Festivalness", a precarious commercial rhythm in which businesses and communities must absorb the strain of mass visitation during festival periods and then sustain themselves through two-year intervals with diminished revenue and reduced visitor interest. The islands bear a "socio-economic price" that official narratives routinely overlook.

Qu's most striking conceptual contribution is the concept of "social over-interaction", a condition in which the psychological and relational demands placed on elderly residents by large numbers of visitors, while initially welcomed as stimulating, can erode local autonomy and generate a subtler form of exhaustion. This concept extends the established literature on overtourism in ways specific to the island context, where small communities, limited infrastructure, and strong but fragile social fabrics make the impacts of mass visitation qualitatively different from those in mainland rural settings.

Qu's prescription is neither to abandon art-based revitalization nor to scale it back to boutique status. Instead, he argues for what he calls an "archipelagic perspective" that transcends temporary tourism spikes, and for social entrepreneurship as a structural buffer that enables communities to internalize the side effects of creative destruction and build endogenous resilience.

Alongside the Ankei and Papoutsaki articles, this contribution underscores a theme that emerges with particular force from this special issue: the importance of ensuring that revitalization strategies are co-designed with, not merely delivered to, the communities they seek to serve.

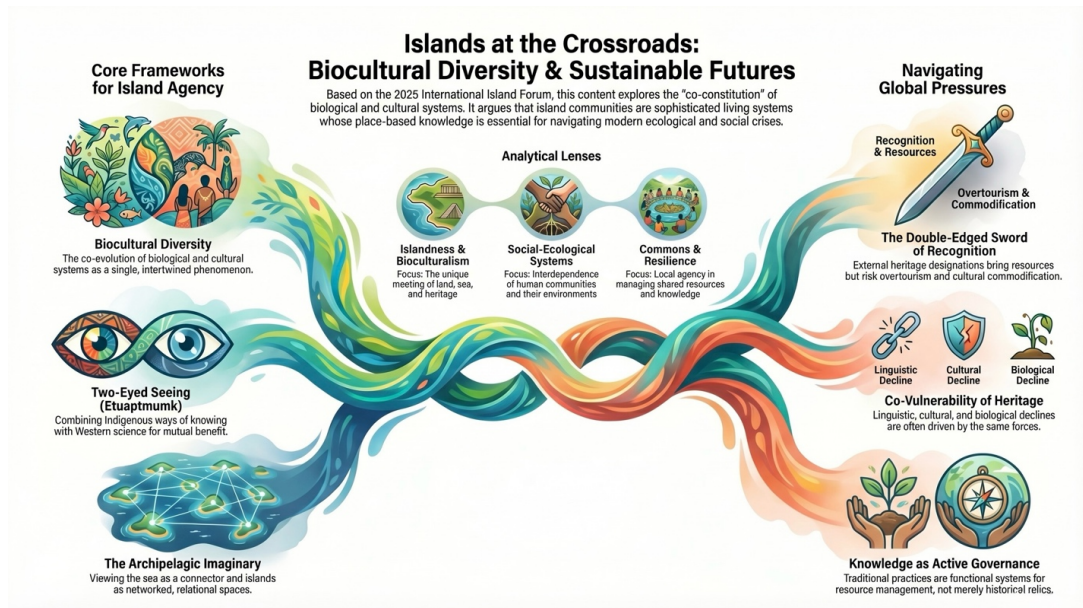


Fig 1. Source: authors, generated with NotebookLM

4. Connecting Threads

Reading these six papers together, several themes emerge with particular clarity: islands as relational, networked spaces; the co-vulnerability of biological and cultural heritage; the ambivalence of external recognition; knowledge as practice, practice as governance; and the ethics of collaborative research.

The rejection of insularity as isolation is the common ground on which all six contributions stand. Whether the argument is framed in terms of archipelagic thinking (Hong et al., Breckwoldt and Vave), biocultural co-constitution (Breckwoldt and Vave; Pungetti), the long-distance cultural exchange recorded in the Fuganutu Epic (Ankei and Ankei), or the global circuits of art and tourism that connect peripheral Japanese islands to cosmopolitan audiences (Qu), the islands in this issue are emphatically not closed worlds. They are nodes in ecological, cultural, economic, and epistemological networks.

Several papers document the simultaneous endangerment of linguistic, cultural, and biological diversity, often driven by the same structural forces: demographic decline, economic marginalization, and governance that prioritizes growth over community wellbeing. The Fuganutu Epic, transmitted by a single individual in an endangered language, is the most dramatic case, but Pungetti's Mediterranean islandscapes and Papoutsaki's Amami Ōshima narrate variants of the same story. Breckwoldt and Vave's paper provides the systematic analytical framework for understanding this co-vulnerability. When customary systems of marine tenure are replaced by state ownership, when commercialization erodes traditional sharing networks, or when conservation interventions are imposed without cultural integration, both biological and cultural systems suffer.

Whether the external agent is UNESCO heritage designation (Papoutsaki), a large-scale art festival promoted by national government and private art foundations (Qu), or even the scholarly apparatus of oral history research (Ankei and Ankei), this issue identifies a consistent pattern: external recognition can be simultaneously enabling and corrosive. It brings visibility, resources, and legitimacy; it can also commodify, over-simplify, and disempower. The “double-edged sword” metaphor that Papoutsaki applies to UNESCO designation could, with appropriate modification, be applied to almost every form of external engagement with island cultures discussed in these pages. The challenge, and the aspiration expressed across multiple contributions, is to design forms of engagement that genuinely foreground local agency.

A salient aspect of this collection is how consistently it connects knowledge systems to governance outcomes. Traditional ecological knowledge is not ornamental; it is functional (Berkes, 2008). The reef passage practices documented by Breckwoldt and Vave, the tidal flat management traditions discussed by Hong et al., the food preservation and weather-forecasting wisdom encoded in the Fuganutu Epic, the participatory island mapping developed by Pungetti’s Sardinian communities—these are not survivals from the past but active systems for managing shared resources and sustaining community life. Recognizing them as such is a prerequisite for the kind of co-management and co-governance that multiple papers call for (Ostrom, 1990).

Yuji and Takako Ankei’s paper is unusual in its extended ethical reflection on the problems that arise when researchers make indigenous artists and oral historians visible to a wider public. But the ethical dimension it foregrounds, the question of who benefits from cultural research and who bears its costs, is relevant across the entire collection. As island communities are asked to share their knowledge, their landscapes, and their lifeways with researchers, festival audiences, and heritage tourists, the asymmetries of power and benefit that structure these encounters demand ongoing critical attention.

5. Looking Forward: Island Epistemology and the 2026 World Island Exhibition

Breckwoldt and Vave’s paper proposes the concept of “island epistemology” as an analytical lens for the contributions in this issue, ways of knowing that emerge from, and are shaped by, island-human-ocean relations. This concept complements and extends the archipelagic thinking articulated by Hong and colleagues, and it has important implications for how we think about the future of both island scholarship and island governance. Island epistemology does not mean romanticizing local knowledge or treating it as static. It means recognizing that island communities have developed, over centuries and millennia, sophisticated ways of reading ecological and social systems, and that these ways of knowing have something to teach the rest of the world.

The 2026 World Island Exhibition in Yeosu presents a significant opportunity to make this argument on a global stage. As Breckwoldt and Vave observe, events of this scale can “amplify island voices and reshape global narratives about islands from sites of

marginalization and vulnerability to sources of innovation for sustainable marine futures." The scholarship gathered in this issue provides exactly the kind of empirical and conceptual grounding that such a reframing requires. From the biocultural case studies of the Pacific to the islandscapes of Sardinia, from the oral histories of Yonaguni to the governance struggles of Amami Ōshima and the impact of the global circuits of art in the Seto islands, these papers demonstrate that islands are not problems to be solved but archives of knowledge, relationship, and resilience from which humanity has much to learn.

What would it mean to take island epistemology seriously in policy and governance? At minimum, it would mean involving island communities as co-producers of the knowledge frameworks that govern their resources and heritage; designing recognition regimes, whether UNESCO designations, art festivals, or tourism promotion strategies, that genuinely centre community wellbeing and cultural continuity rather than instrumentalizing them for external audiences; supporting the documentation and transmission of endangered knowledge systems, including linguistic heritage, with the same urgency we bring to endangered species conservation (UNESCO, 2003); and developing comparative research frameworks that are genuinely attentive to the diversity of island contexts, from the archipelagos of East Asia to the Mediterranean, from the Pacific to the North Atlantic, rather than assuming that findings from one region generalize seamlessly to another.

The goal, as multiple authors in this issue articulate it, is neither to fossilize island cultures as museum exhibits nor to reduce them to laboratories for experimentation, but to support them as living, evolving systems capable of navigating our times with agency and dignity. The research collected here is offered in that spirit.

6. Acknowledgements

We extend our sincere gratitude to the organizers of the 2025 International Island Forum in Yeosu, and to the host community of Yeosu whose hospitality made the Forum possible. We thank the authors whose contributions form the heart of this special issue. We are grateful to the peer reviewers and to the editorial team of the *Journal of Marine and Island Cultures*. Finally, we wish to acknowledge the many island communities whose lives, knowledge, and futures are the ultimate subject of this work.

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References

- Abram, D., 1996. *The spell of the sensuous: Perception and language in a more-than-human world*. Pantheon Books, New York.
- Baldacchino, G., 2004. The coming of age of island studies. *Journal of Economic and Human Geography*. 95(3): 272–283. <https://doi.org/10.1111/j.1467-9663.2004.00307.x>
- Bartlett, C., Marshall, M., Marshall, A., 2012. Two-eyed seeing and other lessons learned within a co-learning journey of bringing together Indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Science*. 2(4): 331–340. <https://doi.org/10.1007/s13412-012-0086-8>
- Berkes, F., 2008. *Sacred ecology: Traditional ecological knowledge and resource management*, 2nd ed. Routledge, New York.
- Grydehøj, A., 2017. A future of island studies. *Island Studies Journal*. 12(1): 3–16. <https://doi.org/10.24043/isj.1>
- Hayward, P., 2024. Aquapelagos and Aquapelagic assemblages: an integrated study of island societies and marine environments. *Shima: The International Journal of Research into Island Cultures*. 6(1): 1–11. [10.21463/shima.aq.anth.int](https://doi.org/10.21463/shima.aq.anth.int)
- Hau'ofā, E., 1994. Our sea of islands. *Contemporary Pacific*. 6(1): 147–161.
- Maffi, L. (Ed.), 2001. *On biocultural diversity: Linking language, knowledge, and the environment*. Smithsonian Institution Press, Washington, DC.
- Maffi, L., 2005. Linguistic, cultural, and biological diversity. *Annual Review of Anthropology*. 34: 599–617. <https://doi.org/10.1146/annurev.anthro.34.081804.120437>
- Ostrom, E., 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press, Cambridge.
- Sterling, E.J., Filardi, C., Toomey, A., Sigouin, A., Betley, E., Gazit, N., Claudet, J., et al., 2017. Biocultural approaches to well-being and sustainability indicators across scales. *Nature, Ecology and Evolution*. 1(12): 1798–1806. <https://doi.org/10.1038/s41559-017-0349-6>
- Stratford, E., Baldacchino, G., McMahon, E., Farbotko, C., Harwood, A., 2011. Envisioning the archipelago. *Island Studies Journal*. 6(2): 113–130. <https://doi.org/10.24043/isj.253>
- UNESCO, 2003. *Convention for the safeguarding of the intangible cultural heritage*. United Nations Educational, Scientific and Cultural Organization, Paris.

Reimagining Island Culture: Beyond Ecology and Community toward New Boundary Thinking — Theory, Comparative Cases, and Future Directions

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Received 7 March 2026, Accepted 12 April 2026, Available online 30 April 2026

 10.21463/jmic.2026.15.1.02

Abstract

Islands have long been framed as peripheral, isolated, and vulnerable spaces. This paper argues instead that island cultures constitute central sites for rethinking human–environment relations in the twenty-first century. Drawing on six interconnected analytical lenses—biocultural diversity, islandness, social–ecological systems, commons and community resilience, archipelagic thinking, and place-based knowledge—the study synthesizes multidisciplinary scholarship and comparative regional cases from East Asia, Southeast Asia, and the Pacific. The analysis demonstrates that islands are not marginal territories but relational and networked socio-ecological systems deeply embedded in global processes. At the same time, their ecological constraints and visible environmental feedback render them living laboratories of sustainability. Cases such as the Jeju *haenyeo*, commons-based tidal flat management in Korea, Bajau maritime practices, and Pacific navigation traditions illustrate how cultural systems evolve in dynamic dialogue with ecological conditions. The paper also identifies critical gaps in existing island studies scholarship, including regional imbalance, disciplinary fragmentation, limited engagement with power and inequality, and insufficient integration with broader theoretical debates such as the Anthropocene and the Blue Humanities. Moving beyond vulnerability-centered narratives, it calls for a decolonized, comparative, and glocal approach that recognizes islands as active producers of knowledge rather than passive recipients of global policy. By repositioning islands as nodal sites of relationality, resilience, and epistemological innovation, this study highlights their broader significance for sustainability transitions and planetary futures.

Keywords

Archipelagic thinking, Biocultural diversity, Community resilience, Island culture, Place-based knowledge, Social–ecological systems

1. Introduction

Islands have long occupied a paradoxical position in human history and imagination. They have been feared as places of exile and isolation, yet revered as centers of exchange, innovation, and refuge (DeLoughrey, 2019). From Homer's *Odyssey* to modern travel narratives, islands have often been portrayed as marginal, bounded, and romanticized spaces. However, islands are neither static nor peripheral. They are dynamic socio-ecological systems whose significance extends far beyond their geographic boundaries. In the twenty-first century, as global crises such as the COVID-19 pandemic, climate change, and biodiversity loss converge, islands have emerged not as remote isolates or detached territories, but as microcosms of planetary futures—compressed worlds in which the tensions and possibilities of sustainability are vividly enacted (Hong and Grydehøj, 2022). Recent scholarships in geography, anthropology, sociology, and ecology support this shift in perspective. Scholars such as Baldacchino (2004), Stratford et al. (2011), and Grydehøj (2017) have challenged the notion of islands as isolated “peripheries,” repositioning them instead as interconnected and relational spaces. Hau'ofa's (1993) influential essay *Our Sea of Islands* articulated this view most powerfully in the Pacific context, arguing that islands are not scattered dots on a map but nodes in a web of relationships spanning the ocean. In this framework, the sea is not a boundary of separation but a medium of connection, and island cultures are defined not by closure but by mobility, reciprocity, and exchange. This conceptual turn has since been extended through comparative studies in the Mediterranean (Braudel, 1972; Godfrey, 2020; Nazari et al., 2024), the Caribbean (Glissant, 1997; Sheller, 2003), the North Atlantic, and East Asia (Tagliacozzo, 2005), among others.

At the same time, the ecological distinctiveness of islands remains central to their cultural significance (Hong, 2013). Due to their relative isolation, islands often harbor endemic species and unique ecosystems, making them biodiversity “hotspots.” These ecological conditions shape the cultural practices of island communities, which in turn reshape the ecological systems on which they depend (Vallega, 2007; UNEP, 2021). The concept of biocultural diversity (Maffi, 2007) captures this interdependence, emphasizing that biological and cultural diversity have co-evolved and are inseparable (Hong, 2011; Hong et al., 2014). Examples such as the diving labor of Jeju *haenyeo* (Yoon, 2010; Ham, 2017; Chisholm Hatfield & Hong, 2019; Paik, 2019), the maritime nomadism of the Bajau in Indonesia (Ariando and Arunotai, 2022), and traditional navigation practices in the Pacific demonstrate how cultural practices both depend upon and sustain ecological systems (Song et al., 2019; Harrison et al., 2024). These cases illustrate how ecological constraints stimulate cultural creativity and how human–environment relationships, while locally grounded, carry global significance (Kim and Hong, 2011). Nevertheless, scholarly research on island cultures has often been fragmented across disciplinary boundaries (Lee et al., 2023). Anthropology has documented rituals, kinship systems, and oral traditions; geography has analyzed settlement

patterns, mobility, and tourism; ecology has focused on endemic species and conservation challenges (Lansing, 2006). While each approach provides valuable insights, such fragmentation risks reinforcing the very nature/culture, ecological/social, and local/global divides that island life frequently transcends (Hong and Pungetti, 2012). What is needed is an integrative study that synthesizes these diverse scholarly contributions and illuminates island cultures as distinctive and instructive forms of socio-ecological entanglement.

This paper responds to that need. We synthesize existing research through six interconnected analytical lenses: (1) biocultural diversity, (2) islandness and isolation, (3) socio-ecological systems, (4) commons and community resilience, (5) archipelagic thinking, and (6) place-based knowledge. Each concept offers a window into how island life is organized and sustained, yet their explanatory power is strongest when read together within a broader framework. Through this integrative approach, islands can be understood not merely as geographic units or cultural curiosities, but as laboratories of sustainability, resilience, and alternative epistemologies (John, 2018; Clarke et al., 2019).

The urgency of this inquiry is underscored by the contemporary challenges facing islands worldwide. Climate change, particularly sea-level rise and extreme weather events, poses existential threats to many low-lying islands and their inhabitants (Pathirana, 2025). At the same time, globalization and tourism generate both opportunities and vulnerabilities, reshaping local economies and cultural practices. In some communities, depopulation and demographic aging intensify pressures; in others, rapid development erodes traditional ways of life. Yet many island communities continue to demonstrate remarkable resilience, as evidenced by practices such as commons-based fisheries management in Shinan (Hong and Grydehøj, 2022), traditional navigation systems in the Pacific (Hau'ofa, 1993), and adaptive livelihood strategies among Bajau communities in Southeast Asia (Ariando and Arunotai, 2022). Understanding these practices not only advances island studies but also offers valuable lessons for global sustainability discourse. Furthermore, this paper situates island cultures within broader theoretical debates. Postcolonial and decolonial perspectives critique dominant representations of islands as exotic, dependent, or vulnerable, highlighting their agency, creativity, and global entanglements (Pugh, 2013; Grydehøj, 2020). The Blue Humanities and new thalassology reconceptualize the sea not as space but as a cultural and ecological domain shaping human experience. Anthropocene discourse further suggests that islands, often on the frontlines of climate impacts, provide critical insights into human–nature relationships under conditions of planetary change. By re-examining island cultures through these intersecting lenses, this study contributes not only to island studies but also to broader conversations on resilience, sustainability, and the future of human–environment relations.

The structure of the paper is as follows. The next section elaborates the six core concepts for analyzing island cultures. The third section presents comparative regional cases—from East Asia, Southeast Asia and the Pacific, the Mediterranean, and the North Atlantic—to illustrate both diversity and commonality in island cultural practices. The fourth section discusses knowledge gaps and future research directions, particularly in relation to climate adaptation, global sustainability discourse, and global knowledge production. Finally, the paper argues that island cultures are not merely objects of preservation but philosophies of

living from which we must learn, offering insights for navigating contemporary socio-ecological crises. In short, islands are not “small worlds,” but “worlds in condensation.” Through an integrative and interdisciplinary review of island cultures, this paper seeks to reposition islands not as peripheries but as centers of knowledge, imagination, and resilience.

2. Background: Reframing Island Cultures

Understanding island cultures requires moving beyond descriptions of local traditions, rituals, and livelihoods toward a theoretical framework capable of capturing the entanglement of ecological systems, social structures, and knowledge practices. This paper proposes six interrelated analytical lenses: (1) biocultural diversity, (2) islandness and isolation, (3) social-ecological systems, (4) commons and community resilience, (5) archipelagic thinking, and (6) place-based knowledge. Each has been widely discussed in the literature; taken together, however, they offer a comprehensive framework for analyzing the complexity of island cultures in both historical and contemporary contexts.

Biocultural Diversity

The concept of biocultural diversity illuminates the co-evolution of biological and cultural diversity (Hong, 2013; Bridgewater et al., 2021). As articulated by Luisa Maffi and colleagues (Maffi, 2007; Maffi & Woodley, 2010), it emphasizes that these domains are not independent but mutually reinforcing. Islands—where endemic ecosystems intersect with long histories of human adaptation—are among the most vivid sites in which biocultural diversity is manifested (Hong, 2011; Nazari et al., 2024). Traditional ecological knowledge (TEK) in island contexts clearly demonstrates this interdependence. For example, the *haenyeo* of Jeju, who free-dive without modern equipment to harvest marine products, rely on embodied knowledge of tides, marine species behavior, and ecological rhythms (Paik, 2019; Figure 1). This example also illustrates intergenerational care systems embedded within island communities, where elderly divers are supported by younger members, reinforcing social cohesion alongside ecological practice. The Bajau maritime nomads of Indonesia have developed sophisticated practices of marine resource use that are inseparable from their cultural identity as sea-oriented peoples. Traditional Pacific navigation, guided by stars, winds, and currents, symbolically reveals how ecological knowledge is inscribed within cultural practice. These examples suggest that conserving biodiversity is inseparable from sustaining cultural systems—and vice versa.



Fig 1. An 84-year-old *haenyeo* preparing sea urchins. (Udo Island, Jeju, June 2017, photo by Hong SK)

Islandness and Isolation

Islandness refers not only to the physical boundedness of islands but also to the lived sense of existential isolation experienced by their inhabitants (Campbell, 2009; Stratford et al., 2011; Hong, 2023). It encompasses more than geographical separation; it reflects social and cultural conditions shaped by limited resources, small-scale environments, and negotiated relationships with the outside world (Moore, 2015). Isolation often generates distinctive sensibilities: heightened awareness of boundaries, a balance between autonomy and dependence, and selective openness to external influences. While some scholars caution against essentializing “islandness” as a fixed identity, others recognize its value as an analytical lens for understanding how island communities manage relationships with larger political and economic systems. For example, the ways Mediterranean islands navigate tensions between tourism development and cultural preservation illustrate the dynamic interplay between openness and isolation.

Social–Ecological Systems

The concept of social–ecological systems (SES), originating in the work of Berkes and Folke (1998) and further developed by Ostrom (2007), emphasizes the mutual constitution and interdependence of human societies and ecological systems. In island contexts, this interdependence is particularly evident: tides, monsoon winds, and ecological cycles directly organize agricultural and fishing practices, which in turn shape cultural rituals and governance structures. Island cultures abound with examples that challenge the

nature/culture dichotomy. In many islands, nature is not perceived as an external environment but as an active participant in social life. Agricultural calendars correspond to lunar cycles and tidal rhythms; communal fishing rituals align with ecological seasons; sacred groves and taboo zones function as mechanisms of ecological governance. Such practices demonstrate how island communities embody and operate the principles of SES in everyday life.

Commons and Community Resilience

A defining feature of many island cultures is the management of commons. Elinor Ostrom's (1990) pioneering work demonstrated that communities can collectively manage shared resources without succumbing to the "*tragedy of the commons*," and islands have often served as paradigmatic sites of such governance. In contexts where spatial and ecological limits are highly visible, commons-based systems have been essential for sustaining livelihoods and reinforcing social cohesion (Tengö et al., 2017). The salt fields and tidal flats of Shinan in Korea, traditional irrigation systems in Okinawa, and communal fishing grounds in the Pacific function not merely as economic institutions but as cultural institutions encoding norms of reciprocity, trust, and collective responsibility. These institutions underpin community resilience—the capacity to adapt and reorganize in response to external shocks such as climate change or capitalist development. The persistence of commons governance in many islands illustrates how cultural practices simultaneously reinforce ecological sustainability and social solidarity.

Archipelagic Thinking

Moving beyond a focus on individual islands, archipelagic thinking emphasizes the relational and networked character of island life. Hau'ofa's (1993) reimagining of the Pacific as a "*sea of islands*" reconceptualized islands not as isolated points but as interconnected spaces linked by maritime mobility, cultural exchange, and shared histories. This perspective challenges hierarchical center-periphery models and highlights dispersed, horizontal connections. Archipelagic thinking resonates beyond the Pacific, informing scholarship in the Caribbean, Mediterranean, and Southeast Asia. In the digital era, such connections have expanded further, enabling island communities to build global networks for environmental activism, cultural preservation, and knowledge exchange (Pugh, 2013). Thus, archipelagic thinking functions not only as a conceptual framework but also as a political project that critiques dominant territorial logics and reaffirms the agency of island peoples.

Place-Based Knowledge

Island cultures rely deeply on place-based knowledge rooted in local ecologies. Transmitted orally across generations, this experiential, cumulative, and context-specific knowledge encompasses fine-grained understandings of winds, currents, soils, species, and ecological rhythms, enabling survival and flourishing in vulnerable environments (Ingold, 2010). In the context of global environmental change, the significance of place-based knowledge has gained renewed recognition. As modern science confronts uncertainty and complexity, traditional knowledge systems offer insights into resilience and adaptation (Berkes et al.

2000). In island communities, such knowledge is not merely practical but also ethical and philosophical, emphasizing interdependence with nonhuman beings, humility, and care. Recognizing and integrating this knowledge into contemporary sustainability efforts is both a scientific and cultural responsibility.

Taken together, these six concepts form a comprehensive framework for analyzing island cultures. They illuminate the entanglement of ecology and culture (biocultural diversity and social–ecological systems), the distinctiveness of island conditions (islandness and commons-based resilience), the relational orientation of islands (*archipelagic thinking*) (Pugh, 2013; 2018), and the epistemological depth of traditional knowledge (*place-based knowledge*). Crucially, this framework avoids reducing islands to ecological units or cultural curiosities. Instead, it positions them as laboratories of resilience and creativity—sites where alternative pathways for socio-ecological futures are continually imagined and enacted.

3. Literature Review and Comparative Perspectives

Although regional scholarship has been compared, it is crucial to recognize that these regions are not only areas of study but also sites of unique theoretical developments. Pacific scholarship, for example, has emphasized relational ontology and oceanic epistemology (Hau'ofa, 1993), focusing on mobility and interconnectedness rather than fixed territorial boundaries. Caribbean island studies have developed the concepts of creolization and relational identity (Glissant, 1997), challenging essentialist ideas about culture and place. In the Mediterranean, *longue durée* perspectives (Braudel, 1972) reveal historical layers of connectivity, exchange, and environmental adaptation. More explicitly engaging these regional theoretical traditions enables island studies to move beyond simple comparison toward deeper conceptual integration.

Island studies is a vibrant multidisciplinary field that has developed across geography, anthropology, sociology, ecology, political science, and cultural studies. While the field has diversified conceptually and methodologically, its empirical focus has been uneven across regions. The Pacific and the Caribbean have received comparatively greater attention, whereas East Asia has been less prominently represented. This section reviews regional research, highlights the theoretical contributions of each set of cases, and identifies commonalities and differences through a comparative lens.

Islands of Korea and East Asia

Research on the *haenyeo* of Jeju demonstrates that these women divers embody sophisticated ecological knowledge of tides, shellfish behavior, and the seasonal rhythms of the sea (Ham, 2017; Chisholm Hatfield and Hong, 2019; Song et al., 2023). The *haenyeo* are widely interpreted as a paradigmatic example of biocultural heritage that integrates ecological, cultural, and gendered dimensions, and their practice has been inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity (Paik, 2019).

However, this tradition faces significant threats from demographic aging, modernization, and climate change. The tidal flats and salt fields of Shinan in southwestern Korea provide another example of commons-based resource management (Hong, 2025; Kim, 2017; Kim and Hong, 2026). Collective ownership and communal labor historically structured resource use and generated institutions grounded in reciprocity and resilience (Figure 2). Although state policies and market pressures have challenged these common problems, many communities have maintained cooperative practices, offering important cases of sustained community resilience despite external pressures. In Japan, islands such as Amami Ōshima and Okinawa illustrate tensions between centralized governance and local autonomy. Traditional irrigation systems, forest management practices, and ritual institutions have been studied as expressions of socio-ecological resilience (Lansing, 2006, see Figure 3). At the same time, Okinawa's militarization and geopolitical position reveals how islandness is shaped by global political forces, complicating narratives of isolation and resilience. Taken together, East Asian cases demonstrate that island cultures are deeply rooted in place-based ecological knowledge while continually negotiating modernization, demographic change, and geopolitical contexts.



Fig 2. Sun-dried sea salt in Shinan County, Jeollanamdo. Natural salt production is most abundant in the island regions of Jeollanamdo. It involves producing sea salt by utilizing seawater on reclaimed tidal flats. Some areas have even established experience villages for tourists to participate in the process. These traditional salt farms are increasingly being reclaimed due to the expansion of renewable energy projects, such as solar power facilities. (Photo taken by Hong SK, August 2024; Hong, 2025).



Fig 3. In Iriomote Island, located in Japan's Ryukyu Archipelago, the Shichi Festival(節祭, シチ) is a traditional celebration with a history of about 500 years. During this festival, island residents pray for a bountiful harvest, as well as health and happiness for the community. Traditional performances such as lion dances and stick fights are held in late October. The Shichi Festival has been designated as an Important Intangible Folk Cultural Property of Japan. Rituals, festivals, and architectural traditions that pray for good harvests and safety at sea are commonly found in island communities around the world. (Photo taken by Hong SK, January 2023).

Islands of Southeast Asia and the Pacific

The Bajau communities of Indonesia and the Philippines organize their lives around maritime mobility, boat-dwelling traditions, and intimate knowledge of coral reefs, currents, and marine species (Ariando and Arunotai, 2022). Ethnographic studies show that Bajau identity is inseparable from the sea and that their place-based knowledge can be both adaptive and vulnerable under conservation policies and national integration programs. Wakatobi in Southeast Sulawesi has been studied as a hotspot of biocultural diversity (Oktaviani et al., 2025). Local fishing and coral reef management practices intersect with global conservation initiatives, producing tensions between indigenous governance systems and external interventions. Wakatobi also exemplifies archipelagic thinking in practice, as communities perceive themselves not as isolated villages but as part of broader networks of marine and cultural relations.

In the Pacific, Polynesian navigation traditions have become emblematic of place-based knowledge. Navigation guided by stars, winds, and ocean swells reveals a highly sophisticated ecological understanding embedded in cultural practice. Hau'ofa's reconceptualization of the Pacific as a "*sea of islands*" rejected colonial framings of smallness and isolation, instead emphasizing mobility, relationality, and oceanic connectivity.

At the same time, Pacific scholarship highlights the dual condition of resilience and vulnerability. Low-lying atoll nations such as Tuvalu and Kiribati face existential threats from sea-level rise, prompting research on climate-induced migration, sovereignty, and cultural sustainability (Tengö et al., 2017; Song et al., 2019). This body of literature underscores that islands function simultaneously as laboratories of resilience and as frontlines of the climate crisis. Pari Island (Pulau Pari) is one of the small islands off Jakarta, Indonesia (Figure 4). With the rapid increase in tourism, groundwater use has intensified, and seawater intrusion has occurred due to sea-level rise, leading to salinization of freshwater resources. The clearing of mangrove forests—once serving as a natural coastal protection—and tourism-related development have also contributed to land subsidence and coastal flooding, making these issues significant manifestations of the climate crisis.



Fig 4. Pari Island (*Pulau Pari*) (August 2022, Photo by Hong SK).

Comparative Insights

Comparative reading across regions reveals not only recurring themes but also important variations in how island societies organize ecological knowledge, governance, and identity under changing global conditions. Five interrelated insights stand out.

1. *Biocultural Interdependence as a Structural Condition*

Across East Asia, Southeast Asia, the Pacific, the Mediterranean, and the North Atlantic, island cultures consistently demonstrate the co-evolution of ecological and cultural systems. This interdependence is not incidental but structural. Limited land area, finite freshwater, seasonally fluctuating marine resources, and high exposure to climatic variability intensify feedback loops between human activity and ecological response. For example, tidal rhythms shape harvesting calendars in Korea and Japan; coral reef health directly conditions Bajau subsistence patterns; and Atlantic Island fisheries historically structured seasonal labor organization and ritual life. In each case, ecological cycles are not external constraints but constitutive elements of cultural meaning and social organization. Comparative analysis thus reinforces the claim that islands offer particularly clear empirical sites for observing biocultural co-evolution in action (Bridgewater et al., 2021). At the same time, the form of this interdependence varies. In some regions, such as the Pacific, cosmologies explicitly embed humans within oceanic systems. In others, such as the Mediterranean, centuries of trade and imperial incorporation have layered marine-based livelihoods with terrestrial agricultural traditions (Nazari et al., 2024). Comparison, therefore, reveals both the universality of biocultural entanglement and the diversity of its historical expressions.

2. *Commons and Governance under Ecological Limits*

Commons-based resource management emerges repeatedly across regions, yet its institutional forms differ according to ecological scale and political history (Johannes, 2002). In Korea's tidal flats, communal salt production historically required coordinated labor and shared access regimes. In Okinawa, irrigation and forest management were embedded within village governance. In Pacific islands, communal fishing territories are often tied to kinship and customary law (Song et al., 2019). The comparative perspective highlights that ecological limits—visible coastlines, bounded watersheds, fragile reefs—make collective governance not merely normative but necessary. Islands often lack the spatial redundancy that allows mainland regions to absorb resource depletion elsewhere. Consequently, institutionalized reciprocity and shared responsibility become adaptive strategies. However, comparison also reveals how commons systems are transformed under state centralization, neoliberal policy reforms, tourism development, and conservation regimes. In some contexts, customary tenure systems are formalized; in others, they are marginalized. The resilience of island commons, therefore, depends not only on local cohesion but also on multi-scalar political negotiation.

3. *Tourism, Globalization, and Economic Reorientation*

Tourism and global market integration constitute another shared dynamic. Many islands—from the Mediterranean to Southeast Asia—have reoriented their economies toward tourism as fisheries decline or agricultural profitability decreases (Figure 5). Tourism often provides critical income, infrastructure development, and international visibility. Yet comparative analysis shows a dual trajectory. Where tourism is community-managed or culturally embedded, it may reinforce local identity and support conservation. Where development is externally driven and capital-intensive, it can erode commons governance, inflate land prices, displace residents, and commodify culture. This tension illustrates a broader

comparative insight: island economies are especially sensitive to global fluctuations because of their scale and limited diversification. Thus, globalization amplifies both opportunity and vulnerability in island contexts.



Fig 5. Asinara Island, Sardinia. A major Italian island rich in historical and natural-cultural heritage has been designated as a national park. Through a membership-based system, it is both preserved for its natural values and utilized as a sustainable tourism destination. (13-Oct. 2012, photo by Hong SK).

4. Vulnerability and Resilience as Coexisting Conditions

Islands are frequently portrayed as inherently vulnerable, particularly in climate change discourse. Rising sea levels, intensified storms, coral bleaching, and resource depletion disproportionately affect many island territories. Pacific atoll states such as Tuvalu and Kiribati face existential risks, while Mediterranean and East Asian islands confront extreme weather variability and demographic decline. However, comparative evidence complicates narratives of passive vulnerability (Tengö et al., 2017). Island communities often demonstrate adaptive flexibility grounded in long-standing cultural practices: diversified livelihoods, rotational harvesting, ritualized ecological restraint, and strong social networks. Resilience is therefore not an abstract capacity but socially embedded in institutions, values, and collective memory. Importantly, vulnerability and resilience coexist. High exposure to external shocks does not negate agency; rather, it frequently catalyzes innovation. Comparative analysis thus reframes islands not solely as victims of global crises but as active sites of adaptive experimentation.

5. Archipelagic Connectivity and Relational Identity

The relational orientation of islands challenges the persistent image of isolation. From Hau'ofa's Pacific "sea of islands" to the Aegean and Indonesian archipelagos, maritime mobility and inter-island exchange have historically structured social life. Trade routes, migration circuits, religious networks, and kinship ties link islands into broader relational fields. In the contemporary era, digital connectivity and transnational activism further extend these networks. Island communities collaborate across oceans on climate advocacy, cultural revitalization, and sustainable development. Comparative analysis thus reveals that island identity is frequently relational rather than insular, constructed through movement, exchange, and shared ecological concerns. This relationality destabilizes center-periphery models that position islands as marginal. Instead, islands appear as nodal points in global networks, simultaneously locally grounded and globally connected. Taken together, these comparative insights reinforce the argument that island cultures are neither homogeneous nor peripheral. They exhibit recurring structural dynamic biocultural interdependence, commons governance, exposure to globalization, simultaneous vulnerability and resilience, and archipelagic relationality—while also displaying regionally specific historical trajectories. Through comparison, islands emerge not as isolated anomalies but as analytically powerful sites for understanding broader questions of sustainability, governance, and human-environment relations in an era of planetary change.

4. Discussion: Knowledge Gaps and New Directions

A review of the literature across East Asia, Southeast Asia and the Pacific, the Mediterranean, and the North Atlantic reveals both the richness of island studies and its uneven development (John, 2018; Ariando and Arunotai, 2022). Although islands have been celebrated as laboratories of resilience and sites of biocultural heritage (Pathirana, 2025), significant gaps remain in how island cultures are conceptualized and engaged. Addressing these gaps is necessary not only for advancing island studies itself, but also for contributing to broader debates on sustainability, resilience, and human-environment relations.

Regional Imbalance

One of the most visible gaps lies in the geographic distribution of scholarships. The Pacific and the Caribbean have been central to island studies, partly due to their colonial histories, linguistic visibility, and prominence in climate change narratives (Clarke et al., 2019). In contrast, islands in East Asia—such as those in Korea and Japan—remain relatively underrepresented in international theoretical debates. While meaningful regional studies exist on the Jeju *haenyeo* and Okinawan commons, these cases are seldom integrated into global theoretical discussions. Similarly, although the Mediterranean has a long and rich history of island cultures, scholarships often focus narrowly on tourism or geopolitics, under examining its potential as a laboratory of ecological knowledge. Future research should broaden its geographic scope to encompass diverse archipelagos and avoid generalizing from a limited set of well-known regions.

Disciplinary Fragmentation

Another persistent issue is disciplinary fragmentation. Anthropology, geography, ecology, and political science frequently study islands in parallel rather than in dialogue, emphasizing rituals, settlement patterns, biodiversity, or governance separately. Although island studies are nominally interdisciplinary, in practice, they often remain compartmentalized. This fragmentation limits our ability to understand islands as integrated social–ecological systems. A key task for future scholarships is to build genuinely transdisciplinary frameworks that connect qualitative and quantitative approaches, integrate ethnographic depth with ecological modeling, and link local narratives with global sustainability indicators.

Under-theorization of Power and Inequality

While much island scholarship emphasizes resilience and cultural creativity, it has sometimes neglected critical analyses of power relations. Moreover, the discourse of resilience itself requires critical interrogation. While often celebrated as a positive attribute, resilience can obscure structural inequalities and shift responsibility onto local communities without addressing the broader political and economic forces that produce vulnerability. From a political ecology perspective, island environments are frequently shaped by external actors, including state policies, global markets, and conservation regimes, which may marginalize local knowledge and practices. Feminist island studies further highlight how gendered labor—such as that of the *haenyeo*—is often undervalued despite its ecological significance. Decolonial approaches similarly call attention to how island territories have historically been positioned within unequal power relations, from colonial extraction to contemporary tourism economies. Incorporating these perspectives is essential for developing a more ethically grounded and analytically robust understanding of island sustainability.

Framing island communities as inherently “resilient” can obscure structural inequalities, external exploitation, and political marginalization. For example, success stories of commons management must also ask who has access and who is excluded. Tourism development may bring opportunities, but issues of dependency, labor precarity, and cultural commodification are often underanalyzed. Future research should incorporate critical perspectives from political ecology, feminist theory, and decolonial studies to avoid romanticizing island resilience and to foreground questions of justice and inequality.

Limited Engagement with Broader Theoretical Debates

Concepts such as biocultural diversity and archipelagic thinking have been well developed within island studies, yet their engagement with broader theoretical conversations remains insufficient. For instance, the Blue Humanities and new thalassology foreground the sea as a cultural and epistemological space, but island studies have only partially integrated these perspectives. Similarly, Anthropocene discourse foregrounds planetary ecological crisis, yet islands have not been fully positioned as distinctive sites of insight within this framework.

Strengthening systematic engagement with sustainability science, resilience theory, and environmental humanities would enrich both island studies and these broader fields of inquiry.

Climate Change and Adaptation

Islands are frequently described as being on the frontlines of climate change, but research often focuses narrowly on the vulnerability of atoll nations. Such framing risks reproducing victim narratives and overlooking community-led adaptation strategies and innovations (Clarke et al., 2019). While migration and relocation are often discussed as inevitable outcomes, comparatively less attention is given to climate-resilient agriculture, hybrid governance arrangements, and the revitalization of traditional ecological knowledge (Pathirana, 2025). Future research should move beyond vulnerability-centered narratives and systematically document and theorize the diverse ways in which island cultures actively respond to climate change.

The Knowledge Gap between Policy and Practice

A further gap exists between academic scholarship and policy implementation. Although the importance of commons, resilience, and place-based knowledge is widely acknowledged, these insights are often not translated into operational governance frameworks. National governments and international organizations frequently impose top-down policies that marginalize local knowledge systems, leading to conflict and inefficiency. Bridging this gap requires co-production of knowledge with island communities, participatory research methodologies, and integrative frameworks that combine traditional and scientific knowledge. Such approaches align with international initiatives—including the Convention on Biological Diversity (CBD) and the Sustainable Development Goals (SDGs)—which emphasize the importance of indigenous knowledge and community-based governance (Kim, 2019).

5. Conclusion

This paper has argued that islands should be understood not as peripheral curiosities, but as central sites for rethinking human–environment relations in the twenty-first century. Through six interconnected analytical lenses—biocultural diversity, islandness and isolation, social–ecological systems, commons and community resilience, archipelagic thinking, and place-based knowledge—it has become clear that islands embody complex socio-ecological entanglements deeply intertwined with global challenges. Islands are neither isolated nor marginal; they are relational, networked, and deeply embedded within global processes. At the same time, they retain distinctive ecological and cultural characteristics that offer critical lessons for sustainability and resilience.



Fig 6. Hodo Island, Chungcheongnam-do, South Korea. Oysters cultivated by the village fishing cooperative are harvested collectively and distributed among members. By adjusting the harvest according to seasonal variations, the community helps maintain the sustainability of the marine aquaculture grounds while ensuring fairness in distribution, thereby supporting the economic stability of the village. (January 2022, Photo by Hong SK)

Islands as Laboratories of Sustainability

One of the central insights of this study is that islands function as living laboratories of sustainability (Figure 6). Ecological constraints, small scale, and the high visibility of environmental change render human–environment interactions particularly legible (Berkas et al. 2000). Commons-based management of tidal flats in Korea (Hong and Grydehøj, 2022), the preservation of traditional navigation in the Pacific, and community-based fisheries in the North Atlantic demonstrate how cultural systems evolve in direct dialogue with ecological conditions. These practices highlight the capacity of island communities to adapt, innovate, and sustain livelihoods amid scarcity and uncertainty.

Rethinking Boundaries

Islands also compel us to rethink boundaries—between nature and culture, tradition and modernity, local and global. In island contexts, such distinctions are often blurred. Ecological rhythms shape ritual life, while cultural practices sustain ecological systems. Archipelagic thinking disrupts the logic of isolation and emphasizes connectivity, mobility, and interdependence (Moore, 2015). This perspective challenges hierarchical models that position islands as subordinate peripheries and instead situate them as nodal points within relational networks. Such a shift is not only analytically productive but also politically transformative.

Lessons for Global Sustainability

The insights derived from island cultures resonate far beyond island contexts. In the face of global challenges such as climate change, biodiversity loss, and socio-ecological transformation, the philosophies and practices of island communities offer meaningful guidance. Place-based knowledge underscores humility and care in human–environment relations; commons governance demonstrates the feasibility of collective action; cultures of resilience show how adaptation can occur without the loss of identity (Nazari et al., 2024). In these ways, islands contribute concrete alternatives to global sustainability discourse.

