



**HUMAN RIGHTS AND  
THE ENVIRONMENT:**  
A Southeast Asian  
Perspective



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### **Commissioned Research Series**

### **Human Rights and the Environment: A Southeast Asian Perspective**

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## CONTENTS

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Introduction	6
Knowledge and Rights in Transition: Post-Sedentarized Orang Suku Laut in Accessing Resources in the Anthropocene	9
Safeguarding Rights and Sustainability: Human Rights Implications of Big Data Technologies in Environmental Monitoring	37
What Do the Non-Economic Impacts of Climate Change Loss and Damage Reveal about Human Rights and the Sea-level Rise in the Philippines?	55
Human Rights and Flood Disaster Management in Malaysia: A Study of Baling, Kedah	76
Pathways to Climate Justice: Voices from Farming Communities in Koronadal City, Mindanao, Philippines	101
Corruption and the Realization of the Right to a Healthy Environment in ASEAN: Exploring the Connection	153
Unheard Local Champion: Indigenous Women and Ancestral Land Protection Against Lower Sesan II Hydropower Dam	172

# CHAPTER 1

## Knowledge and Rights in Transition: Post-Sedentarized Orang Suku Laut in Accessing Resources in the Anthropocene

*Wengki Ariando<sup>1</sup>*

### Abstract

As a maritime-oriented culture community, the Orang Suku Laut (OSL) have deep knowledge of marine ecosystems and have developed sustainable cultural, fisheries, and coastal ecosystem management practices. However, in the context of intensive and exploitative national development plans for coastal and small island resources, their existence is increasingly marginalized at various levels. This research analyzes how the development process in Indonesia has affected the livelihood and culture of the OSL in the Lingga Regency post-sedentarization. This chapter focuses on the marginalization the OSL experience, both in terms of access to natural resources, legal recognition, and participation in decision-making. In the Anthropocene context, shifting power dynamics and rapid social and environmental changes contribute to the knowledge and rights transition of OSL. The development discourses in the Lingga Regency have led to marine appropriation, which takes away the basic rights of OSL. There is an important need for more effective and equitable policies and programs that support the rights, livelihoods, and cultural integrity of these unique and vulnerable communities .

**Keyword:** Orang Suku Laut, OSL, knowledge, rights, Anthropocene, post-sedentarized

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## Introduction

The way of life of sea nomads in Southeast Asia revolves around maritime culture, where they traditionally hunt and gather marine resources during specific seasons. Although they were once a nomadic culture, they have now established settlements along the Southeast Asian coast and on small islands (Andaya, 2019; Ariando, 2024; Chou, 2010). Even though they are now sedentarized customary communities, their nomadic mentality remains. Based on linguistic analysis, the sea nomads are divided into three categories: Moken-Moklen in Myanmar and Thailand, Orang Laut in Thailand, Malaysia, and Indonesia, and Sama-Bajau in the Philippines, Malaysia, and Indonesia (Bellina et al., 2021; Sopher, 1965). They are still considered second-class societies (Ariando, 2021; Arunotai, 2017; Chou, 2016; Low, 2022) and are not included in the definition of Indigenous peoples (Ariando, Manan, et al., 2023; Roxas-Lim, 2017) because the unexclusive notion of 'ancestral domains' refers only to a land-based definition.

This research is framed within the context of the Anthropocene, which acknowledges the significant and lasting impact of human activities on the earth's systems (Braje, 2015; Steffen et al., 2016). These activities have fundamentally altered environmental conditions and the availability of resources. This epoch requires a critical examination of how human-induced ecological changes intersect with the knowledge systems and rights of marginalized communities (Dovchin et al., 2023), such as the post-sedentarized sea nomads. When considering the challenges sea nomads face in the context of Anthropocene discussions, it becomes clear that they occupy a marginalized position. They are dealing with the effects of unsustainable coastal development to varying degrees. Overdevelopment poses significant threats to the coastal environments they rely on (Ariando, Veda Santiaji, et al., 2023; Zal et al., 2025), leading to the destruction of crucial habitats such as mangroves and coral reefs. Such destruction disrupts the fragile balance of the coastal ecosystems vital to their way of life. Furthermore, the lack of comprehensive and integrated coastal zone management plans exacerbates these negative effects, rendering coastal areas increasingly vulnerable to erosion, storm surges, and other hazards for the sea nomads. Socially, these developments undermine the basic rights of sea nomads, fostering unstable human-environment relations and contributing to the loss of their livelihoods.

One sea nomad group is the Orang Suku Laut (OSL), a customary community of the Malay group in the Lingga Regency, Riau Islands Province, Indonesia. The OSL are known as a second class society because they are labeled as believers in black magic, poor, uneducated, dark skinned, and smelly (Chou, 2003). Their relationship with the dominant Malay community was not only based on trade needs, they were considered to have contributed to protecting the sea during the Riau-Lingga-Johor Sultanate (Andaya, 2019; Lapian, 2009), but currently in the post-sedentarization, the OSL often find themselves in a dependent patron-client relationship. In this situation, they are usually treated as a means for island residents to gain economic advantages (Barnard, 2007). In the New Order era of Indonesia, the OSL were forced by the government to end their nomadic lives and settle down in government-provided houses (Lenhart, 1997). The government forces them to stay in one place around an island or the place where they want

to build the houses as long as it is located close to the mainland. This initiative created new development problems in various aspects: social, environmental, and economic. As a result, the OSL are struggling with losing local knowledge and environmental problems, even though they have the adaptive capacity to use what remains of their local knowledge in dealing with climate change (Ariando & Limjirakan, 2019; Firdaus et al., 2019).

This chapter investigates the multifaceted challenges faced by OSL communities in navigating contemporary development pressures in insular Southeast Asia. Specifically, it examines: (1) the current constraints and limitations that OSL communities encounter in accessing and utilizing traditional marine resources; (2) the diverse coping mechanisms employed by OSL communities to adapt to the socio-economic and environmental changes associated with sedentarization and the erosion of their maritime identity; and (3) the dynamics and effectiveness of institutional efforts aimed at supporting OSL communities in the post-sedentarization and post-recognition era, including government policies, conservation initiatives, and community-based programs.

### **Orang Suku Laut in the Lingga Regency**

Orang Suku Laut (translated as ‘*sea tribe people*’), or sea people, refers to sea nomads, characterized by their rich maritime culture and hunter-gatherer livelihood. The English-language literature has introduced alternative terms, including sea folk, sea hunters and gatherers, sea nomads, sea foragers, sea gypsies, boat people, and people of the sea (Chou, 2010; Sopher, 1965). Despite these different labels, the term *Orang Suku Laut* or *Orang Suku* remains the most widely accepted among the Malays of the Riau Islands, including those from the mainland. Those alternative names are exonyms. The OSL view themselves as the original Malays (*Melayu Asli*), distinguishing them from the coastal Malays, whom they refer to as Malay traders due to their historical aristocratic status (Chou & Wee, 2002). They identify themselves as Orang Asli followed by their location/home) - their endonym, such as *Orang Asli Mapur*, *Orang Asli Galang*, *Orang Asli Kelumu*, etc. The term ‘Orang Asli’ among the OSL is different in meaning from ‘Orang Asli’ in Malaysia, which means ‘*Bumi Putera*’ or ‘indigenous people’. In Malaysia, the OSL are referred to as the Orang Asli Laut, divided into four distinct subgroups: the Orang Kuala, Orang Seletar, Orang Kanaq, and Mah Meri (Zal et al., 2025).