Policy and Scholarly Implications

The findings of this paper carry important implications for both policy and scholarship. Policymakers must recognize islands not as passive recipients of global strategies, but as active producers of knowledge (Hong and Grydehøj, 2022). Conservation, climate adaptation, and sustainable development policies should be designed in partnership with island communities and grounded in local practices and knowledge systems. For scholars, significant challenges remain in addressing regional imbalances, overcoming disciplinary silos, and, more critically, theorizing power relations. By integrating island studies with global debates on the Anthropocene, the Blue Humanities, and environmental justice, islands can be positioned as key contributors to some of the most urgent intellectual and political questions of our time.

Toward an Island Epistemology

What we term “island epistemology” requires further conceptual development. Rather than treating islands merely as empirical sites, island epistemology may be understood as a mode of knowing grounded in relational ontology, where humans, nonhuman beings, and ecological processes are conceived as fundamentally interconnected. This perspective resonates strongly with Indigenous knowledge systems, particularly in the Pacific, where knowledge is embodied, place-based, and transmitted through lived practice rather than abstract representation. Island epistemology challenges dominant Western epistemological traditions that prioritize universality, abstraction, and human–nature dualism. Instead, it foregrounds situated knowledge, interdependence, and ethical responsibility toward both human and nonhuman communities. Knowledge, in this sense, is not detached observation but emerges through continuous interaction with specific ecological and cultural contexts (Hong and Pungetti, 2012). Moreover, island epistemology highlights the importance of scale and limitation. The boundedness of island environments renders ecological feedback more visible, fostering a heightened awareness of sustainability, reciprocity, and care. This does not imply that island knowledge is inherently superior, but rather that it offers critical insights into alternative ways of knowing that are urgently needed in the Anthropocene. In this regard, island epistemology is not confined to island societies. It offers a broader philosophical framework for rethinking sustainability, resilience, and human–environment relations in a time of planetary crisis. Islands, therefore, are not only sites of analysis but also sources of epistemological transformation.

Acknowledgements

This paper is a revised and expanded version of a presentation delivered at the 2025 *Yeosu International Island Forum*. This research was supported by the Humanities Korea Plus (HK+) Project of the National Research Foundation of Korea (Grant No. 2020S1A6A3A01109908). The authors would like to express their sincere gratitude to Dr. Evangelia Papoutsaki for her thoughtful and constructive review of this manuscript.

References

- Ariando, W., Arunotai, N., 2022. The Bajau as a left-behind group in the context of coastal and marine co-management system in Indonesia. *Journal of Marine and Island Cultures* 11(1): 260–278. <https://doi.org/10.21463/jmic.2022.11.1.18>
- Berkes, F., Folke, C., 1998. *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge University Press, Cambridge. pp. 3-6.
- Berkes, F., Colding, J., Folke, C., 2000. Rediscovery of traditional ecological knowledge as adaptive management. *Ecological Applications* 10(5): 1251–1262.
- Braudel, F. 1972. *The Mediterranean and the Mediterranean World in the Age of Philip II, Volume 1*. Collins, University of Minnesota. 642 pages.
- Bridgewater, P., Rotherham, I.D., Xu, J., 2021. Biocultural diversity and landscape: Linking nature and culture. *Sustainability Science* 16: 111–123.
- Campbell, J. 2009. ISLANDNESS, Vulnerability and Resilience in Oceania. *Shima* 3(1): 85–97.
- Clarke, T., McNamara, K.E., Clissold, R., Nunn, P.D., 2019. Community-based adaptation to climate change: Lessons from Tanna Island, Vanuatu. *Island Studies Journal* 14(1): 59–80. <https://doi.org/10.24043/isj.80>
- Chisholm Hatfield, S., Hong, S.-K., 2019. Mermaids of South Korea: Haenyeo (women divers), traditional ecological knowledge, and climate change impacts. *Journal of Marine and Island Cultures* 8(1): 1–16. <https://doi.org/10.21463/jmic.2019.08.1.01>
- DeLoughrey, E.M., 2019. *Allegories of the Anthropocene*. Duke University Press, Durham.
- Glissant, É., 1997. *Poetics of Relation*. University of Michigan Press, Ann Arbor.
- Godfrey, B., 2020. *The Routledge International Handbook of Island Studies. A World of Islands*. Routledge Taylor & Francis Group, 500p.
- Godfrey, B., 2004. The Coming Of Age Of Island Studies, *Tijdschrift voor Economische en Sociale Geografie, Royal Dutch Geographical Society KNAG*, 95(3): 272–283.
- Grydehøj, A. 2020. Critical approaches to island geography. *Area* 52(1): 2–5. <https://doi.org/10.1111/area.12546>
- Grydehøj, A. 2017. Islands as legible geographies: perceiving the islandness of Kalaallit Nunaat (Greenland). *Journal of Marine and Island Cultures* 13(1): 1–11. [10.21463/jmic.2018.07.1.01](https://doi.org/10.21463/jmic.2018.07.1.01)

- Ham, H.-H., 2017. Challenges and issues of the Jeju women divers community after the inscription on the UNESCO list: Focusing on the process of "heritization." *Journal of Intangible Cultural Heritage Studies* 2(2): 7–25.
- Harrison, K.D., Kelso, N., Ramík, D.M., Ramík, N., Plunkett, G.M., Wahe, M., Balick, M.J., 2024. Wind lore as environmental knowledge in Southern Vanuatu. *Journal of Marine and Island Cultures* 13(1): 1–24.
- Hau'ofa, E., 1993. Our sea of islands. In: Waddell, E., Naidu, V., Hau'ofa, E. (Eds.), *A New Oceania: Rediscovering Our Sea of Islands*. School of Social and Economic Development, University of the South Pacific, Suva, pp. 2–16.
- Hong, S.-K., 2025. The future of biocultural traditions and new challenges: island cuisine in Korea. in: Fusté-Forné, F., Wolf, E. (Eds.), *Food and Beverage Tourism on Islands*. Edward Elgar Publishing, pp. 189–204. <https://doi.org/10.4337/9781035337019.00024>
- Hong, S.-K. 2023. Biocultural Diversity and Islandness: On human-geographical and typological approaches. *Journal of Marine and Island Cultures*. 12(3): 1–13. <https://doi.org/10.21463/jmic.2023.12.3.01>
- Hong, S.-K., 2013. Biocultural diversity conservation for island and islanders: Necessity, goal and activity. *Journal of Marine and Island Cultures* 2(2): 102–106. <https://doi.org/10.1016/j.imic.2013.11.004>
- Hong, S.-K., 2011. Biocultural diversity and traditional ecological knowledge in island regions of Southwestern Korea. *Journal of Ecology and Field Biology* 34(2): 137–147.
- Hong, S.-K., Grydehøj, A., 2022. Sustainable island communities and fishing villages in South Korea: Challenges, opportunities and limitations. *Sustainability* 14(24): 16657. <https://doi.org/10.3390/su142416657>
- Hong, S.-K., Pungetti, G., 2012., Marine and Island Cultures: A unique journey of discovery. *Journal of Marine and Island Cultures* 1(1): 1–2. <https://doi.org/10.1016/j.imic.2012.06.001>
- Hong, S.-K., Maffi, L., Oviedo, G., Matsuda, H., Kim, J.-E., 2014. Development and vision of island biocultural diversity initiative. In: Hong, S.-K., Bogaert, J., Min, Q. (Eds.), *Biocultural Landscapes*. Springer, Dordrecht, pp. 275–292. https://doi.org/10.1007/978-94-017-8941-7_14
- Ingold, T., 2010. Footprints through the weather-world: Walking, breathing, knowing. *Journal of the Royal Anthropological Institute* 16(S1): S121–S139.
- Johannes, R.E., 2002. The Renaissance of Community-Based Marine Resource Management in Oceania. *Annual Review of Ecology and Systematics*, 33: 317–340. <http://www.jstor.org/stable/3069265>
- John, C., 2018. Islands: Balancing development and sustainability? *Environmental Conservation* 45: 111–124. <https://doi.org/10.1017/S0376892918000036>
- Kim, J.-E., 2017. The discussion of sun-dried salt field and eco-cultural resources utilization in Jeungdo and Shineuido, Shinan County, Jeonnam. *The Journal of Korean Island* 29(1): 309–330.

- Kim, J.-E., 2019. Traditional ecological knowledge and sustainability of ecosystem services on islands: A case study of Shinan County, Jeollanamdo, Republic of Korea. *Journal of Marine and Island Cultures* 8(1): 28–35.
- Kim, J.-E., Hong, S.-K., 2011. Pattern and process in MAEUL, a traditional Korean rural landscape. *Journal of Ecology and Field Biology* 34(2): 237–249.
- Kim, J.-E., Hong, S.-K., 2026. Land use and nature-based climate adaptation in coastal and island regions: A case study of Muan and Shinan, South Korea. *Sustainability* 18(1): 380. <https://doi.org/10.3390/su18010380>
- Lansing, J.S., 1987. Balinese “water temples” and the management of irrigation. *American Anthropologist* 89(2): 326–341. <https://doi.org/10.1525/aa.1987.89.2.02a00030>
- Lansing, J.S., 2006. *Perfect Order: Recognizing Complexity in Bali*. Princeton University Press, Princeton.
- Lee, G.A., Kim, J.-E., Hong, S.-K., 2023. Historical, Geographical, and Biocultural Values of ‘Doksal’, Korean Stone Tidal Weirs. *Journal of Marine and Island Cultures* 12(3): 111–121.
- Maffi, L., 2007. Biocultural diversity and sustainability. *Annual Review of Environment and Resources* 32: 547–574.
- Maffi, L., Woodley, E., 2010. *Biocultural Diversity Conservation: A Global Sourcebook*. Earthscan, London.
- Moore, A., 2015. Islands of difference: Islandness and the struggle for sustainability. *Environmental Conservation* 42(3): 211–221.
- Nazari, V., Pungetti, G., Hong, SK., Belardinelli, S., Destro Bisol, G., Pievani, D. 2024. Island biocultural diversity in the Mediterranean: the case study of Sardinia. *Reg Environ Change* 24: 143. <https://doi.org/10.1007/s10113-024-02308-2>
- Oktaviani, D., Nugroho, D., Wiati, C.B., Puspasari, R., Januar, H.I., Purnamasari, R.A., Praptiwi, R.A., Purwanto, Y., 2025. Fishers’ perceptions of the climate change impact on fishing in small islands of Wakatobi. *Journal of Marine and Island Cultures* 14(2): 340–364. <https://doi.org/10.21463/jmic.2025.14.2.20>
- Ostrom, E., 2007. A diagnostic approach for going beyond panaceas. *Proceedings of the National Academy of Sciences* 104(39): 15181–15187.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge: Cambridge University Press.
- Paik, Y.-G., 2019. The meaning of “heritage” and communal life: A case study of a Jeju village. *Culture and Convergence* 41(2): 1017–1050.
- Pathirana, A., 2025. Small islands: Living laboratories revealing global climate and sustainable development challenges. *Frontiers in Climate* 6. <https://doi.org/10.3389/fclim.2024.1445378>
- Pugh, J., 2013. Island movements: Thinking with the archipelago. *Island Studies Journal* 8(1): 9–24.
- Pugh, J., 2018. Relationality and island studies in the Anthropocene. *Island Studies Journal* 13(2): 93–110. <https://doi.org/10.24043/isj.48>

- Sheller, M., 2003. *Consuming the Caribbean: From Philanthropy to Post-colonialism*. Routledge, London.
- Song, A.M., Cohen, P.J., Hanich, Q., Morrison, T.H., Andrew, N.L., 2019. Multi-scale policy diffusion and translation in Pacific Island coastal fisheries. *Ocean & Coastal Management* 168: 139–149.
- Song, W., Jo, C., Yu, H., Lee, J.-H., 2023. Sustainability inherent in Jeju haenyeo (women divers)' indigenous knowledge. *Journal of Cultural and Historical Geography* 35(3): 75–91. <https://doi.org/10.29349/JCHG.2023.35.3.75>
- Stratford, E., Baldacchino, G., McMahon, E., Farbotko, C., Harwood, A., 2011. Envisioning the archipelago. *Island Studies Journal* 6(2): 113–130.
- Tagliacozzo, E., 2005. *Secret Trades, Porous Borders: Smuggling and States Along a Southeast Asian Frontier, 1865–1915*. Yale University Press, New Haven.
- Tengö, M., Hill, R., Malmer, P., Raymond, C.M., Spierenburg, M., Danielsen, F., Thomas, E., Folke, C., 2017. Weaving knowledge systems in IPBES, CBD, and beyond—Lessons learned for sustainability. *Current Opinion in Environmental Sustainability* 26–27: 17–25. <https://doi.org/10.1016/j.cosust.2016.12.005>
- UNEP, 2021. *Seaweed Revolution: A Manifesto for a Sustainable Future*. United Nations Environment Programme, Nairobi.
- Vallega, A., 2007. The role of culture in island sustainable development. *Ocean & Coastal Management* 50: 279–300. <https://doi.org/10.1016/j.ocecoaman.2007.02.003>
- Yoon, Y.-T., 2010. Contemporary significance of Jeju Island's ecological culture. *Tamla Culture* 37: 317–352. <https://doi.org/10.35221/tamla.2010..37.010>

Cultural Diversity and Marine Biodiversity: Bridging what is already connected

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Received 16 March 2026, Accepted 14 April 2026, Available online 30 April 2026

 10.21463/jmic.2026.15.1.03

Abstract

Islands are disproportionate drivers of both cultural and ecological diversity. Yet, both forms of diversity face accelerating and compounding pressures and decline under the effects of globalization, climate change, and inflexible governance regimes. This paper argues that cultural diversity and marine biodiversity on islands are not merely co-located but fundamentally co-constitutive and bidirectional — each sustaining, shaping, and reinforcing the other through 'biocultural' feedback loops. The emphasis lies on the intrinsic linkages between cultural diversity and marine biodiversity, particularly in Pacific Island contexts. Drawing on the concept of 'biocultural diversity' and contributing to the framework of an *island epistemology*, the paper synthesizes coastal case studies from the South Pacific, as well as the Pacific Northwest. These cases demonstrate that Indigenous and local cultural practices — ceremonial systems, customary tenure, seasonal restrictions, and spiritual relationships with marine species and places — need to be in place, and can function as effective, adaptive marine management and stewardship systems with measurable ecological outcomes. The paper calls for a systematic literature review to examine the connections between cultural diversity and marine biodiversity from an island studies perspective, underscoring the fundamental research gap this contribution seeks to address. Together with the other papers in this special issue, this contribution centers interdependence, community resilience, and archipelagic thinking, and discusses how events such as the 2026 World Island Exhibition in Yeosu (South Korea) can amplify island voices and reshape global narratives about islands from sites of marginalization and vulnerability to sources of innovation for sustainable marine futures.

Keywords

biocultural diversity, island epistemology, marine stewardship, cultural diversity, biodiversity, reef passages, clam gardens, archipelagic thinking, Indigenous and local knowledge

1. Introduction

1.1 The Biocultural Connection on Islands

Islands are disproportionate generators of cultural, biological and ecological diversity. Their unique geographies — shaped by isolation, ocean proximity and varied topography — nurture endemic species, distinct habitats such as coral reefs, mangroves, and lagoon systems, as well as rich mosaics of languages, traditions, (partly very difficult) histories, and local ecological knowledge (Furusawa, 2016; Hong, 2023; Maffi, 2001; Sterling et al., 2017). The concept of biocultural diversity captures this entanglement: "the diversity of life in all of its manifestations: biological, cultural, and linguistic, which are interrelated (and possibly coevolved) within a complex socio-ecological adaptive system" (Maffi, 2005, p. 602). Since the 1988 Declaration of Belém, through Maffi's foundational work and into contemporary applications, the 'biocultural diversity framework' has established that the erosion of cultural systems and the decline of biological systems are not parallel crises but a single, intertwined phenomenon (Maffi, 2001; Sterling et al., 2017).

The world of differences that islands have generated is under increasing pressure and often under threat, particularly in the Pacific where the islands are small, remote, and therefore, very vulnerable, especially to large scale threats and impacts that affect whole island systems. In addition, the biodiversity crisis is oftentimes more visible than its cultural counterpart. Cultural, societal, and ecological diversity has, in recent centuries, declined under pressures of 'standardization' and some of the homogenizing forces of globalization (Cinner et al., 2005; Hong, 2023; Malm, 2001). To date, no systematic literature review addressing marine biodiversity globally exists that was explicitly designed to examine the connections between cultural diversity and marine biodiversity from an island studies perspective. This reveals a fundamental conceptual and empirical gap, which the author of this paper seeks to address here (with an exhaustive review yet to be written). The evidence base has further been limited by persisting disciplinary silos that often continue separating biodiversity science from cultural analysis, and by geographical biases concentrating research in the Global North (del Valle et al., 2025; Tessnow-von Wysocki and Vadrot, 2020).

The argument of the paper proceeds from conceptual framing, through a short comparative analysis of case studies demonstrating biocultural co-constitution, to a forward-looking framework for an *island epistemology* and its implications for the 2026 World Island Exhibition and global marine governance.

1.2 Changing perspectives: From 'Small Islands in a Far Sea' to 'A Sea of Islands'

This paper takes its orientation from Epeli Hau'ofa's paradigm-shifting and reframing of the Pacific: that Pacific peoples were connected rather than separated by the sea — islands not as isolated fragments but as interconnected nodes in vast oceanic networks (Hau'ofa, 1994; Photo 1). Hau'ofa rejected the portrayal of the Pacific as weak, disconnected, or dependent, instead revealing Oceania as a dynamic relational space sustained by mobility, exchange, and deep ocean knowledge (Hau'ofa, 1994).

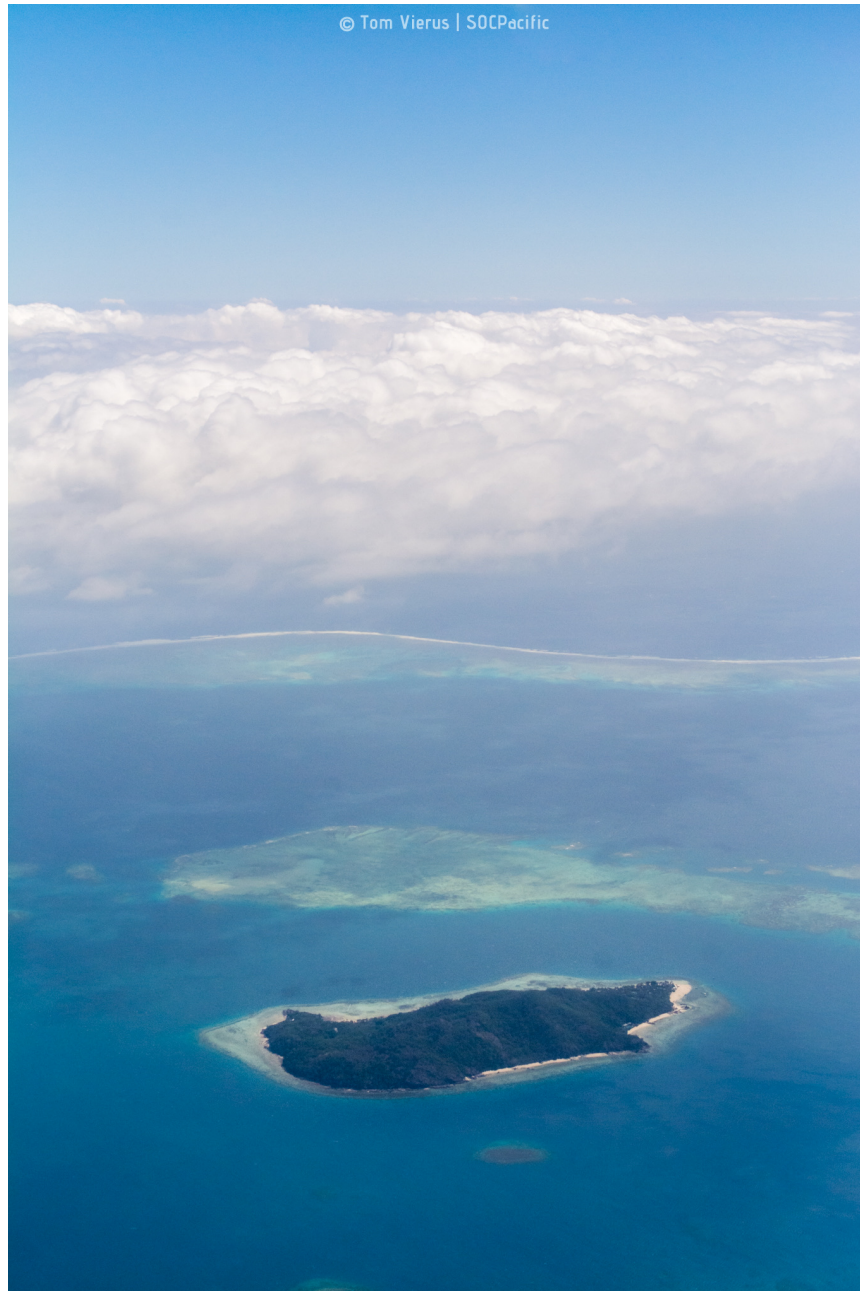


Photo 1: An island in the 'Sea of Islands', in Fiji, Oceania (©T. Vierus)

Positioned within this special issue's vision of sustainable futures rooted in island-specific values, archipelagic thinking, and the integration of local knowledge with inter- and transdisciplinary research, the paper takes up and discusses the concept of an *island epistemology* — ways of knowing that emerge from, and are shaped by, island-human-ocean relations — as its analytical lens. This epistemological orientation draws on traditions of island studies scholarship that emphasize fluidity over static boundaries, and connections over separations, while centering Indigenous and local knowledge systems as generative rather than residual (Pugh, 2013; Roberts and Stephens, 2017; Stratford et al., 2011).

2. Biocultural Diversity, Two-Eyed Seeing, and Archipelagic Thinking

2.1 Biocultural Diversity as Analytical Lens

The biocultural diversity framework has evolved from the Declaration of Belém (1988) — which first articulated the ‘inextricable link’ between cultural and biological diversity — through Maffi's foundational synthesis to contemporary marine applications (Maffi, 2001; Sterling et al., 2017; Thaman, 2004). In island contexts, this framework holds particular analytical power. Knowledge on islands has developed through ‘reading’ physical geography — constellations, winds, waves, ocean currents, topography, and vegetation — driven by geographic isolation and ubiquitous ocean proximity (Hau’ofa, 1994; Hong, 2023). Preceding this knowledge are the origin or creation stories that deeply root people and place to the ocean, the *vanua* (clan-based land-sea-unit), and all its inhabitants. And this continues to be especially true for the Pacific, where it is intrinsic that life developed from the ocean. In Hawaii, their creation story (*kumulipo* written by Queen Liliuokalani 1997) speaks of the first male and female created from primordial slime from which coral and marine life were the beginning. For Palau, life developed from the clam (Nero, 1992).

The relationship between cultural and biological diversity on islands is not one of mere co-location but of mutual reinforcement. Relationships between people and their totems dictate or demand reverence and care — to the point where people (especially elders) avoid consumption, and would ensure it is not disturbed. Subsequently, they would get upset if others from within or outside their community were infringing on and threatening the species and its population (cf. Firth 1931). Healthy ecosystems sustain cultural continuity, while rich cultural traditions and practices — which have always been dynamic — can provide adaptive (management) strategies that make marine biodiversity more resilient to change. Evidence from across the Pacific demonstrates this empirically, in studies examining the interrelationship between cultural diversity and marine biodiversity on Pacific Islands (Aini et al., 2023; Aswani and Lauer, 2006a; Harding et al., 2022; Kitolelei et al., 2021; McMillen et al., 2014).

The connection was found to strengthen in contexts characterized by:

- intact customary marine tenure with active enforcement (Aswani and Lauer, 2006a; Hylton et al., 2017),
- high resource dependence with 50–90% of dietary protein derived from marine sources (Aini et al., 2023; Harding et al., 2022),
- functional transmission of Indigenous and local ecological knowledge through gendered roles and elder-led institutions (Jones, 2009; Kitolelei et al., 2021; Kitolelei et al., 2022), and
- integration of cultural values into species targeting and spatial management (Harding et al., 2022; Leong et al., 2024).

Conversely, the relationship weakened where:

- customary systems had been replaced by state ownership (Malm, 1999, 2001),
- commercialization and 'westernization' eroded traditional authority and sharing networks (Harding et al., 2022; Hylton et al., 2017; Kitolelei et al., 2021),
- demographic shifts disrupted knowledge transmission (Aini et al., 2023; Álvarez-Varas et al., 2020; Kitolelei et al., 2021), or where
- conservation interventions were imposed without cultural integration (Tilot et al., 2022; Wencélius et al., 2022).

2.2 Two-Eyed Seeing (*Etuaptmumk*) and Knowledge Coexistence

The Two-Eyed Seeing framework — *Etuaptmumk* in Mi'kmaw, as envisaged by Elder Dr. Albert Marshall — offers a methodology for genuine knowledge coexistence: "learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing, and [to] using both these eyes together, for the benefit of all" (Bartlett et al., 2012, p. 335). Crucially, Two-Eyed Seeing is distinguished by an explicit action imperative: knowledge transforms the holder, and the holder bears a responsibility to act on that knowledge (Reid et al., 2021).

Applied to marine stewardship, this framework moves beyond 'integrating' or 'incorporating' Indigenous knowledge into Western science (both social and natural) toward a more authentic and more meaningful co-production. Natalie Ban's body of work with Central Coast First Nations exemplifies this approach (Ban et al., 2013; Ban et al., 2019), braiding Indigenous governance systems and social considerations with conservation science to develop social-ecological approaches for marine planning that respect both knowledge systems on their own terms (Ban et al., 2013; Ban et al., 2019). This orientation is essential for the case studies that follow, where Indigenous knowledge is not supplementary data but a co-equal epistemological foundation.

2.3 Archipelagic Thinking and Island Epistemology

Archipelagic thinking, as elaborated by scholars including Benítez-Rojo (1996), Glissant (1997), and Stratford et al. (2011), conceptualizes space in ways that 'denaturalize' the conceptual basis of space and place (Stratford et al., 2011), emphasizing metamorphosis, adaptation, and transformation of material, cultural, and political practices through 'island movements' (Pugh, 2013). This thinking challenges continental, bounded-territory paradigms and foregrounds relationships, flows, and connections — between islands, between land and sea, between human and non-human kin (Roberts and Stephens, 2017; Stratford et al., 2011).

Building on these foundations, this paper seeks to contribute to the proposed *island epistemology* as a knowledge framework rooted in: (a) interdependence between human communities and marine ecosystems; (b) community resilience understood as simultaneously ecological and cultural; (c) the ocean as connector rather than barrier; and (d) knowledge as relational, place-based, and dynamic. The case studies that follow provide empirical grounding for each of these principles.

3. Case Studies: Cultural Practices as Marine Stewardship

This section presents a comparative analysis of case studies spanning the Pacific (in a first attempt), organized around the thesis that specific cultural practices function as effective marine stewardship systems with measurable ecological outcomes.

3.1 Reef Passages in New Caledonia: Biocultural Keystone Places

Reef passages — natural breaks in barrier and fringing reefs connecting lagoon and open ocean — function as ‘communication zones’ between coastal and oceanic spaces and species (Photo 2). Ecologically, they host multispecies fish spawning aggregations, facilitate tidal flushing and cooling, channel pelagic subsidies, and serve as biodiversity hotspots (Breckwoldt et al., 2022a, 2022b). Socio-culturally, they are fishing grounds, transport routes, and sites of deep spiritual meaning (Breckwoldt et al., 2022a).



Photo 2: Nalulu Passage, Ovalau Island, Fiji (© J. Dehm)

For the Kanak people of New Caledonia, reef passages mark the link between the visible and invisible worlds, between the living and the dead (Breckwoldt et al., 2022a) — inhabited by the spirits of the deceased, sacred, and "must not be disturbed but highly respected" (Breckwoldt et al., 2022a, p. 2406). Cultural narratives in which sharks embody and accompany the dead through reef passages illustrate the intimate entanglement of cosmology, ecology, and place. This dual significance makes reef passages what can be termed ‘biocultural keystone places’ — sites where ecological and cultural functions are so tightly coupled that the loss of one dimension necessarily degrades the other (Breckwoldt et al., 2022a).

While some reef passages have been culturally important for generations, others gained cultural importance through history, and significant events in passages. For example, the high chief of Totoya's wife gave birth to their son at the reef passage to Totoya where the child (a "Prince" — High Chief's son) died — stillborn. People would thereafter take off their hats, and adopt their comportment, out of respect when sailing through the passage (Jupiter et al., 2014). The ecological importance of reef passages supports an 'umbrella-effect' hypothesis (Breckwoldt et al., 2022b; Morán-López et al., 2020; Roberge and Angelstam, 2004): their explicit protection could benefit the recovery and overall health of coral reefs and local ecosystems, mitigate further loss of key species, and support complex food-webs and predator-prey interactions (and hence support food security for coastal residents). Yet a striking policy gap persists — so far, still no acknowledgement of reef passages exists in regional or interregional policies. Their cultural significance can therefore provide the political and social momentum needed for their ecological protection, illustrating precisely how biocultural approaches can generate care/stewardship outcomes that neither ecological science nor cultural advocacy could achieve alone (Breckwoldt et al., 2022a; Sterling et al., 2017).

3.2 Funerary Protected Areas in Fiji: When the Dead Protect the Sea

Ron Vave's (2022) research among indigenous Fijians identified five types of culturally protected water body (CPWB) practices (Vave, 2022): Conception, Meconium, Circumcision, Chiefly Investiture, and Funerary — each involving the designation of freshwater or marine areas as *tabu* forbidden (Vave, 2022). Funerary Protected Areas (FPAs) are particularly significant and frequently implemented upon the death of a chief or other clan members where a portion of the clan's fishing ground is demarcated as closed to fishing and harvesting for approximately 100 nights or more until a ceremonial feast (Vave, 2022; Vave et al., 2024).

These temporary yet repeated closures allow aquatic species to recover; for chiefs, FPAs can stretch from shoreline to outermost reef patches and slopes (Vave, 2022). Communities also use *tabu* designations proactively when fish populations decline, demonstrating the adaptive capacity embedded within this cultural institution. Critically, it is highlighted that more than three decades of conservation organizations' efforts to help communities protect the environment were, in fact, contributing to cultural erosion by ignoring or displacing existing CPWBs when implementing externally designed conservation programs (Jupiter, 2017; Vave, 2022). This finding carries profound implications: biocultural approaches to marine conservation must recognize and build upon existing cultural stewardship rather than overwriting it with external frameworks (Vave, 2022).

The Fijian evidence finds broader support across the Pacific. In Fiji's Locally Managed Marine Area Network — encompassing at times over 400 sites — Indigenous and local knowledge combined with modern scientific understanding guided the establishment of no-take zones, management rules, and monitoring through both ecosystem health and community well-being indicators (Govan, 2009; Kitolelei et al., 2021; Techera, 2010; Veitayaki et al., 2014). The *qoliqoli* system controlled by clans or villages has more often than

not created (and continues to do so) incentives for moderate harvesting to maintain reef yields, while temporary closures lasting 100 nights after a chief's death historically increased local fish populations sufficiently to 'fill two boats' (Golden et al., 2014; Photo 3).



Photo 3: Evening netfishing in Ba Estuary, Fiji (© T. Vierus)

3.3 Coast Salish Clam Gardens: Ancient Mariculture Resurgent

Clam gardens represent highly sophisticated Indigenous mariculture (Augustine and Dearden, 2014; Augustine, 2025): rock-walled intertidal terraces constructed by Coast Salish and other Pacific Northwest Nations along islands and coasts of the area (e.g., around Vancouver Island) to enhance clam productivity, dated to at least 3,500 years ago and described by knowledge holders as 'living beaches' maintained since the 'beginning of time' (Augustine, 2025). Archaeological evidence spanning 11,500 years of human-clam relationships demonstrates the long-term context for this form of intertidal management (Toniello et al., 2019).

Skye Augustine's restoration work (2025) — conducted with hul'q'umi'num' and WSÁNEĆ leaders in partnership with Parks Canada — revealed that untended 'legacy' gardens held 12 times more native clams than non-walled beaches (Augustine, 2025). After 3–4 years of active restoration through wall rebuilding and ancestral beach-tending practices, walls trapped the seed, doubling juvenile clams (Augustine, 2025). Clam gardens functioned as multi-species food systems producing 35 unique foods, with seasonal availability mirroring hul'q'umi'num' harvesting rounds — revealing the resilience of ancestral sea garden management (Augustine, 2025).

Augustine's framing of this work as social-ecological resurgence carries significance beyond the local: "knowledge interpreted with mind, heart, and spirit can generate wisdom — and [how this] can foster transformations from individuals to networks, influencing change at regional, national, and international scales" (Augustine, 2025, p. iii). Clam gardens

can thus exemplify a values-based paradigm shift in marine conservation — moving from ecological-integrity-only mandates to approaches recognizing active Indigenous and local management as compatible with, and beneficial to, conservation outcomes (Augustine and Dearden, 2014).

3.4 First Salmon Ceremonies: Reciprocity as Marine Management

The First Salmon Ceremony, practiced by Indigenous peoples across the Pacific Northwest — Chinook, Clatsop-Nehalem, Yakama, Wishram, and many others — embodies a multi-tribal, multi-form ceremony with common core elements (Bradford et al., 2025; Cullon, 2017). A designated fisher undergoes purification; the first salmon is caught, carefully prepared, cooked, and distributed/shared; the head is pointed upriver to show ‘the salmon's spirit’ the way home; bones are cleaned and returned to the river by a diver, where the salmon is believed to reconstitute itself ^[1].

The underlying belief system holds that salmon are immortal beings who take human form in the ocean and are sent upriver by the ‘salmon king’ as a gift; proper ceremony ensures they will continue to return (Bradford et al., 2025). Rules such as never taking the first or last salmon of the run embody a practical understanding that sources of food are not infinite (Bradford et al., 2025), displaying the ceremony as a mechanism for encoding and transmitting sustainable harvest norms across generations (Bradford et al., 2025; Cullon, 2017). This is not ‘mere ritual’ yet rather a sophisticated management system: the reciprocal obligation to care for salmon operates as a social institution enforcing responsible harvest and habitat stewardship (Cullon, 2017). First Salmon ceremonies continue in modern Indigenous communities, demonstrating cultural persistence alongside ecological relevance and local responsibility and authority (Bradford et al., 2025).

3.5 Additional Comparative Examples (Table 1)

The following table situates these detailed case studies within a broader landscape of culturally embedded marine management/stewardship practices in the region:

Practice	Region	Cultural Mechanism	Ecological Function
<i>Kapu</i> system	Hawai'i	Sacred prohibitions on fishing in specific zones/seasons	Seasonal closures allow marine populations to recover (Delevaux et al., 2018; Leong et al., 2024)
<i>Ra'ui</i>	Cook Islands	Temporary closures by chiefly authority	Community-driven recovery periods for reef resources, with significantly higher coral species diversity (Chambers, 2008; Hoffmann, 2002)
<i>Tabu/bul</i>	Fiji/Micronesia	Community-designated no-take areas; socio-cultural anchor	Habitat and species regeneration (Cunningham et al., 2023; Foale et al., 2011; Kitolelei et al., 2021)
Locally Managed Marine Areas (LMMAs)	Pacific-wide	Community-based adaptive management blending traditional and modern science and management approaches	Over 600 sites across Indo-Pacific demonstrating sustained conservation outcomes (Govan, 2009)

Table 1. Across these diverse contexts, a common pattern emerges: culturally embedded governance systems produce measurable biodiversity benefits when institutional conditions support their operation (Johnson et al., 2020; Metai, 2018).

4. How Cultural Diversity Sustains Marine Biodiversity (and vice versa)

4.1 Mechanisms of Biocultural Co-Constitution

Drawing across the case studies and adding a tentative systematic evidence base of other studies from the South Pacific, five key mechanisms emerge through which cultural diversity sustains marine biodiversity (Fig. 1):

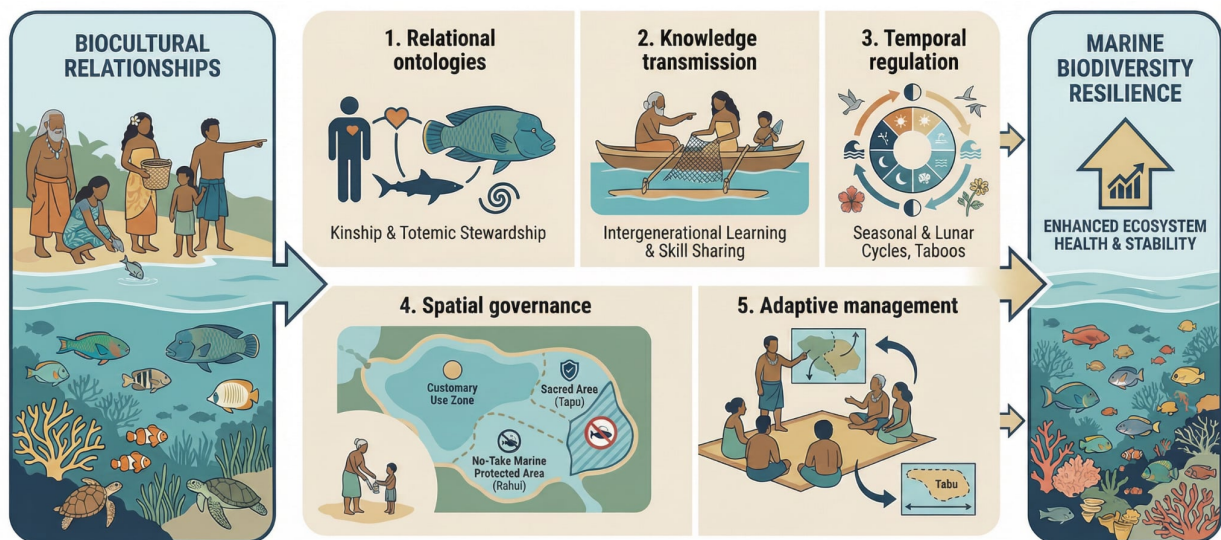


Fig 1. Mechanisms of biocultural co-constitution in Pacific Island seascapes that link cultural diversity, customary stewardship practices, and locally grounded decision-making to the maintenance and resilience of marine biodiversity (visualisation generated by R. Vave with Perplexity AI).

- 1. Relational ontologies.** Indigenous worldviews understand humans and marine species as kin or co-constitutive: Kanak reef passage cosmology, First Salmon reciprocity, Fijian totem species, can (without romanticizing) create customary obligations toward stewardship that are deeper and more enduring than utilitarian management rationales. In Kadavu, Fiji, species identified as totem fish of the village (*ika ni masi*) and chiefly fish (*ika va turaga*) symbolize custodianship, with 36% of totem identifications concentrated on trevally alone, creating strong coupling between the species' abundance and cultural continuity (cf. 4.2; Harding et al., 2022).
- 2. Knowledge transmission.** Oral traditions/transmission, ceremonies, and intergenerational learning ensure the persistence and adaptation of ecological knowledge about species, habitats, and ecosystem dynamics. In the Lau Group (Fiji), women of the 'sea people' serve as custodians of traditional marine ecological knowledge, coordinating inshore expeditions and transmitting knowledge to younger generations through direct practice (Jones, 2009; Kitolelei et al., 2022).
- 3. Temporal regulation.** Cultural calendars, ceremonial cycles, and *tabu* periods function as adaptive seasonal closures that align with ecological rhythms of spawning, migration, and recovery. Pacific communities developed lunar, solar, and tidal

calendars tied to plant phenology, seabird behavior, and weather cues to time fishing activities, embedding stewardship principles that limit impacts (Hoffmann, 2002; Kitolelei et al., 2021).

4. **Spatial governance.** Customary marine tenure, sacred sites, and culturally designated protection zones create de facto marine protected areas — often predating formal (and intended) conservation by millennia. In the Roviana Lagoon, Solomon Islands, the seascape is culturally partitioned into named biophysical areas (*sagauru*), fishing grounds (*habuhabuana*), and floating sites (*alealeana*), creating nested layers of ecological and cultural significance (Aswani and Lauer, 2006a, 2006b; Hviding, 2006). Indigenous spatial knowledge showed 75–85% equivalence with scientific dive surveys for benthos identification, and 77–92% accuracy for fish presence/absence predictions (Aswani and Lauer, 2006a, 2006b).
5. **Adaptive management.** Cultural practices are dynamic, not static, always have been and always will be; communities adjust *tabu* areas, modify harvest rules, and respond to environmental change through socio-culturally embedded decision-making. In Anaa Atoll, French Polynesia, the combination of fisheries research, youth education, and cultural revival of *ra'ui* increased the Spawning Potential Ratio of the bonefish stock following reinitiation of customary closures (Filous et al. 2021).

4.2 The Reverse Direction: Marine Biodiversity Sustaining Cultural Diversity

The relationship is fundamentally bidirectional. Healthy marine ecosystems provide the material basis for cultural practices: species for ceremonies, resources for livelihoods, places for spiritual engagement. In Papahānaumokuākea, management operates on the principle that "nature and culture are one" (Kikiloi et al., 2017, p. 444) with all natural resources treated as cultural resources, and cultural connections such as wayfinding, subsistence gathering, and ceremonies depending on ecosystem integrity (Kikiloi et al., 2017).

Across these Pacific examples, loss of marine biodiversity directly threatens cultural continuity. When key species decline or habitats degrade, ceremonies cannot be performed, knowledge becomes disconnected from practice, and cultural identity erodes. In New Ireland, Papua New Guinea, where most residents obtain 50–90% of dietary protein from marine species, the dependence embeds reefs and species so deeply in daily subsistence and social life that ecological degradation and cultural erosion become inseparable processes (Aini et al., 2023). Cultural keystone species — functioning as totems, chiefly foods, or ceremonial resources — create particularly strong coupling between biodiversity status and cultural continuity, meaning that changes in these species' abundance have cascading effects on cultural practices, social cohesion, and management legitimacy (Álvarez-Varas et al., 2020; Harding et al., 2022).

This bidirectional relationship means that threats to either cultural diversity or marine biodiversity constitute threats to both — a 'biocultural' crisis that demands integrated responses. A persisting blindness to this co-constitution, e.g., via the documented lack of an

integrated framework for jointly assessing cultural and marine diversity in island contexts, represents both a research gap as well as a to date missed governance improvement (Barianaki et al., 2024).

5. Contributing to an Island Epistemology for Marine Stewardship

5.1 Defining Island Epistemology

Building on the conceptual framework and the evidence from case studies, the following principles may constitute a 'marine framework' for the suggested *island epistemology* — as ways of knowing and governing rooted in island-ocean realities that can inform more effective, equitable marine stewardship globally:

1. **Interdependence over independence.** Human communities, marine ecosystems, and cultural systems are inseparable — management and safeguarding of one necessarily involves the others (McMillen et al., 2014; Sterling et al., 2017).
2. **Relational knowledge.** Knowledge is place-based, embodied, and relational — generated through sustained engagement with specific marine places and species, transmitted through stories, ceremonies, and practices (Leong et al., 2024; Kitolelei et al., 2021).
3. **Archipelagic connectivity.** Following Hau'ofa's 'sea of islands' reframing, marine spaces are understood as connectors rather than barriers increasing distance, and governance as networked rather than bounded (Hau'ofa, 1994).
4. **Dynamic tradition.** Cultural practices and knowledge systems are inherently adaptive and evolving — not frozen artifacts but living systems that respond to environmental and social change (Foale et al., 2011; McMillen et al., 2014).
5. **Knowledge coexistence (Two-Eyed Seeing).** Western scientific and Indigenous knowledge systems are brought together not through assimilation but through respectful co-production 'for the benefit of all' (Reid et al., 2021).
6. **Community resilience as biocultural resilience.** Resilience is simultaneously ecological and cultural — a human community's capacity to adapt depends on both its environmental health and its cultural vitality (McMillen et al., 2014; Sterling et al., 2017).