In the Riau Islands, the OSL are often called tribal people (*Orang Pesukuan*), segmented into multiple *suku* (tribes) (Anderbeck, 2012; Sopher, 1965). Historically, *Orang Pesukuan* were subjects of the sultan of the Riau-Lingga-Johor Kingdom, which split into two in the 19th century: *Orang Darat* and *Orang Laut*. Today, many of these communities abandoned their original nomadic lifestyles in the late 1980s and have sedentarized. OSL communities are characterized as ethnic groups who traditionally lived on house boats (*sampan kajang*) in the waters of Riau Islands Province and along the coast of South Johor (Chou, 2010; Sopher, 1965). In other maritime regions, the OSL groups are located in the southern part of Thailand in Phuket, Krabi, and Satun provinces (Arunotai, 2017). In Malaysia, they are in Johor Bahru and along the Malay Peninsula (Binti Abdullah et

al., 2018). In Singapore, a remaining OSL culture can be found on the south coast of Singapore on Semakau and Seking islands (Low, 2022; Wee & Benjamin, 2001).

The Lingga Regency, Riau Islands Province, Indonesia, has most OSL communities in Southeast Asia, with 30 OSL villages of around 4000 people living in the sea, on islands, and along the coasts, with some groups still residing in *sampan kajang*<sup>2</sup>. The OSL generally move from the small islands and enter the channels among the mangrove forests. Mangroves are essential for the OSL because they are considered the home of sacred animals (Ariando, 2018). There are no marine protected areas or other protected areas in the Lingga Regency; the only limited production forest areas consists mainly of a few mangrove forest areas. Additionally, there are about 15 locations where charcoal is produced using mangrove wood, with the OSL employed as labor, called *dapur arang* or *panglong*<sup>3</sup>. As part of efforts of the Lingga Regency government to promote community empowerment for the OSL, local decree No. 4/2022 on an OSL empowerment initiative was issued. One of the initiatives under this decree was to provide new settlements starting from January 2023. The implementation of this regulation is currently being debated in the local context.

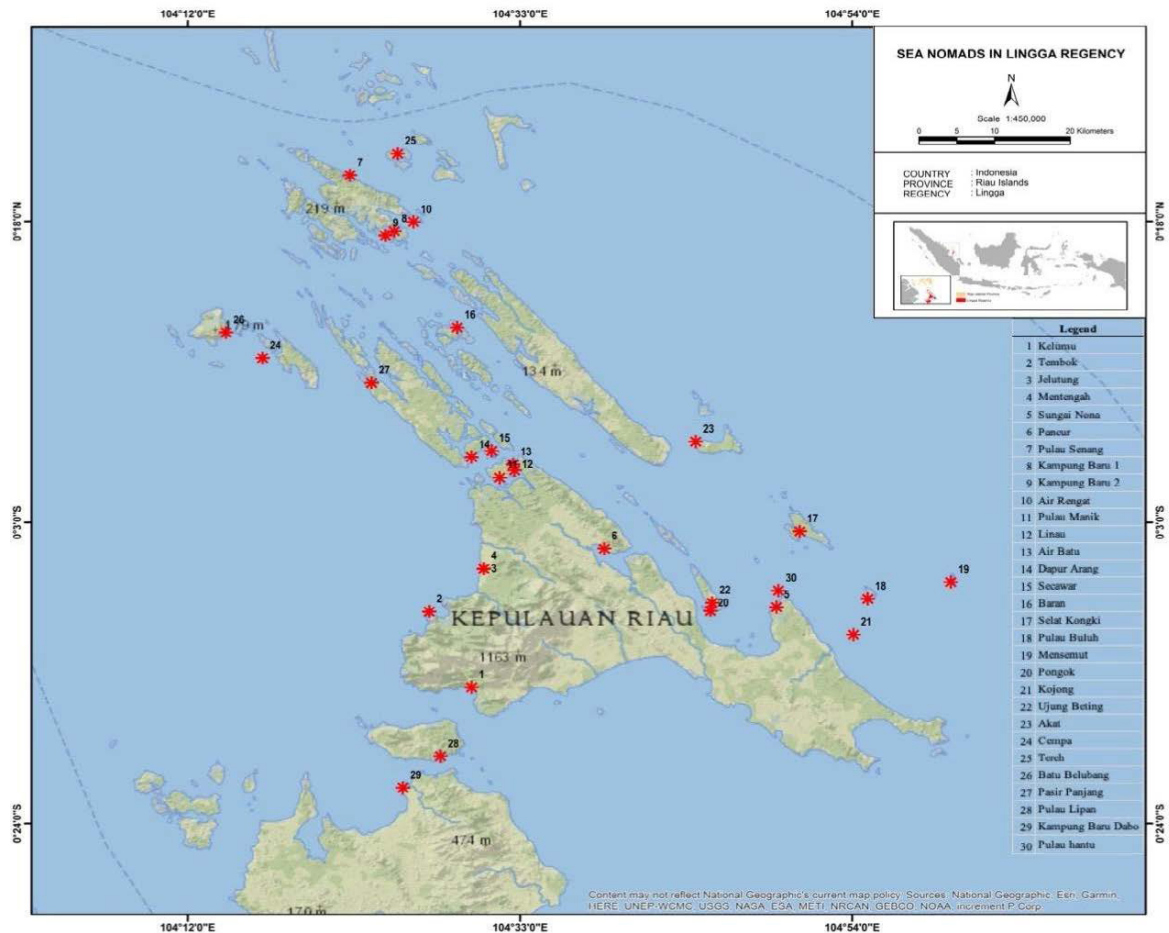
The sea for the OLS is not only an economic resource but also a space for beliefs, a home as a secure place to live and raise children, and knowledge to be passed to the next generation. However, post-sedentarization, the OSL have been transformed with a new face and agency. They face oppression from governance systems that do not prioritize their interests and needs, particularly concerning the environment and marine resource. Their right to nurture nature is slowly evaporating, along with their traditional ecological knowledge (Ariando & Limjirakan, 2019). On the other hand, state-centric development has resulted in the loss of fishing grounds and access to land as their nomadic rights and territories have been appropriated for national development projects. The OSL can no longer access sacred areas or fishing grounds. This affects their communal rights to access natural resources. These are problems of environmental justice and political ecology dynamics, which do not position sea nomads as subjects but predominantly as objects in the development discourse.

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<sup>2</sup> The *sampan kajang* is the traditional boathouse of the OSL.

<sup>3</sup> *Dapur arang* literally translates as 'kitchen' (*dapur*) and 'charcoal' (*arang*); in the local Malay language, this is called *panglong*.

Figure 1

*Orang Suku Laut in the Lingga Regency*

Note. Ariando & Limjirakan, 2019.

This research employed long-ethnographic research from September 2018 to December 2024. The researcher has good resource mobilization for the OSL in the Lingga Regency and is well-versed in related development concerns. To get updated data, fieldwork was conducted in June – July 2024 in 15 selected villages: Kelumu, Mantengah, Jelutung, Tembok, Linau, Air Batu, Secawar, Kampung Baru 1 (Air Bingkai), Kampung Baru 2, Pulau Lipan, Air Ringat (Pulau Mengkuang), Kampung Baru Dabo (Sungai Buluh), Pancur, Selat Kongki, and Kojong.

In the recent fieldwork, the research employed key informant interviews, and non-participant observation. The key informant interviews were conducted to obtain comprehensive information on mapping current issues and coping strategies for the OSL in accessing natural resources and institutional efforts from related stakeholders. The informants were selected using a purposive sampling method, a non-probability form of sampling that aims to strategically sample the cases or participants and is relevant to the research questions (Bryman, 2012). The list of key informants and question guidelines for key informant interviews are given in Table 1..