5.2 Operationalizing an Island Epistemology: Methodological Implications

Translating the suggested *island epistemology* into 'marine practice' requires methodological commitments. Co-design and co-production approaches — research *with*, not *on*, island communities — are exemplified by the SOCPacific2R project's relations and exchanges with fishers (both women and men, young and old), divers, surfers, teachers, and other local knowledge holders in New Caledonia and Fiji. This means combating 'parachute science'

and resisting its logistical temptations, through equitable research practices: seeing it quickly, pointing it out where it happens, and preventing it through co-design, co-production and reframed capacity development (de Vos, 2022).

Methodologically, such an *island epistemology* can integrate cutting-edge scientific tools — eDNA, participatory biodiversity monitoring, GIS-based reef passage typologies — with qualitative and ethnographic methods grounded in local knowledge. The Roviana Lagoon project also demonstrated this integration by converting Indigenous knowledge and social-ecological behavior into geospatial data, producing scientifically reliable resource maps while enhancing local participation and culturally appropriate marine protected area design (Aswani and Lauer, 2006a, 2006b). Citizen science and locally driven technology platforms (via GlobalFishingWatch, SeaSketch, or other mobile monitoring tools) can further empower island communities as knowledge producers and holders rather than knowledge ‘subjects’.

The Isabel Province, Solomon Islands, experience offers a model: a cultural landscape approach required conservation planning to capture 100% of kastom (ancestral) site targets alongside natural resource conservation goals, generating much stronger community support for biodiversity objectives by co-opting community values and giving communities ownership over cultural heritage management (Walter and Hamilton, 2014). Stakeholders unanimously prioritized cultural heritage sites at 100% conservation importance — far above any other ecosystem resource category (Walter and Hamilton, 2014).

6. Looking Forward: The 2026 World Island Exhibition and Beyond

6.1 The Transformative Potential of Mega-Events

The 2026 World Island Exhibition in Yeosu, South Korea presents an opportunity to reshape global narratives about islands: from marginalized sites of vulnerability and dependency to sources of innovation for regional and planetary sustainability. The Island Exhibition can function as a platform for showcasing biocultural innovation — interactive exhibits, digital storytelling, virtual-reality tours of locally managed and safeguarded marine areas, and case studies of community-led restoration. And as such, it can create policy dialogue opportunities around the legal recognition of customary ‘sea spaces’, with an integration of cultural values into international biodiversity frameworks such as the Kunming-Montreal Global Biodiversity Framework and SDG 14, and commitments to biocultural diversity protection (Sterling et al., 2017; Tessnow-von Wysocki and Vadrot, 2020).

6.2 A Research and Action Agenda

Six priorities emerge from this synthesis:

1. **Document, make visible, and support the articulation of biocultural relationships, and protect biocultural keystone places** (e.g., reef passages) through integrated policies

recognizing both their cultural and ecological significance (Breckwoldt et al., 2022a, 2022b).

2. **Recognize existing cultural conservation systems** — FPAs, *kapu*, *ra'ui*, LMMAs — in (existing or new) formal governance frameworks, ensuring they complement rather than displace Indigenous stewardship (Hoffmann, 2002; Vave, 2022).
3. **Invest in youth-led biocultural stewardship**, creating strong enabling environments where youth-led forums and projects covering both academic and beyond-academic knowledge can lead to a healthy and meaningful blending of heritage and resilience thinking (Filous et al., 2021).
4. **Scale knowledge co-production** by expanding Two-Eyed Seeing and equivalent frameworks across island contexts, supporting equitable partnerships between communities, scientists, and policymakers (Bartlett et al., 2012; Reid et al., 2021).
5. **Develop biocultural indicators** — both context-specific and generalizable measures for monitoring the co-health of cultural diversity and marine biodiversity, particularly for traditional and local livelihoods, marine stewardship, and food sovereignty (Sterling et al., 2017).
6. **Address the research gap** identified by the author's first review: the absence of integrated frameworks for jointly assessing cultural and marine diversity from an island studies perspective demands dedicated interdisciplinary research bridging biodiversity science, cultural analysis, and island studies.

6.3 Closing Reflection

The story of island sustainability is inseparable from both cultural and marine diversity. The evidence assembled here demonstrates that the relationship between cultural diversity and marine biodiversity is not coincidental but co-constitutive. Honoring and scaling these interconnections offers a path toward the ambitions of global summits such as the World Island Expo. An *island epistemology* — grounded in millennia of biocultural practice and energized by contemporary collaborative science — offers not merely a framework for island sustainability but a model for rethinking humanity's relationship with the oceans worldwide.

Endnotes

1. <https://www.youtube.com/watch?v=h6b8dGVK06Y>

7. References

- Aini, J., West, P., Amepou, Y., Piskaut, M.L., Gasot, C., James, R.S., Steadman Roberts, J., Nason, P., Brachey, A.E. 2023. Reimagining conservation practice: Indigenous self-determination and collaboration in Papua New Guinea. *Oryx*, 57(3): 350–359. <https://doi.org/10.1017/S003060532200103X>
- Álvarez-Varas, R., Barrios-Garrido, H., Skamiotis-Gómez, I., Petitpas, R. 2020. Cultural role of sea turtles on Rapa Nui (Easter Island): Spatial and temporal contrast in the Pacific Island region. *Island Studies Journal*, 15(1): 253–270. <https://doi.org/10.24043/isj.111>

- Aswani, S., Lauer, M. 2006a. Incorporating fishermen's local knowledge and behavior into geographical information systems (GIS) for designing marine protected areas in Oceania. *Human Organization*, 65(1): 81–102. <https://doi.org/10.17730/humo.65.1.4y2q0vhe4l30n0uj>
- Aswani, S., Lauer, M. 2006b. Benthic mapping using local aerial photo interpretation and resident taxa inventories for designing marine protected areas. *Environmental Conservation*, 33(3): 263–273. <https://doi.org/10.1017/S0376892906003183>
- Augustine, S. 2025. Bringing our beaches to life again: The resurgence of Coast Salish clam gardening. PhD thesis (166 pp.), Simon Fraser University.
- Augustine, S., Dearden, P. 2014. Changing paradigms in marine and coastal conservation: A case study of clam gardens in the Southern Gulf Islands, Canada. *The Canadian Geographer*, 58(3): 305–314. <https://doi.org/10.1111/cag.12084>
- Ban, N.C., Mills, M., Tam, J., Hicks, C.C., Klain, S., Stoeckl, N., Bottrill, M.C., Levine, J., Pressey, R.L., Satterfield, T., Chan, K.M. 2013. A social–ecological approach to conservation planning: embedding social considerations. *Frontiers in Ecology and the Environment*, 11: 194–202. <https://doi.org/10.1890/110205>
- Ban, N.C., Wilson, E., Neasloss, D. 2019. Strong historical and ongoing indigenous marine governance in the northeast Pacific Ocean: A case study of the Kitasoo/Xai'xais First Nation. *Ecology and Society*, 24(4): 10. <https://doi.org/10.5751/ES-11091-240410>
- Barianaki, E., Kyvelou, S.S., Ierapetritis, D.G. 2024. How to Incorporate Cultural Values and Heritage in Maritime Spatial Planning: A Systematic Review. *Heritage*, 7(1): 380–411. <https://doi.org/10.3390/heritage7010019>
- Bartlett, C., Marshall, M., Marshall, A. 2012. Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together Indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences*, 2: 331–340. <https://doi.org/10.1007/s13412-012-0086-8>
- Benítez-Rojo, A. 1996. *The Repeating Island: The Caribbean and the Postmodern Perspective* (2nd ed., 369 pp.). Duke University Press. <https://doi.org/10.2307/j.ctv11319qv>
- Breckwoldt, A., Dombal, Y., Sabinot, C., Gilbert, D., Riera, L., Ferse, S., Fache, E. 2022a. A social-ecological engagement with reef passages in New Caledonia. *Ambio*, 51: 2401–2413. <https://doi.org/10.1007/s13280-022-01762-8>
- Breckwoldt, A., Nozik, A., Moosdorf, N., Bierwirth, J., Fache, E., Ferse, S., Ford, A., Mangubhai, S., Pelletier, D., Piovano, S. 2022b. A typology for reef passages. *Frontiers in Marine Science*, 9: 786125. <https://doi.org/10.3389/fmars.2022.786125>
- Bradford, K., Wilson, K.B., Hodgson, E., Moore, J.W., Reid, A., Salomon, A., Van Der Minne, C., Armstrong, J., Alex, K., Benson, R., Dick, J., Nicholas, G. 2025. Indigenous stream caretaking for Pacific salmon: Ancestral lifeways to guide restoration, relationships, rights, and responsibilities. *FACETS*, 10: 1–20. <https://doi.org/10.1139/facets-2025-0042>
- Chambers, C.N.L. 2008. Bounding the lagoon: Spatialising practices and the politics of rahui, Tongareva, Cook Islands. PhD thesis (267 pp.), University of Edinburgh.

- Cinner, J.E., Marnane, M.J., McClanahan, T.R., Clark, T.H., Ben, J. 2005. Trade, Tenure, and Tradition: Influence of Sociocultural Factors on Resource Use in Melanesia. *Conservation Biology*, 19: 1469-1477. <https://doi.org/10.1111/j.1523-1739.2005.004307.x>
- Cullon, D.S. 2017. Dancing Salmon: Human–fish Relationships on the Northwest Coast. PhD thesis (398 pp.), University of Victoria.
- Cunningham, S.K., Murillo, K., Chan, K., Lamb, J.B. 2023. Managing Marine Seascapes through Community-based Conservation. *Lessons in Conservation*, 13: 15-37. <https://doi.org/10.5531/cbc.linc.13.1.2>
- Declaration of Belém. 1988. International Society of Ethnobiology. <https://www.ethnobiology.net/what-we-do/core-programs/global-coalition-2/declaration-of-belem/>
- Delevaux, J.M.S., Winter, K.B., Jupiter, S.D., Blach-Vaughan, M., Stamoulis, K.A., Bremer, L.L., Burnett, K., Garrod, P., Troller, J.L., Ticktin, T. 2018. Linking Land and Sea through Collaborative Research to Inform Contemporary applications of Traditional Resource Management in Hawai'i. *Sustainability*, 10(9): 3147. <https://doi.org/10.3390/su10093147>
- de Vos, A. 2022. Stowing parachutes, strengthening science. *Conservation Science and Practice*, 4(5): e12709. <https://doi.org/10.1111/csp2.12709>
- del Valle, E., Hayes, P.W., Martínez-Candelas, I., Brown, P., McClenachan, L. 2025. Systematic review of global historical marine ecology reveals geographical and taxonomic research gaps and biases. *Philosophical Transactions of the Royal Society B*, 380(1930): 20240279. <https://doi.org/10.1098/rstb.2024.0279>
- Filous, A., Lennox, R.J., Beaury, J.P., Bagnis, H., Mchugh, M., Friedlander, A.M., Clua, E.E.G., Cooke, S.J., Fuller, T.K., Danylchuk, A.J. 2021. Fisheries science and marine education catalyze the renaissance of traditional management (rahui) to improve an artisanal fishery in French Polynesia. *Marine Policy*, 123: 104291. <https://doi.org/10.1016/j.marpol.2020.104291>
- Firth, R. 1931. Totemism in Polynesia. *Oceania*, 1: 377-398. <https://doi.org/10.1002/j.1834-4461.1931.tb00013.x>
- Foale, S., Cohen, P., Januchowski-Hartley, S., Wenger, A. and Macintyre, M. 2011. Tenure and taboos: origins and implications for fisheries in the Pacific. *Fish and Fisheries*, 12(4): 357-369. <https://doi.org/10.1111/j.1467-2979.2010.00395.x>
- Furusawa, T. 2016. Biocultural Diversity in Melanesia. In: T. Furusawa (Ed.), *Living with Biodiversity in an Island Ecosystem* (pp. 1-14). Springer.
- Glissant, É. 1997. *Poetics of Relation*. University of Michigan Press (252 pp.).
- Golden, A.S., Naisilisili, W., Ligairi, I., Drew, J.A. 2014. Combining Natural History Collections with Fisher Knowledge for Community-based Conservation in Fiji. *PLOS ONE*, 9(5): e98036. <https://doi.org/10.1371/journal.pone.0098036>
- Govan, H. 2009. Achieving the potential of locally managed marine areas in the South Pacific. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin*, 25: 16-25.
- Harding, S., Marama, K., Breckwoldt, A., Matairakula, U., Fache, E. 2022. Marine resources and their value in Kadavu, Fiji. *Ambio*, 51: 2414-2430. <https://doi.org/10.1007/s13280-022-01794-0>

- Hau'ofa, E. 1994. Our Sea of Islands. *The Contemporary Pacific*, 6(1): 148–161.
- Hoffmann, T.C. 2002. The reimplementation of the Ra'ui: Coral reef management in Rarotonga, Cook Islands. *Coastal Management*, 30(4): 401–418. <https://doi.org/10.1080/089207502900282>
- Hong, S.-K. 2023. Biocultural diversity and islandness: On human-geographical changes caused by socioeconomic influence. *Journal of Marine and Island Cultures*, 12(3): 1–13. <https://doi.org/10.21463/jmic.2023.12.3.01>
- Hviding, E. 2006. Connaître et gérer la biodiversité dans les îles du Pacifique: Problèmes posés par la préservation du lagon de Marovo. *Revue internationale des sciences sociales*, 187: 73–90. <https://doi.org/10.3917/riss.187.0073>
- Hylton, S.N., White, W.T., Chin, A. 2017. The sharks and rays of the Solomon Islands: A synthesis of their biological diversity, values and conservation status. *Pacific Conservation Biology*, 23(4): 324–334. <https://doi.org/10.1071/PC17012>
- Johnson, S.M., Reyuw, B.M., Yalon, A., McLean, M., Houk, P. 2020. Contextualizing the social-ecological outcomes of coral reef fisheries management. *Biological Conservation*, 241: 108288. <https://doi.org/10.1016/j.biocon.2019.108288>
- Jones, S.R. 2009. A Long-Term Perspective on Biodiversity and Marine Resource Exploitation in Fiji's Lau Group. *Pacific Science*, 63(4): 617–648. <https://doi.org/10.2984/049.063.0408>
- Jupiter, S. 2017. Culture, kastom and conservation in Melanesia: What happens when worldviews collide? *Pacific Conservation Biology*, 23(2): 139–145. <https://doi.org/10.1071/PC16031>
- Jupiter, S.D., Cohen, P.J., Weeks, R., Tawake, A., Govan, H. 2014. Locally-managed marine areas: multiple objectives and diverse strategies. *Pacific Conservation Biology*, 20(2): 165–179. <https://doi.org/http://dx.doi.org/10.1071/PC140165>
- Kikilo, K., Friedlander, A., Wilhelm, A., Lewis, N., Quiocho, K., Āila, W., Kaho'ohalahala, S. 2017. Papahānaumokuākea: Integrating culture in the design and management of one of the world's largest marine protected areas. *Coastal Management*, 45(6): 436–451. <https://doi.org/10.1080/08920753.2017.1373450>
- Kitolelei, S., Thaman, R., Veitayaki, J., Breckwoldt, A., Piovano, S. 2021. Na Vuku Makawa ni Qoli: Indigenous fishing knowledge (IFK) in Fiji and the Pacific. *Frontiers in Marine Science*, 8: 684303. <https://doi.org/10.3389/fmars.2021.684303>
- Kitolelei, S., Breckwoldt, A., Kitolelei, J., Makhoul, N. 2022. Fisherwomen's Indigenous and local knowledge — the hidden gems for the management of marine and freshwater resources in Fiji. *Frontiers in Marine Science*, 9: 991253. <https://doi.org/10.3389/fmars.2022.991253>
- Leong, K.M., Quiocho, K., Blacklow, A., Rosa, S., Kleiber, D., Winter, K.B., Long, K.S., Puniwai, N., Poe, M.R. 2024. Relational research to elevate cultural dimensions of marine organisms in Hawai'i. *Ecology and Society*, 29(4): 30. <https://doi.org/10.5751/ES-15573-290430>
- Liliuokalani. 1997. The Kumulipo: an Hawaiian creation myth. Pueo Press. https://www.higp.hawaii.edu/~scott/GG104/Readings/Liliuokalani_1897.pdf
- Maffi, L. 2001. On Biocultural Diversity: Linking Language, Knowledge, and the Environment. Smithsonian Institution Press (600 pp.).

- Maffi, L. 2005. Linguistic, cultural, and biological diversity. *Annual Review of Anthropology*, 34: 599–617. <https://doi.org/10.1146/annurev.anthro.34.081804.120437>
- Malm, T. 1999. *Shell Age Economics: Marine Gathering in the Kingdom of Tonga, Polynesia*. Lund University Press (430 pp.).
- Malm, T. 2001. The tragedy of the commoners: The decline of the customary marine tenure system of Tonga. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin*, 13: 3–13. <https://www.spc.int/digitallibrary/get/yk2sd>
- McMillen, H.L., Ticktin, T., Friedlander, A., Jupiter, S.D., Thaman, R., Campbell, J., Veitayaki, J., Giambelluca, T., Nihmei, S., Rupeni, E., Apis-Overhoff, L., Aalbersberg, W., Orcherton, D.F. 2014. Small islands, valuable insights: systems of customary resource use and resilience to climate change in the Pacific. *Ecology and Society* 19(4): 44. <https://doi.org/10.5751/ES-06937-190444>
- Metai, T. 2018. Through the Author's Eyes: Why are we succeeding and why aren't we succeeding in managing our own marine resources in the South Pacific region. UC San Diego: Center for Marine Biodiversity and Conservation. <https://escholarship.org/uc/item/3177d5tz>
- Morán-López, R., Cortés Gañán, E., Uceda Tolosa, O., Sánchez Guzmán, J.M. 2020. The umbrella effect of Natura 2000 annex species spreads over multiple taxonomic groups, conservation attributes and organizational levels. *Animal Conservation*, 23(4): 407–419. <https://doi.org/10.1111/acv.12551>
- Nero, K.L. 1992. The breadfruit tree story: Mythological transformations in Palauan politics. *Pacific Studies Journal*, 15(4). Article 16. <https://digitalcollections.byuh.edu/pacific-studies-journal/vol15/iss4/16>
- Pugh, J. 2013. Island movements: Thinking with the archipelago. *Island Studies Journal*, 8(1): 9–24. <https://doi.org/10.24043/isj.273>
- Reid, A.J., Eckert, L.E., Lane, J.F., Young, N., Hinch, S.G., Darimont, C.T., Cooke, S.J., Ban, N.C., Marshall, A. 2021. “Two-Eyed Seeing”: An Indigenous framework to transform fisheries research and management. *Fish and Fisheries*, 22(2): 243–261.
- Roberts, B.R., Stephens, M.A. (Eds.). 2017. *Archipelagic American Studies*. Duke University Press (520 pp.). <https://doi.org/10.2307/j.ctv11sn0td>
- Roberge, J.-M., Angelstam, P. 2004. Usefulness of the Umbrella Species Concept as a Conservation Tool. *Conservation Biology*, 18(1): 76–85. <https://doi.org/10.1111/j.1523-1739.2004.00450.x>
- Sterling, E.J., Filardi, C., Toomey, A. et al. 2017. Biocultural approaches to well-being and sustainability indicators across scales. *Nature Ecology & Evolution*, 1: 1798–1806. <https://doi.org/10.1038/s41559-017-0349-6>
- Stratford, E., Baldacchino, G., McMahon, E., Farbotko, C., Harwood, A. 2011. Envisioning the archipelago. *Island Studies Journal*, 6(2): 113–130. <https://doi.org/10.24043/isj.253>
- Techera, E.J. 2010. Customary law and community-based conservation of marine areas in Fiji. In: *Managing Environmental Justice* (pp. 143–164), Leiden, The Netherlands: Brill. https://doi.org/10.1163/9789042029385_010

- Tessnow-von Wysocki, I., Vadrot, A.B.M. 2020. The Voice of Science on Marine Biodiversity Negotiations: A Systematic Literature Review. *Frontiers in Marine Science*, 7: 614282. <https://doi.org/10.3389/fmars.2020.614282>
- Thaman, R. 2004. Sustaining culture and biodiversity in Pacific Islands with local and indigenous knowledge. *Pacific Ecologist*, 7&8: 43-48. <https://repository.usp.ac.fj/id/eprint/3127>
- Tilot, V., Guilloux, B.G., Willaert, K., Mulalap, C.Y., Bambridge, T., Gaulme, F., Kacenelenbogen, E., Jeudy de Grissac, A., Navas, J.M., Dahl, A.L. 2022. Traditional and socio-ecological dimensions of seabed resource management and applicable legal frameworks in the Pacific Island States. In: Sharma, R. (eds) *Perspectives on Deep-Sea Mining* (pp. 613-659), Springer, Cham. https://doi.org/10.1007/978-3-030-87982-2_22
- Toniello, G., Lepofsky, D., Lertzman-Lepofsky, G., Salomon, A.K., Rowell, K. 2019. 11,500 y of human-clam relationships provide long-term context for intertidal management in the Salish Sea, British Columbia. *Proceedings of the National Academy of Sciences of the USA*, 116(44): 22106-22114. <https://doi.org/10.1073/pnas.1905921116>
- Vave, R. 2022. Five culturally protected water body practices in Fiji: Current status and contemporary displacement challenges. *Ambio*, 51: 1001-1013. <https://doi.org/10.1007/s13280-021-01620-z>
- Vave, R., Friedlander, A. M., Kittinger, J. N., & Ticktin, T. (2024). Cultural ecosystem services and the conservation challenges for an Indigenous people's aquatic protected area practice. *Conservation Biology*, 38(6), e14403. <https://doi.org/10.1111/cobi.14403>
- Veitayaki, J., Breckwoldt, A., Sigarua, T., Bulai, N., Rokomate, A. 2014. *Living from the Sea: Culture and Marine Conservation in Fiji*. Itaukei Trust Fund Board, Suva, Fiji (112 pp.). ISBN 978-982-9160-03-4.
- Walter, R.K., Hamilton, R.J. 2014. A cultural landscape approach to community-based conservation in Solomon Islands. *Ecology and Society*, 19(4): 41. <https://doi.org/10.5751/ES-06646-190441>
- Wencélius, J., Lauer, M., Bambridge, T. 2022. Crafting the success and failure of decentralized marine management. *Ambio*, 51: 2342-2357. <https://doi.org/10.1007/s13280-022-01763-7>

Isandscape biocultural diversity and community participation

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Received 9 March 2026, Accepted 25 April 2026, Available online 30 April 2026

 [10.21463/jmic.2026.15.1.04](https://doi.org/10.21463/jmic.2026.15.1.04)

Abstract

Natural and cultural forces have changed the environment and land use of islands over time, producing multifunctional landscapes and seascapes rich in biocultural values. Most of these are biocultural landscapes, consisting of particularly fragile ecosystems and historical artifacts that require thoughtful consideration in their management, as well as solid cooperation between public governance and local communities — something that is still lacking in many areas. Within this framework, the article aims to elucidate the concept of isandscape, i.e. the landscape of an island, and its biocultural diversity as linked to people's perceptions and participation, and to contribute to its analysis through novel methods. Past and current research on the concept of isandscape is reviewed, definitions on the topic are advanced, global and local practices are illustrated through literature and case studies. Among these, the participatory approach adopted in Sardinia, Italy, serves to frame the concept within a European–Mediterranean context, considering ecosystem and cultural services, as well as green–blue infrastructures. The proposed methodology is grounded in a biocultural perspective and integrates active local participation and shared outcomes. While applied in the Sardinian target areas, it has broader applicability, with appropriate caveats. Data and findings have been analysed, and isandscape perception by local communities has been described. As a result, it has been argued that biocultural, transdisciplinary and collaborative approaches for resilient island cultures that combine preservation and revitalization should be pursued in the future to preserve isandscape biocultural diversity.

Keywords

Isandscape and biocultural landscapes, community participation, isandscape perception and analysis, biocultural diversity, green-blue infrastructures, Sardinian landscapes

1. Introduction to islandscape

Landscape, seascape, islandscape

Islands have undergone landscape changes due to geophysical, climatic, biotic and anthropogenic influence. Natural forces have modified the shape of their land and coast, and vice versa, cultural forces have affected pristine natural landscapes and ecosystems. The result is a miscellanea of natural, seminatural and cultural landscapes, with a multitude of uses that have created multifunctional landscapes rich in natural and cultural heritage. An integrated approach is necessary to preserve this island heritage.

That islands embrace fragile ecosystems and endemic species is well known (Darwin, 1859; MacArthur and Wilson, 1967; Blondel, 2006; Vogiatzakis et al., 2008; Pungetti, 2017), as well as that they are a repository of cultural heritage with characteristic societies, folklore, artifacts, archaeology, architecture and land use (Evans, 1973; Evans, 1977; Rackham, 1986; Patton, 1996; Pungetti, 1996; Baldacchino, 2018). Consequently, in resembling a long-lasting coexistence of natural and human ecosystems, islands are rich in both biotic and cultural values.

The landscape of an island, called “islandscape”, combines land and sea to embrace the landscape and seascape of an island. Landscape is the visible interaction of abiotic, biotic and human processes developing on the earth surface over time, whose character is perceived by people (Makhzoumi and Pungetti, 1999; Council of Europe, 2000). The interaction of these processes on the coast, sea and adjacent waters forms the seascape (Pungetti, 2022). In some projects described later, e.g. ESLAND, Seascapes, eINS, seascape has meant to comprise a coastal landscape strip of around 20 km depth, equally divided by the coastal line into a terrestrial strip on the land, and a marine strip on the sea. Seascape here has been studied from a landscape perspective, limiting the studies to around 10 km distance from the coast to the sea thus excluding deep sea.

Islandscape studies

Islandscapes have been, and still are, intensely shaped by natural and human intervention. Mediterranean and European landscapes, specifically, have been strongly imprinted by humans and retain rich cultural heritage. However, apart from social, aesthetic, perceptual and experiential influences, they also show clearly the action of nature that has shaped them, well before humankind used them.

The wide variety of landforms and landscapes of an island, for example, lies in its geomorphological, lithological and pedological features, which form the abiotic stratum of the islandscape. The animal and vegetation features forming the biotic stratum have evolved during its long environmental history and under particular climatic conditions (Pungetti, 1999). This variability has been taken into account in the EC MEDALUS Project, Mediterranean Desertification and Land Use. From 1991 to 1996 two main groups worked in cooperation on the Sardinian case study of MEDALUS, one from Cagliari, in Sardinia, and

one from Cambridge, in England. The former studied the characteristics of the soils and their vulnerability to erosion, closely connected with paedogenetic factors such as morphology, climate and land use (Aru et al., 1994). The second researched environmental history (Grove and Rackham, 2001) and landscape (Pungetti, 1996). The latter group concluded that the real threats to Mediterranean landscapes in the recent past and the immediate future are caused by climate change and especially by human impact, not only from coastal development and tourism, but also bulldozing, excessive irrigation and inland depopulation.

The English group joined later other scholars in an editorial project focused on Mediterranean Island Landscapes (MIL) with their similarities in biotic, ecological, physical and environmental characteristics, as well as differences in their past colonisation and current anthropogenic pressures. The studies have addressed natural and cultural factors that have shaped these landscapes, describing past environmental and cultural changes with effects on biota, along with current human pressures that are now threatening island community sustainability (Vogiatzakis et al., 2008).

MIL has been instrumental for the setting of an EC Project, European Culture Expressed in Island Landscapes (ESLAND, 2011–13), with the vision to consider European island landscapes as part of our cultural heritage, including the unique identity and values they have for European people. The main goal achieved has been to improve consideration of cultural heritage in European islands. The evolution of European landscapes and their present conditions has thus been described, in view of an interdisciplinary approach for a common discussion and agreed methodology on concepts, identity and classification. This did lead to mapping and e-tools for landscape future development, which should be more culturally and sustainable oriented than at present (Pungetti, 2017).

The project has contributed to the implementation of European policies such as the Council of Europe European Landscape Convention, UNESCO World Heritage Convention, IUCN Biocultural Diversity Journey, EC Maritime Spatial Planning and Integrated Coastal Zone Management, and UNEP Mediterranean Action Plan. ESLAND, however, pointed out the need to deepen studies on related topics, among which seascape was the most urgent. Therefore, a large community of scholars worked together from 2018 on the Seascapes Project, to produce a first overview of the concept of seascape all around the northern hemisphere (Pungetti, 2022).

A composite debate on the topic emerged, with subjective views and perceptions leading to “One and Thousands Definitions of Seascape” (ibid.). Seascape in fact is not just an aesthetic or scenic view of the sea; it is also the intertwined bond between land and sea, nature and people, conservation and planning. For IUCN, for example, Protected Seascape (Category V) is a place where the interaction between people and nature over time has produced an area of ecological, biological, cultural and scenic value (Dudley, 2008), and this applies to landscape too. Hence, the Seascapes Project has advanced methods for future seascape conservation, development and governance with a biocultural outlook, including case studies for practical application relevant to landscapes.

2. Biocultural diversity and landscape

Background: biocultural diversity

Earlier studies on biocultural diversity have shown the link between biological and cultural diversity, firstly with diversity in biology, culture and language, secondly with common threats to these, thirdly with approaches to revitalise this diversity, and fourthly with development of related aspects of human rights (Maffi, 2001; Maffi and Woodley, 2010). The latter has been also highlighted by a group of scholars working on “The Right to Landscape” initiative, linking landscape to human rights, where the former, with its tangible and intangible dimensions, overlaps with the latter to support both life, i.e. nature, and human dignity, i.e. culture (Egoz et al., 2011).

The Concept of biocultural diversity as defined by the Global Diversity Foundation “the total variety of the cultures and natural environments in the world” ^[1] recognises also how local ecological knowledge and practice can help communities to manage their resources. As several authors pointed out, biocultural diversity is indeed the dynamic result of the interaction between biodiversity, cultural diversity and traditional knowledge within the ecosystem sphere (Tsai, 2003; Hong et al., 2011; Gavin et al., 2015). However, for an island, the closer the balance between nature and culture and the interaction within the ecosystem is (Hong, 2023), the stronger the biocultural value of its landscapes.

Latest research on island biocultural diversity has indicated that Mediterranean islands can serve as an excellent model for the development of a methodology on the topic (Nazari et al, 2024). The Mediterranean Basin is in fact a hotspot for biological and cultural diversity, and this is particularly evident in its islands.

The sense of landscape and seascape

The link between nature and culture, widely addressed in past literature, has also been applied to the concept of heritage conservation, leading to the introduction of the category of cultural landscapes for the nomination of UNESCO World Heritage Sites (Rössler, 2006). The landscape scale, specifically, has been outlined in literature to explain the role of local, national and international designations in conserving biocultural diversity (Hay-Edie et al., 2011), as well as in the recognition of landscape form and function, and its symbolic associations between nature and culture (Cosgrove, 1998; Bell, 1999; Muir, 1999; Mitchell et al., 2009). This has been demonstrated also in Mediterranean islands (Makhzoumi and Pungetti, 1999; Vogiatzakis et al., 2008; Pungetti, 2017), where landscapes rest between landscape and seascape, and are an expression of tangible and intangible natural and cultural heritage.

For UNESCO (2011), intangible cultural heritage maintains cultural diversity and promotes intercultural dialogue. It is made up of knowledge and skills transmitted from one generation to the next. It is traditional and contemporary at the same time, in addition to being inclusive,

representative and community based. The debate then moved to biocultural heritage, as explained later (see Davidson-Hunt et al., 2012; Griffiths, 2024).

Islanders have a strong sense of their landscape and seascape because they comprise valuable habitats, which offer ecosystem and cultural services. Landscapes are places of environmental, rural, tourist, industrial and urban development, which retain both natural and cultural character and heritage. Accordingly, landscapes express a resilient sense of nature and culture and require, for this reason, a common holistic research approach, which considers their biocultural diversity.

Biocultural landscape

Even though landscapes are physically bounded due to their nature, their field of study disregard disciplinary boundaries. They address current global challenges due to the human interaction with ecosystems, which can cause species and biodiversity decline if land development, pollution and resources exploitation are particularly aggressive. Therefore, they require investigation from different angles able to encapsulate their entire essence. The biocultural diversity approach assists in this task, but it is not yet widely applied despite many landscapes of Europe, especially in the Mediterranean, being excellent laboratories for the study of biocultural diversity (Nazari et al., 2024), as explained before. On this basis, the notion of biocultural landscape diversity emerges.

A “biocultural landscape” refers here to an area in which abiotic, biotic and human elements are interconnected through ecological and anthropological interactions within an island context, shaped jointly by natural processes and human activity, as perceived by people. Intrinsically, a biocultural landscape is an expression of different local natural and social settings, with unique character and variety in its ecological and cultural aspects. This type of landscape or seascape, therefore, should be explored considering its intrinsic diversity.

3. Biocultural diversity and community

Local communities and biocultural conservation

Local communities have been crucial in biocultural conservation. Since the adoption of the UN (United Nations) CBD (Convention of Biological Diversity) at the Earth Summit in Brazil in 1992, it has been outlined the importance of considering the conservation of biological diversity in cooperation with the global community (Takahashi et al, 2023), also in the framework of biocultural heritage. The latter has supported the rights of indigenous peoples and local communities to control their own heritage in order to achieve sustainable livelihoods and self-determination (Davidson-Hunt et al., 2012), with biocultural design as an approach to support innovation within the framing of biocultural heritage, to include a plurality of knowledge for nature-based solutions.

In this context, the significance of biocultural heritage, cultural landscape and islandness assist to explain the strong attachment of island communities to their surrounding environments. Islandness provides a key lens for interpreting the distinctive nature of islandscapes, and accordingly their biocultural character. The debate on islandness, specifically, has recently shifted from a condition of physical isolation to a cultural, symbolic and political construct that shapes identities and relationships with the outside world (Baldacchino, 2018; Foley et al., 2023), for example on local perception of environmental risk and degradation, (Di Fazio et al., 2025) or on strategies development to adapt to climate change.

The generosity of islanders to share their cultural landscape with visitors has been pointed out by Griffiths (2024) to support integrated responsible biocultural tourism, and more than this, their living values. Community land, likewise, is often combined with a strong sense of place and custodianship (Marango et al., 2020).

Local people, moreover, are undeniably custodians of Traditional Ecological Knowledge (TEK). With their traditional practices of sustainable marine resources and land use, they help in providing cultural services and maintaining healthy territories and populations. Local knowledge, for example, can be used for managing natural resources, supporting resource rotation and ecosystem monitoring (Berkes et al., 2000), thus building capacity to handle environmental changes for long-term sustainability and resilient islandscapes.

Furthermore, instrumental values, such as the provision of fodder or firewood, are often the result of a careful adaptation to the uncertainty inherent to climatic conditions. Traditional land use systems have often been shaped by informal rules with the primary motivation to ensure equitable resource use and frequently involving taboos (Plieninger et al., 2023). As such, traditional biocultural systems are strongly driven by local knowledge and support both nature and human well-being. This is the reason why biocultural conservation requires the understanding of the construction values-rules-knowledge to pursue resilient island policies.

The sense of place

Local people have generally a strong sense of place, which increases through actions and demonstrates willingness to take part in islandscape conservation and development, as illustrated in the research review above, and in the Sardinian case study below.

It has been demonstrated how spiritual beliefs can support nature conservation through local practices and protected areas (Pungetti et al., 2012). Oral narratives, prayers and songs, for example, serve as living archives of ecological knowledge and cultural identity (Ankei and Ankei, 2023), outlining the bond between oral traditions, maritime symbolism and indigenous ecological knowledge for sustainable marine stewardship (Wahyuni et al, 2025).

As such, if local communities are recognised for their landscape custodianship, then they should participate in territorial governance. This is even more important in fragile environments and threatened cultures like islands, and therefore a participatory approach to future islandscapes has been advocated in recent studies, as shown below.

4. Participatory approach

Sardinia case study

Landscapes can serve as a platform for the development of research methods and policy strategies about island biocultural diversity, including its perception, appreciation and governance. Sardinia is an ideal case study for this, since it is home to biocultural landscapes with diverse and pristine marine and terrestrial plants and animals, interconnected to local knowledge and agro-silvo-pastoral activities.

Sardinia is the second biggest Mediterranean island after Sicily, and like the latter is an Autonomous Region of Italy, with legislative and other exclusive powers. In the middle of the Tyrrhenian Sea, its distance from the mainland has contributed during ages to keep a wide selection of endemic plants and animals (Camarda and Cossu, 1988; Santi et al., 2024), which linked with its geological past (Aru et al., 1991) compose characteristic biotic and abiotic landscape features (Vogiatzakis et al., 2008). On top of these lay the human features rich in history, encompassing Mediterranean cultures and land use activities by its native people with their cultural practices (Pungetti, 1996).

Yet, traditional land use, folk and linguistic practices, and medicinal plants, continue to be embedded in Sardinian daily life. Here, more than elsewhere, people are central to island culture and serve as custodians of their environment, society and landscapes. This is why Sardinia has been chosen as case study to illustrate landscape biocultural diversity research and application, considering insularity from both island and islanders' perspectives. A participatory approach, illustrated in the following sections, has been employed to address the Sardinian biocultural landscape.

Glocal initiatives

Glocal initiatives, from global to local, on islands and biocultural diversity have been considered before setting up the research on the Sardinian study areas. The term *glocal* blends "global" and "local" describing strategies, products or visions that adapt global logic to local needs. It embodies the "think global, act local" approach, valuing local traditions and culture while operating in a broader market, in fact embodying the essence of globalization.

Global organizations, while implementing top-down approaches required world-wide, are increasingly recognising the need to implement bottom-up approaches at local level in environmental conservation. Research has demonstrated how local biocultural values rooted in regional uniqueness and global policy imperatives have interacted to define environmental policies for biocultural diversity (Takahashi et al., 2023).

At global level, the resolution for "Strengthening Biocultural Diversity and Traditional Ecological Knowledge in Asia-Pacific Island Regions" adopted by the 5th World Conservation Congress in September 2012 as the IUCN Resolution 5.115 (Hong et al., 2014) is crucial for pointing out that marine ecosystems are under threatening changes due to

climate, development and pollution on islands and coasts. A global island policy was thus proposed, based on biocultural diversity, with the twofold goal of conserving biodiversity, and ensuring sustainability of cultural resources in islands.

Inspired by the above, the Island Biocultural Diversity Initiative for the Mediterranean has been set up in 2024 to support the preservation of biocultural diversity, with Sardinia as its primary hotspot. The Initiative, coordinated by the Centre for Biocultural Landscape and Seascape (CBLS) through the cooperation of several international scholars, has been linked to some local activities among which is the Spoke 9 “Environment Protection and Valorization” of the e.INS project “Ecosystem For Innovation Next Generation Sardinia” by the European Commission fund “NextGenerationEU” of the Italian Ministry of Education and Research for 2023–26. The project aims at strengthening the link between economic actors and science, mitigate the social impacts generated by the pandemic, and increase territorial inclusion in Sardinia. Spoke 9, specifically, addresses innovative applied research, tackling the sustainable growth of local green small and medium-sized businesses, and dissemination of research results to academics and stakeholders.

Within Spoke 9, the Working Group “Biocultural Networks” of CBLS has focused on biocultural diversity, islandscapes and community participation. Among the Working Group activities, the research for biocultural islandscapes diversity in Sardinia and its “Green-Blue Infrastructures” is illustrated in the following sections, with its related islandscapes areas.

5. Green-blue infrastructures and biocultural islandscapes

Research setting

Green infrastructure (GI) is a term used by the European Commission (2013) to indicate a strategically planned network of natural and semi-natural areas, composed by environmental features planned to deliver ecosystem services in terrestrial environments. GI are also referred to as blue infrastructures (BI), with the difference that they deliver ecosystem services in aquatic spaces.

Ecosystem services comprise:

- provisioning services, e.g. food and water;
- regulating services, e.g. air quality regulation;
- cultural services, e.g. educational values and sense of place.

Since these services are supplied by nature to sustain life and contribute to human wellbeing (Lai et al., 2018), this link between nature and people widely supports biocultural diversity maintenance.

Research and activities on green-blue infrastructures in Sardinia related to biocultural islandscapes have been carried out between 2023 and 2024 at Giara Plateau and Porto Conte Park, respectively in the centre and north-west of the island (Fig. 1a and Fig. 1b). They aimed to improve the socio-ecological processes that underpin the ecosystem and cultural

services provided by GI & BI, while considering landscape characteristics and the needs of island communities. For this reason, active involvement of Sardinian citizens has been employed to grasp their knowledge, perception and understanding of local biocultural landscapes, and vice versa, to transfer best practices from elsewhere. The methodological framework based on the participatory approach is explained below.

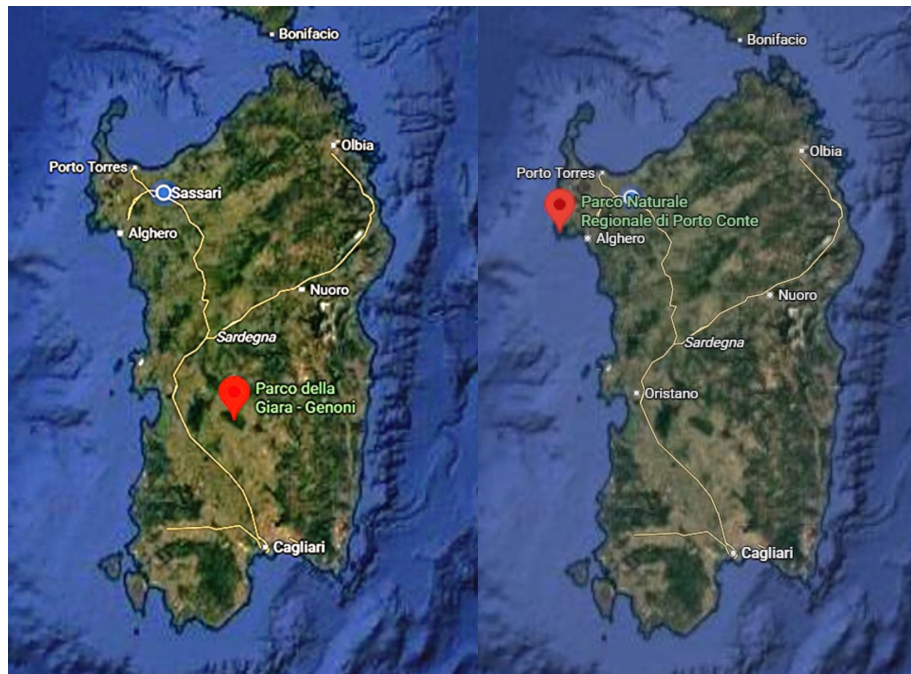


Fig 1. Left (a): Map of the Giara Plateau in Sardinia. Right (b): Map of the Porto Conte Park in Sardinia.

Green-blue infrastructures in Sardinia

Within this research setting, the first community activities on Green Infrastructures in Sardinia took place at the Giara Plateau and Genoni in October 2023, within the Convention "Green Infrastructures and Biocultural Networks" of the e.INS project and the Giara Plateau Foundation (see Fig. 1a).

The Giara Plateau is a vast basalt area in the centre of Sardinia, made up of landscapes of great ecological and cultural value: seasonal ponds, cork oak woodlands, basalt cliffs, endemic flora and distinctive fauna (Fig. 2). The presence of archaeological structures, traditional pastoral systems and practices has created an emblematic landscape produced by the interaction between nature and culture. The symbolic character of the plateau is the landscape of the little Giara horse, known as "*Cavallino della Giara*".

A second round of community activities, this time on Blue Infrastructures in Sardinia, was carried out in June 2024 at "Porto Conte Regional Natural Park", and at "Capo Caccia and Isola Piana Marine Protected Area", within the Convention "Biocultural Networks: Green-Blue Infrastructures" of the e.INS project and the Porto Conte Park (see Fig. 1b).