**Table 1. Key informant interview questions and population**

Informant	Question Guidelines	Number (n)
Orang Suku Laut	<ol style="list-style-type: none"> <li>1. Community background and demographic data of OSL.</li> <li>2. Thematic questions based on the research framework. <ul style="list-style-type: none"> <li>• Current problems.</li> <li>• Coping strategies and knowledge.</li> <li>• Other related issues (such as conflicts, climate change impacts, etc.).</li> </ul> </li> <li>3. Policy and development in accessing natural resources.</li> <li>4. Community expectations regarding resource governance.</li> </ol>	17
NGOs	<ol style="list-style-type: none"> <li>1. Projects/programs related to the OSL.</li> <li>2. Framing the development issues of the OSL and the potential.</li> <li>3. Local knowledge of OSL for prospective co-management.</li> </ol>	2
Academics	<ol style="list-style-type: none"> <li>1. Projects/programs related to the OSL.</li> <li>2. Framing the development issues of the OSL and the potential.</li> </ol>	3
Private Sector	<ol style="list-style-type: none"> <li>1. Projects/programs related to the OSL.</li> <li>2. Framing the development issues of the OSL and the potential.</li> </ol>	1
Government Officials	<ol style="list-style-type: none"> <li>1. Projects/programs related to the OSL.</li> <li>2. Current development policies related to the OSL.</li> <li>3. Expectations of OSL resource governance.</li> </ol>	2

### Orang Suku Laut Well-Being in the Anthropocene

Along the east coasts of Sumatra Island, especially in Riau Islands, Riau, Jambi, Bangka Belitung and South Sumatra provinces, OSL populations have acquired or retained a marine nomadic lifestyle, a way of life that can be traced back into prehistory. Historically, their nomadic lifestyle encompassed diverse forms of movement and varying degrees of control over their mobility. However, post-sedentarization, these patterns of movement have evolved and adapted, leading to the development of new types of livelihoods. At the present time, their nomadic territory shows the degree of fluidity and commonality of the sea as part of traditional knowledge governing ecosystems, mutual decision-making in a community network, and goal-oriented communal settings (usually community-based protected areas). The OSL typically have social norms or informal governance systems that regulate the use of common resources, preventing overuse.

Reviewing the existing academic literature reveals several promising avenues for understanding the experiences of the OSL within the context of the Anthropocene. Similar to studies examining marginalized populations and environmental vulnerabilities in mainland Southeast Asia, current research has often highlighted the increasing efforts of national governments to exert control over these communities, particularly the pressure to transition from a nomadic way of life to a settled land-based existence (Andaya, 2019; Prawirosusanto, 2015; Zal et al., 2025). Despite their shift towards a more sedentary lifestyle, the OSL continue to preserve their distinctive nomadic culture and way of life in a new form and facing new challenges. This research argues that the traditional nomadic lifestyle of the OSL, along with their associated sacred ecology, served as an effective strategy for managing common resources, as outlined in Ostrom's framework (1990). The inherent mobility of a nomadic existence allowed them to spread the pressure on specific ecosystems and natural resources over a wider area, preventing overexploitation of any single location. This dynamic is illustrated by the ongoing practice of *Bakelam*<sup>4</sup> among the OSL, which is not only an economic activity but also a deeply rooted spiritual and mental necessity (Suhardiman et al., 2025). This indicates that their traditional mobility patterns and ecological beliefs have fostered a system of resource management based on cultural values and practices, contributing to the long-term sustainability of their shared environment. By traversing the landscape and maintaining a spiritual connection, the OSL effectively regulated resource use and upheld ecological balance, demonstrating a form of community-based governance of the commons.

An informant from Kampung Tajur Biru, Poase (male, 50 years old) explained:

*“going to Bakelam gives us peace, because if we are at home, there are always social problems and it makes us stressed, whereas if we go to Bakelam, we are happy (free), get less stress and have a lot of time with our family, live in a sufficiency economy and reminisce with stories from our ancestors when we revisit our nomadic territories”.*

The places the OSL visited have an emotional cultural bond with their identity and history. This illustrates that the OSL nomadic lifestyle is not focused on one location or resources in one ecosystem unit, which can contribute to the community's adaptive capacity and sustainable practice in broader mainstream conservation and development contexts.

The well-being and livelihood of the OSL reflect alternative values and traditions with respect to nature, including their pluralist law-making and decision-making capacity. This can be seen in the degree of agency systems when living in *sampan kajang* and permanent houses as in the present. When doing *Bakelam* with *sampan kajang*, the OSL have a stronger sense of connection to nature, and they practice asking permission from the sea spirit as their protector and main guidance (Suhardiman et al., 2025). They will also

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<sup>4</sup> *Bakelam* is a nomadic tradition of moving from one fishing ground to another. During *Bakelam*, the OSL treat the sea as the core territory and indirectly influence sustainable fishing practices. Currently, *Bakelam* practices are at risk of extinction and are witnessing a decline in participation, reduced area coverage, and shorter duration. The historical connections to past practices underscore the significance of *Bakelam* within the OSL, emphasizing the urgent need for action to preserve these traditions and territories.

obey *Pantang Larang* (taboos) as their customary laws. At the same time, they are required to make decisions to give directions, determine daily activities, choose what fishing gear will be used in their fishing area, or make other sudden decisions.

The transition from a nomadic maritime existence to settled communities among the OSL is frequently accompanied by significant alterations in their fishing practices. Their fishing grounds, once expansive and aligned with traditional patterns of mobility, become spatially constrained to areas accessible by small rowing boats or within walking distance of their settlements, encompassing practices such as *Bekarang*<sup>5</sup> and *Nyuluh*<sup>6</sup>. Historically, their nomadic way of life facilitated fishing across a diverse array of marine environments to fulfill immediate subsistence needs, informed by cyclical movements and an intricate ecological understanding. However, sedentarization typically results in geographically restricted fishing activities, primarily focused on localized subsistence to meet daily nutritional requirements. Concurrently, there is an increasing trend towards fishing driven by economic imperatives, influenced by the exigencies and opportunities associated with a sedentary lifestyle and integration into market economies. This transformation has the potential to disrupt established sustainable fishing practices and elevate the risk of localized resource depletion, as the broader ecological management inherent in their nomadic traditions diminishes within a fixed territorial context.

Furthermore, this research looks at the existence of OSL as affected by development that threatens their lives. Those threats are caused not only by external factors but also internal.

*One informant from Kojong Island, Koas (male, 43-year-old) said:*

*“The sea has changed, [so] our home has too, because the source of life is the sea. If the sea is damaged by the aging of the earth or human activities, how do we want to survive? This is what is called a disaster for the OSL and its future generations”.*

This means that the OSL are aware of changes in nature due to damage that can be caused by many factors including anthropogenic activities. The term ‘slow on-set disaster’ is a concept introduced to frame the concept. For them, slow-onset disasters associated with climate change pose significant threats to their livelihoods, cultures, and their very existence. Disaster is interpreted not only as a physical threat but also as a cultural one. According to the OSL, COVID-19 at the time was also said to be a minor disaster because of economic pressure and regulations that limited their mobility and contact with islanders. However, on the one hand, they were glad because during COVID-19, they could reflect on their ancestors who had carried out social distancing from other communities. They had to retain some traditional medications and physical activities to boost their immune systems and combat COVID-19. For them, the sea represents their living spirit,

<sup>5</sup> *Bekarang* – the OSL tradition of foraging for marine creatures during low tide by walking along the shallow coastline in the day.

<sup>6</sup> *Nyuluh* - the OSL tradition of foraging marine creatures during low tide by walking or rowing a small boat along the shallow coastline in the evening.

as it still provides resources for survival in all situations. However, they faced difficulties only in selling their fishing catch. However, , according to them, during COVID-19, their subsistence needs were secure. Interestingly, the major disaster they considered was the destruction of fishing areas by commercial fishing (such as the *Kelong*<sup>7</sup> practice) or the destruction of coastal resources by extractive development projects. The OSL stated that this disaster of resource scarcity was slow onset but could be articulated as cultural genocide for people who depend on marine resources for their livelihoods.

This research adds to the discussion on the circumstance beyond climate change, where the OSL face pressures from resource depletion and environmental degradation. Overfishing, driven by both industrial and artisanal fisheries (of mainland fishers), depletes fish stocks, impacting their food security and livelihoods.

*Dri (male, 39 years-old) from Mensemut Island, explained:*

*“in addition to the difficult marine livelihood due to environmental changes, the OSL [must] compete with fishermen who have large capital and modern technology, especially those who have Kelong. The juvenile fish are now all gone into the Kelong net. They (capital owners) install the Kelong in our fishing grounds, even at the entrance to fish outside the island. They do not respect our sea”.*

This situation illustrates how economic pressures and competition for coastal and marine resources can negatively impact the well-being and livelihoods of ocean-dependent communities such the OSL. Similar issues are also evident among other sea nomads across Southeast Asia, some of whom have been involved in conflicts and criminal activities (Ariando, Manan, et al., 2023; Lagarde, 2024). One interesting incident from Kojong Island regarding this situation concerns mainland fishers who dumped used zinc in the squid fishing ground, also considered OSL’s sacred area. The OSL believe that a sea spirit lives there. A mainland fisher spoke rudely and showed disrespect towards the marine environment. According to the OSL, the mainland fisher will eventually receive a warning from the sea spirit, and after a few months, the rude mainland fisher died suddenly. In the context of the Anthropocene, this kind of relationship offers valuable insights into how we can foster a more harmonious relationship with the marine environment. For the OSL, the sea is not merely a source of sustenance, but a sacred realm inhabited by spirits and ancestors. This spiritual connection fosters a deep respect for the marine environment and its resources. The Anthropocene challenges the anthropocentric worldview that places humans at the center of existence, instead recognizing all living beings’ intrinsic value and agency, including non-human entities like the sea.

Framing this research within the critical discourse of the Anthropocene and post-humanism provides an important lens for understanding the evolving vulnerabilities of the OSL. The Anthropocene, recognized as a geological epoch, highlights the profound and widespread impact of human actions on planetary systems, which fundamentally reshape environmental baselines. At the same time, a post-humanist perspective challenges

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<sup>7</sup> Kelong is fixed/floating fishing platform with guide nets and lights to catch small fish in the evening.

traditional human-centered frameworks that prioritize human exceptionalism, advocating for the recognition of the intrinsic value and agency of the broader ecological web, which includes non-human entities and environmental processes. This research aligns with these discussions by illustrating the direct and significant impact of Anthropocene-driven environmental changes on the livelihood transformations experienced by the OSL.

To elaborate, the escalating effects of climate change present tangible threats to the OSL's traditional ways of life. For instance, the rising sea levels worsen coastal erosion, directly jeopardizing the islands and shorelines that have historically served as their homes and fishing grounds. Moreover, the increasing frequency and intensity of storms, a well-documented consequence of climate change, lead to the flooding of coastal areas, damaging essential infrastructure such as homes and fishing equipment. Research conducted by Ariando and Limjirakan (2019) further emphasizes the critical role of traditional ecological knowledge in addressing these challenges. Their work highlights the remarkable resilience displayed by the OSL in the Lingga Regency in the face of environmental adversity. However, they also point out the growing complexities of climate change, which require enhanced support from governmental bodies and the international community to strengthen the OSL's adaptive capacities and protect their livelihoods in this rapidly changing environment. This integrated perspective, informed by the frameworks of the Anthropocene and post-humanism, allows for a more nuanced understanding of the interconnected vulnerabilities and potential pathways for supporting these communities.

The next concern is the increasing experience of OSL with extreme weather events. According to the OSL, the growing frequency and intensity of tropical cyclones (*taong*<sup>8</sup>), are increasingly unpredictable. Ariando and Limjirakan (2019), in their previous research, identified the knowledge of the OSL on climate change; they know climate change as livelihood change where resources are depleted due to humans' lack of respect for nature. At the same time, their situational knowledge makes them vulnerable to the climate crisis. This can be seen in Jelutung, Mentangah, and Tembok, where the OSL villages are increasingly inland towards the mangroves. According to the OSL in these villages, the stilt houses were built in the channels and mangrove forests with the aim of protecting them from storm surges and other hydrometeorological disasters. This is also confirmed by the village government; the OSL build in this area because it is more durable than in the littoral areas and so reduces the housing assistance process. It further jeopardizes the safety of the OSL and the form of forced adaptation that they carry out. In this context, it is not only local knowledge but also intervention from local policies in housing them. If hydrometeorological disasters increase, it will threaten the livelihood of the OSL. Marine resources become scarce, while access to land resources is also limited for them. As traditional habitats become increasingly uninhabitable due to these

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<sup>8</sup> A *taong* is a tropical cyclone that typically occurs between July and September, driven by winds from the Selatan to Barat Laut. In Selat Kongki, the most recent *taong* event occurred in August 2023, devastating three houses when it struck their village at 4 am. In Linau, *taong* generally occur in July, with significant impacts noted in 2008, 2009, 2013, and 2023. In Tajur Biru, the most severe cyclone happened in August 2024, destroying five houses at 6:30 pm.

environmental changes, the OSL may be displaced to urban areas, compromising their cultural identity and traditional lifestyles. This phenomenon is evident in locations such as Batam and Karimun islands, Riau Islands Province, where coastal areas have been transformed into sites of significant pollution and waste accumulation. The OSL become beggars or waste collectors.

### **Marginalization and Coastal Grabbing**

In the Anthropocene era, the well-being and ecological reflectivity of the OSL are missing in the state-centric governance system. The traditional system governing the commons of coastal and small island resources is still considered as something left behind. Ironically, state-centric coastal resources governance often leads to issues of resource grabbing and marginalization. At the community level, such development appears to be a natural resource conflict, and it occurs in almost all strategic areas of Indonesian development (Asruddin & Efendi, 2024; Ferrol-Schulte et al., 2015; Gellert, 2010), especially under the umbrella of the National Strategic Projects or PSNs. Reflecting on the OSL and their peripheral role in development, many OSL communities still lack access to essential services like healthcare, education, clean water, and sanitation due to their remote geographical area and mobility (Ariando, 2018). Their access to fundamental rights will deteriorate with that kind of development and hinder their development and integration into mainstream society.

Particularly in the Riau Islands Province, the PSNs marginalize the people. Two of the total five PSNs in the Riau Islands have problems with the OSL. The development program and model centralize large strategic projects that the national government controls. This program indeed ignores the traditional knowledge, livelihoods, and well-being of the OSL. Even though the OSL are one of the oldest customary communities in the Riau Archipelago. Extractive coastal development is not new, but it became more prominent during President Joko Widodo's regime from 2014 to 2024. There is often popular unrest at the grassroots level, but the issue does not come up in national discussions and concerns. Those who are considered stumbling blocks to the national agenda will be criminalized.

An example is the Rempang Eco City PSN in Batam. Since 2023, this project has been controversial because it is still publicized even though the local community rejects it. The investor has already signed up to conduct business in this region. Through the Batam Free Trade Zone and Free Port Management Agency, the national government plans to relocate 16 villages in Rempang to allow the construction of Rempang Eco City. This rigid plan has sparked strong protests from locals, including the OSL in Caros village. The OSL will lose their homes, livelihoods, cultural spaces, and access to the coastal and marine resources. The OSL historically have a close relationship with the coastal areas and islands in Rempang. They have inhabited and managed the area for generations, but their rights are often not legally recognized. Some old documentation about the Batam Islands states that the OSL moved around the straits and waters, building temporary shelters at various locations.