Fig 2. Giara landscape with its characteristic maquis and cork oak forest

Inland from Alghero, North-West Sardinia, the Park boasts 60 kilometres of coastline with sandy beaches alternating with sheer cliffs, bays, sea caves and lagoons, surrounded by Punta Giglio, Punta Cristallo and Mount Doglia. Here, deer, horses and white donkeys roam among dense Mediterranean scrub consisting of strawberry trees, helichrysum and broom, as well as endemic species such as the dwarf palm. "Capo Caccia and Isola Piana Marine Protected Area" was established after the Park to protect the area's seascape. It is home to fossil-rich limestone and rare plants clinging to coastal cliffs (Fig. 3). The extremely rare griffon vulture nests on the most inaccessible cliffs, while peregrine falcons, buzzards, barn owls, and common ravens fly around Punta Giglio.

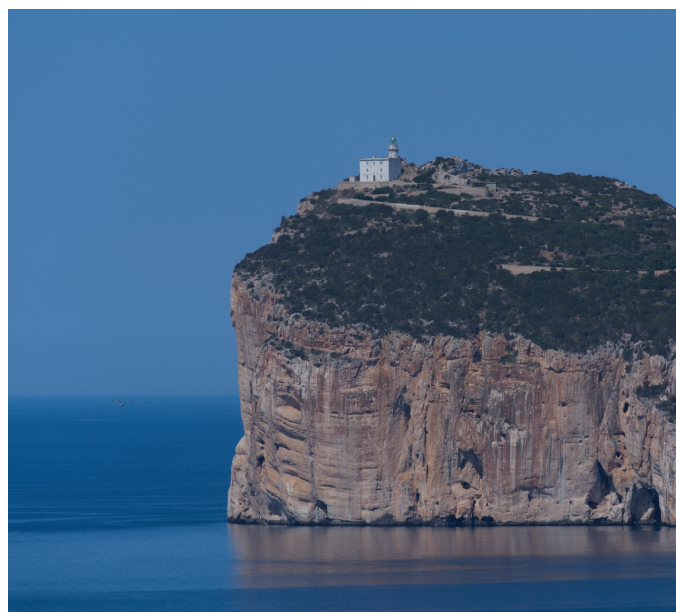


Fig 3. Porto Conte seascape with Capo Caccia Cliff

Methodology for study areas

The method used, based on citizen science, employs a participatory approach, which associates community mapping with placetelling. Taking into account ecosystem and cultural services, alongside green–blue infrastructures, it is useful to outline the ecological and cultural values of islandscapes. Moreover, a new framework for researching biocultural GI & BI has been set up to support environmental conservation, as well as sustainable economic and tourist development through local territorial products and services. The proposed methodology, lastly, is based on a biocultural stance, combined with active citizen participation, shared results and future perspectives. Although developed for the Sardinian target areas, it may have broader applicability, subject to appropriate caveats.

The common method employed in both study areas to explore GI and BI in biocultural islandscapes is based on four pillars:

1. interdisciplinary and biocultural dimension;
2. active participation;
3. shared results;
4. follow up.

First, at each conference of both conventions, in Genoni and Porto Conte respectively, international scholars have illustrated advanced studies on biocultural landscapes and seascapes in different islands, while local experts have highlighted the biocultural dimension of their islandscapes. Interactive lectures have been employed during the gathering, linking speakers with the audience.

Second, collective fieldtrips have taken place open-air, with activities of data gathering and observation, to develop landscape analysis and data interpretation, using field trip cards on paper boards, tablets or smartphones (Fig. 4). The participants have been guided by local experts for landscape understanding, and by international experts for the latest scientific and technological instruments employed in the survey. Hence, the field trips became an experiential lab to develop landscape awareness.

Third, the experience from the fieldtrips has stimulated deeper consideration of the community on their islandscapes and man–environment relations, developing a biocultural sense of their environment. This has been reflected in the last type of inside activities, where the community has worked with the experts in collective roundtables or personal interviews to describe their favourite islandscapes, employing storytelling, placetelling and collective mapping (Fig. 5). Interactive maps on the table, and boards on the wall with specific questions, served for relationship building and shared reflection on landscape values.



Fig 4. Field trip in the cork oaks of the Giara Plateau



Fig 5. Participatory tables with Sardinian people and stakeholders at Porto Conte

Fourth, community involvement in loco ended with ideas to follow this up, indicating future desired steps to take for their biocultural landscapes. As a matter of fact, this has been just a first stage of the landscape biocultural process for the community, and accordingly the setting up of the method has been here outlined, but more must be done in the future. The collective mapping of Sardinian biocultural landscapes, in fact, and their perception by the native people, will continue in other selected Sardinian agro-silvo-pastoral and marine areas of the island, to describe their dynamics through a multidisciplinary and diachronic approach based on open participatory mapping and research. Future collective work will allow further landscape investigation, to assess the method described here, and to provide further data for a more detailed analysis that will be documented and discussed subsequently.

6. Analysis of community landscape perception

Setting the analysis

The analysis on selected Sardinian landscapes has been developed following three main steps:

1. examining landscape biotic and abiotic components;
2. describing human components and mapping landscape perception by local communities;
3. employing a participatory approach in landscape evaluation, able to support future landscape development and policies.

A dataset of all landscapes involved has been constructed after curation of data available from earlier projects and activities. Further data came from several workshops with local people and experts in the two selected landscape areas, embracing the methodological principles described in section 5. A sentiment analysis has allowed researchers to examine the subjective information collected, i.e. opinions, attitudes and feelings expressed by the different participants in the workshops conducted across the two case studies. Finally, QGIS has been employed to import data and map layers for subsequent analyses, and additional maps have been obtained for different purposes.

Analysis results

The research showed that participants in the workshops linked the landscapes they observed during fieldtrips to both tangible and intangible elements. They also indicated spontaneously natural and cultural values of their landscapes, outlining their biocultural essence.

Landscape socio-cultural values have been explored considering arts, humanities, social sciences and creative practice methods. These can surely help also to give voice to the local stakeholders and communities interested to practice landscape activities. Therefore, innovative transdisciplinary bottom-up initiatives are needed to reveal these socio-cultural values in landscape environments, necessary to support sustainable resilient island cultures.

Education and communication campaigns, moreover, have shown that the Sardinians involved are proud of their unique landscape and seascape, and this is important to support nature conservation. However, building a sense of ownership through information that is relevant to locals, had a more positive response from the community rather than conveying technical and complex information.

Islanders, furthermore, have proven to be custodians of their landscapes and should thus be involved in island conservation, as their attachment to their island landscape plays a key role in preserving natural and cultural heritage, especially in threatened environments and cultures such as Sardinia.

7. Research outcomes

Islandscapes are the characteristic landscape and seascape of an island. The studies above show that islands, globally, have exclusive natural islandscapes: insularity influences ecosystems, with high biodiversity and many endemic species. Islands likewise have distinctive cultural islandscapes: human imprint and heritage is here more diverse compared to mainland. As an integration of abiotic, biotic and human components, islandscapes in Europe and in the Mediterranean are rich in natural and cultural elements, embedding both tangible and intangible values, and showing a unique character in their landscape, seascape and people.

European islandscapes, precisely, show the action of nature that has shaped them, and of people that have used them, resulting in an abundance of tangible and intangible values. The ESLAND Project has advocated that such tangible and intangible processes, imprinted by man, nature and the genius loci, are testimony of the ecosystemic and anthropogenic legacy of which islandscapes are repository (Pungetti, 2017).

The islandscapes examined in Sardinia, in addition, are sources of pristine wildlife, endemic species and rich biodiversity, which here are often interlinked with enduring cultural heritage and traditional knowledge, thus forming an interesting biocultural environment. This has been proved by the activities carried out in cooperation with the local community in the selected study areas illustrated above, where people's experiences and perceptions have been gained through direct engagement in those areas.

On the other hand, such engagement of local people with the environment has created a bond, which has helped them understand, respect and grasp the essence of their islandscapes. Working in the landscape has recalled memories and emotions that they were able to express and share, together with traditional practices and knowledge of which locals are proud. On top of this, they have created stronger connections with other community members while discussing the topic, showing indeed another relevant biocultural element of these collective actions.

8. Conclusions: sustainable approaches for resilient landscapes

The research undertaken lays the groundwork for subsequent efforts. The next objective is to develop nature-based solutions that preserve ecosystem quality while generating economic, social, and cultural value for local communities, thereby supporting sustainable and resilient island cultures and their biocultural landscapes. As demonstrated before (Gavin et al., 2015), biocultural approaches to conservation can be significant tools to reduce loss of biocultural diversity, and since this is facing numerous challenges, these tools are urgently required to address drivers of diversity loss and global homogenization.

The studies illustrated here have outlined new methods to examine present landscapes for their future development, not forgetting the past. Advancing conservation and governance with a bottom-up approach, as alternatives to customary top-down ways of thinking and working, has built a greater sense of relevance across contributory fields through mutual respect and understanding. However, much is still to be addressed on the topic. For example, in sustainable landscape design and planning, it is important to tackle in the future:

- emphases on biocultural directions in landscape research;
- bottom-up approach to build resilient island cultures considering traditional knowledge;
- intimate inter-relationships between “the natural” and “the cultural” operated at many levels.

People living in island areas, moreover, maintain and pass on unique knowledge that has been used for centuries to adapt to changes and to limit the exploitation of their resources. This sense of resilience is embedded in the local TEK of these regions. TEK, as demonstrated in the local Sardinian projects carried out, clearly plays an important role in enhancing the resilience and sustainability of socially and ecologically vulnerable marine regions. TEK, more generally, has accumulated in the diverse ecological environments and living cultures of numerous islands around the world, as pointed out by both the European ESLAND and the global Seascapes projects, and consequently multidisciplinary and multifunctional convergence cooperation should be conducted in these areas.

International collaboration for sustainable landscape preservation and revitalization is hence required, whilst the cooperation of residents could be extended to the surrounding islands for the sustainable management of regional seascapes (Pungetti, 2017). In any case, the nexus between local communities and governance should be wisely kept in the light of respect and “The Right to Landscape” (Egoz et al., 2011). Listening to the voices of island communities and stakeholders is even more relevant in revealing the complexity of landscapes, with their provision of ecosystem and cultural services (Roe, 2022).

Concluding, the use and management of natural and cultural island resources as addressed in this work call for long-term strategies, where the biocultural landscape approach can contribute to ecologically integrated and community involved sustainable development. In

landscape design, planning and management this requires collaboration between disciplines and actors, which can be done only with the necessary involvement of local communities and stakeholders jointly.

All this calls for a holistic approach, based on island biocultural diversity, which should be:

- transdisciplinary, with a wide spectrum of sectors that support island preservation and revitalization;
- diverse, with disciplines and tools that can tackle landscape diversity;
- bioculturally informed, considering the interface between ecological and social systems provided by ecosystem and cultural services;
- collaborative, to involve all actors willing to sustain resilient island cultures.

TEK sustains both nature and human well-being, providing ecosystem and cultural services and shaping island biocultural diversity. The conservation and revitalization of biocultural landscapes therefore require an understanding of such knowledge, which differs across islands, in order to support sustainable policies for resilient island cultures. Local knowledge and participatory approaches should thus be employed to build capacity to address environmental challenges, ensure long-term sustainability, and preserve island biocultural diversity.

Acknowledgements

This work was supported by the research grants Project e.INS — Ecosystem of Innovation for Next Generation Sardinia [cod. ECS 00000038] funded by the Italian Ministry for Research and Education [MUR] under the National Recovery and Resilience Plan [NRRP] — Mission 4 Component 2.

Endnotes

1. Global Diversity Foundation, <http://www.globaldiversity.org.uk/>

References

- Ankei, Y., Ankei, T., 2023. Cosmology of Yonaguni Island, Ryukyus: A collection of daily prayers and songs for biocultural diversity and island sustainability *J. Mar. Isl. Cult.* 12 (3): 76–95.
<https://jmic.online/issues/v12n3/6/>
- Aru, A., Baldaccini, P., Vacca, A., 1991. Nota illustrativa alla carta dei suoli della Sardegna. Regione Autonoma della Sardegna: Cagliari.
- Aru, A., Brundu, G., Camarda, I., Kahnamoei, A., Madeddu, B., Roxo, M., Puddu, R., Satta, V., Vacca, A., 1994. Assessment and management criteria of desertification in selected Mediterranean areas. Working Paper No. 31, 3rd MEDALUS II Scientific Conference, Athens 19–24 May 1994.
- Baldacchino, G. (Ed.), 2018. *Routledge international handbook of island studies: a world of islands*. Routledge. London.

- Berkes, F., Colding, J., Folke, C., 2000. Rediscovery of Traditional Ecological Knowledge as Adaptive Management. *Ecological Applications*, 10 (5): 1251–1262.
<https://doi.org/10.2307/2641280>
- Bell, S., 1999. *Landscape: Pattern, Perception and Process*. Spon-Routledge, London-NewYork.
- Blondel, J., 2006. The 'design' of Mediterranean landscapes: a millennial story of humans and ecological systems during the Historic Period. *Hum. Ecol.* 34: 713–729.
- Camarda, I., Cossu, A., (Eds.), 1988. *Biotopi di Sardegna: Guida a dodici area di rilevante interesse botanico*. Carlo Delfino Editore: Sassari.
- Cosgrove, D.E., 1998. *Social Formation and Symbolic Landscape*. Univ of Wisconsin Press, Wisconsin.
- Council of Europe, 2000. *European landscape convention*. ETS NO. 176. Council of Europe, Florence.
- Darwin, C., 1859. *The Origin of Species by means of Natural Selection*. John Murray, London.
- Davidson-Hunt, I.J., Turner, K.L., Mead, A.T.P., Cabrera-Lopez, J., Richard, Bolton, R., Idrobo, C.J., Miretski, I., Morrison, A., Robson, J.P., 2012. Biocultural Design: A New Conceptual Framework for Sustainable Development in Rural Indigenous and Local Communities, *S.A.P.I.EN.S.*, 5 (2) 2012: 33–45.
- Di Fazio, C., Guadagno, E., Paradiso, M., 2025. 'Islandness' and Risk Perception: Climate Change and Marine Diversity Loss in the Campanian Archipelago. *J. Mar. Isl. Cult.* 14 (2): 58–88.
- Dudley, N., 2008. *Guidelines for Applying Protected Area management Categories*. IUCN, Gland.
- Egoz, S., Makhzoumi, J. Pungetti, G., (Eds.), 2011. *The Right to Landscape: Contesting Landscape and Human Rights*. Ashgate, Farnham.
- European Commission, 2013. *Communication From The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions Green Infrastructure (GI)—Enhancing Europe's Natural Capital*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0249>
- Evans, J.D., 1973. Islands as laboratories of culture change. In: Renfrew, C. (Ed.), *The Explanation of Culture Change: Models in Prehistory*. University of Pittsburgh Press, Pittsburgh, USA, pp. 517–520.
- Evans, J.D., 1977. Island archaeology in the Mediterranean: problems and opportunities. *World Archaeology* 9, 12–26.
- Foley, A., Brinklow, L., Corbett, J., Kelman, I., Klöck, C., Moncada, S., Mycoo, M., Nunn, P., Pugh, J., Robinson, S., Tandrayen-Ragoobur, V., Walshe, R. 2023. Understanding "Islandness". *Annals of the American Association of Geographers* 113 (8): 1800–1817.
- Gavin, M.C., McCarter, J., Mead, A., Berkes, F., Stepp, J.R., Peterson, D., Tang, R., 2015. Defining biocultural approaches to conservation. *Trends in Ecology & Evolution* 30 (3): 140–145.
<http://dx.doi.org/10.1016/j.tree.2014.12.005>

- Griffiths, T., 2024. Significance of biocultural heritage, cultural landscape and islandness for responsible tourism: a Knoydart case study. *Tourism Geographies* 26, (3): 453–473. <https://doi.org/10.1080/14616688.2024.2325943>
- Grove, A.T., Rackham, O., 2001. *The Nature of Mediterranean Europe: An Ecological History*. Yale University Press, Yale.
- Hay-Edie, T., Howard, P., Martin, G., McCandless, S., 2011. The roles of local, national and international designations in conserving biocultural diversity on a landscape scale. *International Journal of Heritage Studies*. 17 (6): 527–536.
- Hong, S.K., Maffi, L., Oviedo, G., Matsuda, H., Kim, J.E., 2014. Development and Vision of Island Biocultural Diversity Initiative. in: Hong, S.K., Bogaert, J., Min, Q. (Eds.), *Biocultural Landscapes*. Springer Dordrecht. https://doi.org/10.1007/978-94-017-8941-7_14
- Hong, S.K., 2023. Biocultural Diversity and Islandness: On human-geographical and typological approaches. *J. Mar. Isl. Cult.* 12 (3): 1–13. <https://doi.org/10.21463/jmic.2023.12.3.01>
- Hong, S.K., Wu, J., Kim, J.E., Nakagoshi, N. (Eds.), 2011. *Landscape Ecology in Asian Cultures*, Springer-Tokyo.
- Lai, S., Leone, F., Zoppi, C., 2018. Implementing Green Infrastructures beyond Protected Areas. *Sustainability*, 10, 3544. <https://doi.org/10.3390/su10103544>
- Maffi, L., 2001. *On biocultural diversity: Linking language, knowledge, and the environment*. Washington: Smithsonian Institution Press.
- Maffi, L., Woodley, E., 2010. *Biocultural Diversity Conservation: A Global Sourcebook*. Washington: Earthscan.
- Makhzoumi, J., Pungetti, G., 1999. *Ecological landscape design and planning: The Mediterranean context*. Spon-Routledge, London-New York.
- Marango, S., Bosworth, G., Curry, N., 2020. Applying neo-endogenous development theory to delivering sustainable local nature conservation. *Sociologia Ruralis*, 61 (1): 116–140. <https://doi.org/10.1111/soru.12315>
- MacArthur, R.H., Wilson, E.O., 1967. *The Theory of Island Biogeography*. Princeton University Press, Princeton, N.J..
- Mitchell, N., Rössler M., Tricaud P.M., 2009. *Cultural landscapes: A handbook for conservation and management*. World Heritage Series No. 26. Paris: UNESCO World Heritage Center. Available from: <http://whc.unesco.org/en/news/588>
- Muir, R., 1999. *Symbolic Landscapes*. In: *Approaches to Landscape*. Palgrave, London. https://doi.org/10.1007/978-1-349-27243-3_7
- Nazari, V., Pungetti, G., Hong, S.K., Belardinelli, S., Destro Bisol, G., Pievani, T., 2024. Island biocultural diversity in the Mediterranean: the case study of Sardinia. *Reg Environ Change* 24 (143): 1–11. <https://doi.org/10.1007/s10113-024-02308-2>
- Patton, M., 1996. *Islands in Time*. Routledge, London.

- Plieninger, T., Abunnasr, Y., D'Ambrosio, U., Guo, T., Palomo, I., Ruiz-Frau, A., Yañez-Valle, F., 2023. Biocultural conservation systems in the Mediterranean region: the role of values, rules, and knowledge. *Sustainability Science* 18: 823–828. <https://doi.org/10.1007/s11625-022-01155-6>
- Pungetti, G. (Ed.), 2022. *Routledge Handbook of Seascapes*. Routledge, London-New York.
- Pungetti, G. (Ed.), 2017. *Island Landscapes: An expression of European culture*. Routledge, London-New York.
- Pungetti, G., Oviedo, G. and Hooke, D. (Eds.), 2012. *Sacred Species and Sites: Advances in Biocultural Conservation*. Cambridge University Press, Cambridge.
- Pungetti, G., 1999. From landscape research to ecological landscape planning. In: J. Makhzoumi, G. Pungetti, *Ecological landscape design and planning: The Mediterranean context*. Spon-Routledge, London-New York: 31–158.
- Pungetti, G., 1996. *Landscape in Sardinia: History, features, policies*. CUEC, Cagliari.
- Rackham, O., 1986. *The history of the countryside: The classic history of Britain's landscape, flora and fauna*. London, J. M. Dent & Sons.
- Roe, M., 2022. Community voices and the capture of seascape values. In G. Pungetti, (Ed.), *Routledge Handbook of Seascapes*. Routledge, London-New York: 492–506.
- Rössler, M., 2006. World Heritage Cultural Landscapes: A UNESCO flagship programme 1992–2006. *Landscape Res.* 31(4): 333–353.
- Santi F, Testolin R, Zannini P, Di Musciano M, Micci V et al., 2024. MEDIS—a comprehensive spatial database on Mediterranean islands for biogeographical and evolutionary research. *Global Ecol Biogeogr* 33:e13855.
- Tsai, H-M., 2003. Island Biocultural Assemblages — The Case of Kinmen Island. *Geogr. Ann.* 85 B (4): 209–218.
- Takahashi, S., Tayama, M., Tanaka, T., 2023. Incorporating Biocultural Values in Biodiversity Conservation Policies: A Case Study of the Regional Strategy for Biodiversity in Okinawa. *J. Mar. Isl. Cult.* 12 (3): 14–26. <https://jmic.online/issues/v12n3/2/>
- UNESCO, 2011. *What is intangible cultural heritage?* Infokit UNESCO Intangible Cultural Heritage. UNESCO, Paris.
- Vogiatzakis, I.N., Pungetti G., Mannion A. M. (Eds.), 2008. *Mediterranean Island Landscapes: Natural and Cultural Approaches*. Springer, Dordrecht.
- Wahyuni, D., Suwondo, T., Satiyoko, Y.A., Zamzuri, A., Saptawuryandar, N., Taum, Y.Y., 2025. 'The Sea as A Representation of Ecological Knowledge: Case Study of 'Suti Solo do Bina Bane' Tale on Rote Island, Indonesia', *J. Mar. Isl. Cult.* 14(2), pp. 167–188. <https://doi.org/10.21463/jmic.2025.14.2.10>

The *Fuganutu* Tradition Connecting Remote Islands: An oral history of 15th century drifters from Jeju to Yonaguni

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Received 24 February 2026, Accepted 14 April 2026, Available online 30 April 2026

DOI [10.21463/jmic.2026.15.1.05](https://doi.org/10.21463/jmic.2026.15.1.05)

Abstract

This article presents an examination of oral traditions concerning drifters that have been transmitted on Yonaguni Island, which marks Japan's southwestern-most point. This oral history, recorded in *Dunan munui*—one of the endangered languages designated by the United Nations Educational, Social and Cultural Organization (UNESCO)—comprises a text of 80,000 characters written in katakana. The text chronicles interactions and friendships with three men belonging to a group known as the *Fuganutu* (people from elsewhere). These individuals arrived from a region that did not correspond to Japan, mainland China, Taiwan, Lan-yu, or the West. This period preceded the incorporation of Yonaguni Island under the Ryukyu Kingdom's domain. Collaborative research with the last woman who memorized this heritage revealed detailed correspondences with accounts in the 1479 *The Veritable Records of the Joseon Dynasty* concerning a drift from Jeju Island to Yonaguni and the survivors' six-month stay there. After creating a 4,000-word vocabulary list, recording the narrative to build a corpus, and translating it into Japanese, we proceeded with the visualization of key scenes. A picture book authored by the narrator-drawer was published in March 2025, four months prior to her demise. This oral history included numerous life-wisdom teachings passed down through *Fuganutu*. These encompassed new food sources and fiber materials, cooking methods, drying preservation techniques, and forecasting weather and tidal patterns. Cultural exchange with drifters from Jeju Island significantly influenced environmental governance on Yonaguni Island. The author wished for us to help preserve the memory of an era when the island lived autonomously under female leadership and traded peacefully with places like Taiwan, ensuring that no one suffered from hunger and neglect.

Keywords

Yonaguni Island, Jeju Island, oral history, the Veritable Records of Joseon Dynasty, visualization

1. Introduction

1.1 Yonaguni, a border island of Japan

Yonaguni Island is located 111 kilometers east of Taiwan (Fig. 1). From the 16th to the late 19th century, the area was incorporated into the Yaeyama Islands, which were part of the Ryukyu Kingdom. Following Taiwan's incorporation into Japanese territory in 1895, Yonaguni came under the domain of Taiwan's economic zone. From 1945 to 1972, it was under the control of the United States. It is now recognized as Japan's westernmost border island. As of September 2025, the population was 1,660, with approximately 20% comprising Self-Defense Forces personnel and their families (Yonaguni Town webpage).

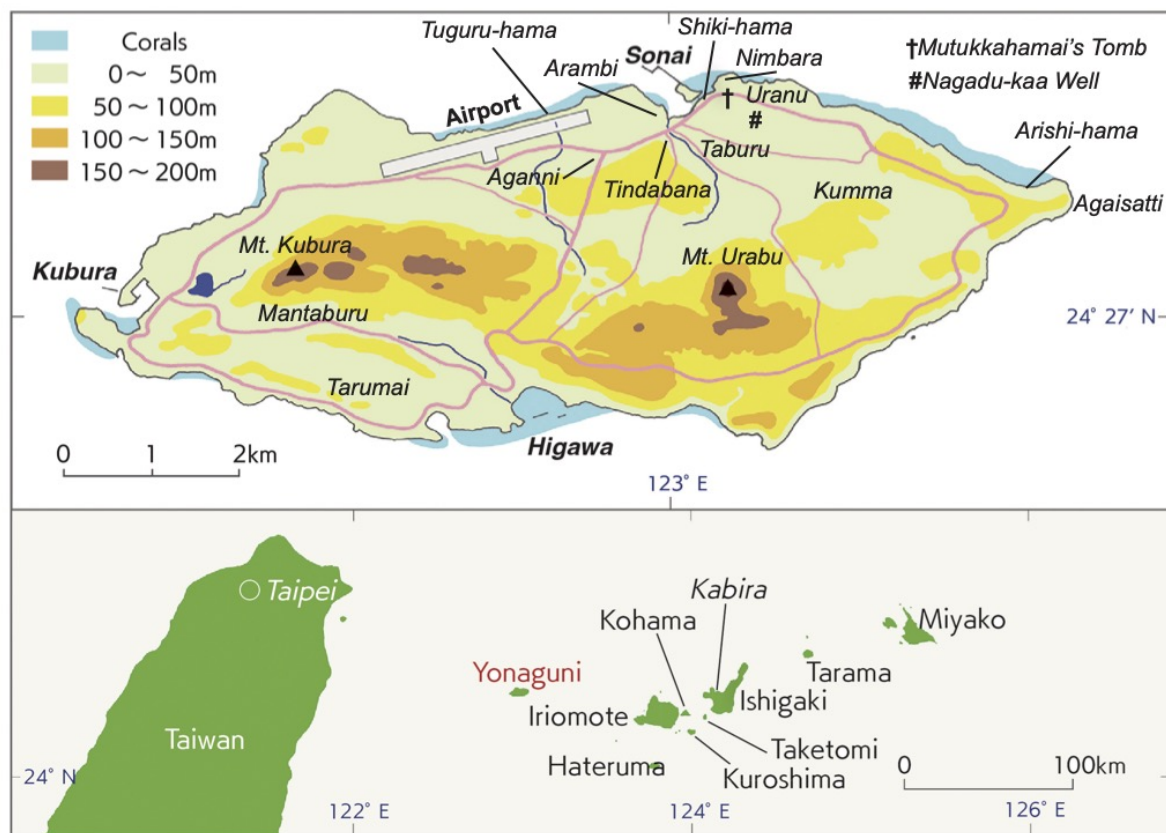


Fig 1. A map of the Yonaguni Island © Toguchi Ken

1.2 Study methods: Narrator-led oral history through remote collaboration.

Since 1974, our research has focused on the history of human-nature interactions, with a particular emphasis on Iriomote Island, which is located approximately 70 kilometers east of Yonaguni Island (see Fig. 1). For a comparative study with Iriomote, a visit was made to Yonaguni Island in late December of 1989, with an approximately one-week stay continuing until the beginning of the following year. It was in this setting that we had the opportunity to meet Ms. Wakaranko^[1] (1954–2025. Fig. 2).



Fig 2. Ms. Wakaranko (1954–2025) © Ankei Yuji (1990)

Wakaranko was an artist of weaving and dyeing, and a self-taught folklorist. By 1989, she had created 4,000 vocabulary cards in *Dunan munui*, or the Yonaguni language, designated by UNESCO (2010) as 'severely endangered'. Since that time, she has continued to provide us with her memories of the island's oral history. This included voluminous, unorganized resources: stacks of paper exceeding 160 centimeters in thickness, hundreds of hours of recordings, and approximately 1,000 drawings.^[2] This extensive collection includes the tradition of the drifters from an island presumed to be Jeju in 1477, of which the outline was first reported by Ankei and Ankei (2011a, 2011b), and had not been previously documented.

In 2021, we published a database online that shows the Yonaguni Island's biocultural diversity as memorized by Wakaranko. Then, we published her autobiographical picture-text collection (Wakaranko, 2023), which reflects the cosmology of the island. We published her second collection of pictures and texts about the Jeju Island drifters' tradition (Wakaranko, 2025). A process of patient co-creation was needed to compile her memories as if they were the 'pieces of eternally unfinished jigsaw puzzles' as she stated them (Ankei and Ankei, 2023). For her books, we encouraged her to draw her memories and the portraits of the narrators of oral histories to make her stories convincing.

2. A 15th-Century account of drifters from Jeju Island to Yonaguni Island found in the *Veritable Records of the Joseon Dynasty*

The earliest and most reliable historical source for our studies in the Yaeyama Islands was the *Veritable Records of the Joseon Dynasty*. They contain an account based on interviews with drifters' narratives on their journey. In February 1477, a ship from Jeju Island drifted for

two weeks and arrived at Yonaguni Island in southern Ryukyu, today's Okinawa. Three men were rescued and, after being escorted across the islands for two years and three months, finally returned to their homeland. In Japan, the contents of this account of their drifting voyage were first introduced through an article published in 1927 by Fuyū Iha (伊波普猷, 1876–1947), known as the 'Father of Okinawa Studies.' The islands they visited were identified as belonging to the present-day Yaeyama and Miyako archipelagos, beginning with Yonaguni Island. Figure 3 depicts the itinerary of the three drifters from Jeju Island.

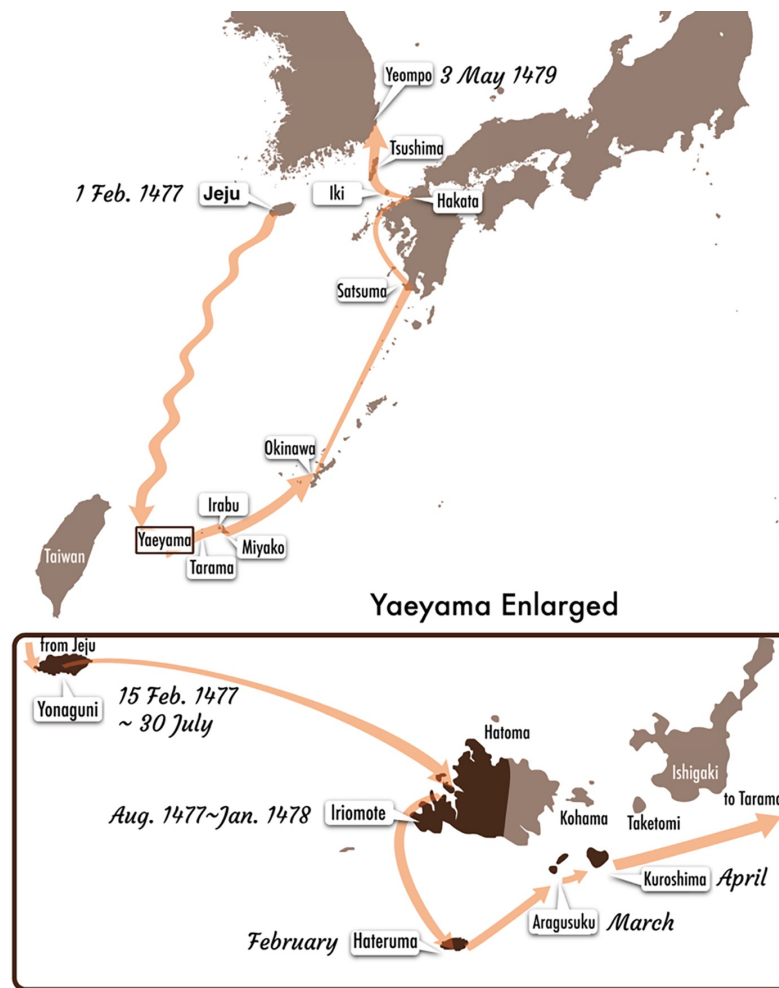


Fig 3. A map of the great journey by drifters from Jeju (1477-1479) © Yuji Ankei

The *Veritable Records of the Joseon Dynasty* is a chronological record compiled by the state (1392–1910). It contains many descriptions on the drifters to and from the Ryukyu Kingdom. It is inscribed on UNESCO's 'Memory of the World' Register. ^[3]

Ikeya *et al.* (2005) published a compilation of the Ryukyu-related entries from the *Veritable Records*, with detailed annotations. The record of the 1477 Jeju Island drifters discussed here is exceptionally detailed. Consequently, it serves as the oldest and most reliable record of daily life for our research on the history of the relationship between people and nature in the Yaeyama region, a project we began in 1974.

The three drifters from Jeju repatriated in Korea on May 3, 1479. The first record of their interrogation appears in the King Seongjong(成宗)'s Volume 104 of the *Veritable Records of the Joseon Dynasty*, dated May 16, 1479. It first covered the news they brought: the *Shōni* (少弐) clan, which had ruled Northern Kyushu, had been defeated in battle by the *Ōuchi* (大内) clan. It only briefly mentioned the islands through which they had been transported. Next month the king ordered his Records Office (弘文館), to compile a detailed record of their narratives. Consequently, a second interview record was created on June 10 collected in the King Seongjong's Volume 105. The latter record is more than six times longer than the former. Furthermore, the Chinese characters used to transcribe local place names differ almost entirely between the two. Even the name of one of the three men was recorded differently, as will be described later. The following are the excerpts from the two versions with our translation in English.

2.1. An excerpt from the King Seongjong's Vol. 104 (May 16, 1479)

Kim Bi-eul-gae (金非乙介), Kan Mo (姜茂) and Li Jeong (李正), returned from the Ryukyu Islands. They were shipwrecked during their journey from Jeju Island that started on the Feb. 1st, 1477. They had five companions. One died from hunger on the eleventh day and the others drowned on the fourteenth day on arrival at an island. We clung to the cliff, rescued by two fishing boat and fed with porridge. The islanders did not understand the letters of 朝鮮國 (Joseon Country). After a six-month stay, thirteen islanders took them to Sone Island in the east. [To be continued with descriptions of other islands.] The record is concluded by the King's decree to the Governor of Jeju Island: Regarding the three survivors, whose boat was wrecked while transporting mandarin oranges as tribute, inform their families of their return; as for the families of the five who drowned, offer official condolences and provide for their funerals (Fig. 4).



Fig 4. A page from a galley proof of the *Veritable Records of the Joseon Dynasty* (May 1479) <https://da.dl.itc.u-tokyo.ac.jp/portal/collection/jitsuroku>

2.2. An excerpt from the King Seongjong's Vol. 105 (June 10, 1479)

The king ordered his Records Office to compile a written account of the extraordinary oral testimony of the three drifters from Jeju Island to the Ryukyus: Kim Bi-ui (金非衣), Kan Mo (姜茂) and Li Jeong (李正).

On February 1, 1477, we set sail with a cargo of mandarin oranges to offer to the king, but we encountered strong winds. We drifted westward, and the sea became murky [because of the Yellow River] on the seventh and eighth days. Then, we drifted south, and the sea became clear and blue. On the fourteenth day, we saw a small island. Before we could reach the shore, our boat broke apart, and five crews drowned. We were rescued by two fishing boats with four men on each of it.

The island's name was Yun-i Shima. In local language they call an island shima. The island was small, with a population of just over 100 people. Their houses were scattered on the island. The people of the island built a hut on the beach and let us live there.

Only three of us could steer and bail water from the boat during the storm. The other crew members had collapsed from seasickness. Fourteen days passed without cooking or eating.

When we arrived on the island, we were first given rice porridge and garlic. Our first meal consisted of boiled rice, turbid rice wine, and dried fish. The fish were all unfamiliar to us. Seven days later, we were moved to private homes. Meals were served in rotation at each house. A month later, we were divided to live in three villages. We had three meals a day served with rice wine.

The islanders' appearance was the same as that of Jeju people. Men and women, excepting the old, wore earrings and headdresses of blue beads. They had no footwear. They had very long hair and beards. No pottery or metalware. Their earthenware pots broke after 5–6 days' use. Rice was their staple food. They did not like planting millet. They ate boiled rice rolled into balls served on leaves. They used seawater as seasoning. They used gourds or wooden bowls as dishes. A weak wine was made by fermenting rice, chewed by women. Fish was dried or sliced raw to mix with garlic and vegetables. They ground rice and boiled it to make rice cakes. The grass-thatch of their house touched the ground, and it had no doors or windows at its back. A granary was built in front of a house. They wore no headdresses or sashes. They made round hats from palm leaves resembling those of our Buddhist priests. Their clothing was dyed with indigo.

There were mice, cows, chickens, and cats. They did not eat cows or chickens. The islanders, burying the body of a dead cow, laughed at us and spat when we said we should better eat it. There was plenty of timber in the hills, where there were no wild beasts. There were only two kinds of wild birds: pigeons and yellow sparrows. Turtles, snakes, toads, frogs, mosquitoes, bats, bees, butterflies, mantises, dragonflies, centipedes, earthworms, fireflies, and crabs also lived there.

*There were iron smiths. They cultivated rice paddies by the trampling of cows. Rice was planted once and harvested twice. Before the harvest, they observed a period of abstinence and a ban on playing flutes. They harvested rice with sickles to be stored and processed. Types of cutting tools were sickles, axes and small spears. The dead were laid to rest in niches beneath cliffs. The island had a warm climate without frost or snow even in winter. Vegetables were garlic, eggplant, melon, taro, and ginger. Trees were 'black plum' [烏梅, *Diospyros ferrea*?], mulberry, and bamboo. Fruits were green mandarin oranges and beech. Mandarin oranges bloomed year-round. They lit*

bamboo torches at night. There were no toilets, and they were relieving themselves in the open. A loom for weaving was the same as in Jeju. They dug small wells in the ground and drew water with a gourd. Their boats had rudders, oars, and sails. They did not use a paddle [櫓].

There were no thieves. They did not quarrel or fight. They cherished their young children and did not hit them even when they cried. As a custom, there was no chieftain. The islanders did not understand writing, but we came to understand what they said. When we cried in homesickness, the islanders placed an unripe rice ear and last year's ripe one side by side. They blew them toward the east and tried to tell us that our departure was near.

We stayed on this island for six months. On the last day of July, thirteen islanders took us aboard a boat with food and rice wine. After a day and a half journey, we arrived at Sone-Shima. [To be continued with descriptions of other islands. The following remark by an officer was added at the end of the lines.]

On the 20th June 1479, the three drifters were repatriated to Jeju. They were exempted from labor duties for two years and ordered to be provided with six months' worth of provisions, including four long robes for different seasons.

3. Excerpts from the *Fuganutu* tradition, as passed down on Yonaguni Island

In early March 2007, we visited Jeju Island for the first time to trace the footsteps of the three drifters who left behind these precious testimonies. There, we were guided by a folklorist, Mr. Go Gwang-min (高光敏). He lamented that, despite the importance of these records, the common people of Jeju Island themselves remember or know nothing about the eight men's shipwreck and return of the three.

On the morning of March 12, 2007, just after we returned from our visit to Jeju Island, we received a phone call from Wakaranko. She recounted to us a tradition regarding an encounter with three drifters. It was a story that had never been told in the eighteen years since we first met. It began this way in the Yonaguni language:

Nkaci nkaci daraa nkaci, ici nu manguru ndi bagaranu daraa nkaci du maa. Nma nu cima nu 'tu di baraganu 'tu mitaintu nu binganga n'ga cima nki su ndi ndoo. Damatun aranun, Tuun aranun, Taiwan aranun, Kōtōsho^[4] aranun, Urandan^[5] aranun. Unnibi maa Fuganutu ndidu ndi butantu naa... (Wakaranko, 2025: 139–140)

(Ago, ago, long ago, so long ago as we don't know when. Three men came to our island from a place we did not know. Neither from Japan, China, Taiwan, Lan-yu, nor Europe. Therefore, they were named Fuganutu, people from the outside world...)

We were utterly shocked because nobody ever told us or published on the existence of such narratives corresponding to the Jeju Islanders' testimony in 1479. We began listening to her for two and a half years without any comments before providing our knowledge on the Jeju

drifters. It was published as a picture book with Wakaranko (2025) as the author and illustrator.^[6]

3.1. The Arrival of the three drifters from afar

Long, long ago, four boats that had gone out fishing found three men clinging to a piece of driftwood in the sea between Yonaguni and Iriomote Islands (Fig. 5). They immediately emptied two boats in which they took the men aboard and returned to the shore. The men were nearly naked and utterly exhausted. We could not understand their language. They were not from any of the places we knew of [then and thereafter]. So, we called them *Fuganutu*, 'people from outside'. An elderly woman called *Muranuuya*^[7] took the lead and sent her people to care for the men on the beach. The first meal we gave them consisted of rice, foxtail millet, and yams boiled together, dried fish, vegetable soup, and fermented wine made by chewing rice. They seemed to have gone without food for a very long time and ate heartily. We built each person a house made of wood and grass. It was called *duicida* and had a thatched roof that extended down to the ground with no back wall. We remade their underpants, called *appá*^[8], and made outer garments for them.



Fig 5. The three *Fuganutu* drifters who were rescued © Wakaranko. Wakaranko drew this picture at our request, but it was an ordeal filled with tears.

3.2. Various care for the *Fuganutu*

The *Fuganutu* recovered their physical health, but they continued to cry every day. *Muranuuya* realized they were mourning the deaths of their five companions. She decided that she herself would eat five small rice balls every day to soothe the hunger of the five deceased and invited their souls to rest on *Arishi-hama* beach. One day, *Fuganutu* broke

down crying at the sight of the white flowers of the wild lemon [*Citrus depressa*] growing on the hills (Fig. 6). We thought their homeland must also be a place where lemons grew. When they fell ill with constipation, fever, skin diseases, and other ailments, we treated them with medicinal herbs and helped them recover.



Fig 6. *Fuganutu* bursting into tears upon seeing wild orange blossoms, and Yonaguni islanders weeping in empathy © Wakaranko

3.3. What *Fuganutu* taught us

They were exceptionally wise people. We learned so many new ideas from them. They measured and predicted the tides and counted the days and months (Fig. 7). Every day, they drew sketches on the ground to explain things and events they experienced that day. Besides the sketches, one of them always added complex patterns^[9] and explained them, but we never understood the patterns. There still exists spring water at *Tindabana* they liked, and a well *Nagadu-kaa* they used [see the map in Fig. 1 for *Fuganutu*-related place names]. We had our own toilet customs, but we were too embarrassed to demonstrate them. *Muranuuya* instructed us not to tell them that cycads [*Cycas revoluta*] and coconut crabs, which are edible but can be poisonous. We were surprised by their curiosity regarding the fish caught on the coast of *Uranu* and *Nimbara* (Fig. 8). They never got lost on a path they had traveled before. Every morning, they provided a weather forecast and drew the day's schedule on the ground to explain it to us (Fig. 9).



Fig 7. Various moon shapes drawn by *Fuganutu* on the ground, alongside patterns with twists and turns © Wakaranko



Fig 8. The islanders watched in wonder as *Fuganutu* gazed at the fish with great curiosity. © Wakaranko

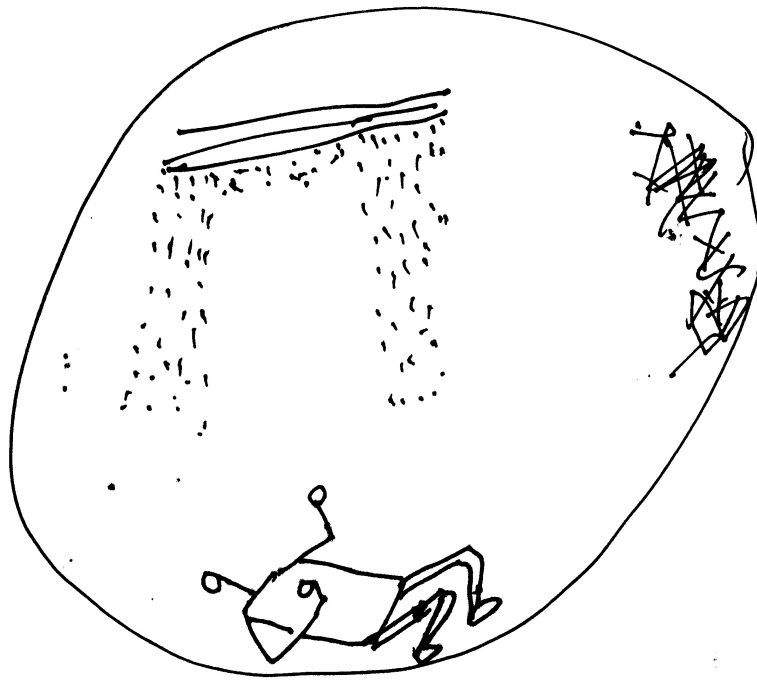


Fig 9. An example of *Fuganutu*'s weather forecast on the ground: 'The rain will stop for a while, but it will likely rain again, so do not go out.' © Wakaranko

They taught us how to cook ingredients from the sea and the land together in a single pot. They complained that the clay pots broke easily and taught us how to improve them. We were amazed by the deliciousness of their pickles made with fish and spices. They taught us new cooking methods that made use of fruit juice and peels. They taught us the deliciousness of bean sprouts and fermented foods. They taught us a new method of mashing fish and spicing it. They taught us how to enjoy the aroma by adding mandarin orange leaves to fish soup. The *Fuganutu* were dissatisfied because they were not allowed to eat beef or poultry. They tried to catch and eat wild birds, for which they were severely punished by *Muranuuya* until they cried. They were only allowed to return home when people came to ask her to forgive them. When we gave them mice to eat, they played with them and let them escape. We held hands with them to surround the escaping mice.^[10]

They showed us how to take fiber from wild bananas that grew in *Aganni* [near today's airport]. It later became a trade commodity. They taught us how to weave ropes from straw. They also showed how to make elastic baskets using vines of *itu* [*Flagellaria indica*] to add to the ones we used to make from bamboo. They invented three new types of brooms, bamboo knives, and bamboo skewers, and gave them to us. They played happily with the children and built a swing for them. *Amiragu*, a mesh-cradle unique to Yonaguni, was also their invention. One day, they drew a girl's outfit on the ground and asked her name. She was an orphan we had just brought from Taiwan who could not yet speak the island's language.^[11] They taught the children many competitive games, which even the adults became engrossed in. They taught the children an easy counting method by treading. They were a cheerful company, skilled at singing and dancing.

3.4. The rice harvest season and their departure

They were remarkably skilled at rice harvesting, despite having no prior experience as they said. They worked on rice fields as *Taburu*, *Kumma*, and *Mantaburu*. They could distinguish between rice planted the previous year and regrown rice. They could tell the difference between last years and this year's harvest by the aroma of the cooked rice and its cakes. They worshipped the rising sun, just as we did. They also learned to pray to the setting sun and to the fish they caught. During funerals, we looked after them and sang a lullaby until they slept. This was a precaution to keep them from wandering off and being taken away by disembodied spirits. They followed our custom and prayed to the stone *bidiri* erected in their garden. In the presence of *Muranuuya*, the young men and the *Fuganutu* formed a bond of sworn brotherhood when they were bathed in the spiritually potent moonlight, *utuntu*. After preparing the boat and ropes, *Muranuuya* selected thirteen crews to send them. *Muranuuya* advised *Fuganutu* to pray for the cats for their protection. We sent them off cheerfully from *Tuguru-hama* beach, hiding our sadness at parting. Later, a shipwrecked Yonaguni Islander was reunited with them on Iriomote. *Muranuuya* stopped and scolded the young men who were about to set out in a boat to follow their sworn brothers to their unknown homeland. *Muranuuya* advised the young men to plant a tree. As it grew, it would receive and tell us the good news of their return home. After preparing to meet *Fuganutu*'s parents in the afterlife, *Muranuuya* passed away.

4. Comparison: The two narratives from 1479 and the narratives from 2007 to 2025

Based on the results presented in the above sections 2 and 3, which included excerpts from the sources, we are now able to conduct a detailed comparison between written history and oral history. Specifically, we can compare and examine the Chinese-language records of the testimonies regarding the drifting experiences of three Jeju Islanders, taken during interrogations conducted in Korea on May 17 and June 10, 1479, with the narratives about three ancient drifters that have been independently passed down on Yonaguni Island.

The Yonaguni Island materials are the result of a historical co-creation project with Wakaranko, consisting of Yonaguni language audio and text, their Japanese translations, and illustrated explanations, which we received between March 2007 and February 2025.

We will present the results of this comparison in the following order: 4.1 Numerical correspondence, 4.2 Correspondence in details, 4.3 Discrepancies in descriptions, 4.4 Descriptions found only in the *Veritable Records of the Joseon Dynasty*, and 4.5 Descriptions found only in the *Fuganutu* tradition. The reference numbers for the episodes are 2.1 in the King Seongjong's Volume 104 of the *Veritable Records of the Joseon Dynasty*, 2.2 in Volume 105 of the same work, and 3.1–3.4 in the *Fuganutu* tradition.

4.1. Coincidence of numbers and date

Three men were adrift and saved at sea [2.2 and 3.1] They survived by clinging to the shore of an island [2.1]. Their five crewmates died [2.1, 2.2 and 3.1]. One of their companions starved to death, and the remaining four drowned when their boat broke [2.1]. All five drowned simultaneously [2.2].

The three survivors were rescued by two fishing boats [2.2]. They were taken aboard two of the four fishing boats [3.1]. After various experiences on the island, the three drifters were sent to the next island on a single boat manned by thirteen islanders [all of 2.1, 2.2, and 3.4 agree on this number].

The elders not only began teaching two-year old Wakaranko to memorize the *Fuganutu* tradition but also made her perform various prayer rituals for *Fuganutu* on *Shiki-hama* beach, which were originally conducted by the *Muranuuya*. Since childhood, it was Wakaranko's duty to eat five small rice balls every day [for the five drowned crews, see 3.1]. Further, on the first day of the eighth month of the lunar calendar, she was made to hang three millet cakes from the roof eaves. Then, it was her role to eat these cakes. It was a custom in Yonaguni Island to pray for the safe journey of beloved people. One cake was made for each traveler. We suggested to her that the hanging of three millet cakes on the 1st August might have indicated that the departure of the three travelers [presumably *Fuganutu*] was on the last day of July, as was exactly written in the *Veritable Records of the Joseon Dynasty* [2.2].

4.2. Consistency in the details of episodes and in the proper nouns

After the ship was wrecked, the three drifted while straddling a plank in the water [2.2], and the three drifters were found clinging to a plank resembling the bow of a wrecked boat [3.1]. Their first proper meal on the island consisted of rice, dried fish, and wine made by chewing rice [2.2], and millet, yams, and vegetable soup were also added to these [3.1]. They placed balls of rice on top of leaves [2.2 and 3.1]. Their appearance resembled each other's [2.2 and 3.1]. The islanders had long hair and beards [2.1], while the drifters had short hair and no beards [3.1]. The islanders' ornaments consisted of strings of beads [2.1 and 3.1]. Clothing consisted of ramie woven into tunics and dyed with plants [3.1], and further, they were indigo-dyed [2.2]. Houses had thatched roofs sloped down to the ground, with no back wall [2.2 and 3.1]. The fish were all unfamiliar to them [2.2], and they looked at the fish with great curiosity [3.3]. There were rats, cats, cows, and chickens [2.2 and 3.1]. Rats were for food [3.3]. Cows and chickens were not eaten, and the islanders laughed at the drifters when they suggested eating a cow [2.2]. They complained about not being able to eat cows or chickens and were punished for secretly catching and trying to eat wild birds [3.3]. Rice was planted once and harvested twice by utilizing the regrowth [2.2 and 3.4]. A period of abstinence and noises like flutes were banned before the rice harvest [2.2], whereas *Fuganutu* had made many bamboo flutes, and they were confiscated for abstinence [3.3]. Green mandarins bloomed year-round [2.2], and they broke down in tears upon seeing the flowers of wild lemons [3.2]. There were mulberry trees and bamboo [2.2], and they squeezed mulberry fruits for juice and made various tools from bamboo [3.3]. The islanders

used old and new rice ears to announce the drifters' departure [2.2], while they used cooked rice and rice cakes to have *Fuganutu* distinguish between the old and the new [3.4]. The islanders did not know how to read or write [2.1, 2.2, and 3.3]. The islanders lived in harmony with one another and treated infants with great care [2.2 and 3.4]. The island to which they were sent was *Sone-Shima* [2.1, 2.2]. Later, one of the Yonaguni Islanders reunited with the *Fuganutu* on Iriomote Island, which is now also called *Sune-Shima* [3.6].

4.3. Inconsistent accounts

We can find a few cases of inconsistencies between the written record and the oral tradition. There were five types of vegetables [2.2], but Wakaranko said that the islanders primarily ate wild plants during this period [3.1]. Except for Okinawa Island, the Jeju drifters saw no pigs on any of the other islands [2.2], whereas *Fuganutu* were said to be startled by the high voices of pigs that they did not know of [3.3]. As part of their customs, they had no chieftain [2.2]. An elderly woman called *Muranuuya* [village's parent] provided guidance on all matters occurring on the island, including politics, religion, and resource utilization [3.1–3.4].

4.4. Descriptions found only in the *Veritable Records of the Joseon Dynasty*

There existed very few cases, such as making round hats from palm leaves and setting sails on boats [both in 2.2], that did not appear in the *Fuganutu* tradition.

4.5. Descriptions found only in the *Fuganutu* tradition

Compared to King Seongjong's Volume 105 of the *Veritable Records of the Joseon Dynasty* on Yonaguni Island, which consists of 1,600 Chinese characters, the *Fuganutu* tradition compiled and written by Wakaranko reaches 80,000 characters in katakana; naturally, the *Fuganutu* tradition is far more detailed. Consequently, it includes many details that were not recorded in the *Veritable Records of the Joseon Dynasty*. As space does not permit a full enumeration here, we will focus in a later section on examples of the fauna of the time and how animals were utilized.

5. An excerpt from the dialogues with Wakaranko

While editing her second picture book (Wakaranko, 2025), we asked her questions based on the description in the *Veritable Records of the Joseon Dynasty*. It was the last stage of co-creation during our eighteen years of collaborative work on her *Fuganutu* tradition. During the eighteen years, she had recalled details about various versions and isolated oral narratives from her memory. As a result, when asked about the existence of specific material culture from the *Fuganutu* era, she was able to answer almost instantly, saying that such and such items had never appeared in the *Fuganutu* tradition she had been taught. The following is an excerpt from our dialogues with Wakaranko, which were mainly exchanged by phone calls and are supplemented by her letters and emails.

Yuji Ankei & Takako Ankei: Were palm-leaf hats and sails on the boats [2.2] already in use during the time of Fuganutu?

Wakaranko: They didn't appear in the Fuganutu tradition, so I cannot tell you whether they existed.

Ankei & Ankei: The Veritable Records of the Joseon Dynasty states that Yonaguni Islanders ate almost exclusively rice and did not like to plant millet [2.2].

Wakaranko: It was a complete misunderstanding [laughs]! The islanders at that time loved fox-tail millet and would have eaten plenty of it if we could. But millet was a vital commodity for trade with Taiwan and southern islands or to obtain timber from Iriomote Island. So, we simply restrained ourselves and tried not to eat too much of it. As for other trade goods, besides millet and glutinous rice, banana fibers became highly valued after the Fuganutu era.

Ankei & Ankei: The Veritable Records mentioned that when they wished to eat a dead cattle, the islanders laughed at them and spat [2.2]. On Yonaguni Island, people didn't eat chicken either. What about other birds?

Wakaranko: There was a bird called sumihatu [a type of wagtail] that chirps with a high-pitched voice. There is a story that Fuganutu were caught because they secretly set a trap and caught one. Since they were going to kill and eat it, they were considered to have committed a double offense. So, Muranuuya summoned and scolded them severely until they ended up crying. We begged Muranuuya for forgiveness, and she eventually let them go. In a version you included in my book, they were scolded by an old man [3.3].

Ankei & Ankei: Please explain to us the 14 types of 'insects' [虫] listed in the Veritable Records of the Joseon Dynasty [2.2]: Turtles, snakes, toads, frogs, mosquitoes, bats, bees, butterflies, mantises, dragonflies, centipedes, earthworms, fireflies, and crabs.

Wakaranko: OK. Damami (land tortoise) was cooked in a pot and shared among us. We told them that frogs with thick legs tasted better, and they happily bowed in thanks and prepared a delicious, steamed frog dish to share with us.

Ankei & Ankei: Toads and frogs were distinguished using different Chinese characters [2.2]. Were there different species of them?

Wakaranko: I found that there were four species of frogs on Yonaguni Island. According to folklore, some came from the south, and others from Taiwan. In my time, only one species of frog was eaten. The species said to have come from the south was also roasted and eaten in the past. Nkadi (centipedes) were dried and tied in bundles of six for consumption. I would roast it over the hearth to cook. Ubabu (snakes) were also eaten. There was a type of snake that we weren't allowed to eat: black, thin and short. We used to eat kadanku (mosquito larvae). We put them in soup for better than nothing. We also ate fly maggots by boiling them. Kubuya (bats) were not consumed because they're divine beings. We don't eat either the big ones or the small ones. We ate the beehives filled with honey, but Fuganutu said they didn't like them. Habiru (butterflies) were not food. They are messengers of the deities. Isatumi (praying mantis) is edible, but it isn't tasty. There's a story about when Fuganutu was here, when the rice harvest was so good, Muranuuya said, "We have to borrow the sickles of the Isatumi." Fuganutu come upon us roasting agidan (dragonflies) over an open fire. We offered them, but they just stared at the dragonflies and didn't eat any. Dimimi (earthworms, meaning ground's ears) are messengers of

niraganaci [ground deities], but they have been consumed. Fuganutu invented to dry them using them little by little to make broth. Fireflies don't appear in the stories about Fuganutu. I've never heard of anyone eating them. Crabs are for food.

Ankei & Ankei: Thank you. The following didn't appear in the Veritable Records of the Joseon Dynasty, but what about snails, lizards, and the 'stink bugs' mentioned on another island? Coconut crabs aren't mentioned either.

Wakaranko: In Fuganutu's time, there were plenty of snails, so we used to eat them boiled or grilled. Muranuuya set a limit on how many could be collected at one time and made everyone follow it. According to that rule, snails were limited to a heaping handful. One time, it was discovered that Fuganutu had collected a huge number of snails. When Muranuuya investigated them, she learned that they were drying them and using them little by little to make broth [as was the case with earthworms]. Muranuuya decided this method was acceptable and did not punish them. From then on, we began to imitate Fuganutu's method of drying the snails and using them little by little. Muranuuya did not allow us to feed coconut crabs to Fuganutu. The reason wasn't mentioned in the story, but they may become poisonous when they eat plants like cycads and bin'gui [*Alocasia odora*] in winter. There were plenty of lizards on Yonaguni. In the era before Fuganutu, we had refrained from eating them daily. We reserved them for drought. Stink bugs didn't appear in Fuganutu tradition, but in my time, we used to skewer them and roast them over a fire to eat.

Ankei & Ankei: So Muranuuya was the one who decided how animals and insects were used on Yonaguni Island back when Fuganutu people were with you.

Wakaranko: Yes. Aside from the wild birds, we weren't allowed to catch lizards smaller than a span between your thumb and index finger spread apart, or snakes thinner than the loop formed by your thumb and index finger. We'd take just one claw as food from a coconut crab and release it. If we encountered a coconut crab whose claw was regenerating, it was customary to clasp our hands together and give thanks to it. We were only allowed to eat a whole one when we were eating together.

Ankei & Ankei: To put it broadly, the creatures the drifters referred to as 'insects' [2.2] were food except for bats, butterflies, and fireflies.

Wakaranko: Yes. We have eaten most of them from Fuganutu's time right up to my own. For example, since the age of seven, I was regularly made to chew rice for the ceremonial wine all by myself for four days. To help my strength, my grandmother prepared a special nourishment for me. It consisted of a broth made by steaming dried centipedes, turtle legs, Irabu (Erabu black-banded sea kraits), lizards, and so on, mixed with honey, lard, and flaxseed oil (Wakaranko, 2023).

Ankei & Ankei: Muranuuya kept Fuganutu from consuming coconut crabs, cycads, and *Alocasia taro* for their risk of intoxication. Therefore, they weren't mentioned in the account of their drifting. What other creatures do you know didn't appear in Fuganutu's story?

Wakaranko: I have wondered if there might have been no ducks on Yonaguni Island back then. They don't appear in the Fuganutu tradition.

Ankei & Ankei: The drifters reported only pigeon and yellow 'sparrow.' They reported that cats and chickens were kept at home [2.2].

Wakaranko: *In the Fuganutu tradition, both cats and chickens play very important roles even before they arrived. They had sensed that something was about to go wrong and raised a huge commotion to warn the humans. Before their departure, Muranuuya told them, "Since you are about to set out on a journey and will face the waves and winds, pray here with all your heart for your journey ahead. Be sure to thank Mayunganaci (the cats as deities) and never forget to show them respect." Then, Fuganutu wept and prayed all night until morning, and they were so exhausted it took them days to recover.*

Ankei & Ankei: *The account of the drifters stated that there were no thieves on the island, people did not dispute loudly or fight, they cherished young children, and even if babies cried, they never hit them [2.2].*

Wakaranko: *I believe that has been precisely the true nature of human relationships on Yonaguni Island since ancient times. In the days of the Fuganutu, there was a single Muranuuya (village elder) on the island, and under her were the Kyadunainuuya, who acted as her right-hand women, and the younger girls known as the Kyadunainuubani. They were constantly vigilant to ensure that no theft or fighting occurred, that no one went hungry or was left alone, and that children were cherished.*

Ankei & Ankei: *Both the account of the drifters [2.2] and the Fuganutu tradition [3.4] agree that the drifters were sent from Yonaguni to Iriomote Island, but wasn't there an option to send them to Taiwan instead?*

Wakaranko: *Of course, Muranuuya considered sending Fuganutu people to Taiwan, where food was more plentiful. However, although I didn't include it in the picture book (Wakaranko 2025), a group of Taiwanese people once landed at night and tried to kill Fuganutu to rob them of their food and belongings. They were captured thanks to the vigilant cats. She judged that if they should be attacked, her thirteen crews to fit on a single boat from here would be insufficient in number to defend against an attack from some people there.*

Ankei & Ankei: *Was there any tradition that made you wonder, 'Is this true?' even if you were yet a young child?*

Wakaranko: *Yes, there were some. Specifically, when one person's story differed from everyone else's. For example, one grandmother said her mother was a child of Fuganutu. I thought, 'That's just too recent.' Also, an elder talked about a game, in which boiled sōmen [sūmin in Okinawan pronunciation] noodles were thrown like in a mochi-maki [rice-cake throwing] festival, and everyone races to pick them up. She said Fuganutu had participated and enjoyed it with us. I wondered if sōmen noodles already existed back in those ancient times.*

Ankei & Ankei: *We see. Jeju drifters saw barley planted in the low islands of Yaeyama like Hateruma, but wheat, needed for thin noodles like sōmen, was not cultivated then.*

6. The trajectory of *Fuganutu* tradition and its contemporary significance

Many of the *Fuganutu* traditions preserved on Yonaguni Island corresponded with the oral accounts of the drifters who arrived from Jeju Island in 1477. The Fuganutu oral tradition added a case to the historical records of the *Veritable Records of the Joseon Dynasty*, demonstrating how oral traditions can have exact dates for events that occurred more than

five centuries ago. The overwhelming detail of the *Fuganutu* tradition has revealed background information that was not apparent in the *Veritable Records of the Joseon Dynasty*.

First, it has clarified the methods by which the Jeju Island drifters confirmed, shared, and recorded their memories before bringing them back. Second, it has revealed elements missing from historical records due to the deliberate concealment by the people of Yonaguni Island, who hid these things from the drifters to protect them. Third, there exists a vast body of oral traditions that were not recorded in history because the Joseon Dynasty had no interest in them. These traditions describe how, through the Jeju Islanders' five-and-a-half-month stay, innovative and systematic knowledge regarding the utilization of natural resources was transferred to Yonaguni Island. Through these accounts, we learned that in the late 15th century on Yonaguni Island, strict rules regarding the quality and quantity of resource harvesting were established to enable sustainable resource use, and that a social system centered on a female leader known as *Muranuuya* was formed to enforce these rules and punish violators. Thus, we have been able to demonstrate that the origins of Yonaguni Island's environmental governance—which, as shown in Wakaranko (2023), has been passed down to the present day—date back to at least the late 15th century.

The following summarizes the history passed down among the people of Yonaguni Island regarding their encounters with drifters from ancient times.

- February 15–July 30, 1477: *Fuganutu*'s arrival and stay on Yonaguni Island. Eyewitness accounts began to emerge.
- 1500: The Ryukyu Kingdom began its invasion of the Yaeyama Islands. A transition from eyewitness to hearsay accounts of *Fuganutu* oral history.
- 1609: The Satsuma Domain took control of the Ryukyu Kingdom.
- 1879: The Meiji government abolished the Ryukyu Kingdom and established Okinawa Prefecture.
- 1945: Yonaguni Island, along with the other islands of Okinawa and Amami, became a territory of the United States. The oral tradition of *Fuganutu* faced a crisis of survival due to the drastic economic and social changes caused by its separation from Taiwan.
- 23 March 1954: Wakaranko was born on Yonaguni.
- 1956: The elders decided to raise Wakaranko to be the future *Mutukkahamai*, a shaman responsible for weather and food production to succeed a part of the ancient *Muranuuya*'s role. As a part of her special training, they began teaching her the *Fuganutu* tradition, composed of personally different versions of each elder (Fig. 10).
- Around 1963, Wakaranko was allowed to perform the *Fuganutu* tradition at gatherings. The elders instructed Wakaranko to pass these traditions and the method to make *appá* on to a 'trustworthy person' in the future. However, because she was ridiculed by people of her parents' generation who were unacquainted with these traditions, she sealed away the *Fuganutu* tradition.

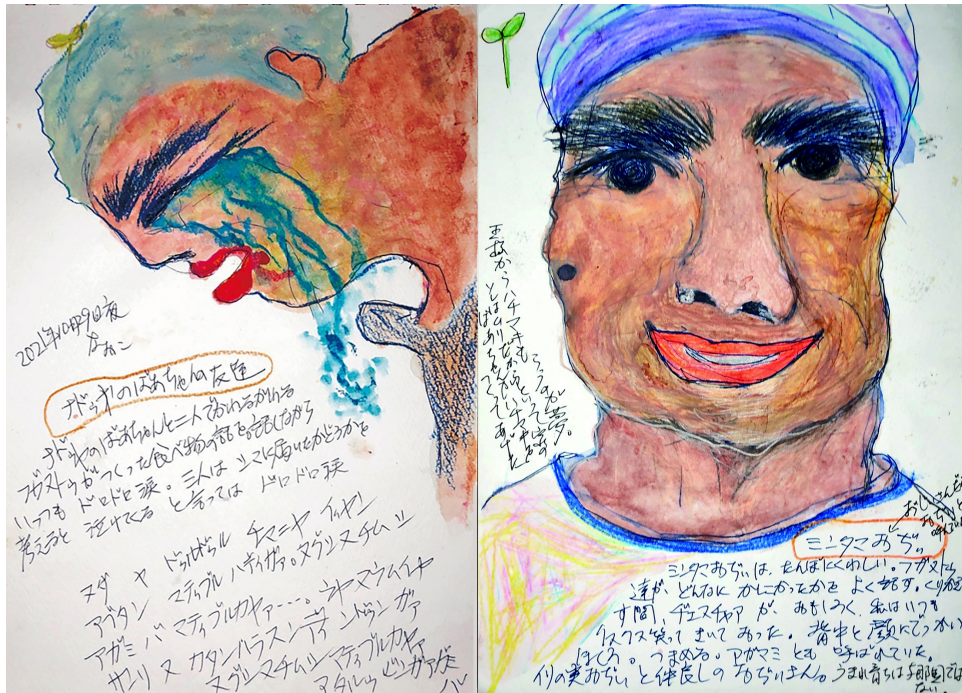


Fig 10. Examples of narrators' portraits: Talking of their food in tears of empathy for the waiting mothers (left), and Mr. Big Eyes telling how wise *Fuganutu* were (right) © Wakaranko

- 1989: Wakaranko met Takako Ankei & Yuji Ankei. A remote co-creation of Island ethnography began.
- 2007: Wakaranko began telling us the *Fuganutu* tradition in Japanese. We encouraged her to recall and tell us as many episodes in it as possible.
- 2011: First reports on the *Fuganutu* tradition in Japanese (Ankei & Ankei 2011a, 2011b).
- 2020: Recording in the Yonaguni language, its transcriptions, and their word-to-word Japanese translation of the *Fuganutu* tradition corpus were nearly completed.
- March 2023: A picture book on Yonaguni Cosmology was published (Wakaranko 2023).
- February 2025: '*Fuganutu*: Yonaguni Oral History of the Drifters from Jeju Island' was published (Wakaranko 2025).
- March 2025: The *Fuganutu* Symposia were held on the Yonaguni, Iriomote, and Ishigaki Islands. Copies of her picture books were distributed to each school in the Yaeyama.
- 3 July 2025: Wakaranko passed away from an unexpected illness.

7. Addressing questions regarding the testimonies of Jeju Island drifters in the *Veritable Records of the Joseon Dynasty*

Looking at the chronology of the *Fuganutu* tradition described above, it appears that the stories of the roughly 100 people on Yonaguni Island who directly encountered the three drifters from afar—each family recounting their own distinct experiences—were transmitted over five centuries with surprisingly little loss of details.

Since Iha (1927), many scholars (Takasaki 1970 was an early case) have acknowledged that the testimonies of Jeju Island drifters in *The Veritable Records of the Joseon Dynasty*—introduced in Section 2 of this article—constitute a unique historical record. However, they have also raised numerous questions. Many of these questions can now be answered by comparing the records with the *Fuganutu* tradition, as explained in Sections 3 to 6.

Kobayashi (1996: 164–165) wrote as follows:

Engaged in the official task of transporting tribute mandarin oranges, they possessed a high level of intelligence, as well as keen observational skills and a capacity for memory. Some among them were literate and had a clear understanding of the calendar. [our translation]

Seki (2021: 211), however, while agreeing with Kobayashi, raised doubts about the accuracy of the records:

These records should be viewed not as the drifters' own actual statements, but as a compilation of the information gathered by the Records Office. The drifters themselves did not keep records to serve as the basis for their testimony; rather, the accounts rely solely on their memories. It was impossible for them to accurately recall every detail of their experiences spanning one and a half years [sic; actually, two years and three months] from their departure from Jeju Island until their return to Korea, and it must be assumed that the accounts contain a significant number of errors. ...Therefore, it is necessary to view the drifters' records as containing inaccuracies, errors, and biases. Regarding the customs and natural features of each island, these are not based on a comprehensive survey covering the entire island; rather, it should be assumed that a considerable amount of information is missing from these records [our translation].

We agree with the first part of Seki's arguments, as the results of interviews with different officials in King Seongjong's Volumes 104 and 105 of *The Veritable Records of the Joseon Dynasty* differ in both quantity and quality. However, we believe the second part of his argument is based on modern prejudice regarding the memory of the common, mostly illiterate people. In Wakaranko's (2025) account of the *Fuganutu* tradition, they shared their daily experiences by drawing sketches on the ground every day and adding written explanations to them. They counted the days by hanging a tree leaf a day, counted the number of times the moon's shapes repeated, and likely jotted things down on cloth to aid their memory. They were strong and energetic, and there was no corner of Yonaguni Island they had not visited. Furthermore, whenever they encountered something that they did not understand, they would use the drawings on the ground to ask questions until they were fully satisfied. They were extremely wise, and the innovations the *Fuganutu* taught the islanders in their daily lives were countless: measuring the tides, using written symbols to count numbers, predicting the weather by watching the morning clouds, drying food for later use, and so on.

When viewed in this light, what is missing from the historical records is the fact that they forged human connections with the people of the islands they visited and made significant contributions to improving island life. Furthermore, what they were unable to learn was knowledge that had been kept secret through *Muranuuya*'s care, like the cycad, which they were not allowed to eat because it is poisonous if not properly processed.

Regarding their statement that there was 'no chieftain,' Tokunō (2011) noted that this could mean there was no powerful clan leader to unite the island and command its military forces, or that a chieftain existed but did not come before the drifting people. Seki (2021) pointed out the possibility that, when using the term "chieftain," they had in mind the local bureaucrats of the Joseon Dynasty. *Muranuuya*, a figure who frequently appears in the *Fuganutu* tradition, was, in modern terms, the island's sole leader and shaman, issuing decisions and orders spanning the legislative, executive, judicial, and religious spheres. Her purview included diplomacy, preparations for battle, the protection and quarantine of outsiders, and the punishment and detention of rule-breakers. The people of Jeju Island lived daily under the *Muranuuya*'s protection and supervision, and direct meetings often took place during important occasions. However, we believe that because *Muranuuya* and all her subordinates were women at that time, the drifters did not regard her as a 'chief.' In this sense, we agree with Seki (2021).

8. Conclusions

The *Fuganutu* tradition was, at the same time, an oral history of an era in which *Muranuuya* played a central role in securing the island's autonomy. The following are examples of rules established by *Muranuuya* that were to be observed within the community. These rules also applied to the orphans from Taiwan and to *Fuganutu*.

Prohibition of violence on the island and protection of children was the most important. Designation and enforcement of foods prohibited for spiritual reasons: cattle, chickens and all wild birds, bats, butterflies, and moths, etc. Refusal to feed certain foods to outsiders who did not fully understand the language, and prohibition of teaching them that these foods were edible if prepared properly: cycads and coconut crabs. Specifying the minimum size for lizards and snakes that could be eaten. Setting a maximum limit on the amount that could be collected at one time: the limit for snails, slugs, and earthworms was one handful per collector. For coconut crabs, it was permitted to take only one claw.^[12] Fox-tail millet, a favorite food of the islanders, were saved as an important commodity for trade with other islands.

The era in which *Muranuuya* served as a leader came to an end when the Ryukyu Kingdom began to exercise direct rule over the Yaeyama Islands, including Yonaguni early in the 16th century. We believe that from that time on, the *Fuganutu* tradition became a secret passed down only within the island community. The mission entrusted to Wakaranko was to become a *Mutukkahamai*, a shaman governing weather and food resources.^[13] *Mutukkahamai* succeeded some roles previously fulfilled by *Muranuuya*. The intensive on-the-job-training for Wakaranko that began at the age of two included mastering the *Fuganutu* tradition and

making of their underwear *appá*. The reason for this was to ensure she gained a thorough understanding of the governance regarding environmental stewardship, its origins, and innovations brought from outside.

Wakaranko (2025: 4) concluded her *Fuganutu* tradition in the following words. She vividly conveyed how this tradition serves as a lesson for the future of humanity living in an era of war and hunger.

When I learned that the three drifters had returned safely to their home island, even though there was no one left to rejoice at the news, I felt that the long, heavy burden we have carried for so long had finally been lifted. I believe there is a great treasure within this Fuganutu tradition for all of us. I want to convey the human kindness, warmth, and thoughtful consideration that fill this story. Through my interactions with the Fuganutu, I have learned that we must not neglect, exclude, bully or kill someone just because they are different from us. As a holder of the Fuganutu tradition, I have adopted the following two pillars as the guiding principles for life: 'Never leave anyone hungry,' and 'Never leave anyone alone.' These are the wisdoms of Yonaguni Island that have been passed down to this day. I sincerely hope that you will all join me in promoting these messages of peace and sharing them with the world. [our translation]

Acknowledgments

We would like to express our profound gratitude to the late Wakaranko and her family and friends. During fieldwork on Jeju Island, we were guided by Mr. Go Gwan-min. Fieldwork, publication, and symposia were supported by the LINKAGE Project at the Research Institute for Humanity and Nature and the Yonaguni Island Project at the Jeju Studies Institute. Database creation was funded by JSPS Kakenhi No. 20HP8006. We extend our gratitude to Ms. Chie Takahashi, Ms. Mari Nakai, Ms. Marisa Yonabaru, and all the people of Yonaguni Island. We are also indebted to Professor Emeritus Chun Kyung-soo of Seoul National University, Professor Han Changhun of Chonbuk National University, Professor Kim Changmin of Chonju University, and Professor Hong Sun-Kee of Mokpo National University for joint fieldwork in the Yaeyama.

Conflicts of Interest

The authors declare no conflicts of interest in relation to this article.

Endnotes

1. Wakaranko was her stage name when she belonged to an amateur theater group in Hokkaido, where she spent her last twelve years.
2. Living at 1400 kilometers away, our face-to-face meetings took place only four times in all during 36 years of acquaintance with Wakaranko.
3. The original Chinese text and its Hangeul translation can be read at the following website (<https://sillok.history.go.kr/intro/english.do>).
4. A Japanese pronunciation for 紅頭嶼, a former appellation of today's Lan-yu. During the handing down of the oral tradition, the naming of this island might have changed after Japan's colonization of Taiwan in 1895.

5. 'Holland' is used as a representative of Western countries, from where people began to arrive in Yaeyama later than the 16th century. Therefore, this passage is also a later addition.
6. Wakaranko was the last and only one person that memorized the *Fuganutu* tradition. Although we cannot know the original narratives of the elders who taught her, Wakaranko said that she did her best to reproduce the way of narratives by the elders. Her recordings of the *Fuganutu* tradition are slow and steady. Rather than casual conversation, they have the atmosphere of an epic recitation polished by the passage of time. She was trained to memorize exactly as they were the various scenes and different versions of the *Fuganutu* tradition that she had heard repeatedly from the age of two from more than 50 people. It was simply impossible to recount them all. Therefore, in Wakaranko (2025), we chose those scenes that were accompanied with her illustrations.
7. This may be translated as the 'village parent.' She was the paramount leader of both religious and secular domains as will be explained later.
8. This word is not found in the Yonaguni vocabularies, and Wakaranko thought that it might have belonged to the language of *Fuganutu*.
9. Elders said, "Those patterns could have been characters, as we presume now."
10. The elders said it had become a game. Wakaranko fancied it might further have given rise to today's *Dunta* dance of Yonaguni Island.
11. This episode may suggest that *Fuganutu* identified every child (and adult) by name. The orphan from Taiwan was later adopted by an old couple and lived in *Arambi*.
12. Regarding the earthworms and snails that *Fuganutu* had collected beyond this limit, *Muranuuya* accepted their explanation that they intended to dry them and use them little by little and thus exempted them from punishment. Furthermore, recognizing this practice as appropriate, the islanders subsequently began to follow this new rule as well.
13. The tomb of a *Mutukkahamai* exists in Yonaguni Island. See Fig. 1 for its location with other place names corresponding to their activities in the *Fuganutu* tradition.

References

- Ankei, Y., T. Ankei, 2021. Biocultural Database of Yonaguni Island, <https://dunanmunui.wixsite.com/my-site> (retrieved 10 Feb. 2026)
- Ankei, T., Y. Ankei, 2011a. 'Memories of Jeju Islanders drifted 530 Years Ago,' in Ankei, T., M. Moriguchi (eds.) *Memories Handed Down by Singing*, Boda Inku, Naha (in Japanese).
- Ankei, Y., T. Ankei, 2011b. 'Memories of the 1477 Interchange Between Jeju Island Drifters and Yonaguni Islanders,' In Ankei, Y., M. Tōyama (eds.), *Amami Okinawa Environmental History Sources Collection*, Nanpou Shinsha, Kagoshima (in Japanese).
- Ankei, Y., T. Ankei, 2023. 'An Illustrated Cosmology of Yonaguni Island, Ryukyus: A collection of daily prayers and songs for biocultural diversity and island sustainability,' *Journal of Marine and Island Cultures* 12(3): 76-95. <https://doi.org/10.21463/jmic.2023.12.3.06>
- Iha, F., 1969. 'Southern Islands in the End of 15th century Found in the Korean Drifters' Record,' *Wonarigami no Shima*, Heibonsha, (The first published in 1927) Tokyo (in Japanese). <https://doi.org/10.11501/3450936>
- Ikeya, M., A. Uchida, K. Takase, 2005. *Corpus of Ryukyu History in the Veritable Records of the Joseon Dynasty*, Yōju Shorin, Ginowan (in Japanese).
- Kobayashi, S. 1996. 'Land tenure and landscape of southern Southwestern Islands during the later 15th century: An analysis of drifters' accounts in the Veritable Records of the Li Dynasty' Maruyama, Y. ed. *The Southwestern Islands and Kyushu during pre-modern era: A study on their relationship*. Taga Publishing, Tokyo (in Japanese).

Seki, S. 2021. 'Amami Islands and Sakishima Islands as seen in the *Veritable Records of the Joseon Dynasty*,' *Bulletin of the National Museum of Japanese History*, 226: 197-230 (in Japanese). <https://rekihaku.repo.nii.ac.jp/records/2407>

Takasaki, A. 2020, first published in 1971. *Akahachi: In search of the Yaeyama Hero Oyake Akahachi*, Hagazussa Books, Tokyo (in Japanese).

The Veritable Records of the Joseon Dynasty, <http://sillok.history.go.kr/> (retrieved 10 Feb. 2026)

Tokunō, T. 2011. 'An Era of Rival Warlords and the Oyake-Akahachi Incident' *The History of Taketomi Town*, Vol. 2, Taketomi Island, Taketomi Town, Ishigaki (in Japanese).

UNESCO, 2010, *Atlas of the World's Languages in Danger*, <https://unesdoc.unesco.org/ark:/48223/pf0000187026>

Wakaranko, Ankei, Y., T. Ankei, K. Toguchi (eds.), 2023. 'Nu'tinu Kaara Dunan (*The Source of Lives, Yonaguni Island*),' Research Institute for Humanity and Nature, Kyoto (in Japanese, *Dunan munui*, and English). Downloadable from <https://ankei.jp/yuji/?n=3010>

Wakaranko, Ankei, T., Y. Ankei (eds.), 2025. '*Fuganutu: Oral Tradition on the Drifters from Jeju to Yonaguni Island in the Ryukyu Arc*,' The Research Institute for Humanity and Nature, Kyoto (in Japanese). Downloadable from <https://ankei.jp/yuji/?n=3010>

Yonaguni Town's website, <https://www.town.yonaguni.okinawa.jp/> (retrieved 10 Feb. 2026)

Narratives of Heritage, Tourism, and Community in Amami Ōshima: Reflections on an Animate Island and the Implications of the UNESCO World Natural Heritage Inscription

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Received 19 February 2026, Accepted 14 April 2026, Available online 30 April 2026

 10.21463/jmic.2026.15.1.06

Abstract

This article examines UNESCO World Natural Heritage designation's multifaceted impacts on Amami Ōshima, Japan, through perspectives from conservation advocates, media practitioners, officials, tour guides, and community members. Ethnographic research in 2025 combined stakeholder interviews, an anonymous tour guide survey, participant observation, and analysis of institutional documents, media coverage, and petitions. While the 2021 UNESCO inscription increased international recognition and strengthened conservation mandates, it also intensified concerns over overtourism, cultural commodification, and governance failures.

Findings indicate an emerging consensus around a "high-value, low-impact" tourism approach, the "Amami Model", prioritizing ecological integrity, cultural authenticity, and community agency. However, implementation faces barriers including infrastructural deficits, limited community participation in planning, and tensions across municipal, prefectural, and national authorities. Tour guides play a central interpretive and stewardship role but remain economically vulnerable, often reporting inconsistent income.

UNESCO designation thus operates as a "double-edged sword," enabling conservation while attracting pressures that may undermine heritage values. The currently modest tourism increase offers a window to establish proactive visitor management. Sustainable outcomes require governance reforms, investment in guide infrastructure, and prioritization of long-term ecological and cultural integrity over short-term growth.

Abram's phenomenological work on the "more-than-human" world and the animate landscape offers a theoretical lens to articulate what's at stake in these tensions.

Keywords

UNESCO World Natural Heritage, heritage governance, heritage tourism, Amami Ōshima, Japan

1. Introduction

"Being registered as World Natural Heritage means Amami belongs not just to Amami people but to the world ... In exchange for recognizing that, you must properly protect it; we bear that responsibility." (Futoshi Hamada)

On July 26, 2021, Amami-Ōshima Island, Tokunoshima Island, Northern Part of Okinawa Island, and Iriomote Island was inscribed as Japan's fifth UNESCO World Natural Heritage site, encompassing 42,698 hectares of subtropical rainforests across four islands in the Ryukyu archipelago. This serial designation recognizes exceptional biodiversity and evolutionary processes that have generated unique terrestrial ecosystems found nowhere else, including endemic species such as the Amami rabbit, and numerous specialized flora adapted to the isolated island environment (UNESCO World Heritage Centre, 2021)

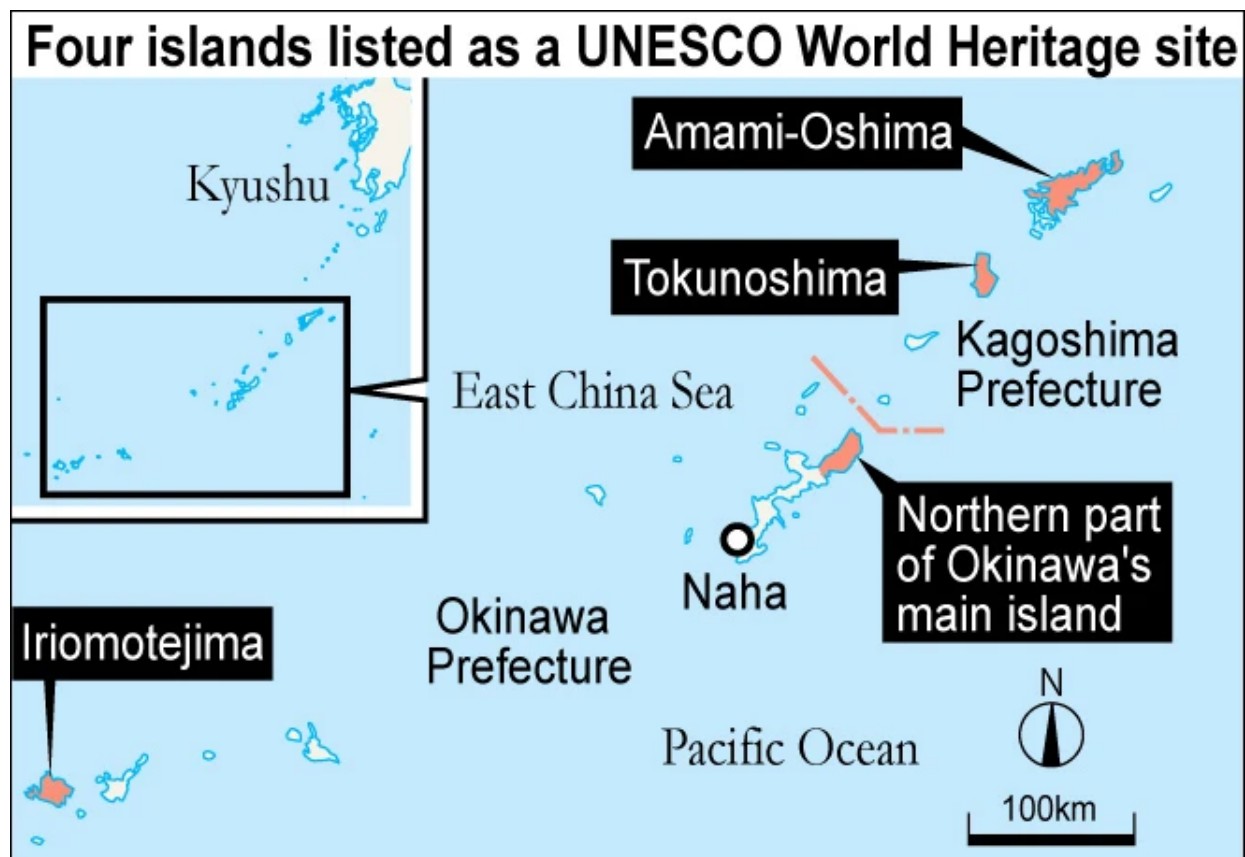


Fig 1. Source: <https://www.asahi.com/ajw/articles/14448623>

The UNESCO inscription represents a significant milestone in international conservation efforts, yet it also introduces profound challenges for host communities navigating the intersection of global heritage frameworks, domestic tourism development, and local livelihood needs. For Amami Ōshima, the largest component of the World Heritage property at approximately 712 square kilometers (UNESCO World Heritage Centre, 2021), the designation has catalyzed both celebration and anxiety among residents, government officials, conservation practitioners, and tourism stakeholders.