**Figure 2***New house construction*

Note. Tanjung Kelit, July 2024. Source: Author.

Although the Lingga Regency already has Regional Regulation (*Perda*) Number 4 of 2022 concerning the Empowerment of OSL Communities, the only focus is on infrastructure development, even though the *Perda* mandates community development including education, poverty reduction, and other socio-economic and environment issues. As a follow-up to the *Perda*, of 200 new OSL houses were constructed in the Lingga Regency beginning in early 2023 and were handed over to OSL in January 2024. The housing is scattered across eight locations in the Lingga Regency, including Air Ingat-Desa Baran, Mentengah, Selat Kongki-Penaah, Tajur Biru, Temiang Lingga, Pasir Panjang, Secawar-Tanjung Kelit, and Kentar Akat. There have been setbacks in the construction process due to deviations from the initial design and the fact that the construction workers hired by the housing developer came for only a week and then never returned to finish their work.

The construction of the OSL houses was built using IDR 7 billion sourced from the FY 2023 local budget of Riau Islands Province, each house costing IDR 35 million. Claims regarding project transparency and inadequate engagement with the OSL have tarnished this initiative. According to the OSL community in Selat Kongki, these new houses are not based on their traditional knowledge and are more fragile than the old houses. During the construction process, the OSL noted that work was often paused due to four changes of workers. Eventually, because the OSL community needed houses to live in, they collaborated (*gotong royong*) without relying on government-paid workers. The same thing also happened in Tajur Biru, according to the OSL there. The houses are very fragile, because the walls are made of low-quality synthetic materials (glass fiber reinforced concrete), compared to the previous houses which used a number of wooden planks.

Another issue related to the marginalization of the OSL is the loss of cultural practices and beliefs caused by the influence of the dominant religions of Islam and Christianity. Cultural practice and belief loss are critical aspects of cultural marginalization as they impede the transmission of traditional knowledge and values to younger generations. In addition, imposing dominant cultural norms and values can reduce traditional practices, rituals, and belief systems. Presently, the dominant religions are a significant concern to the OSL, as their traditional way of life has gradually evolved due to their adherence to recognized religions. The dominant religious organizations offer assistance and community empowerment aid that replaces the government. Conversely, this research observes instances of religious groups overlapping in their outreach and actively seeking to attract followers within these communities. This competition for adherents can, at times, lead to increased intergroup tensions and strained relationships with neighboring communities holding different belief systems. This situation occurs in OSL communities with two religions in one village, such as Linau, Mentengah, Jelutung, Tembok, Pongok, Pasir Panjang, Pulau Lipan, Pulau Senang, Sungai Nona, and Air Ringat.

The factors contributing to marginalization stem from the unequal distribution of resources and opportunities. The OSL have traditionally depended on subsistence-based economies tied to islands, mangrove forests, and marine resources. However, the loss of land and the depletion of these resources have forced them to pursue alternative, often precarious livelihoods. Additionally, limited access to education and skill development programs has constrained their economic prospects, leaving them ill-equipped to engage in the formal economy. Consequently, the OSL are disproportionately represented in low-wage, informal sectors, perpetuating their economic vulnerability. Discriminatory practices and inadequate access to credit and financial services compound their challenges.

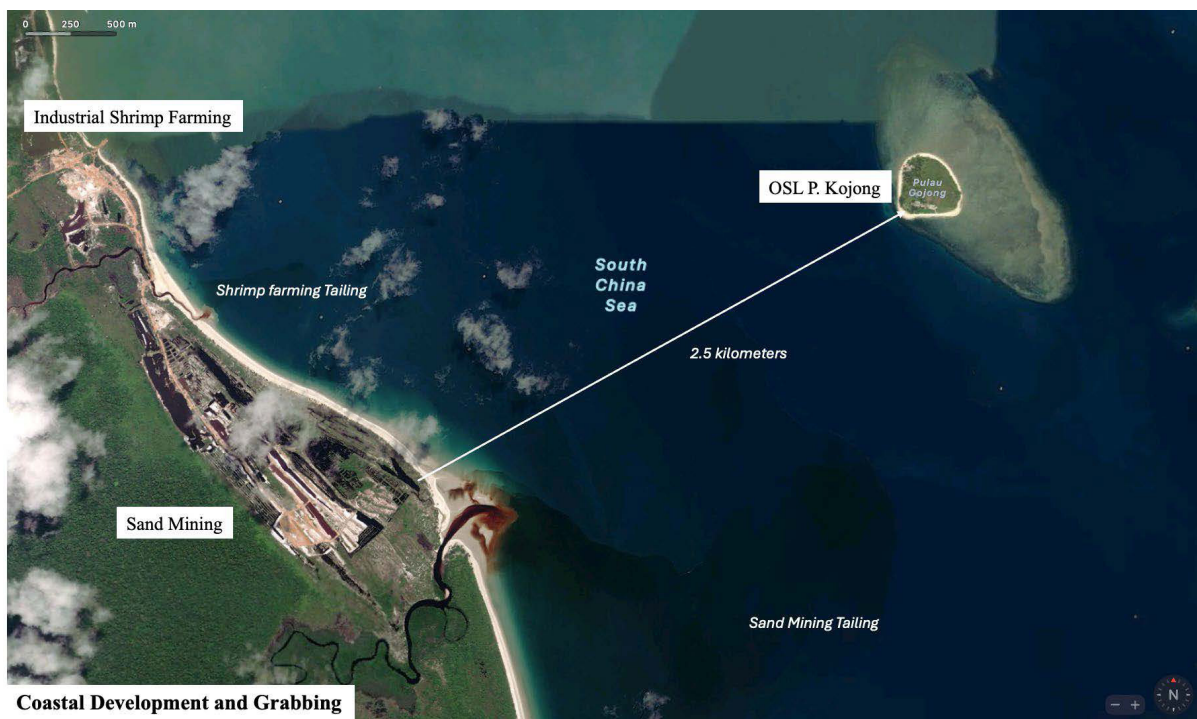
This situation can be observed on Kojong Island and Mensemut Island, where the OSL communities rely on Chinese middlemen or *towkay* throughout their lives. This is because the nearest economic resources (markets or buyers) are distant. To get to the nearest economic center, Penaah village, takes one to two hours by traditional rowing boat. The selling price of their catch is also not much different from the price the *towkay* gives. As a result, they prefer selling to the *towkay*, who come to their village once or twice a week (depending on the size of catch), even though the OSL know they are trapped in the patrons-client system. The *towkay* will then trade their catch to the Singapore market. Besides buying the OSL catch, the *towkay* also sell food, fuel, and other basic community needs, including clean water. Some of the OSL also have debts to the *towkay*. Eventually, the money earned from selling fish will be spent again to buy daily necessities from the *towkay*. Generations have passed down this practice since the OSL began settling. According to the *towkay* who visited their village, they are now in their second generation and will pass the business on to their grandsons.

## Territorial Grabbing: Coastal Mining, Shrimp Farming, and the Mangrove Charcoal Industry

The OSL have historically been marginalized and excluded from mainstream development processes in the Lingga Regency. This marginalization is exacerbated by territorial grabbing, where their traditional territories and resources are being encroached upon by various actors, including large-scale industries, tourism projects, and infrastructure development. This has significantly impacted their livelihoods, through declining catch, losing access to traditional fishing grounds, and displacement from their ancestral lands. The main development issues in OSL in the Lingga Regency are sand mining, the mangrove charcoal industry, and industrial shrimp farming. Coastal pollution from industrial activities and land-based sources contaminates their waters and marine resources, posing risks to their health and the ecosystems they depend on. The loss of critical habitats, such as mangroves and coral reefs, due to coastal development, deforestation, and pollution, further exacerbates these challenges.