In this article I present findings from ethnographic research conducted in 2025, examining how diverse stakeholders, referred in this research as island agents—on Amami Ōshima perceive and negotiate the impacts of UNESCO designation. Through interviews with key island agents, a survey of professional tour guides, and ethnographic observations, this research makes a first attempt at mapping the communicative ecologies through which these island agents construct, contest, and reconstruct the island identity in response to global heritage recognition. In addition, David Abram's (1996) phenomenological work on the "more-than-human" world and the animate landscape offers a theoretical lens to articulate what's at stake in these tensions, specifically, what gets lost when islands transform from relational/animate places into visual/consumable destinations.

This research builds on ongoing collaborative ethnographic research that has been mapping various aspects and layers of the Amami islands communicative ecologies since 2017 (see Papoutsaki and Kuwahara, 2018, 2021, 2024, 2025). The central research questions seek to answer a) how different island agents and groups on Amami Ōshima perceive the impacts and implications of UNESCO World Natural Heritage designation; b) what tensions and negotiations emerge between conservation imperatives, tourism development, and community well-being; and c) what visions and models for sustainable tourism local actors propose, and what barriers impede their realization. By foregrounding local voices and documenting the lived realities of heritage designation, this research contributes to critical heritage studies scholarship that interrogates the assumptions, power dynamics, and socio-ecological consequences of global heritage regimes in island contexts (Salazar, 2010; Su and Wall, 2014; Hampton and Jeyacheya, 2015).

2. Amami Ōshima and the Amami Archipelago

2.1 Geography, Population, and Demographic Challenges

The Amami archipelago comprises eight inhabited islands located in the Ryukyu chain between Kyushu and Okinawa. Amami Ōshima, the largest island, serves as the administrative and economic center. The mountainous interior preserves extensive subtropical forest (Ota, 1998). The island's isolation and geological history have generated extraordinary endemism (Watari et al., 2013), including the Amami rabbit which functions as a flagship species for conservation efforts.

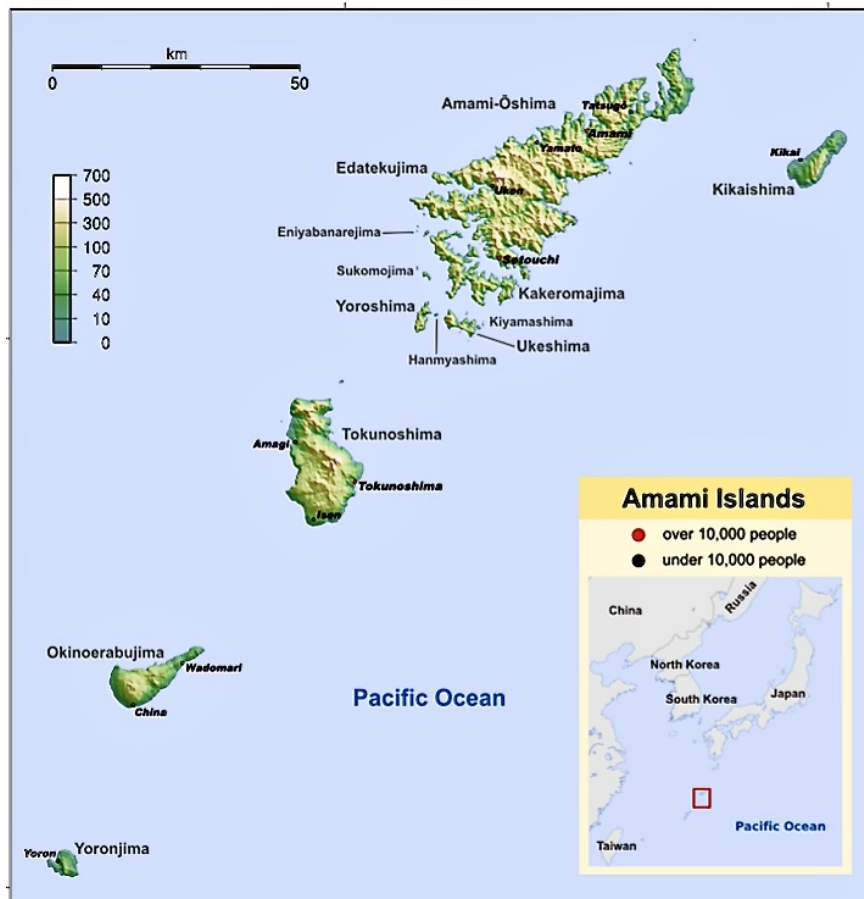


Fig 2. Topographic map of the Amami Islands (source: https://wikitravel.org/shared/File:Amami_Islands-en.png)

Amami Ōshima's population of approximately 59,000 (2020) has declined close to 50% since peaking in 1955, driven by sustained out-migration to metropolitan areas and with aging demographics exceeding national averages (National Census, 2020). This demographic crisis creates labor shortages and erosion of traditional knowledge as elder generations pass without intergenerational transmission (Matanle and Rausch, 2011), and represents perhaps the most fundamental threat to community sustainability.

2.2 Cultural Heritage and Identity

Positioned at the intersection of Japanese, Okinawan, and broader East Asian cultural spheres, Amami developed distinctive traditions, language, and social structures. The islands experienced complex political history under the Ryukyu Kingdom (1440-1609), the Satsuma Domain (1609-1945) and U.S. military administration (1945-1953), fostering distinct regional identity (Christy, 1993). The Amami language (*Shimayumuta*) is considered critically endangered (Heinrich et al., 2015). Traditional practices include *shimauta* (island songs), a participatory vocal tradition performed communally during work and ceremonies rather than as staged performance, and *Oshima tsumugi* (traditional silk textile). Contemporary cultural identity negotiates tensions between assertions of distinctiveness and assimilation pressures. Language shift and cultural revitalization efforts reflect ongoing identity negotiations, movements that UNESCO designation both reinforces and complicates through potential commodification pressures (Gillan, 2012).

2.3 Economic Structure and Development Challenges

Amami's economy historically centered on sugarcane cultivation, which remains significant despite declining profitability. *Oshima tsumugi* production, once employing thousands, has contracted dramatically as demand declined and artisan populations aged. Commercial fishing provides important livelihoods but faces resource depletion. Tourism emerged as a growth sector following improved air access, particularly Low-Cost Carrier services introduced in 2014, with annual visitors reaching 580,000 by 2019 before COVID-19 disruptions (Kagoshima Prefecture, 2020).

However, structural disadvantages common to remote island peripheries constrain Amami's development. High transportation costs raise living expenses and reduce product competitiveness. Small-scale economies and distance from major markets limit diversification. The Amami Guntō Promotion and Development Special Measures Act provides ¥2–3 billion annually, but critics say it sustains dependency and prioritizes construction over community needs.

Environmental conservation emerged during the 1980s when proposed golf course developments mobilized activists into successful opposition campaigns (Ui, 1992). However, historical priorities favored resource extraction, logging reduced old-growth forests, agricultural expansion converted coastal areas, and road construction fragmented habitats.

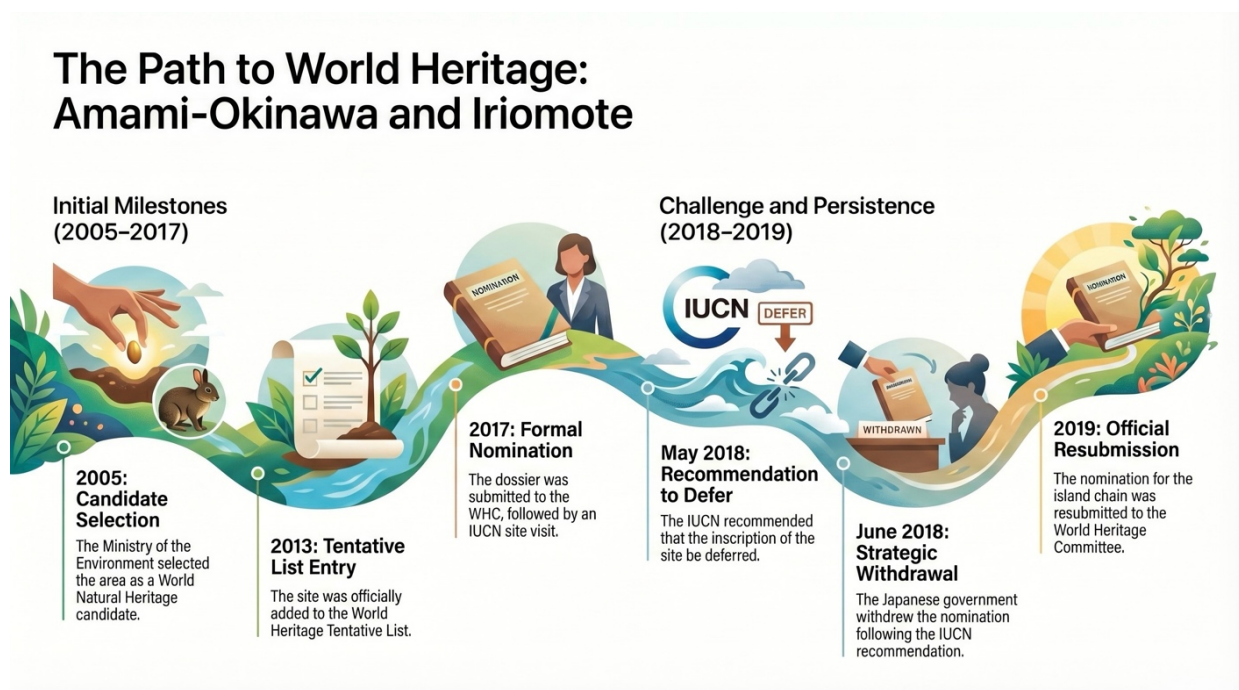


Fig 3. Author's visualization generated using NotebookLM, based on information from Kagoshima Prefecture: <https://www.pref.kagoshima.jp/ad13/kurashi-kankyo/kankyo/amami/isantouroku.html>

3. The 2021 UNESCO World Natural Heritage Inscription

3.1 Outstanding Universal Value and Conservation Justification

The Ryukyu archipelago's extraordinary biodiversity stems from complex geological history involving island separation from mainland Asia and glacial cycles which created conditions for unique evolutionary processes (Ota, 1998). These processes produced a biodiversity hotspot with exceptionally high endemism. The islands harbor ancient lineages functioning as evolutionary refugia where species extinct on mainland Asia continued evolving. The subtropical evergreen broadleaf forests represent the northernmost extent of this forest type in the Northern Hemisphere (Ministry of the Environment, 2021).



Fig 4. Amami Ōshima UNESCO Visitors Center (source: author)

The inscribed Ryukyu Islands support remarkable concentrations of endemic flora and fauna. The site harbors 95 globally threatened species listed on the IUCN Red List, with approximately 50% of terrestrial reptile species, 60% of amphibian species, and numerous invertebrate and plant species found exclusively within these islands. The designation was granted under UNESCO criterion (x), which pertains to sites containing the most important natural habitats for *in-situ* conservation of biological diversity (IUCN 2021).

Amami rabbit—a primitive leporid species considered a "living fossil" that diverged from other rabbit lineages approximately 10 million years ago. The island also supports endemic species including Lidth's jay, Amami thrush, and numerous endemic reptiles and amphibians. These species exist within intact subtropical broadleaf forests supporting specialized endemic communities (UNESCO World Heritage Centre 2021).

3.2 Conservation Management Framework

Prior to UNESCO inscription, portions of Amami Ōshima benefited from legal protection through Japanese domestic legislation, including designation as national park or wildlife protection areas under the Nature Conservation Law and Natural Parks Law. However, UNESCO designation introduced enhanced international oversight requiring strengthened management frameworks coordinated among the Ministry of the Environment, Forestry Agency, Kagoshima Prefecture, and local municipalities (Ministry of the Environment, Japan 2020; Kagoshima Prefecture, 2019).

Conservation challenges facing the site prove substantial. Invasive species, particularly feral cats and mongooses introduced for pest control in the twentieth century, pose severe threats to endemic wildlife. The Amami rabbit population suffered significant declines due to predation until intensive control programs reduced invasive predator numbers. Road mortality affects numerous endemic species, necessitating specialized wildlife crossing structures. Forest fragmentation from historical logging and agricultural expansion reduced habitat extent and connectivity, though natural regeneration has allowed some recovery. Climate change presents emerging threats through altered precipitation patterns, increased typhoon intensity, and sea level rise affecting coastal ecosystems (Ministry of the Environment, Japan 2020; IUCN, 2021).

4. Literature Review: UNESCO Designation Impacts on Small Island Communities

UNESCO World Heritage designation represents what Foster (2011) terms a "floating signifier"—a marker of exceptional value interpreted and mobilized differently by island agents. The "UNESCO effect" typically manifests as increased tourism, enhanced visibility, and elevated conservation status, yet outcomes vary significantly across contexts depending on infrastructure, accessibility, marketing effectiveness, and governance capacity (Jimura, 2011; Timothy, 2018). Research on Japanese heritage sites reveals that UNESCO inscription often functions more as tourism stimulus than conservation tool, prioritizing economic development over environmental protection (McGuire, 2013), creating tensions between stated conservation objectives and actual implementation.

Small island communities hosting UNESCO sites face distinctive challenges. Islands comprise only 6.7% of global land surface yet harbor nearly 20% of Earth's biodiversity, with approximately 50% of globally threatened species occurring on islands (Fernández-Palacios et al., 2021). This ecological fragility combines with socioeconomic vulnerabilities including limited economic diversification, infrastructure constraints, and susceptibility to external shocks.

Research documents persistent inequities in island tourism, with external operators capturing benefits while communities bear costs (Cole, 2007; Hampton and Jeyacheya, 2015). Power asymmetries between central governments and island peripheries result in top-down decision-making excluding local knowledge (Kuutma, 2017). Askew (2010) demonstrates how states and economic actors leverage UNESCO's 'magic list of global status' to advance development agendas that may directly contradict conservation mandates, transforming heritage designation from protective framework into marketing asset. UNESCO designation can trigger "heritagisation" whereby living cultures transform into consumable products (Salazar, 2012), reducing complex cultural practices to marketable spectacles and diminishing community agency. Guides experience conflicting pressures to simultaneously educate visitors, protect sacred knowledge, and generate economic returns (MacDonald and Jolliffe, 2003).

The "Disneyfication", sanitization of heritage narratives for tourist consumption, proves particularly problematic where UNESCO designation accelerates commercialization (Scarborough, 2021). The "Galápagos Paradox" describes situations where features making destinations attractive, untouched nature and unique wildlife, are degraded by infrastructure and population growth required to support tourism (Self et al., 2010). This paradox manifests acutely on small islands with limited carrying capacity.

Research demonstrates that effective visitor management in island UNESCO sites requires integrated approaches combining regulatory mechanisms, certified interpretation, and community involvement, yet implementation faces significant capacity constraints in island contexts (Littlefair, 2004; Buckley, 2012).

5. Research Design and Theoretical Framework

This research employs ethnographic methods within a communicative ecology framework (adapted from Hearn and Foth, 2007; Tacchi 2006) examining how information, narratives, and meanings circulate among diverse actors shaping Amami Ōshima's post-UNESCO trajectory. The contextualised Island Communicative Ecology (ICE) encompasses in this case the diverse networks, systems, activities, and flows linked to UNESCO designation impacts, including the environment in which communication processes occur among residents, visitors, and institutions (Papoutsaki and Kuwahara, 2018, 2024, 2025; Konishi and Papoutsaki, 2020). Critically in the context of this research, the island communicative ecology is understood as a milieu of island agents—eco-tour guides, advocates, local media, traditionally referred to as stakeholders—linked through various exchanges of communication and with the capacity to create and negotiate meaning for island culture and identity.

In this research, I sought to extend communicative ecology frameworks by incorporating David Abram's (1996, 2010) phenomenology of the animate landscape. While communicative ecology typically maps human information flows, Abram's work recognizes that island communication includes more-than-human participants: species whose presence signals ecological health, weather patterns structuring temporal rhythms, sacred sites marking

landscape agency. This expanded framework attempts to examine how UNESCO designation affects not just human discourse about Amami but the embodied, sensory relationships through which the island becomes known.

I deliberately sought to listen to voices across positions: conservation advocates, media practitioners, government officials, tourism operators, community activists, and professional guides, aligning with participatory heritage management frameworks (Su and Wall, 2014). Informal conversations and semi-structured interviews were completed between February and July 2025, along with an anonymous online survey of 20 professional tour guides addressing demographics, perceived UNESCO impacts, operational challenges, and sustainability visions. Ethnographic observations occurred in urban areas documenting townscape changes, at the UNESCO Visitor Center, natural heritage sites, tourism facilities, and cruise ship arrivals at Naze Port (the latter with the assistance of John Manolito Cantu). Document analysis incorporated local government tourism strategies, UNESCO nomination dossiers, newspaper archives, community petitions, and promotional materials.

My positionality as a non-Japanese scholar required reflexivity regarding power dynamics, language barriers, and cultural interpretation. Long standing collaboration since 2017 with local researchers, interpreters and community partners helped mitigate limitations while acknowledging outsider perspectives inevitably shape knowledge production.

6. Findings and Discussion

Small islands often occupy the margins of national narratives, historically framed as remote or economically limited. Amami Ōshima illustrates how UNESCO World Heritage designation can reshape local identity and development trajectories. Prior to UNESCO attention, Amami's identity was closely associated with subsistence practices, outmigration, and economic marginality. Following global recognition, many residents have begun articulating pride in their distinctive cultural and ecological heritage, increasingly framing themselves as custodians of biodiversity and tradition. This shift is fostering cultural revival and new economic imaginaries.

Overall, the findings depict a community navigating tensions between economic growth and ecological-cultural integrity, between liveability and preservation, and between locally grounded values and external expectations. The central challenge is achieving tourism that supports livelihoods while protecting both ecosystems and the lived experience of residents, highlighting the complex balancing act small islands face when global recognition becomes embedded in local futures.

6.1 The Double-Edged Sword: UNESCO's Contradictory

"Now that Amami has become a World Natural Heritage site, it is increasingly seen as a place where resorts can generate profit. People are buying land and planning hotel developments. If clear rules are not properly established, I don't want Amami to end up like Okinawa." (Denpaku architect)

A pervasive metaphor across stakeholder groups characterized UNESCO status as a "double-edged sword", simultaneously offering vital protections and introducing existential threats. As Foster (2011) observes, such designation represents a "floating signifier", a marker of exceptional value interpreted and mobilized differently by various stakeholders, creating contradictory outcomes.

Stakeholders universally acknowledged that UNESCO inscription elevated Amami's international profile and provided powerful legal tools for conservation advocacy. A pioneering environmental activist and founding member of the Amami Wild Bird Society, articulated this:

"The future is threatened if we don't protect nature. UNESCO is a double-edged sword—it can save the island or accelerate its destruction if mismanaged. The designation gives us the legal framework to say 'no' to development that threatens what we fought for decades to protect. But it also puts a target on us for exactly the kind of commercial exploitation we fear." (Tsuneda Mamoru)

"Since it became a World Natural Heritage site, it has attracted attention. But at the same time, the responsibility to protect nature has also become much greater." (Nankainichinichi reporter)

Multiple informants noted that the UNESCO process galvanized conservation consciousness, particularly among younger residents. Visitor center staff credited increased heritage awareness with heightened reporting of Amami rabbit roadkill, tangible evidence that consciousness-raising translates to behavioral change. Yet the UNESCO "brand" simultaneously attracted development interests viewing designation as marketing opportunity rather than conservation mandate. Research on Japanese heritage sites reveals this pattern: UNESCO inscription often functions more as tourism stimulus than conservation tool (McGuire, 2013). The "UNESCO effect" manifests as increased tourism arrivals and enhanced visibility, yet outcomes vary significantly across contexts depending on infrastructure, accessibility, and governance capacity (Jimura, 2011; Timothy, 2018).

On Amami, the most acute manifestation emerged in the Setta Village hotel controversy. In 2024, plans for a 12-story high-rise hotel adjacent to the UNESCO-designated Kinsakubaru Primeval Forest catalyzed intense community opposition. A Change.org petition (<https://c.org/5d2mzK77J7>) has garnered over 45,000 signatures. Key grievances centered on legal loopholes whereby the site had been removed from National Park designation to facilitate UNESCO registration, creating "lawless zones" where development became legally permissible before new protections were established. As one petition signer stated: "It's not about stopping the hotel, but about ensuring rules are in place to respect those who live here."

Residents feared the hotel's water demand would strain supplies on an island experiencing periodic droughts. Additional anxieties included marine pollution, traffic safety risks, and desecration of sacred sites, particularly the nearby Amamikko Shrine. The controversy revealed generational divides. While some younger residents argued large-scale development could revitalize the depopulating island, elders prioritized preservation of the island's "natural soul" (*shizen no tamashii*) over economic growth.

The controversy exemplifies "UNESCO-cide," wherein heritage designation paradoxically facilitates the destruction of values it purports to protect (Scarborough, 2021). This pattern reflects what Hampton and Jeyacheya (2015) document in island tourism contexts: power asymmetries whereby external capital leverages UNESCO designation's market value while externalizing costs onto local communities. The modest immediate tourism impact may prove fortuitous, providing a window for establishing proactive visitor management before overwhelming growth occurs. Stakeholders' fears of "Okinawa-ization" reference cases where UNESCO designation triggered poorly managed tourism growth degrading protected values (Buckley, 2012). Yet the question remains: what has UNESCO designation actually meant for tourism flows on the ground?

6.2 Tourism Realities and the "Muted UNESCO Effect"

"UNESCO has strong branding power. When something is called a World Heritage site, people overseas immediately think, 'I want to go there.'" (Nankainichinichi reporter)

Despite UNESCO's symbolic power, perceptions of island agents and quantitative indicators suggested relatively modest immediate impacts, contrasting with expectations of dramatic tourism surges. When I surveyed professional guides, their responses revealed divided perspectives. Regarding visitor numbers, almost half reported "slight increase" since 2021, while 27.8% observed "no noticeable change." Many attributed increases to post-pandemic recovery and Low-Cost Carrier airline expansion rather than UNESCO designation. One guide put it bluntly: "The cheap flights from Tokyo. People were going to come anyway."

Concerning tourist demographics, 44.4% noted "slight change" toward more eco-conscious visitors, yet 38.9% saw "no noticeable change," suggesting marginal transformation. Most tellingly, several guides reported that many tourists remained unaware of the UNESCO designation upon arrival, indicating significant gaps between achieving World Heritage status and effective market communication.

Government officials confirmed that while visitor numbers approached pre-pandemic levels (approximately 490,000 in 2024 compared to 580,000 in 2019), growth could not be definitively attributed to UNESCO recognition versus broader travel recovery patterns. At the UNESCO Visitor Center, staff reported serving approximately 400,000 annual visitors post-pandemic, with peak seasons straining capacity. The center operates with 2-3 staff members, offers limited foreign-language interpretation, and struggles to balance serving tourists versus educating local residents.

The most visible tourism impact came from cruise ship arrivals at Naze Port. As local media reported, cruise ship calls at Naze Port have rebounded to pre-pandemic levels. After a record 20 visits in FY2019, the port saw 19 in FY2023, including 13 foreign-flagged vessels. Since Amami Ōshima was designated a World Natural Heritage site, Naze Port has gained attention as an increasingly attractive port of call in Japan (*Nankainichichi*, 2024).

Watching cruise passengers stream off the Norwegian Spirit one Sunday morning, I saw the pattern immediately: hundreds of people funneled into a few blocks, overwhelming the small port area within minutes. Passengers wandered aimlessly with no information about the island, no knowledge of local culture, and naive assumptions they could grab taxis. The taxis available couldn't serve all passengers. Most visitors concentrated in the shopping arcade swarming with hundreds of other aimless cruisers. Field observations revealed that cruise tourism generates highly concentrated visitor activity posing logistical and strategic challenges. Sharp surges exceed local transport capacity, producing port congestion and restricting passengers' ability to disperse. This concentrates cruise tourism in port-centered "tourism bubbles" rather than supporting broader circulation.

Economic impacts appeared mixed. Despite large passenger numbers, spending remained modest, concentrated in low-value goods. The labor required to operate port stalls appeared disproportionate to financial returns. Observations revealed semi-standardized marketplaces with approximately ten stalls selling similar products, efficient for managing arrivals but limiting diversification.

Different vessel types produced distinct demographics and behaviors, suggesting policy responses should be tailored to specific cruise segments. Attempts to create cultural vibrancy through island music successfully attracted crowds but did not translate into higher vendor sales. Longer docking periods did not automatically yield greater benefit; some passengers treated Amami as a place to purchase everyday necessities rather than participate in guided excursions. The latter were mostly dominated by outside operators who bring in their guides, paid less than local guides would charge, and doing block bookings of available bus on the island, pushing out local operators.

Additionally, many cruise passengers' demographic profile, particularly older passengers with mobility limitations, structurally constrained cruise tourism's capacity to support physically demanding ecotourism activities, creating mismatches between cruise passenger demand and the conservation-oriented tourism model associated with UNESCO sites. This pattern reflects what Hampton and Jeyacheya (2015) document: external operators capturing benefits while communities bear costs.

The cruise model delivered mass visitors who consumed little locally and gained minimal understanding of Amami's UNESCO heritage values, the antithesis of sustainable tourism local stakeholders envisioned. These realities stood in stark contrast to the tourism vision local actors were articulating.

6.3 Envisioning and Enacting the "Amami Model"

The more I talked with people across Amami—conservationists, local authority officials and community activists—the more I heard echoes of the same vision. What emerged was something people were starting to call the "Amami Model." "We don't want millions of visitors," the DenPaku architect said in an interview. "We want the right visitors, people who will take time, who want to understand." As Tsuneda put it: "We have to protect it thoroughly; make it inconvenient, and show the real thing."

The model prioritizes high-value, low-impact tourism, emphasizing conscientious visitors willing to pay premium prices for authentic experiences while maintaining strict environmental protections. Stakeholders advocated selective accessibility, deliberately retaining elements that are "hard-to-understand" or "troublesome" to deter mass tourism while rewarding genuinely engaged visitors.

This vision represents what David Abram (1996) calls resistance to reducing the "animate landscape" to consumable spectacle. When stakeholders advocate for "inconvenient but authentic" tourism, they insist that Amami not be flattened into user-friendly experience. The forest that requires certified guides, the species appearing only to patient observers, the cultural practices demanding temporal commitment, these represent the island's animate agency. The place sets terms; visitors must adapt.

Community-led regulation forms another cornerstone. Local villages implement autonomous rules—such as Kuninao Village's noise curfews, speed limits, and camping restrictions—broadcast through community radio to educate visitors and preserve resident quality of life. This grassroots governance reflects what Ostrom (2009) identifies as polycentric governance systems.

Cultural integrity represents a particularly significant concern. Stakeholders resist commodification of traditions, especially professionalizing Amami *shimauta* from casual communal expression to staged entertainment. Amami FM staff emphasized this:

"We don't want professional singers, shimauta is about life, not performance. Tourists should experience it as we do: together, not as spectators. Amami shimauta is not a style where performers and listeners are separated. People sing together and dance together, the inside and outside are not divided. Rather than saying 'everyone is welcome,' I would prefer visitors who truly want to come to Amami, and who will take time to experience the island slowly and in connection with local life." (Amami FM)

DenPaku's heritage hotel strategy exemplifies these principles through its "70/30 Rule," requiring 70% tradition (materials, local employment, cultural practices) while allowing 30% innovation ensuring economic viability, embracing the *maagun* philosophy.

"Maagun means 'together'... I wanted to create a place like a community center, where village grandparents, children, students, and tourists can come together and enjoy exchanging with each other. We interpret local culture in our own way: 70% tradition, 30% new." (Yasuhiro Yamashita, Denpaku architect)

Denpaku and town development: turning everyday life in the village into tourism

Denpaku aims to work with the local villagers to revitalize the island, inherit the island's traditions, and build a town that looks to the future of Amami, passing it on to the next generation.

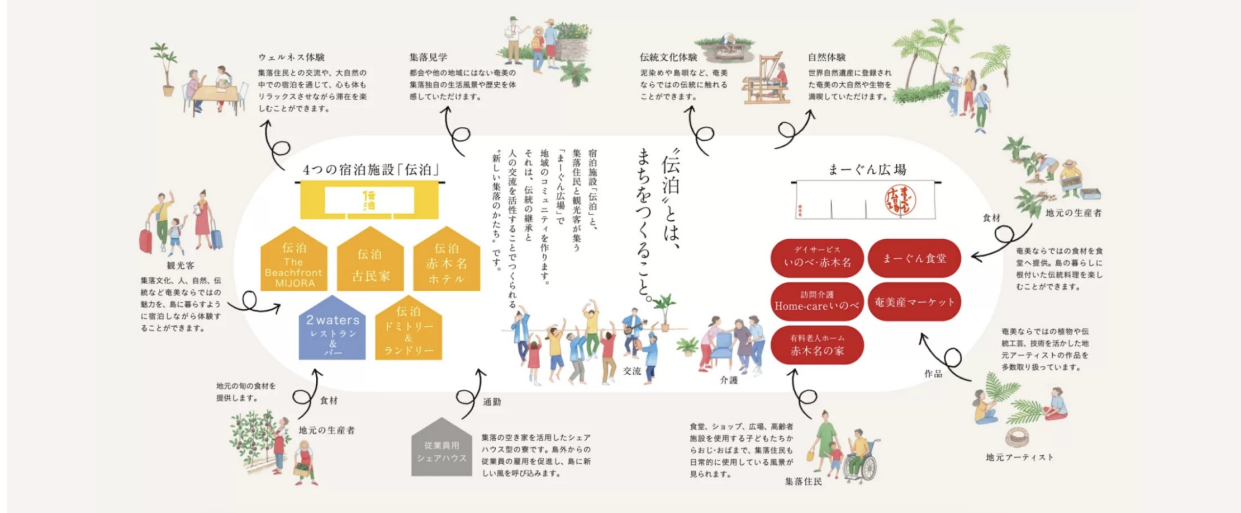


Fig 5. An emerging Amami-grounded community based tourism DenPaku model (source <https://denpaku.com/machizukuri>)

The ratio derives from linguistic analysis showing adjacent Amami villages share 70% dialect commonality with 30% local variation, serving as a metaphor for balancing continuity with adaptation. Just as language maintains intelligibility while preserving distinctiveness, sustainable tourism must balance honoring existing relationships while adapting to contemporary realities.

Similarly, proposals to market *kenmun* folklore commercially were rejected in favor of interpretive approaches maintaining spiritual significance. One person noted: "If we turn our legends into cartoon characters for souvenirs, we lose the power of the stories to connect people to the land." This aligns with Cole's (2007) arguments for tourism development "beyond authenticity and commodification," prioritizing community well-being over economic maximization. The 70/30 Rule exemplifies how local actors innovate frameworks balancing tradition with adaptation.

Conservation practitioners emphasized DNA protection as the core UNESCO value, viewing tourism as means to fund conservation rather than end goal. They advocated expanding certified guide requirements, implementing advance booking systems, and establishing environmental taxes funding invasive species control.

However, realizing the Amami Model faces formidable barriers, institutional structures favor large-scale development generating visible economic indicators over diffuse benefits from small-scale ecotourism. Prefectural officials' growth orientation conflicts with municipal preservation priorities, generating governance paralysis. Infrastructure deficits impede quality experience delivery. Most fundamentally, the model's viability depends on whether sufficient market segments exist willing to pay premium prices for "inconvenient" authenticity. The model challenges not merely tourism industry practices but visitor expectations themselves, asking whether enough travelers exist who seek relationship with animate places rather than consumption of scenic commodities.

The Amami Model represents what Richards and Raymond (2000) characterize as "creative tourism" emphasizing co-creation and meaningful engagement over passive consumption. Whether such a model can be realized depends on alignment between institutional incentives, infrastructure investment, and regulatory enforcement. To understand how these visions would actually work in practice, I sought the perspective of those who would implement them: the guides.



Fig 6. Left: Cruise ship, Naze Port (source: author). Right: Cruise ship passengers walking near Naze Port (source: author).



Fig 7. New construction project under way in the area (source: author).



Fig 8. Vintage second hand shop displays at Naze arcade (source: author).

6.4 Tour Guides: Mediating Heritage, Navigating Precarity

Tour guides emerge as critical actors in any sustainable tourism model; they translate conservation values into actual visitor experiences, mediating between the island's animate ecology and visiting strangers. Yet my research revealed a troubling paradox: guides are essential to heritage interpretation but economically vulnerable and institutionally marginalized.

The small survey I conducted of 20 guides showed that 66.7% struggle with inconsistent client numbers, 50% lack marketing support, and 44.4% face intense competition. Despite these pressures, guides consistently prioritized environmental protection over profit maximization. They expressed fears of "Okinawa-ization," overdevelopment and loss of local character mirroring processes where mass tourism has transformed island identity. As one island agent stated: "UNESCO made us visible to the world, but now we must choose: Will Amami become a postcard or stay a living home?"

Abram's (1996) phenomenology helps articulate what guides actually do: they don't merely communicate information but facilitate visitors' entry into sensory participation with landscape. Effective guiding requires teaching tourists to notice—to hear forest silence, read animal traces, feel humidity's meaning, respect the pace at which an animate landscape reveals itself.

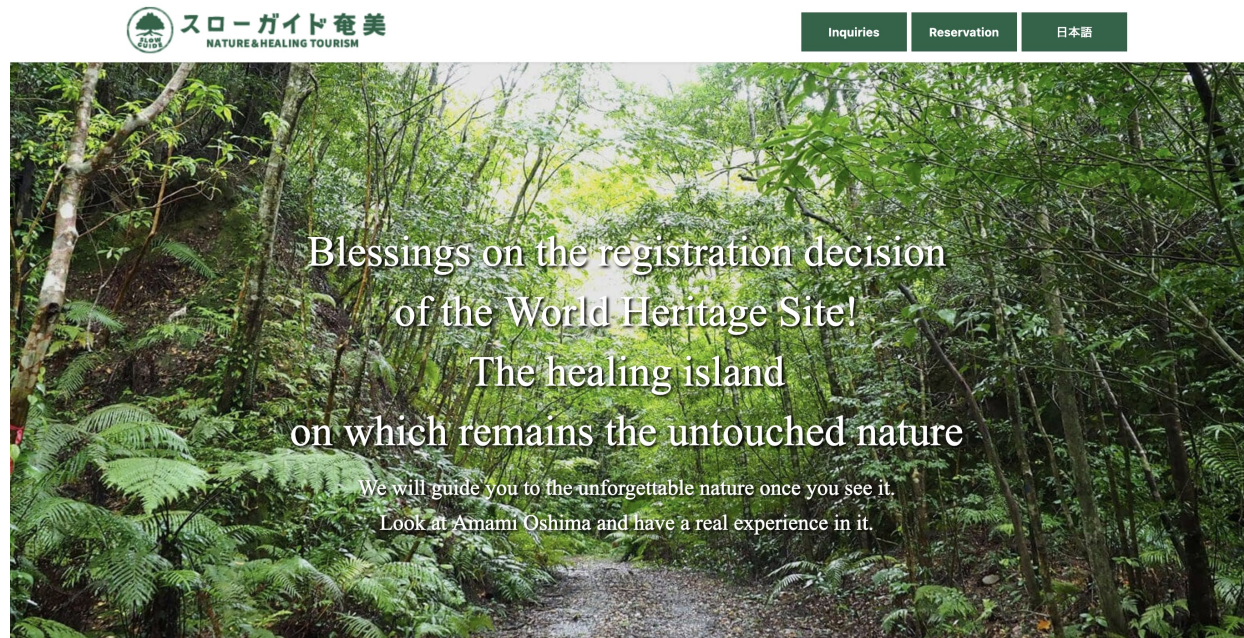


Fig 9. Emerging ecotourism industry capitalizing on the Unesco designation (source <https://www.amami-guide.com/en/>)

The two-year certification training recognizing ecology, safety, and cultural knowledge begins this work, but it is the guides' ongoing relationship with Amami's nature—their continuing education by the more-than-human world that makes interpretation authentic.

When guides speak of fearing "Okinawa-ization," they describe not just overdevelopment but the industrialization of interpretation itself, replacement of skilled guides who know landscapes intimately with scripted tours delivering predictable content.

While guides receive rigorous training in ecology, first aid, and safety management, language barriers limit international visitor access. Most certified guides lack foreign language capacity, yet training programs remain Japanese-centric with minimal multilingual resource development. This creates a paradox: UNESCO designation raises international expectations, but the guide community feels insufficiently structured to meet global tourism demands. Weiler and Black's (2015) framework characterizing guides' evolution from "one-way communicators to choreographers to co-creators" proves applicable to Amami's context. However, their marginalization from policy planning processes limits their influence on governance frameworks.

The certification system created tensions with long-term residents who resent being required to hire guides in traditionally accessible areas:

"When the rule was introduced requiring visitors to go to Kinsakubaru with a certified registered guide, some local residents who had long visited the area said, 'Why do we have to pay money and go with a guide?'" (Amami Islands Tourism and Product Promotion)

Song's (2017) extensive comparative analysis shows Amami's distinctive approach to guide professionalization. Unlike Yakushima or Ogasawara, where "I-turn" immigrants dominate the guiding sector, Amami's guiding community maintains high local integration, mitigating social friction. Administrative bodies deliberately avoided the "Yakushima model" by prioritizing formal registration through the 2008 formation of the Amami Oshima Ecotour Guide Liaison Council.

This institutional framework enables guides to function as "emotional translators" between UNESCO's global conservation values and islanders' local priorities. Many Amami guides integrate professional activities with traditional island livelihoods, farming, fishing, cultural practices, allowing them to interpret landscape from positions of genuine embodied knowledge. This "insider" status proves crucial for maintaining cultural authenticity.

From a governance perspective, guides function not simply as tourism service providers but as governance infrastructure: they shape whether visitor encounters remain extractive or become relational and conservation-aligned. As boundary-spanning actors, they translate conservation principles into everyday practices, yet their economic precarity reflects broader structural tensions within market-oriented heritage tourism systems (Cash et al., 2003; Duffy, 2013).

While UNESCO discourse recognizes interpretation as core to conservation (UNESCO, 2019), guides remain weakly institutionalized within governance frameworks. Strategic investment in guide training, marketing support, and multilingual capacity development could substantially enhance heritage communication effectiveness. The guide challenges reflect broader governance issues affecting UNESCO designation implementation.

6.5 Governance Gaps and the Struggle for Local Agency

"I heard the World Heritage Center was not created through consultation with local people. The staff were mostly outsiders, and local people were excluded." (local environmental advocate)

"I want people to understand that we protect nature not just because UNESCO or the government tells us to, but because we want to do it ourselves—not because someone says, 'You can't do this' or 'You can't do that.'" (Katsuki Oki)

Local agency versus external imposition emerged as a key finding. Multiple governance failures surfaced across data sources, including funding coordination challenges, exclusion of local knowledge, and enforcement deficits. The Amami archipelago receives approximately ¥2.38 billion annually through special development funding, but coordination among multiple governmental levels proves challenging. UNESCO conservation falls under Ministry of the Environment jurisdiction, creating overlapping mandates. While Heritage Centers receive direct MoE funding, municipalities request special development grants for invasive species control, guide training, and infrastructure, generating competing priorities. Okinawa components fall under separate Cabinet Office oversight with distinct funding, limiting regional coordination despite shared UNESCO designation, as one local coordinating agency person mentioned: "Because there is a difference in enthusiasm, Okinawa is not calling for cooperation with Amami, even though we share World Heritage status."

Multiple stakeholders criticized top-down decision-making excluding community expertise. The UNESCO Visitor Center design process reportedly ignored local input, with interpretive content developed by external consultants unfamiliar with Amami's cultural nuances. This pattern reflects what Waterton and Smith (2010) characterize as the 'misrecognition' of community heritage, where official heritage frameworks acknowledge community participation rhetorically while systematically excluding local knowledge from actual decision-making processes. This pattern reflects what Kuutma (2017) identifies as persistent power asymmetries in heritage governance, where central governments make decisions affecting island communities while excluding local knowledge. Research demonstrates that benefits often fail to accrue equitably to local communities despite significant impacts borne by residents (Cole, 2007; Hampton and Jeyacheya, 2015).

The Setta hotel controversy (Section 6.1) exemplifies these governance dynamics. The project asserts a governance logic treating Amami's landscape as passive resource rather than active system with its own integrity. This exemplifies what Self et al. (2010) term the

"Galápagos Paradox"—situations where features making destinations attractive are degraded by infrastructure and growth required to support tourism.

Carrying capacity proves crucial but complex. Research on island UNESCO sites demonstrates that effective visitor management requires integrated approaches including entrance restrictions, certified guide requirements, and community-based monitoring (Littlefair, 2004; Buckley, 2012). However, such systems necessitate substantial institutional capacity and political will, resources often scarce in island contexts.

The concept of "psychological overtourism" points to dimensions standard metrics miss:

"It is not so much physical overtourism, but what I would call 'psychological overtourism'—for example, when tourists camp near public toilets in small villages, local junior high school students feel uncomfortable with strangers camping there at night." (Amami Islands Tourism and Product Promotion)

This discomfort represents disruption of what Abram (1996) terms "the body's lived space," the pre-reflective sense of how our bodies belong in places through habitual movements and practiced routines. Home is where body and place exist in practiced reciprocity, a relationship tourists violate when they camp near village toilets or photograph traditional architecture without permission.

The tourist gaze transforms what residents experience as intimate, lived geography into scenic backdrop for external consumption. This explains why carrying capacity must incorporate social metrics alongside ecological ones. The question becomes not simply "how many visitors can ecosystems sustain?" but "how many observing strangers can communities absorb before residents feel displaced from their own lived spaces?" When tourists accumulate beyond a threshold, even if numbers remain ecologically manageable, residents experience ontological displacement: their homes become attractions, their daily routines become spectacles. The transformation from place-as-home to place-as-attraction involves ontological violence, the reduction of inhabited landscape to consumable scenery.

Findings suggest overtourism is shaped less by visitor numbers than by social experiences of crowding, control, and meaning (Koens et al., 2018; Milano et al., 2019), challenging fixed carrying-capacity models and supporting adaptive approaches (McCool and Lime, 2001). In Amami, the critical threshold is not only ecological degradation but perceptual transformation: the point at which the island becomes consumable destination rather than inhabited home.

In Amami, stakeholder anxieties suggest the critical threshold is not only ecological degradation but perceptual transformation: the point at which the island becomes consumable destination rather than inhabited home. Without robust participatory

governance ensuring local voices shape heritage management, UNESCO designation risks accelerating rather than preventing this transformation. These governance failures extend to cultural preservation, where external market forces threaten intangible heritage dimensions.

6.6 Cultural Preservation: Resisting Commodification

UNESCO's impact on Amami's landscape extends beyond visitor numbers to visible physical and commercial transformation. During my extended fieldwork since 2017, new hotels have risen across Naze, construction crews are working on the new ferry terminal, and the city's *shotengai*, the covered market street, underwent commercial reconfiguration.

Walking through the arcade during cruise ship arrivals, I observed stalls that once sold goods for local now displaying carefully curated "vintage" items for tourists: old kimonos and *tsumugi* textiles, retro items, evoking a vanished Amami. Some shops have added English descriptions, signaling their intended audience. These felt more like commercial assemblages designed to satisfy tourist desire for tangible souvenirs. The irony became apparent when I noticed the actual heritage craft shops. The *tsumugi* stores, selling mud-dyed silks representing months of skilled artisan labor, remained almost empty during cruise arrivals. Passengers walked past or briefly looked around, deterred by prices, but mostly unaware of what the textiles represented. UNESCO designation intended to protect Amami's heritage had inadvertently created a market for its simulacrum—commercial approximations more accessible than living craft itself.

This transformation illustrates a dynamic well documented in tourism studies: the gap between the living texture of the culture and the commercial approximation produced for tourist consumption. Drawing on Cohen's (1988) influential, if contested, typology, it is useful to distinguish between *contrived* forms of culture display, such as the curated vintage stalls of the Naze arcade, and what Cohen terms *emergent* authenticity, where community members adapt their own practises in ways that generate new but generally rooted cultural meaning. The *tsumugi* craftspeople reimagining traditional patterns for contemporary applications represent the latter, cultural evolution driven by community agency rather than external market demand. What distinguishes these two processes is not aesthetic purity but who controls the terms of cultural representation.

The Amami agents, I spoke to, navigate these distinctions carefully. The resistance to professionalizing *shimauta* is perhaps the clearest example: rather than a rejection of tourism *pe se*, it is a refusal to allow communal singing to migrate from participatory practice into ticketed entertainment. What Abram (1996) helps articulate is why this distinction matters beyond the cultural-political. Traditional *shimauta* is not performance in the theatrical sense but embodied practice, songs that emerged from and returned to agricultural labor, navigational knowledge, and seasonal attunement. To stage it for tourist audiences is not simply to change its context but to sever the reciprocal relationships through which it carries meaning. The "Disneyfication" Amami FM resists isn't just aesthetic sanitization but epistemological violence—the destruction of ways of knowing that require bodily presence and temporal commitment rather than instant consumption.

Multiple informants expressed concern that UNESCO's natural heritage focus inadvertently marginalizes intangible cultural dimensions integral to Amami identity. Two significant island agents spoke to this:

"This is not only about nature, but also about culture that is closely connected to nature. There were images of nature, but there were no people included." (Yuriko Hamada)

"I think it is very important for Amami people to take ownership of how their food is represented to the new visitors who are coming because of UNESCO and the idea that this is a unique natural place." (Hiromi Hisadona)

Oshima *tsumugi* production faces declining demand as elder artisans age without apprentice succession. Yet not all adaptation equals inauthentic commodification. The *tsumugi* craftspeople exploring contemporary applications, incorporating traditional patterns into bath tiles and coasters, might exemplify what Cohen terms "emergent authenticity." This was testified by the DenPaku owner, "Oshima *Tsumugi* culture is declining, so we need to find new value in the materials that are lying dormant in these regions." Here, traditional knowledge evolves through creative reinterpretation driven by community innovation rather than external market demands. The distinction between emergent and contrived authenticity matters because it determines who controls cultural representation. When community members adapt their own practices, they maintain agency over cultural meaning. When "vintage" shops sell curated nostalgia, cultural representation becomes commodity detached from lived experience.

UNESCO designation intensifies these tensions by creating market demand for "authentic" experiences while providing insufficient frameworks for communities to control how their culture is represented and consumed. This can trigger "heritagisation" processes whereby living cultures transform into consumable products (Salazar, 2012), reducing complex practices to marketable spectacles and eroding community agency (Scarborough, 2021; MacDonald and Jolliffe, 2003). While cultural commodification threatens intangible heritage, environmental pressures pose parallel risks to natural values UNESCO ostensibly protects.

6.7 Environmental Pressures and Conservation Challenges

Despite UNESCO's conservation mandate, heritage values face mounting environmental pressures. Overtourism contributes to habitat degradation, while invasive species and road mortality continue threatening endemic wildlife despite ongoing management interventions.

Guides and conservation practitioners reported early warning signs of overtourism at popular sites. Kinsakubaru Forest experiences trail erosion, vegetation trampling, and wildlife disturbance during peak seasons. Mitsutarō Pass suffers from crowding and littering. Mangrove kayaking tours concentrate impacts in sensitive estuarine ecosystems.

While mongoose eradication programs have successfully reduced predation pressure on Amami rabbits, feral cats remain problematic. Roadkill of endemic species continues despite wildlife crossing structures, with increased reporting paradoxically resulting from heightened awareness rather than reduced mortality.

"Since the efforts to register Amami as a natural heritage site began, public awareness of conservation has increased. It has also made surveys and research easier to carry out, and many researchers have come to the island. Overall, the biggest benefit has been progress in conservation research and monitoring." (Katsuki Oki)

"One of the effects of UNESCO is that local rules are being handled more. I think this is a good thing... we have set up local rules for snorkeling points, such as where boats can go, and for sea turtle snorkeling. In that sense, such local rules have emerged in each field due to the effect of natural heritage." (Katsuki Oki)

Marine conservation emerged as an under-addressed domain. While terrestrial ecosystems receive primary UNESCO attention, coastal development, overfishing, and unregulated marine recreation threaten reef and seagrass ecosystems critical for endemic species. Community-led rules for whale and dolphin observation have been proposed, but implementation remains voluntary without enforcement mechanisms.

Guides emphasized that conservation requires expanded infrastructure:

"I feel that frequent beach cleaning, rangers monitoring the natural world, enforcement of penalties for poaching, implementation of sniffer dogs and other technologies at the airport and ferry ports are needed looking into the future." (Tour Guide Survey)

Multiple stakeholders identified climate change as an emerging existential threat. Increased typhoon intensity threatens forest integrity and infrastructure. Sea level rise endangers coastal cultural sites and potable water supplies. Changing precipitation patterns may disrupt endemic species' phenology. However, climate adaptation received minimal attention in UNESCO management plans, suggesting gaps between long-term vulnerability assessments and short-term operational priorities. These environmental challenges illustrate how World Heritage sites function as complex socio-ecological systems (Berkes and Folke, 1998) where conservation outcomes depend on interactions among ecological processes, institutional arrangements, and everyday practices.

Understanding these interconnected challenges requires examining World Heritage governance as a broader system mediating relationships between global frameworks and local realities.

6.8 World Heritage as Socio-Ecological Governance System

Taken together, the findings illustrate how World Heritage sites operate as complex socio-ecological systems shaped by interactions among ecological constraints, institutional arrangements, and everyday practices (Berkes and Folke, 1998; Ostrom, 2009). Conservation challenges emerge not as isolated management problems but as outcomes of governance systems mediating relationships between global heritage norms and local realities (Smith, 2006; Harrison, 2013).

The analysis supports critiques highlighting tensions between universalized conservation standards and place-based values (Labadi, 2013; Meskell, 2018). Although UNESCO policy increasingly emphasizes community participation (UNESCO, 2015, 2019), findings indicate persistent gaps, reinforcing participatory governance approaches treating local involvement as constitutive of legitimacy rather than procedural inclusion (Ansell and Gash, 2008; Armitage et al., 2009).

Visitor management emerges as a central arena where World Heritage ideals of protection, access, and Outstanding Universal Value are negotiated. As documented in Section 6.5, overtourism in Amami manifests not primarily through ecological degradation but through perceptual transformation, the point at which the island becomes consumable destination rather than inhabited home.

This risk represents socio-ecological transformation in which UNESCO designation accelerates a shift from reciprocal sensing to one-way viewing. Abram's (1996) phenomenology helps articulate what stakeholders intuitively grasp: heritage recognition can reorganize environmental perception, shifting landscapes from animate others into scenic backdrops. Fears of "Okinawa-ization" point to processes whereby tourists photograph rather than listen and consume "nature" as scenery rather than engage it as active presence. These shifts represent epistemological transformation: from long-term relationship toward rapid consumption through visual capture. This involves a shift from inhabitation to visitation. Places residents experience as lived space become attractions where outsiders assert temporary presence without responsibility. The more-than-human world risks repositioning from participant to backdrop: forests, endemic species, and seasonal patterns become aesthetic resources rather than co-constitutive agents. From a governance perspective, these are outcomes produced through infrastructure and policy decisions. Transportation systems, visitor facilities, and funding mechanisms function as governance instruments shaping access and responsibility (Lascoumes and Le Galès, 2007; Meadowcroft, 2011). UNESCO governance is enacted through roads, signage, and hotel approvals as much as through management plans.

The Setta hotel controversy crystallizes these dynamics, asserting a governance logic treating Amami's landscape as passive resource rather than active system. The controversy highlights how designation generates development pressure while governance structures may lack mechanisms ensuring community agency sets the terms of access.

Findings foreground guides as intermediary actors within heritage governance. While UNESCO discourse recognizes interpretation as core to conservation (UNESCO, 2019), guides remain weakly institutionalized. As documented in Section 6.4, their dual role as interpreters and governance infrastructure remains economically and institutionally precarious (Cash et al., 2003; Duffy, 2013).

The Amami Model represents locally articulated resistance to visual-consumable transformation. Its emphasis on selective accessibility and cultural integrity reflects governance vision grounded in ecological and cultural continuity rather than visitor maximization. The serial configuration of Amami, Tokunoshima, Okinawa, and Iriomote components highlights persistent challenges of coordination in multi-level governance (Ostrom, 2010). World Heritage governance is best understood not as static compliance but as ongoing negotiation across scales. Sustainability outcomes depend less on designation itself than on the governance relationships through which heritage is continuously produced and maintained.

7. Conclusion

This ethnographic research of Amami Ōshima's post-UNESCO designation experience has identified the complexities confronting small island communities navigating global heritage frameworks. While the 2021 inscription elevated international recognition and strengthened conservation mandates, it simultaneously intensified anxieties about overtourism, cultural commodification, and governance failures. The research documents a strong stakeholder consensus around sustainable tourism principles, the "Amami Model," yet also identifies significant barriers to implementation.

Findings suggest that the "UNESCO effect" on tourism is neither automatic nor uniform. Immediate visitor increases remain modest and appear shaped as much by pandemic recovery and transportation changes as by designation itself. This muted impact provides a critical window for proactive visitor management before potential growth becomes overwhelming. Yet the "double-edged sword" metaphor invoked by island agents captures UNESCO's contradictory potentials: inscription provides powerful conservation leverage while also attracting development interests seeking to monetize heritage branding. The Setta Village controversy demonstrates how governance gaps can enable precisely the degradation UNESCO designation is meant to prevent.

The study further highlights tour guides as essential yet vulnerable heritage interpreters. Their financial instability, limited institutional support, and restricted foreign-language capacity undermine their ability to function as long-term conservation ambassadors. Strategic investment in training, marketing systems, and multilingual infrastructure could significantly strengthen heritage communication.

The island agents' articulation of the Amami Model reflects sophisticated local knowledge of sustainable tourism pathways. Principles of "high-value, low-impact" tourism, selective accessibility, and Denpaku's 70/30 Rule demonstrate locally grounded innovation in negotiating global-local pressures. Yet realizing these visions requires governance reforms

that empower community agency rather than privileging growth-oriented development paradigms. The findings also underscore that intangible cultural heritage risks marginalization under UNESCO's nature-focused framing. *Shimauta*, *maagun* communal practices, and *kenmun* spiritual knowledge require protection strategies as robust as those addressing endemic biodiversity.

David Abram's phenomenology of the animate landscape offers a conceptual vocabulary for understanding what is ultimately at stake in Amami Ōshima's post-UNESCO moment. For Abram (1996), landscape is not backdrop but participant, a world of reciprocal perception in which human knowing is always already entangled with the more-than-human. The Amami rabbit navigating the forest at night, the *shimauta* that emerged from the rhythms of agricultural labor, the *kenmun* that marks where the sacred begins, these are not cultural resources to be managed but communicative agents shaping how the island knows and is known. UNESCO designation, whatever its conservation intentions, creates structural pressures toward a very different epistemology: one in which Amami becomes legible primarily as spectacle, its animate complexity reduced to a checklist of iconic species and photogenic landscapes. This is not merely aesthetic loss. In Abram's terms, it is a severing of the perceptual reciprocity through which a community remains genuinely oriented in its place.

What the Amami Model implicitly proposes, in its insistence on inconvenience, on certified guides, on *shimauta* as participation rather than performance, is resistance to this epistemological shift. The forest that requires patience, the cultural practice that demands presence, the tradition that cannot be quickly consumed: these are forms of what Abram (2010) calls "becoming animal," recovering an embodied, sensory attentiveness that industrial tourism systematically trains visitors to bypass. Sustainable tourism in Amami, understood through this lens, is not simply a management problem but a perceptual and ethical project: how to invite visitors into relationship with an animate place rather than offering them a consumable copy of it. Whether governance institutions, funding mechanisms, and market forces can be aligned to support this vision remains the central unresolved question, and the one on which the future of Amami's heritage, in the fullest sense of that word, depends.

Future research should pursue longitudinal analysis of how UNESCO impacts evolve as governance matures, comparative work across the Ryukyu World Heritage components, and visitor experience studies examining motivations and behavioral effects. Climate adaptation planning for island UNESCO sites also demands urgent attention given accelerating environmental change.

UNESCO designation is neither panacea nor catastrophe but a contested terrain where global frameworks intersect with local realities. Amami's trajectory will depend on whether institutions heed community voices or whether growth imperatives overwhelm preservation commitments. Abram argues that communication is fundamentally reciprocal, sensory participation between bodies and their world. The island communicates, through Lidth's jay, through *tsumugi's* mud-dyed patterns, through seasonal rhythms, through *kenmun*

boundaries of the sacred. When tourism transforms Amami from animate to consumable, it severs these communicative relationships, replacing them with one-directional flows of visual information designed for external consumption.

At the time this article was written, another village in Amami Ōshima, Ashitoku, started a change.org petition protesting against new high rise hotel developments, pointing a pattern in community resistance:

"Being registered as a World Natural Heritage site is a great source of pride for us. However, at the same time, areas outside the designated zone remain insufficiently protected and are being exposed to waves of development under the name of "tourism."

If things continue as they are, Amami's nature—recognized by the world—will be steadily reshaped by outside capital, and irreplaceable landscapes will be lost one after another." (<https://c.org/cfdpN5K56x>)

UNESCO designation is not a solution or a problem, it is a question forced on Amami's residents: What kind of place do you want to be? The answer depends on whether governance institutions heed community voices articulating sustainable tourism visions, or whether growth imperatives overwhelm preservation commitments. The choice, as the Amamians I spoke to kept telling me, belongs to Amami.

Acknowledgments

The author gratefully acknowledges the Japan Foundation for its support of this research through a Research Fellowship in 2025, and the Kagoshima University Center for Island Studies' Amami Station for hosting and providing continuous support. Sincere thanks are extended to the Amami Ōshima island agents who generously shared their time, knowledge, and perspectives. Special appreciation is also due to Professor Sueo Kuwahara and John Manolito Cantu for facilitating communication and fostering cultural understanding.

Ethics Statement

This research received ethics approval from the Unitec Institute of Technology Research Ethics Committee (No. 2025-1001).

References

- Abram, D. 1996. *The spell of the sensuous: Perception and language in a more-than-human world*. New York: Pantheon Books.
- Abram, D. 2010. *Becoming animal: An earthly cosmology*. New York: Pantheon Books.
- Ansell, C., and Gash, A. 2008. Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*. 18(4): 543–571. 10.1093/jopart/mum032
- Armitage, D., Plummer, R., Berkes, F., Arthur, R. I., Charles, A. T., Davidson-Hunt, I. J., and McConney, P. 2009. Adaptive co-management for social-ecological complexity. *Frontiers in Ecology and the Environment*. 7(2): 95–102. 10.1890/070089
- Askew, M. 2010. The magic list of global status: UNESCO, World Heritage and the agendas of states. In S. Labadi & C. Long (Eds.), *Heritage and Globalisation*. Routledge pp. 19–44.
- Berkes, F., and Folke, C. 1998. *Linking social and ecological systems: Management practices and social mechanisms for building resilience*. Cambridge: Cambridge University Press.
- Buckley, R. 2012. Sustainable tourism: Research and reality. *Annals of Tourism Research*. 39(2): 528–546. <https://doi.org/10.1016/j.annals.2012.02.003>
- Cash, D. W., Clark, W. C., Alcock, F., Dickson, N. M., Eckley, N., Guston, D. H., and Mitchell, R. B. 2003. Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences*. 100(14): 8086–8091. <https://doi.org/10.1073/pnas.1231332100>
- Christy, A.S. 1993. The making of imperial subjects in Okinawa. *Positions: Asia Critique*. 1(3): 607–639. <https://doi.org/10.1215/10679847-1-3-607>
- Cohen, E. 1988. Authenticity and commoditization in tourism. *Annals of Tourism Research*. 15(3): 371–386 [https://doi.org/10.1016/0160-7383\(88\)90028-X](https://doi.org/10.1016/0160-7383(88)90028-X)
- Cole, S. 2007. Beyond authenticity and commodification. *Annals of Tourism Research*. 34(4): 943–960. <https://doi.org/10.1016/j.annals.2007.05.004>
- Duffy, R. (2013) 'The international political economy of tourism and the neoliberalisation of nature: Challenges posed by selling close interactions with animals', *Review of International Political Economy*. 20(3): 605–626.
- Fernández-Palacios, J.M., Kreft, H., Irl, S.D.H., Norder, S., Ah-Peng, C., Borges, P.A.V., Burns, K.C., de Nascimento, L., Meyer, J.-Y., Montes, E., and Drake, D.R. 2021. Scientists' warning: The outstanding biodiversity of islands is in peril. *Global Ecology and Conservation*. 31: e01847. <https://doi.org/10.1016/j.gecco.2021.e01847>
- Foster, M.D. 2011. The UNESCO effect: Confidence, defamiliarization, and a new element in the discourse on a Japanese island. *Journal of Folklore Research*. 48(1): 63–107. <https://doi.org/10.2979/jfolkrese.48.1.63>
- Gillan, M. 2012. *Songs from the Edge of Japan: Music-making in Yaeyama and Okinawa*. Farnham: Ashgate Publishing.

- Hampton, M.P. and Jeyacheya, J. 2015. Power, ownership and tourism in small islands: Evidence from Indonesia. *World Development*. 70: 481-495. <https://doi.org/10.1016/j.worlddev.2014.12.007>
- Harrison, R. 2013. *Heritage: Critical approaches*. London: Routledge.
- Hearn, G. and Foth, M. 2007. Communicative ecologies: Editorial preface. *Electronic Journal of Communication*. 17(1-2). <http://www.cios.org/EJCPUBLIC/017/1/01711.HTML>
- Heinrich, P., Miyara, S., and Shimoji, M. (eds.). 2015. *Handbook of the Ryukyuan Languages: History, Structure, and Use*. Berlin: De Gruyter Mouton. <https://doi.org/10.1515/9781614511151>
- Jimura, T. 2011. The impact of world heritage site designation on local communities: A case study of Ogimachi, Shirakawa-mura, Japan. *Tourism Management*. 32(2): 288-296. <https://doi.org/10.1016/j.tourman.2010.02.005>
- IUCN (International Union for Conservation of Nature). 2021. World Heritage nomination – IUCN technical evaluation: Amami-Oshima Island, Tokunoshima Island, northern part of Okinawa Island and Iriomote Island (Japan) (WHC/21/44.COM/INF.8B2). IUCN World Heritage Evaluations. <https://whc.unesco.org/en/list/1574/documents/>
- Kagoshima Prefecture. 2019. *Amami Gunto National Park Management Plan*. <https://www.env.go.jp/en/nature/nps/park/amami/>
- Kagoshima Prefecture. 2020. *Amami Ōshima Tourism Statistics Annual Report 2019*. Kagoshima: Kagoshima Prefecture Department of Commerce, Industry and Tourism. [in Japanese]
- Koens, K., Postma, A., and Papp, B. 2018. Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability*. 10(12) <https://doi.org/10.3390/su10124384>
- Kuutma, K. 2017. Between arbitration and engineering: Concepts and contingencies in the shaping of heritage regimes. In: Adell, N., Bendix, R.F., Bortolotto, C., and Tauschek, M. (eds.) *Between Imagined Communities and Communities of Practice: Participation, Territory and the Making of Heritage*. Göttingen: Universitätsverlag Göttingen, pp. 47-64. <https://doi.org/10.4000/books.gup.367>
- Labadi, S. 2013. *UNESCO, cultural heritage, and outstanding universal value*. Lanham: AltaMira Press.
- Lascoumes, P., and Le Galès, P. 2007. Understanding public policy through its instruments. *Governance*. 20(1): 1-21. [10.1111/j.1468-0491.2007.00342.x](https://doi.org/10.1111/j.1468-0491.2007.00342.x)
- Littlefair, C.J. 2004. *The Effectiveness of Interpretation in Reducing the Impacts of Visitors in National Parks*. PhD dissertation, Griffith University, Brisbane, Australia.
- MacDonald, R. and Jolliffe, L. 2003. Cultural rural tourism: Evidence from Canada. *Annals of Tourism Research*. 30(2): 307-322. [https://doi.org/10.1016/S0160-7383\(02\)00061-0](https://doi.org/10.1016/S0160-7383(02)00061-0)
- Matanle, P., & Rausch, A. S. (Eds.). (2011). *Japan's shrinking regions in the 21st century: Contemporary responses to depopulation and socioeconomic decline*. Amherst, NY: Cambria Press.
- McCool, S. F., and Lime, D. W. 2001. Tourism carrying capacity: Tempting fantasy or useful reality? *Journal of Sustainable Tourism*. 9(5): 372-388. [10.1080/09669580108667409](https://doi.org/10.1080/09669580108667409)

- McGuire, M. 2013. What's at stake in designating Japan's sacred mountains as UNESCO World Heritage Sites? Shugendō practices in the Kii Peninsula. *Japanese Journal of Religious Studies*. 40(2): 323-354. <https://doi.org/10.18874/jjrs.40.2.2013.323-354>
- Meadowcroft, J. 2011. Engaging with the politics of sustainability transitions. *Environmental Innovation and Societal Transitions*. 1(1): 70-75. <https://doi.org/10.1016/j.eist.2011.02.003>
- Meskill, L. 2018. *A future in ruins: UNESCO, World Heritage, and the dream of peace*. Oxford: Oxford University Press.
- Milano, C., Novelli, M., and Cheer, J. M. 2019. *Overtourism: Excesses, discontents and measures in travel and tourism*. Wallingford: CABl.
- Ministry of the Environment, Japan. 2021. Amami-Oshima Island, Tokunoshima Island, the Northern Part of Okinawa Island, and Iriomote Island: Natural World Heritage. <https://kyushu.env.go.jp/okinawa/amami-okinawa/en/index.html>
- Ministry of the Environment, Japan. 2020. *Nomination document: Amami-Oshima Island, Tokunoshima Island, northern part of Okinawa Island, and Iriomote Island for inscription on the World Heritage List*.
- Nankainichichi. April 3, 2024. 19 cruise ship calls; recovery to pre-pandemic levels. Increase in first-time foreign-flagged vessels. Naze Port, FY2023. <https://www.nankainn.com/news/peconomy/%E3%82%AF%E3%83%AB%E3%83%BC%E3%82%BA%E8%88%B9%E5%AF%84%E6%B8%AF%EF%BC%91%EF%BC%99%E5%9B%9E%E3%80%80%E3%82%B3%E3%83%AD%E3%83%8A%E7%A6%8D%E5%89%8D%E3%81%BE%E3%81%A7%E5%9B%9E%E5%BE%A9%E3%80%80%E5%88%9D>
- National Census, Amami Oshima Sougou Senryaku Suishin Honbu March, 2020. <https://www.city.amami.lg.jp/kikaku/documents/jinkoubijyon.pdf>
- Ostrom, E. 2009. A general framework for analyzing sustainability of social-ecological systems. *Science*. 325(5939): 419-422. 10.1126/science.1172133
- Ostrom, E. 2010. Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change*. 20(4): 550-557. <https://doi.org/10.1016/j.gloenvcha.2010.07.004>
- Ota, H. 1998. Geographic patterns of endemism and speciation in amphibians and reptiles of the Ryukyu Archipelago, Japan, with special reference to their paleogeographical implications. *Researches on Population Ecology*. 40(2): 189-204. <https://doi.org/10.1007/BF02763404>
- Papoutsaki, E. 30 March 2025. Sustainable tourism in small islands. <https://www.epapoutsaki.com/single-post/sustainable-tourism-in-small-islands>
- Papoutsaki, E. and Kuwahara, S. 2025. "Shodansho — a place for laughter and chatting: a women led community response to aging and depopulated small island communities in Japan. *South Pacific Studies Journal*. 45 (1-2): 27-50. <http://cpi.kagoshima-u.ac.jp/publications/southpacificstudies/sps/sps45-12/SouthPacificStudies45-12-pp27-50.pdf>

- Papoutsaki, E. and Kuwahara, S. 2024. Mapping Island Information Ecosystems: the role of the 'Bōsai Musen' emergency and disaster broadcasting system in the everyday life of Amami islands. *South Pacific Studies Journal*. 44 (1-2):9-32. <http://cpi.kagoshima-u.ac.jp/publications/southpacificstudies/sps/sps44-12/SouthPacificStudies44-12-pp9-32.pdf>
- Papoutsaki, E. and Kuwahara, S. 2021. Akina: An Ecocultural Portrait of an Island Community Through the Photographic Lens of Futoshi Hamada. *OJIS: Okinawan Journal of Island Studies*. 2:11-64. <https://riis.skr.u-ryukyu.ac.jp/publication/ojis/okinawan-journal-of-island-studies-ojis-volume-2/>
- Papoutsaki, E. and Kuwahara, S. 2018. Mapping small islands communicative ecologies: a case study from Amami Islands. *South Pacific Studies Journal*. 39(1): 25-49. <http://cpi.kagoshima-u.ac.jp/publications/southpacificstudies/sps/sps39-1/SouthPacificStudies39-1-pp25-49.pdf>
- Richards, G. and Raymond, C. 2000. Creative tourism. *ATLAS News*. 23: 16-20. DOI: 10.17605/OSF.IO/YWEG7
- Salazar, N.B. 2010. *Envisioning Eden: Mobilizing Imaginaries in Tourism and Beyond*. New York: Berghahn Books.
- Salazar, N.B. 2012. Community-based cultural tourism: Issues, threats and opportunities. *Journal of Sustainable Tourism*. 20(1): 9-22. <https://doi.org/10.1080/09669582.2011.596279>
- Scarborough, E. 2021. Are archaeological parks the new amusement parks? UNESCO World Heritage status and tourism. In: Wilkens, S. (ed.) *Tourism and Archaeology-Sustainable Heritage Management*. Cham: Springer, pp. 227-244. https://doi.org/10.1007/978-3-030-61052-4_13
- Self, R.M., Self, D.R., and Bell-Haynes, J. 2010. Marketing tourism in the Galapagos Islands: Ecotourism or greenwashing? *International Business & Economics Research Journal*. 9(6): 111-125. <https://doi.org/10.19030/iber.v9i6.590>
- Smith, L. 2006. *Uses of heritage*. London: Routledge.
- Song, D.-J. 2017. *Ecotourism and World Natural Heritage in the islands of Japan: With a focus on the case of the Amami Islands* (Unpublished master's thesis). Kagoshima University, Graduate School of Humanities and Social Science, Japan.
- Su, M.M. and Wall, G. 2014. Community participation in tourism at a World Heritage Site: Mutianyu Great Wall, Beijing, China. *International Journal of Tourism Research*. 16(2): 146-156. <https://doi.org/10.1002/jtr.1909>
- Tacchi, J. 2006. Studying Communicative Ecologies: An Ethnographic Approach to Information and Communication Technologies (ICTs). In Proceedings 56th Annual Conference of the International Communication Association, Dresden, Germany. <http://eprints.qut.edu.au/archive/00004400>
- Timothy, D.J. 2018. Making sense of heritage tourism: A review of the literature. *Tourism Management Perspectives*. 25: 177-180 <https://www.sciencedirect.com/science/article/abs/pii/S2211973617301320?via%3Dihub>
- Ui, J. (ed.) 1992. *Industrial Pollution in Japan*. Tokyo: United Nations University Press.

- UNESCO World Heritage Centre. 2021. Amami-Oshima Island, Tokunoshima Island, Northern Part of Okinawa Island, and Iriomote Island. Paris: UNESCO. <https://whc.unesco.org/en/list/1574/>
- UNESCO. 2015. Policy document for the integration of a sustainable development perspective into the processes of the World Heritage Convention. Paris: UNESCO.
- UNESCO. 2019. Operational Guidelines for the Implementation of the World Heritage Convention. Paris: UNESCO World Heritage Centre.
- Watari, Y., Nishijima, S., Fukasawa, M., Yamada, F., Abe, S., and Miyashita, T. (2013). Evaluating the "recovery level" of endangered species without prior information before alien invasion. *Ecology and Evolution*. 3(13): 4711-4721. <https://doi.org/10.1002/ece3.863>
- Waterton, E., and Smith, L. 2010. The recognition and misrecognition of community heritage. *International Journal of Heritage Studies*. 16(1-2): 4-15. <https://doi.org/10.1080/13527250903441671>
- Weiler, B. and Black, R. 2015. The changing face of the tour guide: One-way communicator to choreographer to co-creator of the tourist experience. *Tourism Recreation Research*. 40(3): 364-378. <https://doi.org/10.1080/02508281.2015.1083742>

Revitalization at a Price? Intermittent Art Festivals on Peripheral Archipelagos

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Received 17 February 2026, Accepted 19 April 2026, Available online 30 April 2026

 10.21463/jmic.2026.15.1.07

Abstract

This study examines the role of Community-engaged Art Festival Tourism Revitalization (CAFTR) in the sustainable development of peripheral archipelagos, using Japan's Setouchi Triennale as a primary case. While large-scale art Triennale festivals are promoted as catalysts for rural revitalization, this research critically addresses a key question: how can the intermittent cultural energy of these events be converted into long-term resilience? Drawing on ten years of mixed-methods fieldwork (2015–2025), including 128 business surveys and extensive interviews, the findings reveal a fundamental dilemma. The "intermittent festivalness" creates a precarious commercial structure that strains limited insular resources—a "socio-economic price" often overlooked in official narratives. While relational exchange satisfies the psychological needs of elderly residents, it simultaneously risks "social over-interaction" and the erosion of local autonomy, particularly where private art developers exert dominant influence. The study concludes that sustainable revitalization requires an "archipelagic perspective" that transcends temporary tourism spikes. By harnessing social entrepreneurship as a structural buffer, communities can internalize the side effects of "creative destruction" and foster endogenous resilience. This research provides a critical framework for evaluating art-based interventions in depopulated regions, shifting the focus from urban-centric growth to localized spatial justice and structural adaptability.

Keywords

Intermittent Festival Tourism, Community-engaged Art Festival Tourism Revitalization (CAFTR), Peripheral Archipelagos, Social Entrepreneurship, Rural Revitalization

Introduction

Large-scale contemporary art festivals have emerged as a global phenomenon, extending their reach to remote rural settings or peripheral island territories (Quinn, 2006; Franklin, 2018; Qu, 2020; Prince et al., 2021). While such events offer a strategic pathway to revitalize

peripheral islands through socio-economic stimulation and communal rejuvenation, they simultaneously trigger critical sustainability concerns inherent in insular tourism development (Qu et al., 2022). The management of such large-scale events can be challenging for peripheral archipelagos lacking the resources and manpower necessary to host masses of tourists (Qu et al., 2022; Qu and Zollet, 2023).

Consequently, a key question arises: How can large-scale art festivals be organized to yield sustainable benefits for these peripheral island communities? Specifically, what tourism processes do these festivals engender, and how can these mechanisms be harnessed to support remote insular regions? Many peripheral islands in the Global North face severe depopulation and limited development alternatives. In this context, art-based tourism can reframe these areas as vibrant spaces for living and promote a tourism model anchored in cultural resonance and social exchange (Prince et al., 2021; Qu et al., 2022; Qu and Zollet, 2023). Therefore, a detailed study of their unique dynamics is highly relevant.

This study uses Setouchi Triennale as a research context for peripheral archipelagos in Japan. It is a large-scale contemporary-art festival intended for rural revitalization. This festival lasts a hundred days on 12 islands, attracting millions of tourists to peripheral islands facing severe depopulation. Using grounded theory, we explore the experiences of small tourism businesses in the intermittent mass tourism environment produced by the Triennale. By doing so, we seek to understand the relation between the staging of mega art festivals and the management of mass tourism for the revitalization of small communities. The study focuses on perceptions of the Triennale stakeholders, including festival officials, community residents, and local businesses' experiences of their intermittent festival tourism. Findings are based on a mixed-methods approach deployed on 5 core islands in the Triennale Archipelago that includes researcher-administered questionnaires aimed at local businesses (n=128), semi-structured interviews with local entrepreneurs and residents (n=33), and festival officials (n=12), official data analysis (2010-2019), and participatory observations spanning ten years (2015-2025).

Findings show variations in perceptions among entrepreneurs and residents of different island communities. The influx of tourists during the Triennale is mostly believed to be positive for the patronage of the art, social interaction, and cultural enhancement. Significant to revitalization is the role that the small businesses under investigation play in servicing tourists during the Triennale. Small businesses provide space in the community for tourists to enjoy island culture. They absorb tourists in the community by ensuring that these have more than contemporary art venues to experience during their visit and as such are significant drivers of revitalization on the smaller islands in the wake of the Triennale. However, the Triennale's intermittency means that these businesses are without stable income afterwards. Ultimately, the specific needs and available resources of island communities should be considered in conjunction with the Triennale's goals of bringing visitors and contemporary art to Japanese islands.

To ensure that rural communities benefit from large-scale contemporary-art festivals, residents, entrepreneurs, and community leaders must be involved in their planning. The large-scale character of art festivals such as the Setouchi Triennale brings new challenges

to rural communities who must accommodate masses of tourists for a short period and negotiate new cultural identities. In contexts of population decline and limited development opportunities, tourism entrepreneurs find themselves balancing goals of social entrepreneurship with economic sustainability to guarantee the revitalization of communities. Festival organizers should consider the structural changes and revitalization opportunities that their events bring to rural areas, and work with local populations to foster a form of tourism development around them that supports local businesses, social activities, and rural culture long-term.

Art Festival Tourism and Islands

Festival tourism is often categorized under event tourism, yet as Quinn (2006) argues, the term implies a "problematic" naturalness in the relationship between festivals and tourism. While festivals are typically seen as periodic outside-community visits, assuming them as tourism attractions automatically links festival growth to tourist needs. There is no doubt that the rapid growth of art festival tourism is connecting the concepts of island-based art tourism (Funck and Chang, 2018; Qu, 2020), festival tourism, event tourism (Getz, 2008; Quinn, 2006), and art festivals, or so-called Triennale Tourism (Klien, 2010) into one social phenomenon.

Art festivals have the power to shape destinations into creative places by promoting cultural tourism (Prentice and Andersen, 2003) and packaging creative experiences as attractions to draw festivalgoers to rural areas (Richards and Wilson, 2006). Festivals provide not only leisure and recreation for tourists but also improve destination infrastructure for residents, improve social development, and foster exchanges of ideas and information (Cudny, 2013). Oftentimes, the explicit aims are to attract young urban tourists to rural areas, and these are considered to be effective community capacity-building strategies (Crawshaw and Gkartzios, 2016). Art festivals thus present a relational or participatory model of rural development, contributing to the tourism economy while also foregrounding and even strengthening community relations (Crawshaw and Gkartzios, 2016).

Art and allied events are often initiated by the organization's and/or individuals with artistic zeal, well-established networks, and entrepreneurial capacities (Borup, 2016; Mahon and Hyryläinen, 2019). From a population retention point of view, festivals and creative industries have been shown to lure out-migrants, or former residents with a link to the community (Duxbury and Campbell, 2011). Art events also help establish a stage to help retain and reproduce localized knowledge and creative expressions (Quinn, 2006), as well as helping to expand creative networks (Anwar McHenry, 2011; Duxbury et al., 2009; Richards, 2011). Insofar as cultural tourism development is concerned, festivals can stimulate creative tourism (Richards, 2011) and innovative placemaking (Borup, 2016). Such destinations comprise complex experiential experiences that attract tourists with global predilections (Prentice and Andersen, 2003). In some cases, they also have the potential to trigger a rural community's creative energies and to attract creative lifestyle in-migrants (Woods, 2012; Zollet and Qu, 2024).

The number of art festivals worldwide has surged in recent years, especially in developed countries (Cudny, 2013). However, Quinn (2010) argues that the surge in art festivals has not always resulted in corresponding local prosperity. The price of such revitalization often manifests as an overwhelming strain on limited local resources during peak periods. Alongside the potential and actual benefits of these festivals, observers have pointed to negative impacts to host communities and sites, including damage to natural environments, disruptions to daily life and local infrastructure, and conflicts between locals and tourists (Cudny, 2013). The creative outcomes in rural transformation must acknowledge the tensions between creative destruction (Mitchell, 2013; Woods, 2011) and creative enhancement that can often emerge simultaneously (Mitchell, 2013).

As distinct from festivals run in urban settings, non-urban and island-based art festivals and arts-based projects are highly constrained both in terms of human capital, funding, and policy support at the community level (Anwar McHenry, 2011; Higham and Ritchie, 2001; Qu, 2020), and in terms of the novelty and cutting-edge nature of creative outputs (Qu, 2019). From a community revitalization and creative rurality perspective, art and creative economy initiatives in rural contexts generally do not align with urban-centered economic development theories (Duxbury and Campbell, 2011; Woods, 2012). The economic benefits of rural creativity may be indirect rather than direct, because of its small scale, given that there are fewer people involved, and because the overall contribution to regional GDP is limited (Woods, 2012). Moreover, urban and rural contexts when it comes to the creative economy differ in terms of social network and interaction flows, innovation, connectivity, and creators (Duxbury and Campbell, 2011). What seems clear is that in evaluating the success and/or unsuccess of art festivals in rural contexts, assessments that transcend economic development are essential because the non-economic outcomes can contribute greatly to revitalization efforts (Crawshaw and Gkartzios, 2016).

Rural art festival tourism is considered a potential vehicle for rural revitalization through global/urban/rural cultural exchange and human interaction, and is evidenced in the Japanese context (Cwierka and Machotka, 2018; Klien, 2010; Koizumi, 2016; Qu, 2019, 2020), through so-called socially engaged art festivals (Hawkins, 2013; Tagore-Erwin, 2018; Qu, 2019) or community-engaged art festivals (Qu and Cheer, 2021). In peripheral Japanese islands, which are almost universally aging and depopulated, the unifying characteristic has been an emphasis on the potential of art festival tourism to spur community revitalization (Yamashima, 2014). Also, Japanese rural art festivals tend to take the form of outdoor gallery-style exhibitions within communities, often using unoccupied old houses as installation sites. Such festivals have the potential to offer a point of departure from (or even outright resistance to) the commercial, hyperglobal art market by re-situating contemporary art on unconventional rural soil, commissioning artists to create site-specific artworks within host communities (Tagore-Erwin, 2018). The Setouchi Triennale typifies this art festival model in the regional context, offering cultural exchanges (Nakashima, 2012, p. 86) between locals and non-locals through creative, relational, and interactive experiences.

Island art festivals create spaces of flow for tourist-local interaction. The fluid relationship between urban and rural areas blurs and reshapes the traditional concept of the local (Massey, 2004). Local communities define themselves by generating heterogeneity

(Massey, 2004), a process that ensures their unique characteristics stand out against a standardized urban perspective. The corresponding concept of anti-heterogeneity was also adapted by the Setouchi Triennale general director to design the Setouchi Triennale's rural intervention in ways that differ from the urban context (Fukutake and Kitagawa, 2016). Setouchi Triennale's emphasis on community participation suggests that it can be viewed as a large-scale relational (you jump from heterogeneity to relational – the connection is not clear) art site. The rural art festival aims to promote a "culture of exchange" (Nakashima, 2012, p. 48) between locals and tourists through providing creative, relational, and interactive experiences.

In the Setouchi Triennale, art acts as a medium for cultural exchange through interactions between tourists and residents within the festival period (Qu, 2019). Rather than just coming to the island to 'see' art, visitors have the chance to 'celebrate' with locals. Interaction between locals and tourists can be considered a "creative experience" (Richards and Wilson, 2006, p. 1221). Regarding interaction, this research combines the idea of relational aesthetics from art theory (Bourriaud, 1998) with the concept of Integrated Relational Tourism from creative tourism scholarship (Richards, 2013). This allows for a clearer focus on the three-way interaction among local people, art, and tourists, and for the creation of the new concept of Community-engaged Art Festival Tourism Revitalization (CAFTR) to combine the idea of relational art site, creative/relational tourism, and urban-rural festival interaction. As a strategic approach for rural revitalization, this implies the imperative to build understanding between residents and visitors (Kondo, 2012) from different cultural backgrounds.

Within Seto Inland Sea island communities, locals point out the festival artworks that link to island landscapes, local histories, and collective memories (Qu, 2019), suggesting that the characteristics of individual artworks are important to communities. On the other hand, organizers prioritize interactions, not artworks themselves, as the vehicle for revitalization, describing how visitors celebrate with locals rather than just coming to islands to see art (Tagore-Erwin, 2018). Some authors writing about rural Japanese art festivals have attempted to reinforce such ambiguous links between urban-rural interactions (whether tourist interactions or participatory artist-resident activities) and community revitalization, particularly as an aspect of placemaking initiatives (Nakashima 2014, Koizumi 2016).

However, efforts to measure cultural exchange have yielded incomplete and ambiguous data that do little to either prove or disprove revitalization claims. For example, a report on the island of Teshima carried out during the 2013 Setouchi Triennale revealed that only 8.3 percent of festival tourists said they were interested in interacting with locals (Yamamoto et al., 2014). Furthermore, this report failed to establish what interactions did occur, or how long and how deep such local-visitor interactions were. Even if this data were present, such an evaluation would leave unanswered the critical questions of whether and how those interactions translated to specific revitalization outcomes. Furthermore, it also shows the limitation of conducting a quantitative method to measure qualitative influences – cultural exchange.

Unlike urban centers, that benefit from permanent creative clusters and robust infrastructure, peripheral archipelagos and rural areas lack the foundational resources to sustain continuous creative economies. When art festivals are staged as biennial or triennial events in these resource-constrained settings, they inevitably create an intermittent commercial structure within the local tourism sector. This "ebb and flow" of visitors produces a precarious economic environment where small-scale local businesses must endure long periods of stagnation between brief spikes of mass tourism. Consequently, from a community revitalization perspective, the success of these festivals cannot be measured by urban-centric economic metrics. The intermittent nature of rural festivals demands a shift in evaluation—from looking at steady GDP growth to understanding how communities manage structural instability and whether the "soft impacts" of the festival can survive the long intervals between events.

Therefore, the soft outcome of social interaction through CAFTR can be evaluated from the destination community satisfaction as well as people who engage with tourism-related businesses. For further discussion on the outcome of community-level revitalization brought by interaction, which can fit the gap of the current socially engaged issues (Borup, 2016; Klien, 2010), whether or not those can be considered as a key for regional revitalization is another aspect that needs further research attention. While the proposed CAFTR framework emphasizes the ideal of archipelagos interaction, existing literature often overlooks the socio-economic costs and structural vulnerabilities of peripheral archipelagos, particularly the tension between the intermittency of mass tourism and the limited resource capacities of depopulated island communities. Therefore, the core research question is: how can the intermittent cultural energy of large-scale art festivals be converted into sustainable revitalization through social entrepreneurship and deep relational exchange, ensuring that the benefits transcend temporary tourism spikes to foster long-term archipelagos resilience?