**Figure 3**

*Development initiatives near Pulau Kojong*



Note. Apple Map, Imaginary Satellite 2025. Source: Author.

Extractive industries like sand mining often impact coastal and marine ecosystems and can lead to pollution, habitat destruction, and depletion of fish stocks, directly affecting the OSL's traditional fishing grounds and livelihoods. This situation can be seen on Kojong Island, where a sand mining industry emerged around the OSL settlement,

disrupting their livelihoods. The OSL are affected by water pollution from mine tailings<sup>9</sup> and loss of access to resources around the island. The sand mining operation is situated approximately 1.5 nautical miles from Kojong Island, within Lengkok village in North Lingga District. According to the OSL communities on Kojong Island, tailings from the sand mining will move towards their island when the west wind blows. During this season, the OSL cannot go fishing around their village. Those with motorboats will go fishing more than four nautical miles away and undoubtedly with more expensive fuel costs. Meanwhile, those who use rowing boats lose their livelihoods. The seawater turns dirty and muddy, so they cannot dive or fish. This can be seen in Figure 3. The same issue also arises in other coastal communities, such as Merauke (Hallatu et al., 2021), Lampung (Sujadmiko & Meidiantama, 2022), and global case studies (Bisht & Martinez-Alier, 2022), or even in agricultural areas such as Malang (Purnomo et al., 2021).

#### Figure 4

*Sand mine near Lengkok village*



Note. Lengkok, July 2024. Source: Author.

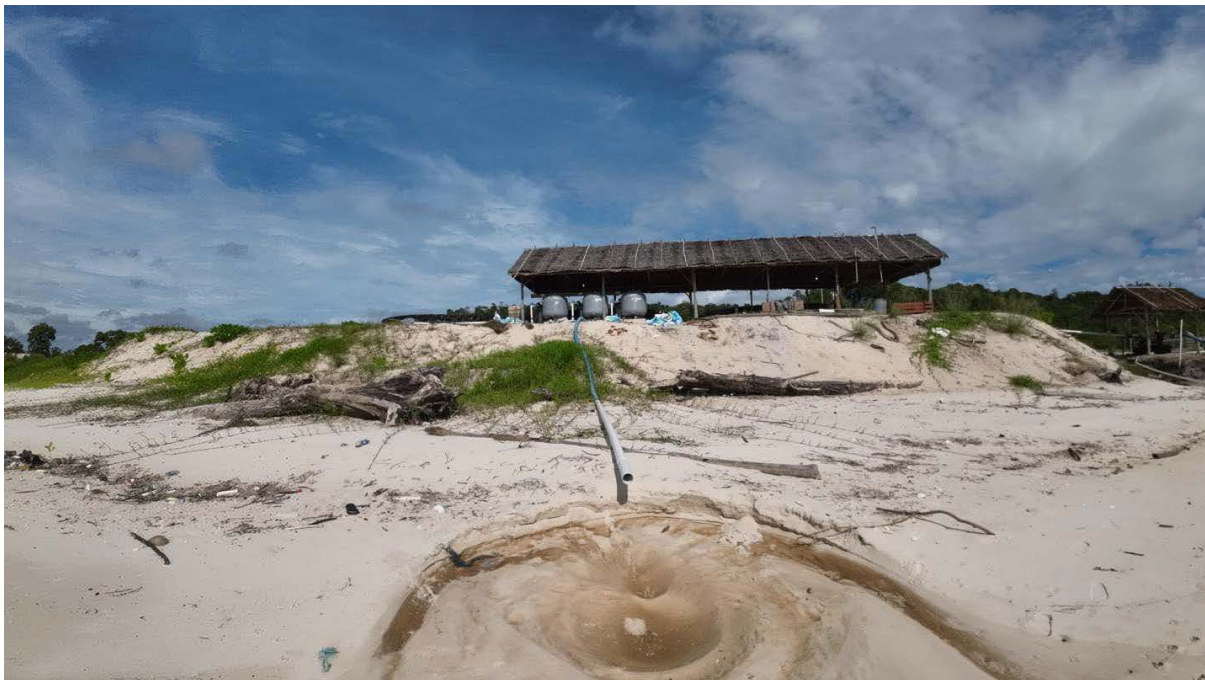
The method of sand extraction in Lengkok involves dredging sand from the coast and then cleaning it into white sand. It has not yet been confirmed whether this sand mining industry applies sustainable practices. The OSL from Kojong Island suspect that the sand mining does not have complete permits, especially Environmental Impact Assessments and complete mining permits or export permits. The surrounding communities, including the OSL, did not receive further information about the existence of this mine. Their voice and consent were not assessed in the social impact analysis in the initial plan and construction of this sand mine. The OSL also stated that the sand taken by the mine

<sup>9</sup> Mine tailings are the materials left over after the process of separating the valuable fraction (minerals, metals, or other economic materials) from the uneconomic fraction of an ore.

was not only land sand but also sand from the beach landscape. The processed sand encompasses not only materials intended for construction purposes but also includes the processing of silica sand. In addition to the issue of tailings, the OSL from Kojong Island and Mensemut Island reported that a giant barge was moored around their fishing ground, damaging the coral area. During the sand transport period, the company moored arbitrarily in the waters near the village, which made it inaccessible for the community to fish in the area because of the many small ships carrying sand passing by to the giant barge. The OSL in Kojong said that until December 2024, four shipments of sand had been sent to China.

### Figure 5

*The pipe of an industrial shrimp farm in Lengkok during low tide*



Note. Lengkok, July 2024. Source: Author.

In addition to the mining issue, the OSL on Kojong Island also face the growth of vaname or whiteleg shrimp (*Litopenaeus vannamei*) ponds. The needs of the local market in the Riau Islands and Singapore have ensured the continued growth of this business. Initially, the shrimp farming industry was situated on Dabo Island. However, since early 2024, this activity has also been implemented in the Lingga Islands, one of which is Lengkok village in North Lingga. No OSL practice shrimp cultivation which is mainly carried out by large capitalists. One of the new locations for shrimp farming is Lengkok, right next to the sand mine (see Figure 3). The environmental problems caused by this activity are the same as tailings from sand mines dumped directly into the open sea. The unconsumed shrimp food, water residues, and other waste pollute the sea and form toxic sediments. However, when field data for this study was collected, cultivation was still in its early stages, and some ponds were still under construction. Cases of environmental

conflicts due to shrimp farming have also occurred in several places in Indonesia, such as the Mahakam River (Bosma et al., 2012), Trenggalek (Pujayani et al., 2023), and other regions (Boa et al., 2023).

Another issue documented in this research is the disparity between traditional ecological knowledge and the market economy. According to OSL belief, mangroves serve a multitude of purposes that contribute to their cultural, economic, and ecological well-being. These include fruits, leaves, honey, and timber for building boats and houses. The intricate root systems offer shelter and breeding grounds for numerous species, ensuring an abundant food source and income. For the OSL, mangrove ecosystems provide a critical habitat for fish, crustaceans, and other marine life, serving as important fishing grounds for them and providing a variety of non-timber forest products that the OSL utilize for food, medicine, and construction materials. In a broader context, mangrove conservation is one form of the traditional ecological knowledge of the OSL that can combat the climate crisis (Ariando, 2018). In terms of cultural significance, the OSL hold spiritual beliefs and practices associated with mangroves, recognizing them as sacred spaces inhabited by spirits and ancestors. Unsustainable harvesting of mangrove wood can lead to deforestation, impacting OSL communities' access to vital resources and disrupting their traditional way of life.