Methodological Frameworks

The research method for this chapter is also based on the explanatory sequential type of mixed method design (Creswell and Clark, 2017). This mixed method design utilizes quantitative data analysis first, followed by qualitative methods. In this chapter, the questionnaire data of small tourism businesses (STBs) have a considerable emphasis on the interactive window to perceive the tourism impact between tourists and residents, and the interview data with both residents and STBs are used as follow-up to help explain the questionnaire results. Although fieldwork with similar research questions has been done on Shodoshima (Qu and Funck, 2021), which is a large island with existing tourism development and limited depopulation issues, this can't be used to evaluate the Triennale's impact on small-scale islands under much worse shrinking population conditions. Therefore, this chapter tries to evaluate the effects of the Triennale on non-tourism island communities.

The questionnaires and interview surveys on n=128 STBs were based on the grounded theory findings from Shodoshima (Qu and Funck, 2021), with more detailed questions about the Setouchi Triennale's positive influence and negative impacts added. This phase of the research focused on all businesses that remain open during the non-Triennale period, and examined STBs' performance during the non-Triennale period. Doing fieldwork outside of

the Triennale period can also help to avoid the busy season when respondents have less time for answering the survey and to improve the effectiveness and quality of the responses. This study aims to examine the STBs but also would follow Krippendorff's category of four groups of community members: 1) tourism-related members, 2) non-tourism-related members, 3) residents who love the tourism development, and 4) residents who do not care about it (Krippendorff, 1987) in qualitative methods. Overall, 60 semi-structured and unstructured interviews were conducted on five islands within two years.

The data analysis for the quantitative STB questionnaire includes Exploratory Factor Analysis (EFA) to identify tourism impacts (Stylidis et al., 2014) from the local STB perspective and Cluster Analysis through SPSS to understand the types of influences or impacts by factors and groups. This method helps to explore small businesses' perceptions of positive influences and negative impacts. Accordingly, through conducting content analysis for qualitative data, it tries to examine both the community's and STB members' perceptions of the art festival impact. Unlike grounded theory, framework analysis is highly suitable for research with specific and pre-designed research questions with a repeatable procedure (Srivastava and Thomson, 2009).

Mixed data analysis through a framework analysis of interviews, combined with the quantitative findings from STBs, provides further information to explain the reasons behind the Triennale's impacts. A further axial and selective coding of the qualitative finding by island, impacts, and the change of Setouchi Triennale periods were conducted by comparing the data from this fieldwork with the official reports' findings. Therefore, the EFA and mixed findings that combine survey, interviews, and field observation will be presented in two different parts. The second part of the findings was also compared with the findings from the Setouchi Triennale official general report to demonstrate the gap between community perception and the official report.

Regarding methodological research limitations, one issue is that it was not possible to apply the same methods during the same period, but the research had to be conducted in three stages focused on different islands: Teshima and Inujima from December 2017 to April 2018, Ogijima and Megijima from December 2018, and Naoshima from June to August 2019.

Case Studies (Teshima, Inujima, Naoshima, Ogijima and Megijima Islands)

Except for Shodoshima, the largest and most socioeconomically advantaged island among the Setouchi Triennale sites (Qu and Funck, 2021), the impacts of the festival on smaller islands and communities remain unexamined. This research assumes that if Shodoshima has the best conditions in terms of scale, population, well-established tourism industry, and carrying capacity for tourism as well as other developed industries, then the rest of the Setouchi Triennale-hosting case study islands would have more serious problems and impacts than Shodoshima, except for Naoshima with its long-term art tourism development. The rest of the islands have no intrinsically exogenous development or endogenous efforts. Therefore, this chapter aims to examine the rest of the five major Triennale hosting islands –

Naoshima, Teshima, Inujima, Ogijima, and Megijima systematically. Due to its status as a well-established tourism hub, Shodoshima is omitted from the scope of this research. Consequently, this study focuses on the other major Triennale destinations that experience significant visitation spikes yet face more precarious development conditions.



Fig 1. Map showing six Setouchi Triennale art islands and nearby ports, Source of the map: (Geospatial Information Authority of Japan (GSI), 2016), Software: (QGIS Development Team, 2025), Author's illustration.

From the geographical distribution of the festival, these islands balance visitor flows from not only the Takamatsu port in Kagawa Prefecture but also Uno port located in Okayama Prefecture. For Ogijima and Megijima, the Takamatsu port is one of the most convenient ports. On the Okayama side, Uno port provides better access to Naoshima, Teshima, as well as Hōden port to Inujima. Although the number of ST hosting communities on Shodoshima is much more than the other communities within those five Triennale islands, Naoshima and Teshima, as much smaller islands, received close to double or almost the same level of visitors as Shodoshima. Therefore, the positive Triennale influences and negative impacts would cause different results which differ from Shodoshima, thus requiring this research to explore.

Mixed Finding

Positive influences and negative impacts perceived by STBs

From the questionnaire survey with STBs, this chapter collected 128 samples that represent more than 80-90 percent of local businesses that remained open after the 2016 Setouchi Triennale period. According to Figure 1, the respondent profile (Table 1) shows Teshima and

Naoshima have larger numbers of STBs compared with other smaller islands. As shown in Figure 2, the author used 11 Likert scale questions to evaluate the Setouchi Triennale's various impact on STBs through art, tourism as well as the community. The art-related questions include the perception of art and artwork arrangement from STBs. The tourism-related questions include the tourist interaction, tourism impacts on internal and external transportations, and daily living environment. Questions related to community changes included the CAFTR culture revitalization, job creation, regenerating an art island image. More than 56.3 percent of respondents agree and strongly agree that the good outcomes reflect on Setouchi Triennale brought friendly interaction between residents and tourists. Also, 60.2 percent of them believe Setouchi Triennale brought an art island image to their island. However, the highest results of the negative impacts concentrate among questions 8 to 11, which emphasize the tourism side. This general questionnaire result proves that Setouchi Triennale did bring different type of positive influences, negative impacts, and interaction between residents – tourists.

Table 1. Small Tourism Business Respondent Profile, Author's calculation

Type of Local businesses (n = 128)	Classification	Number of Questionnaires	Percentage of Total (%)
Island	Teshima	49	38.3
	Inujima	14	10.9
	Ogijima	15	11.7
	Megijima	14	10.9
	Naoshima	36	28.1
	Non-response	0	0.0
Gender	Male	60	46.9
	Female	68	53.1
	Non-response	0	0.0
Age Groups	10-19	0	0.0
	20-29	11	8.6
	30-39	32	25.0
	40-49	16	12.5
	50-59	10	7.8
	60-69	28	21.9
	70 and above	31	24.2
	Non-response	0	0.0
Type of Residency	Local long-term residents (10 years or more)	59	46.1
	In-migrant (I-turn)	35	27.3
	Return migrant (U-turn)	9	7.0
	Commuter	25	19.5
	Non-response	0	0.0
Type of Business	Souvenir shop	4	3.1
	Restaurant/Café	39	30.5
	Daily shop	10	7.8
	Tourist Facilities	5	3.9
	Accommodation	21	16.4
	Transportation	5	3.9
	Mixed	44	34.4
	Non-response	0	0.0

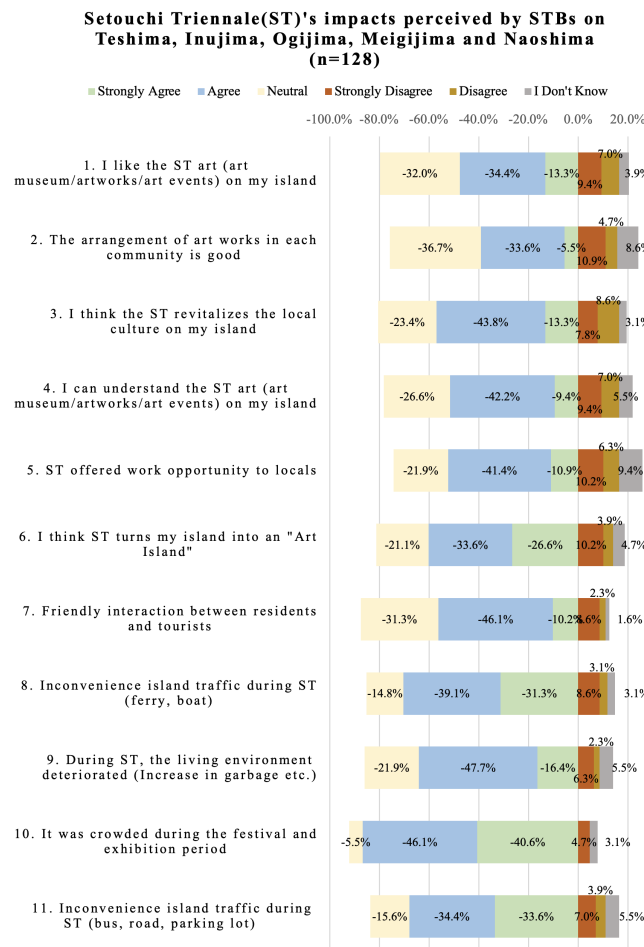


Fig 2. The percentage of local tourism business perceived the Setouchi Triennale's Impacts on Teshima, Inujima, Ogijima, Meigijima and Naoshima (n=128), Author's calculation and illustration.

Further statistical analysis, which includes EFA combined with Cluster Analysis, helps to classify the type of impact as well as identify and divide the respondent into groups by different opinions. As shown in Table 2, EFA was executed using the Principal Component Analysis (PCA) method with Varimax Rotation to measure the positive influence and negative impact of Setouchi Triennale from STBs. This method is used to shorten the factor structure as well as help to interpret the identified factors (Choi and Murray, 2010). The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy value is 0.744, and Bartlett's Test of Sphericity value is significant ($p = .000$), which is acceptable to conduct EFA. The factor extraction criterion is based on 1.0 of Eigenvalue. Also, the item inclusion was set loadings of 0.50. The EFA results revealed two distinct factors, which explained 74.4 percent of the total variance. Both factors have Cronbach's alpha values above the suggested benchmark of 0.6 (Stylidis et al., 2014). All factor loadings are greater than the value 0.5 cut off, and most of them are greater than 0.7 (Choi and Murray, 2010). Factor one (F1) demonstrates the positive influences on art, tourism opportunity and community culture, interaction, and branding outcomes. Factor two (F2) pointed out all the negative impacts that result mainly from tourism on community daily lives. All factor scores were saved as variables through regression for further use in the Cluster Analysis.

Table 2. Exploratory Factor Analysis (EFA) of STBs' perception with ST, Author's calculation

Factors/items	Factor loading	Eigenvalue	% of variance explained	Cronbach's alpha
F1 Positive Influences		3.40	30.88	.82
1. I like the Setouchi Triennale art (art museum/artworks/art events) on my island	.80			
2. The arrangement of artworks in each community is good	.79			
3. I think the Setouchi Triennale revitalizes the local culture on my island	.73			
4. I can understand the Setouchi Triennale art (art museum/artworks/art events) on my island	.71			
5. Setouchi Triennale offered work opportunity to locals	.62			
6. I think Setouchi Triennale turns my island into an 'Art Island'	.61			
7. Friendly interaction between residents and tourists	.53			
F2 Negative Impacts		2.58	23.46	.67
8. Inconvenience island traffic during the Setouchi Triennale (ferry, boat)	.82			
9. During Triennale, the living environment deteriorated (Increase in the garbage, etc.)	.82			
10. It was crowded during the festival and exhibition period	.78			
11. Inconvenience island traffic during the Triennale (bus, road, parking lot)	.76			

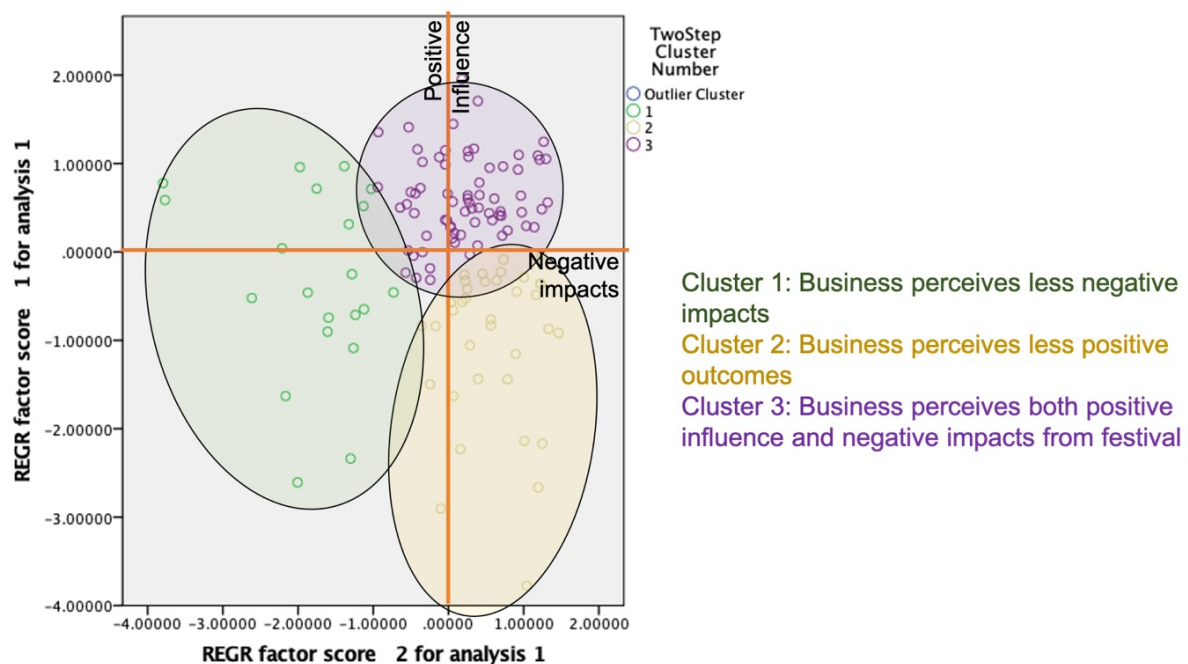


Fig 3. Two-Step Cluster Analysis based on the Factor Scores Variables of EFA.

After conducting the Two-Step Cluster Analysis, the results identified three distinct clusters as shown in Figure 3. Cluster 1 (C1), displayed in green, includes 16.4 percent of the overall respondents and is located above 0 on the x-axis, which can be interpreted as those STBs perceiving less negative impacts. Therefore, C1 tends to treat Setouchi Triennale with a positive attitude. On the contrary, Cluster 2 (C2) which includes 28.1 percent of respondents (shown in yellow) is located below the x-axis, which can be interpreted as the STBs who perceive no positive influences. The C2 group therefore has a negative opinion of Setouchi

Triennale. Finally, Cluster 3 (C3), displayed in purple, represents 55.5 percent of STBs' opinions; this group of respondents has mixed opinions, perceiving both positive influence and negative impacts from the Setouchi Triennale.

The STB survey and further statistical results identified that both positive influences and negative impacts co-exist within Setouchi Triennale, with few respondents having only positive or only negative perceptions. The positive influences and changes are reflected in the art, tourism, as well as the community itself in multiple ways. The negative impacts are mostly in the domain the tourism-related issues, but are perceived as having a much deeper impact compared with the positive outcomes.

Mixed methods findings about the ST's interaction among islands through the perceptions of both community member and STB

Comparison between the official reports with the fieldwork findings

After comparing the official reports with this study's fieldwork data, a few issues are revealed by the quantitative data from the official survey with community residents (Setouchi Triennale Executive Committee, 2010; 2013; 2015; 2017a; 2017b; 2020) and the author's own STB survey (Figure 2). A similar question pertained to respondents' opinion on whether they thought the arrangement of Setouchi Triennale artworks is good for their community. From the Setouchi Triennale 2019 survey, more than 68.4 percent of locals believed the artwork is 'very' and 'moderately' good for their community. From the author's survey, only 39.1 percent of local STBs strongly agree and agree that the arrangement of artworks in each community is good. After comparing those two results, it appears that the community STBs have a much lower perception of the quality of artwork than the community members who answered the Setouchi Triennale survey during the residents' meeting.

The comparison of coding results reveals that while the fieldwork findings align with some aspects of the official Triennale reports, there are notable divergences that challenge the accuracy of the official narrative. According to the official reports, the positive influences – such as local-visitor or local-artist interactions, community revitalization, increasing local sense of pride, enhancing island image, and generating a lively atmosphere – were mentioned by most of the islands, which also matches the findings from the author's mixed data of STB survey, interviews, and observation. Regarding the negative impacts, issues such as tourist manner (littering, illegal parking, being noisy, and crowding public transportation), concerns with the intermittent festival structure, and the communication with the increasing number of foreign tourists also match with the author's mixed findings. The improvements made by the Setouchi Triennale's organization can be seen in the adjustment of the festival period into three sessions after ST 2013 and the gradual scheduling of in-festival transportation (in-island and out-island bus services, ferry line and schedules, as well as limitation of visitor number by each ship). The new STB growth on Teshima and new in-migrants growth on Ogijima also be identified as two special island cases which are not mentioned in the other islands.

New gaps can be identified after comparing the author's findings with the official report. For Naoshima, all reports mentioned that locals are concerned about security issues, which reflect on the lack of community-level exchange of opinions and the lack of safety measures during a natural disaster. Although the Setouchi Triennale 2013 and 2016 reports mentioned there is an improvement about "no major security issues", they cannot claim this issue has been solved. From the fieldwork data on Naoshima, the community level of concern with social security remains with tourists' safety instead of concern about the residential side.

Recently, the new way of allowing people to have a local house for living one night is increasing (AirBnB). So, we saw different faces every night. Sometimes, the tourists have parties until midnight. We cannot fall asleep and don't feel safe. So, it has become much worse than before [the art tourism development]. (resident on Naoshima)

The lack of a sense of security can be found in multiple interviews from Naoshima, in different locations. Official reports say that there were no major security issues, emphasizing no tourists getting injured during the festival, but security issues for the community, which caused a major impact on local life, are not mentioned in the official report.

On Teshima, the official reports only mentioned that there were "no big accidents" in a positive tone. An interview with the local police, however, revealed the Triennale's impact on local traffic:

We [police] just recorded a few major traffic accidents on file during the festival. But in reality, there are countless bicycle accidents every week. If no one gets hurt badly, we normally would not count that as an accident. (policeman on Teshima)

I saw a lady fall off from the downhill very fast after losing control of her bicycle, then she hit a big rock on the side of the road. She passed out and shed a lot of blood without moving. After the Ambulance sent her away, we were not able to tell if she dead or just injured. (long-term resident on Teshima)

The official reports mention the bicycle accidents from Setouchi Triennale 2013 and 2016, yet there are no major bicycle accidents in 2019 reports. During the field observation, it should be noted that there were no new or added security measures between the Setouchi Triennale 2016 and 2019 concerning cycling.

Another gap in the 2016 Ogijima Triennale report lies in its failure to distinguish the target audience of new commercial facilities. While the report highlights the opening of new restaurants by in-migrants, it overlooks the fact that these establishments—often serving Western-style dishes like pizza and herbal tea—primarily cater to tourists. Fieldwork observations reveal that while a diverse range of food exists (from traditional octopus rice to

modern Italian), the newer options are largely oriented toward visitor consumption rather than local residents' needs, making the official narrative on community integration unobjective.

For Megijima, the 2010 Triennale report mentioned there is a lack of STB. However, there was no follow-up on this aspect mentioned in the following reports. This study found that the growth of new STB is not driven by residents but by commuters.

Shining a spotlight on the process of turning shrinking islands into the art islands

Interview findings from STBs, people who engage in non-tourism industries, and residents, further demonstrated that the respondent's perception of changes varied, including how the Triennale brought a considerable number of visitors to smaller islands. Most of the communities on these islands had never been tourism destinations before. For aging communities, the Setouchi Triennale did show a good outcome by bringing vitality to the community through interaction with younger tourists or even just letting locals enjoy this enlivened atmosphere.

This village has a lot of elderly people. When they see so many young people coming to visit, they feel like their grandchildren came back. (elderly resident on Teshima)

Every community-level intervention, no matter from art or tourism, must be done moderately. Evidence of perceived excessive social interaction in some cases is considered as interfering with local people's daily life. The fact that the Setouchi Triennale's festival periods are intermittent brought different impacts for islands in different ways. For those islands that had no tourism development or attractions before the Triennale arrived, local issues mainly concerned the difference between the Triennale period, characterized by over-tourism, and the following period with under tourism issues. The STB respondents wish to maintain a balanced tourism flow for their businesses. The local elderly residents wish to enjoy the balance between the active atmosphere of festival celebration and have a quiet living environment after the festival. However, the long-term plan including both Setouchi Triennale and Art Setouchi periods will bring tourists into the island not only within, but also outside the festival period.

The only thing I expect is that you can come to this island and enjoy the Seto Inland Sea and Setouchi Triennale [only during the Triennale period]. I don't want tourists to come to see the island for sightseeing [in normal times], and after all, I don't want tourists to enter my life. (elderly resident on Megijima)

With the overall opinions about the negative impacts and positive interactions on the islands, the interview findings with community members match the questionnaire survey from STBs. The mixed findings on one hand reveal that the community is enjoying the benefit of CAFTR, such as increased visitors, tourism opportunities, interaction, and cultural exchanges. In particular, from the EFA result on community-tourist interaction (Table 2), the '7. Friendly interaction between residents and tourists' is also considered as a positive outcome of Triennale. On the other hand, however, the locals are also facing the side effects of both festival tourism's periodic impact with different tourist flows as well as private art development issues. Among all five fieldwork islands, the community members agree that in terms of tourism planning with artwork quality, the BAS (Benesse Art Site Naoshima) did provide better quality art compared with STEC (Setouchi Triennale Executive Committee) and AFG (Art Front Gallery) selected artworks. This caused an un-even tourist distribution as more ST tourists were attracted to the BAS based islands – Naoshima, Teshima, and Inujima.

The power shift between locals' island and "art foundation's island"

A critical gap in local perception involves whether residents view their islands as corporate-owned territories rather than community spaces. In islands heavily impacted by private art foundations, the permanent nature of these facilities—functioning as institutional properties long after the Triennale—creates a lasting sense of spatial privatization that shapes local identity.

From the official interview, Triennale officials emphasized their goals and roles in regional revitalization. BAS has its core concept of Naoshima Methods through the medium of art and STEC has their idea of facilitating Cultural Exchanges through festival celebration. As a private art corporation, the BAS emphasizes that their essential role is trying to improve community quality of life, and many of their art projects seem to be aiming for this goal. For example, Naoshima Hall was established as a community theatre and facility for local public use rather than for the tourists. Besides this, the rest mainly aims at the tourist market. Corporations like BAS try to benefit community members by developing public spaces that everyone can enjoy within their tourism economic development.

Some evidence suggests that BAS declares their "community-centered" development guidelines are meant to profit the community members, although the members from Naoshima, Teshima, and Inujima do not perceive these benefits from a community development aspect. Some residents did mention that BAS provides new public infrastructures and jobs for locals. However, the community level of complaints concentrates on the concerns that the private art business development would gradually seize control of the island's industry, land, and community planning. Therefore, for Naoshima, Inujima, and Teshima, the double impacts are coming from private art corporations in long-term development as well as the art festival's periodic tourism cycle.

The keyword of "Benesse's island" constantly appears in unstructured interviews among those three islands.

If Benesse owns this island, they should buy their own boats and open their own ferry lines for tourism purposes! ... During the peak of the festival, when so many tourists occupied the ferry, I was unable to go to the hospital [near Takamatsu port]. (elderly resident on Teshima)

Community members believed BAS brought more direct visible outcomes as well as negative impacts on those islands, compared to the Setouchi Triennale. For them, the Triennale just brought extra impacts based on BAS. Some BAS-specific issues have been found in this study. One is related to the Art House Project (AHP) on both Naoshima and Inujima. Unlike other art museum and facilities that are mainly located in the private land owned by BAS, AHP focus on renovating several vacant houses into artworks inside of the community neighborhoods. This caused a direct impact as it allows tourists into the aging community living environment in sudden bursts.

Since our [community] houses are old, a lot of them have no air conditioning inside. In the past, we usually opened our windows to keep the fresh cool air flows. But this situation cannot continue after the Art House Project. Tourists keep coming and make our living environment much noisy than before. Therefore, a lot of elderly people have to shut the windows off in summer. Many people are sick or get heat stroke. (elderly resident on Naoshima)

I don't feel happy about the increased number of tourists. I don't think [tourism] needs to be increased. Besides, the bad manners of tourists are noticeable. They even enter gardens or homes. (resident on Naoshima)

The AHP on Inujima also had a different background related to the government policy of Okayama Prefecture, which has a different land policy compared to Kagawa Prefecture. This caused a third source of impacts on the island society after BAS and Setouchi Triennale.

For normal people, it's difficult to rent a house from Okayama City, because the private property is registered, I mean, that belongs to Okayama City. There are many unregistered vacant houses on Inujima. That's why I borrow. There is also a portion that you can lend. However, I asked Okayama City to use it, and if the registration was not done properly, Okayama City would not handle it. (elderly resident on Inujima)

However, BAS brought a lot of available land from Okayama into their private art development. The locals are worried about the loss of control over their island.

Originally, Benesse decided where to move [the artworks or facilities] to this place or to that place, or even went into the farm field. So, they can do things like that. (local business staff on Inujima)

In the three Benesse islands, many community members agree that their community is reaching the limits of tourists carrying capacity. Especially during the Triennale periods, not enough people and efforts are available to help to handle the tourist flow and congested roads, public places, and public transportation. Respondents perceived the increasing service of public transportation such as buses and ferries, but they also mentioned that with the rapid growth of tourists, the public services remain inconvenient for locals. For Inujima, the disappearing population indicated another possible transition of ownership shift towards a private art corporation island.

Pure Setouchi Triennale islands: experiencing co-existence between over-tourism and under tourism

Most of the STBs who experienced the Setouchi Triennale peak period did mention that there are not enough human resources in their business to take care of the festival visitors. However, the bigger challenges concentrate on the smaller islands without any art museum facilities from BAS. On Megijima and Ogijima, several respondents pointed to the inconsistent flow of tourists between the Setouchi Triennale's on- and off-seasons as creating a condition where there were alternately either too many or too few tourists on the island.

I felt that it [Triennale tourist numbers] was really crazy. There were 1,700 visitors in May of this year [2019], and it started to feel like a war. Originally, [our facility] the library was designed for [local] people who came here to read books and maybe have some snacks at the same time. [Now it's mostly tourists coming for lunch.] (residents' association leader on Ogijima)

During the festival period, the increase of foreigners on the island was also a challenge for long-term residents operating businesses, who struggled to communicate with them.

The most obvious thing for me was opening my front gate and startling tourists taking photos in our front gateway.... During non-festival times, the majority of the faces you encounter on the streets are familiar and will always greet you warmly. During Setouchi Triennale, it can be difficult because I assume people are Japanese, but they don't respond to my greetings and then I hear them speaking another language (to my untrained ears, it regularly sounds like Mandarin). (self-employed worker on Ogijima)

The Triennale impacts the island community throughout different periods. For islands, there was no tourism development or attractions. Local concern mainly ranged between the Triennale's festival period with over-tourism and after the period with the under-tourism issue. The STB respondents wish to maintain a balanced tourism flow for their businesses even after the Triennale period, as currently, the lack of continuous tourism flow cannot maintain their businesses sustainably. However, long-term elderly residents wish to have a much quieter living environment. This is an ongoing issue accompanied by the CAFTR development at the community level.

Island Art Festival's Positive Influences, Interaction, and Negative Impacts

The Setouchi Triennale brought considerable visitation that cannot be created by the shrinking islands themselves at the community level. Art creates new types of experience that combine artistic creation and regional elements into one tourism product. The creative experience of the Triennale shows its power to bring art and festival lovers (Richards and Wilson, 2006) through innovative placemaking (Borup, 2016). CAFTR, like other types of festival tourism, has been examined to prove that it has the power to improve community building by bringing new hard-type changes for infrastructures and soft-type changes through cultural exchanges (Nakashima, 2012). However, from the residents' perspective, this study also found that the island infrastructural changes are still mostly limited to tourism-related improvements. The official reports mainly focus on festival tourism-related aspects rather than on community development.

Under the same CAFTR umbrella, islands with the pure Setouchi Triennale model show different challenges compared with other islands where a private art foundation partners with the Triennale. The impact from the ST's CAFTR is mainly reflected in the intermittent 'festivalness' dilemma between over-tourism and under-tourism. Especially for small destinations like Megijima and Ogijima, this impact was perceived more directly by community residents. The findings show that most of the STBs are not overly optimistic about the Setouchi Triennale. They recognize that both positive influences and negative impacts co-exist. Naoshima, Teshima, and Inujima – but especially Naoshima and Inujima – are also facing double challenges from both CAFTR and private art developers as partners of the Triennale. Negative impacts are mainly concentrated in the artistic intervention accompanied by excessive tourism flows into the community living environment. A case like the AHP can be found on both islands. Both community members and STBs highlighted this issue from their perspectives.

The positive interactions between locals and tourists were identified by community members, especially elderly members. This conclusion has been widely discussed (Cwierotka and Machotka, 2018; Klien, 2010b; Koizumi, 2016; Qu, 2019, 2020). This chapter supports this view on social interaction, and the lively community atmosphere did touch the locals. It did meet the psychological needs of social interaction for elderly people (Klien, 2010b). On the other hand, the visitation and interaction also brought some negative impacts on the locals' living environment (Cudny, 2013). For most of the community members and STBs, CAFTR can be considered as a good medicine even with side effects. In smaller communities, local elderly people also wish to maintain a quiet and lively balance of social interaction instead of excessive social interaction.

Under the CAFTR framework, the impact on peripheral islands is primarily reflected in the intermittent "festivalness"—a systemic dilemma between seasonal over-tourism and chronic under-tourism. As observed in smaller destinations like Megijima and Ogijima, this volatility is perceived directly by residents as a strain on the community living environment. While the official discourse often highlights tourism-related infrastructure improvements, this study finds that such "revitalization" frequently overlooks non-tourism-related community

development. For smaller islands like Ogijima, Megijima and Inujima, the challenge is twofold: they must negotiate the pressures of both the intermittent Triennale mass tourism and the permanent intervention of private art developers. This synergy, while catalyzing a "lively atmosphere," often acts as a "good medicine with side effects," where the psychological benefits of social interaction for elderly residents are weighed against the creative destruction of their quiet, localized way of life.

Conclusion: Revitalization at a Price

The intermittent cultural energy of large-scale art festivals can only be converted into sustainable revitalization (Qu and Zollet, 2023) when the Community-engaged Art Festival Tourism Revitalization moves beyond exogenous tourism spikes to internalize the socio-economic price and structural vulnerabilities of peripheral archipelagos. While social entrepreneurship and deep relational exchange offer pathways for resilience, their success depends on balancing the "festivalness" with the community's limited resource capacities and social thresholds.

This study provides a critical lens to examine CAFTR as a dual-edged sword for shrinking islands. By transforming depopulated archipelagos into global art tourism spotlights, CAFTR injects vital "cultural energy" into rural destinations, enhancing tourism-related infrastructure, social interaction, and destination branding. However, this "good medicine" comes with significant side effects. As Qu (2020) and Klien (2010) suggest, the "Triennale Tourism" model often forces rural/islands into a precarious intermittent commercial structure, where the "ebb and flow" of mass tourism creates a war-like intensity during festival periods followed by long-term stagnation.

A pivotal finding of this research is that the core selling point of CAFTR—facilitating cultural exchanges (Nakashima, 2012)—frequently leads to social over-interaction and the invasion of residential living space. While interactions satisfy the psychological needs of elderly residents, the "price" paid includes the erosion of quietude and the straining of limited island resources. This reflects the tension between creative enhancement and creative destruction (Mitchell, 2013): the very artistic interventions (such as the Art House Project) that revitalize community aesthetics can simultaneously deteriorate the daily living environment by encroaching on private gateways and public lifelines like ferries.

Furthermore, this study identifies a significant gap between official narratives and local perceptions. While official reports often highlight "zero major accidents," the lived experience of residents reveals a lack of control over tourism in the islands—manifested in frequent traffic accidents and a diminished sense of security. The findings suggest that the negative impacts are disproportionately concentrated on the tourism side, creating extra burdens for shrinking communities. For islands like Naoshima and Inujima, this is compounded by a power shift, where private art developers potentially seize control over island industry and land, leading to a transition from a "local island" to an island managed by an art-foundation.

While CAFTR facilitates temporary vitality, long-term archipelagos resilience requires a shift from urban-centric economic metrics toward a model that values moderate interaction and spatial justice. Instead of relying solely on exogenous factors brought by art intervention, the central role of CAFTR must be examined through the community-level response and endogenous efforts. At the same time, the conclusions of this study imply that the revitalization of similar 'art island' models requires an archipelagic perspective of evaluation, rather than focusing on a single island community as a perfect, isolated case.

Acknowledgments

Part of this study was financially supported by the JSPS KAKENHI (Grants-in-Aid for Scientific Research) No. 25K15694, 23H03639, 23H03644, and by the National Natural Science Foundation of China No. 42271207. Part of this research is derived from Chapter 7 of the author's doctoral dissertation, which remains hitherto unpublished. The author wishes to express profound gratitude to all the individuals who contributed to this study.

References

- Anwar McHenry, J. 2011. Rural empowerment through the arts: The role of the arts in civic and social participation in the Mid West region of Western Australia. *Journal of Rural Studies*, 27(3): 245–253. <https://doi.org/10.1016/j.jrurstud.2011.03.001>
- Borrupt, T. 2016. Creative Placemaking: Arts and Culture as a Partner in Community Revitalization. In D. Boyle-Clapp (Ed.), *Fundamental of Arts Management.(Org) University of Massachusetts* (6th Edition, pp. 1–22). Arts Extension Service.
- Bourriaud, N. (1998). *Relational Aesthetics* (Les Presse). Les Presse Du Reel.
- Crawshaw, J., Gkartzios, M. 2016. Getting to know the island: Artistic experiments in rural community development. *Journal of Rural Studies*, 43: 134–144. <https://doi.org/10.1016/j.jrurstud.2015.12.007>
- Creswell, J. W., Clark, V. L. P. 2017. *Designing and Conducting Mixed Methods Research* (Intergovernmental Panel on Climate Change (ed.)). Cambridge University Press.
- Cudny, W. 2013. Festival Tourism – the Concept, Key Functions and Dysfunctions in the Context of Tourism Geography Studies. *Geographical Journal*, 65(2): 105–118.
- Cwierka, K. J., Machotka, E. 2018. *Consuming Life in Post-Bubble Japan - A Transdisciplinary Perspective* (N. Avieli, K. Cwierka, A. Doron (eds.)). Amsterdam University Press. <https://doi.org/10.5117/9789462980631>
- Duxbury, N., Campbell, H. 2011. Developing and Revitalizing Rural Communities through Arts and Culture. *Small Cities Imprint*, 3(1): 111–122.
- Duxbury, N., Campbel, H., Elizabeth, K. 2009. *Developing and Revitalizing Rural Communities Through Arts and Culture: a Literature Review - Summary Overview*. Creative City Network of Canada.
- Franklin, A. 2018. Tourism: A new field for tourist studies. *Tourist Studies*, 18(4): 399–416.

- Fukutake, S. Kitagawa, F. 2016. "Naoshima kara setouchikokusaigeijutsusai e - bijutsu ga chiiki o kaeta" [From Naoshima to the Setouchi International Art Festival: Art Has Changed an Area]. Gendaikikakushitsu.
- Getz, D. 2008. Event tourism: Definition, evolution, and research. *Tourism Management*, 29(3): 403–428. <https://doi.org/10.1016/j.tourman.2007.07.017>
- Hawkins, H. 2013. Geography and art . An expanding field: Site , the body and practice. *Progress in Human Geography*, 37(1): 52–71. <https://doi.org/10.1177/0309132512442865>
- Higham, J. E. s., Ritchie, B. (2001). The Evolution of Festivals and Other Events in Rural Southern New Zealand. *Event Management*, 7(1):39–49. <https://doi.org/10.3727/152599501108751461>
- Ihara, Y. 2007. A Study on the Characteristics of the Art Projects and their Influence on the Regional Environment at the Islands in the Seto Inland Sea. *Journal of The Japanese Institute of Landscape Architecture*, 70(5): 625–630. <https://doi.org/10.5632/jila.70.625>
- Klien, S. 2010. Contemporary art and regional revitalisation: selected artworks in the Echigo-Tsumari Art Triennial 2000–6. *Japan Forum*, 22(3–4):513–543. <https://doi.org/10.1080/09555803.2010.533641>
- Koizumi, M. 2016. Creativity in a shrinking society: A case study of the Water and Land Niigata Art Festival. *Cities*, 56: 141–147. <https://doi.org/10.1016/j.cities.2015.10.002>
- Kondo, J. 2012. *Revitalization of a Community, Site-Specific Art and Art Festivals A Case of Art Site Naoshima* [University of Jyväskylä]. <https://jyx.jyu.fi/bitstream/handle/123456789/37928/1/URN%3ANBN%3Afi%3Aju-201205301764.pdf>
- Krippendorff, J. 1987. The Holiday Makers: Understanding the Impact of Leisure and Travel. In *Holiday Makers: Understanding the impact of leisure and travel*. William Heinemann. <https://doi.org/10.4324/9780080939032>
- Mahon, M., Hyryläinen, T. 2019. Rural Arts Festivals as Contributors to Rural Development and Resilience. *Sociologia Ruralis*, 59(4): 612–635. <https://doi.org/10.1111/soru.12231>
- Massey, D. (2004). Geographies of responsibility. *Geografiska Annaler, Series B: Human Geography*, 86(1): 5–18. <https://doi.org/10.1111/j.0435-3684.2004.00150.x>
- Mitchell, C. J. A. 2013. Creative destruction or creative enhancement? Understanding the transformation of rural spaces. *Journal of Rural Studies*, 32: 375–387. <https://doi.org/10.1016/j.jrurstud.2013.09.005>
- Nakashima, M. 2012. Community Involvement and Quality of Life with Setouchi International Art Festival. *Hiroshima Journal of International Studies*, 18: 71–89.
- Nakashima, M. 2014. Community Regeneration of Aging Society and an Art Festival on a Remote Island. *Hiroshima Journal of International Studies*, 20: 93–104.
- Prentice, R., Andersen, V. 2003. Festival as creative destination. *Annals of Tourism Research*, 30(1): 7–30. [https://doi.org/10.1016/S0160-7383\(02\)00034-8](https://doi.org/10.1016/S0160-7383(02)00034-8)
- Prince, S., Qu, M., Zollet, S. 2021. The making of art islands: A comparative analysis of translocal assemblages of contemporary art and tourism. *Island Studies Journal*, 16(2): 235–254.

- Quinn, B. 2006. Problematising 'festival tourism': Arts festivals and sustainable development in Ireland. *Journal of sustainable tourism*, 14(3): 288-306.
- Quinn, B. 2010. Arts festivals, urban tourism and cultural policy. *Journal of Policy Research in Tourism, Leisure and Events*, 2(3):264-279. <https://doi.org/10.1080/19407963.2010.512207>
- Qu, M., Zollet, S. 2023. Neo-endogenous revitalisation: Enhancing community resilience through art tourism and rural entrepreneurship. *Journal of Rural Studies*. 97: 105-114. <https://doi.org/10.1016/j.jrurstud.2022.11.016>
- Qu, M., McCormick, A. D., Funck, C. 2022. Community resourcefulness and partnerships in rural tourism, *Journal of Sustainable Tourism* 30 (10): 2371-2390. <https://doi.org/10.1080/09669582.2020.1849233>
- Qu, M., Cheer, J. M. 2021. Community art festivals and sustainable rural revitalisation. *Journal of Sustainable Tourism*, 29(11-12):1756-1775. <https://doi.org/10.1080/09669582.2020.1856858>
- Qu, M., Funck, C. 2021. Rural art festival revitalizing a Japanese declining tourism island. Nancy Duxbery (Eds). In *Cultural Sustainability, Tourism and Development (Re)articulations in Tourism Contexts*, 51-68. Routledge. <https://doi.org/10.4324/9780367201777-6>
- Qu, M. 2020. Teshima - from Island Art to the Art Island. *Shima*14(2): 250-265. <https://doi.org/10.21463/shima.14.2.16>
- Qu, M. 2019. *Art Interventions on Japanese Islands: The Promise and Pitfalls of Artistic Interpretations of Community*. *The International Journal of Social, Political and Community Agendas in the Arts*, 14(3): 19-38. <https://doi.org/10.18848/2326-9960/CGP/v14i03/19-38>
- Richards, G., Wilson, J. 2006. Developing creativity in tourist experiences: A solution to the serial reproduction of culture? *Tourism Management*, 27(6): 1209-1223. <https://doi.org/10.1016/j.tourman.2005.06.002>
- Richards, G. 2011. Creativity and tourism. The state of the art. *Annals of Tourism Research*, 38(4): 1225-1253. <https://doi.org/10.1016/j.annals.2011.07.008>
- Setouchi Triennale Executive Committee. 2010. *Setouchikokusaigeijutsusai 2010 sokatsu hokoku* [Setouchi Triennale 2010 General Report]. <https://setouchi-artfest.jp/files/about/archive/general-report2010.pdf>
- Setouchi Triennale Executive Committee. 2013. *Setouchikokusaigeijutsusai 2013 sokatsu hokoku* [Setouchi Triennale 2013 General Report]. https://setouchi-artfest.jp/seto_system/fileclass/img.php?fid=press_release_mst.201610281720295a02f5ca4a432e15cc6dc445da533834
- Setouchi Triennale Executive Committee. 2015. *Setouchikokusaigeijutsusai 2016 Jigyo Betsu Shosai Keikaku* [Setouchi Triennale 2016 Detailed Plans by Business]. https://setouchi-artfest.jp/seto_system/fileclass/img.php?fid=press_release_mst.201610281720295a02f5ca4a432e15cc6dc445da533834
- Setouchi Triennale Executive Committee. 2017a. *Setouchikokusaigeijutsusai 2016 sokatsu hokoku* [Setouchi Triennale 2016 General Report]. https://setouchi-artfest.jp/seto_system/fileclass/img.php?fid=press_release_mst.20170217195217a6457f2b91cb302fa36db1fae1083e73

- Setouchi Triennale Executive Committee. 2017b. *Setouchi Triennale 2016 General Report*.
https://setouchi-artfest.jp/seto_system/fileclass/img.php?fid=press_release_mst.20170217195218ace09533ffebc6fe19970cb32faed335
- Setouchi Triennale Executive Committee. 2020. *Setouchi Triennale 2019 General Report*.
<https://setouchi-artfest.jp/files/about/archive/report2019.pdf>
- Srivastava, A., Thomson, S. B. 2009. *Framework Analysis: A Qualitative Methodology for Applied Policy Research*. *Journal of Administration Governance*, 4(2): 72–79.
- Stylidis, D., Biran, A., Sit, J., Szivas, E. M. 2014. Residents' support for tourism development: The role of residents' place image and perceived tourism impacts. *Tourism Management*, 45: 260–274. <https://doi.org/10.1016/j.tourman.2014.05.006>
- Tagore-Erwin, E. 2018. *Contemporary Japanese art: between globalization and localization*. *Arts and the Market*, 8(2): 137–151. <https://doi.org/10.1108/aam-04-2017-0008>
- Woods, M. 2011. *Rural*. Routledge.
- Woods, M. 2012. *Creative Ruralities*. 'Creativity on the Edge' Symposium Moore Institute, National University of Ireland Galway, June.
- Yamashima, T. 2014. *Naosima - the island of ART in Setonaikai*. *Utsunomiya Kyowa University Annual Report on Urban Economics*, 14: 90–96.
- Yamamoto, A., Kawahara, S., Hara, N. 2014. *Role and Influence of Art and Culture Activities in Regional Development 2013 Setouchi International Art Festival Visitors' Survey Report*. "Kanko Kagaku Kenkyu" (Tourism Science Research), 7: 59–64.
- Zollet, S., Qu, M. 2024. *Revitalising rural areas through counterurbanisation: Community-oriented policies for the settlement of urban newcomers*. *Habitat International* 145, <https://doi.org/10.1016/j.habitatint.2024.103022>