### Figure 6

*Orang Suku Laut cut and bring mangrove wood to a dapur arang*



Note. Penaah, November 2018. Source: Author.

Among the factors that accelerated their departure from nomadic livelihood were *dapur arang*<sup>10</sup>. The OSL report that *dapur arang* sites existed prior to the establishment of their villages. Their initial settlement near *dapur arang* in this area was facilitated by a *tonkay*, who probably controlled and managed the OSL who formed the primary labor force. Over time, through the process of sedentarization and population increase, the OSL established a village at this location. Notably, the prevalence of *dapur arang* as a prefix in the names of several OSL villages currently, such as Dapur Arang Kelumu, Dapur Arang Secawar, Dapur Arang Pongok, Dapur Arang Batu Belubang, and Dapur Arang Jelutung, further suggests a historical and spatial connection to this earlier presence and the subsequent pattern of settlement.

The *dapur arang* industry involved men of productive age and all their family members. The division of labor designated adult men primarily to gather mangrove logs. This task requires physical strength and expertise in navigating the mangrove ecosystems. Women and children engaged in post-harvest activities, mostly packing charcoal and other less labor-intensive roles. This delineation of tasks highlights the gendered nature of labor and reflects the strategic allocation of human resources that aligns with physical capabilities. The primary raw material for making charcoal is the tall-stilt mangrove (*Rhizophora apiculata*). The other types of mangrove wood are used as fuel to heat the charcoal ovens.

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<sup>10</sup> Dapur arang are ovens for burning wood to become charcoal, shaped like a semicircular mound. This industry entered the Lingga archipelago in 1953 and came to an end with the land use moratorium in 2007. In Lingga Regency, charcoal burning was revived after receiving a special operating permit from local government in 2009 and was under the management of a registered cooperative (Suhardiman et al, 2025). The operations of *dapur arang* were formally ended in 2023 by the central government, and as of June 2024, the cooperative's permit had not been renewed.

**Figure 7***Mangrove charcoal industry in Jelutung*

Note: July 2024. Source: Author.

The *tonkay* for *dapur arang* are also the *tonkay* for fish trading and selling daily goods. They bind OSL livelihoods into a patron-client system by providing basic needs such as clothing, food, and shelter. As clients, the OSL must work under and be always dependent on the orders and leadership of the *tonkay*. Each of these *tonkay* has a specific mangrove forest area, such as in Jelutung, Pongok, and Kelumu. However, the OSL feel that their subsistence economic life is better fulfilled by the nomadic or *Bakelam* way of life. Until 2023, there were still 10 active *dapur arang* sites in the Lingga Regency, almost all of which still employ OSL. According to information from local activists in 2023, the charcoal is exported to China, South Korea, Japan, and even the European market. This industry has grown since the early 2000s. The recorded deforestation rate is around 486 hectares per year and the total damaged area is 7,000 hectares, with an estimated economic and ecological service value of around USD 90,000 per hectare. The *dapur arang* operate with permits and are recognized as legal entities in the form of cooperatives. The Lingga Lestari Mangrove Cooperative serves as the legal entity that oversees all *dapur arang* operations. However, its permit was revoked at the end of 2023. This decision was influenced by “unseen” power dynamics present at various levels of management. As of June 2024, its activities were still at a halt. Several ancient charcoal kitchens from before Indonesia’s independence offer tourism potential as cultural heritage sites. This has been developed in Panglong Berakit, a village on Bintan Island, which is also an OSL village.

Within the context of traditional OSL knowledge, *dapur arang* represent a dichotomy of livelihoods. Many young OSL choose to work as laborers in *dapur arang* to meet

their basic needs. However, this often leads to a loss of traditional ecological knowledge. The young think working as mangrove laborers is nothing ‘sinful’ or against their roots. They do not know the hereditary traditional knowledge used to protect the mangrove forest. This research explored the perspectives of OSL youth regarding the importance of mangroves, but none of them seem to recognize their significance. OSL youth recognize mangroves as a crucial natural barrier that supports their marine-based livelihoods (economic function). This dynamic highlights how shifts in traditional ecological knowledge can pose threats to their rights and access to traditional territories. Furthermore, it is important to encourage alternative economic activities that lessen the strain on mangrove ecosystems while simultaneously supporting the economic prosperity of the OSL communities in the Lingga Regency.

### **Institutional Complexity and Power Dynamics**

The OSL struggles are further compounded by their complex institutional landscape. The interplay of various government agencies, private corporations, and dominant communities creates a power dynamic that often disadvantages the OSL in the Lingga Regency. Their voices and concerns are frequently overlooked or ignored in decision-making processes, leading to policies and projects that do not adequately address their needs and aspirations. The Lingga Regency is tied to a rich historical record and legacy, as the former Riau-Lingga Sultanate, which existed from 1824 to 1911 before being dissolved following Dutch colonization. Some of the remains of this Sultanate are still found in the Lingga Regency today, such as the castle, cultural heritage sites, and other archeological sites.

None of the written stories mention the relationship between the Sultanate and OSL rulers. For the Sultanate, the OSL served as a navy tasked with maintaining the security of the sea and coasts. The OSL served several Sultans, assisting them in preparing for traditional events as wood gatherers or fish providers. Some OSL figures were also entrusted with holding particular titles and responsibilities managing specific areas. Another story of this relationship is given by OSL elders. They believe they have a clan (from intermarriage and acculturation) who played important roles in the Sultanate. Some even mentioned an ancestor who was a famous and supreme leader. According to the OSL elders in Sungai Buluh, long before the establishment of the Sultanate, the OSL inhabited the Riau-Johor-Malacca archipelago and had their own customary leadership structures. They reached an agreement with the Sultan regarding the management of their respective territories, allowing the OSL to maintain their connection to their ancestral domains and the marine environment. However, those historical narratives remain contested, which adds complexity and tension to the current situation.

This unresolved historical narrative continues to contribute to derogatory labeling and hate speech directed at the OSL by the dominant non-OSL community. The scanty and unclear historical accounts perpetuate apprehension between the OSL and the dominant non-OSL community in the Riau Islands, particularly when discussing the indigenous status of the Lingga region. The current situation indicates that the OSL

are less powerful, primarily due to their smaller numbers, lower levels of education, and reduced participation and involvement in various sectors. In terms of advocacy, there is no organization working with the OSL. The Kajang Foundation fights for fundamental OSL rights, but it does not target the OSL's basic needs. The challenges facing the OSL are primarily due to their geographical distance from community centers and markets, limited access to the internet and smartphones, and low literacy rates. Another significant issue is the low self-esteem among OSL individuals when it comes to communicating with non-OSL islanders. Until 2024, the number of OSL children from the Lingga Regency who have achieved university education is still less than 10 (unpublished data from the Kajang Foundation).

Due to their limited human resources, movement, and indigeneity, the OSL are often used as political tools, especially during the regional political election season. It proves that the agency of OSL that has emerged today differs from their past lives, where the sea was their main living space. Their sedentarization has oriented the current generation's lifestyle towards the land. Their paradigm of ethnofisheries is shifting, and they are starting to demand assistance for housing and fishing gear. Several local politicians and individuals sometimes incite them to protest against policymakers.

The events of July 2022 in Bintan (capital city of Riau Islands Province), where the OSL were mobilized for a housing protest, offer a revealing illustration of emerging forms of agency within the community. The testimonies from participating OSL members indicate a strategic manipulation of their identity and aspirations. The initial framing of the invitation, seemingly orchestrated by the newly appointed Governor who presented himself as an OSL ally recognizing their customary presence, served as a powerful catalyst for their involvement. This suggests a nascent awareness and strategic utilization of their indigenous identity as a means to engage with the formal political sphere and articulate their demands. However, the subsequent redirection of their protest towards housing by a provocateur highlights the vulnerability of this emerging agency to external influences and potentially conflicting agendas.

The evidence presented points towards the development of a new agency among the OSL that operates across diverse objectives and interpretations. This evolving agency marks a significant departure from the historically observed lifestyle and disposition of the OSL, which has traditionally been characterized by an avoidance of direct confrontation and disputes. This shift suggests an increasing willingness and capacity within the community to engage in collective action and public advocacy to address their needs and assert their rights within the broader socio-political landscape. This transformation in agency warrants further investigation to understand its drivers, internal dynamics, and long-term implications for the OSL community's relationship with the state and neighboring populations.

**Figure 8**

*Representatives of OSL communities protesting at the Provincial Government Office, Dompak*



Note. 18 July 2022. Source: Ardiansyah Putra/ulasan.co.

This research argues that the situation is changing due to generational gaps and adaptive oversight of land-based OSL, especially the younger generation who lack the skills to go fishing. On the other hand, this new agency of the OSL reflects a growing awareness of their rights, a desire for self-determination, and a commitment to shaping their development pathways. However, this agency is not without its challenges. The OSL still face significant obstacles to a bundle of rights, including discrimination, limited access to resources, and the ongoing threat of land and coast grabbing. It shows that the new agency challenges traditional stereotypes and emphasizes the potential of OSL to act as active agents of change through their autonomy.

### **Governing Imaginaries of Orang Suku Laut in the Lingga Regency**

The Anthropocene is often seen as a time of ‘new’ environmental changes, such as climate-induced resettlement, requiring significant societal adaptation. However, many of these ‘new’ phenomena are actually longstanding issues (Whyte et al., 2019). For the OSL, this relation is related to hereditary traditions of environmental ‘mobility’ and nomadic territory. It includes the diverse coping mechanisms that OSL communities employ to adapt to the socio-economic and environmental changes associated with sedentarization and the erosion of their maritime identity. The OSL, as guardians of the sea, have the planetary knowledge to govern their fishing grounds and territory. The OSL listen and respond effectively to signals from the earth system and have the foresight to anticipate potentially catastrophic changes.

The existence and traditional ecological knowledge of the OSL have not been valued as vital resources for sustainable natural resource management. They are still seen as disrupting the smooth development path managed by the ruling regime and are contrary to mainstream conservation efforts. Consequently, development that overlooks traditional knowledge is harmful to the lives of the OSL and poses a threat to their basic rights. Such development is a significant problem that accelerates the loss of cultural identity and knowledge for the OSL. The multifaceted challenges faced by OSL communities in the Lingga Regency reveal a complex interplay of historical marginalization, shifting power dynamics, and rapid environmental changes. While the OSL possess valuable traditional ecological knowledge and a deep connection to the marine environment, they face significant constraints in accessing and utilizing marine resources. These constraints include historical dispossession, limited legal recognition of their rights, and the impacts of climate change and unsustainable development practices.

The governing imaginaries<sup>11</sup> as defined by Chandler and Reid (2019) can reflect the hope and complexity of the OSL in the Lingga Regency in the Anthropocene. The governing imaginaries of the OSL, encompassing their shared beliefs, values, knowledge systems, and cultural understandings, profoundly shape their perception of, interaction with, and management of their environment, social structures, and external relationships. These imaginaries, far from being static, are dynamic and continuously evolving, influenced by historical trajectories, inter-community and state interactions, and the multifaceted environmental and socio-economic transformations they encounter, notably sedentarization and escalating resource competition. Comprehending these governing imaginaries is therefore paramount to understanding the OSL's perspectives on resource stewardship, their responses to development interventions, their conceptualization of rights and territoriality, and their emergent agency within broader societal contexts. This framework allows for a nuanced analysis of their distinctive epistemologies and ontologies within the epoch of the Anthropocene.

The contemporary governing imaginaries surrounding the evolving identity of the OSL also reveal a complex negotiation between modernization imperatives, national development agendas, and the perceived necessity of integrating this historically maritime community into mainstream Indonesian society. These imaginaries are actively constructed and contested by a diverse array of stakeholders, including government institutions, non-governmental organizations, and the OSL themselves, often resulting in divergent perspectives on issues of identity, progress, and the imperative of cultural preservation. One dominant narrative promotes the sedentarization and cultural assimilation of the OSL, advocating for a transition from their ancestral nomadic maritime existence to fixed, land-based settlements. This perspective is frequently rationalized as a prerequisite for improved access to essential services such as education, healthcare, and economic opportunities, aligning with overarching national development objectives. However, this

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<sup>11</sup> The collectively held ideas, beliefs, values, and mental models that shape how societies understand, envision, and ultimately govern themselves and their relationship with the world, particularly in areas like environmental management and social development (Chandler & Reid, 2019).

vision often overlooks the profound cultural significance of the OSL's maritime heritage and its deeply rooted spiritual and practical connections to the marine environment. Conversely, another influential governing imaginary emphasizes the latent economic potential of the OSL, particularly within the burgeoning sectors of tourism and fisheries. This perspective seeks to leverage the OSL's unique cultural capital and specialized marine knowledge, potentially fostering economic empowerment and enhancing their livelihoods. Nevertheless, this approach also raises critical concerns regarding the potential commodification of their cultural heritage, the risk of exploitation by external actors, and the urgent need to ensure the equitable distribution of any derived benefits within the OSL communities.

Furthermore, there are emerging imaginaries that focus on cultural revitalization and self-determination. These perspectives recognize the importance of preserving OSL traditions, languages, and knowledge systems while supporting their autonomy in shaping their development pathways. This approach encourages the OSL to be active agents in their transformation rather than passive recipients of external development interventions. It includes how the OSL should position their cultural agency in movement, participation, and institution. The interplay of these governing imaginaries creates a dynamic and contested landscape, with ongoing negotiations and struggles over the future of the OSL in the Lingga Regency. Understanding these imaginaries is crucial for critically examining the implications of development policies and interventions, ensuring that they respect OSL rights, promote their well-being, and support their cultural continuity in the face of ongoing change.

A crucial aspect of this research involves understanding how the OSL broaden and enrich discussions about the Anthropocene by incorporating post-humanist ideas. This perspective allows for recognizing diverse knowledge systems that move away from the idea that humans are the only important actors in understanding the world (Dovchin et al., 2023). The ways the OSL understands and relates to the world align with post-humanist approaches, emphasizing give-and-take relationships with the land and viewing non-human beings as living entities with their own agency. The voices of the OSL encourage a return to ancestral ways of knowing, fluid territory, and a reconnection with our interconnected relationships to ensure the well-being of both nature and culture. This research highlights the necessity of a more detailed understanding of how the OSL make a living and the creation of fairer and more sustainable ways to manage resources.

To ensure the well-being and sustainable development of the OSL communities, a multi-pronged approach is crucial. Firstly, legal and policy frameworks must be strengthened to recognize and uphold OSL customary rights, ensuring participation in decision-making processes and integrating traditional knowledge into resource management. Secondly, sustainable livelihood options should be diversified through initiatives like community-based eco-tourism and sustainable fisheries management. Thirdly, addressing environmental challenges such as climate change impacts and habitat degradation is essential. Finally, promoting cultural revitalization through intergenerational knowledge transmission and fostering cultural exchange will contribute to OSL identity and self-determination.

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