



Changes in The Values Of Local Fishing Wisdom Among The Community Of Harapan Island Village

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Abstract

This study examines fishing practices in Pulau Harapan Village, Muara Muntai District, focusing on the application of local wisdom and its relationship to fisheries law. This village relies largely on river fisheries for its livelihood, utilizing traditional fishing gear such as nets, seines, traps, and longlines, which are selective and environmentally friendly. However, over time, there has been a shift in values in fishing practices, marked by the emergence of destructive fishing gear such as electric shocks. This study uses the Socio-Legal Research (SLR) method, combining normative studies and empirical data through observations and interviews with the fishing community. The results show that local wisdom still plays a role in maintaining the sustainability of fisheries resources, but economic factors, limited education, and weakened social control encourage some fishermen to switch to environmentally unfriendly methods. Violations are generally resolved through a restorative justice approach due to the absence of formal customary institutions regulating fisheries management in the village. Therefore, strengthening local wisdom values, increasing supervision, and implementing more effective laws are needed to maintain the sustainability of the Mahakam River ecosystem.

Keywords: Local Wisdom, Fishing Practices, Traditional Fishing Gear, Fisheries Sustainability, Mahakam River.

Introduction

Pulau Harapan Village, located in Muara Muntai District, is one of the villages along the Mahakam River. The river serves as a primary source of livelihood for the local community, particularly in the fisheries sector. Most villagers rely on river fishing for their livelihood. According to village data, approximately 187 residents of Pulau Harapan Village work as fishermen, making fishing a vital part of the community's economic and social life. This activity is not only oriented towards meeting economic needs but also contains local wisdom values passed down through generations in fishing practices.¹ Fishing practices contain local wisdom values that are passed down from generation to generation and are environmentally friendly.²

Local wisdom in fishing activities in Pulau Harapan Village is reflected in the use of relatively simple and environmentally friendly traditional fishing gear. The use of traditional fishing gear demonstrates the community's ecological knowledge, developed through long experience interacting with the river environment. Fishermen in Pulau Harapan Village still use various traditional fishing gear, such as nets, seines, traps, and longlines.³ These fishing gears not only serve as a means of catching fish but also reflect the community's efforts to maintain the balance of the Mahakam River's aquatic ecosystem. Muhammad Fiqram Rahmatullah's community-based, environmentally friendly fishing gear helps maintain the balance of the Mahakam River's ecosystem.⁴

Nets are used to catch a limited number of medium-sized fish by casting them onto the water's surface. Sero are used to catch larger numbers of fish carried by river currents, especially during the abundant fishing season. Bubu are used as traps to catch a limited number of river bottom or swamp fish using bait. Meanwhile, longlines aim to selectively catch larger fish, as only those that take the bait are caught.⁵ The

¹ Hendra Amu, Kearifan Lokal Masyarakat Nelayan Desa Olele *Local Wisdom in Fishing Community at Olele Village*, Jurnal Ilmiah Perikanan dan Kelautan, Vol.4, No.2, 2016, hlm.38-44.

² Rahmat Rizqi, Interaksi Kebijakan Perikanan Tangkap Dan Kearifan Lokal Di Perairan Utara Aceh, Albacore, Vol.1, No.2, 2017, hlm.257-264.

³ Kembarawati Kembarawati, Jenis Alat Tangkap Tradisional Dan Kearifan Lokal Serta Jenis Ikan Yang Tertangkap Di Sungai Kahayan Kelurahan Kameloh Baru, Agrienvi: Jurnal Ilmu Pertanian, Vol.16, No.1, 2022, hlm.59-67.

⁴ Muhammad Fiqram Rahmatullah, Peran Kearifan Lokal Dalam Pemanfaatan Sumberdaya Perikanan Berkelanjutan, Fisheries, Vol.6, No.2, 2024, hlm.40-43.

⁵ Syahlan Mattiro, "Maiwak" Bentuk Kearifan Lokal Orang Banjar Dalam Menangkap Ikan, Jurnal Pendidikan Sosiologi Undiksha, Vol.6, No.1, 2024, hlm.12-18.

selectivity of the fishing gear controls the size of the fish that are suitable to be caught because only fish that eat the bait are caught.⁶

The use of traditional fishing gear aligns with various studies showing that local wisdom in fisheries can maintain the sustainability of fishery resources. Several studies on the local wisdom of fishermen in various regions of Indonesia explain that traditional fishing practices typically have unwritten rules regarding the type of fishing gear, fishing times, and limits on resource exploitation. This aims to preserve aquatic ecosystems and ensure the sustainability of fish resources for future generations.⁷ Thus, the fishing practices carried out by the people of Pulau Harapan Village are essentially a form of community-based fisheries resource management based on local experience and knowledge. Community-based fisheries management relies on the community's experience and local knowledge from interactions with natural resources.⁸

Although the people of Pulau Harapan Village still recognize and use traditional, environmentally friendly fishing gear, a shift in values in fishing practices has begun to occur. This shift is evident in the continued use of environmentally damaging fishing gear, such as electric shock gear. This fact is evident in the case that occurred on September 2, 2025, when ten fishermen, R, B, F, H, J, J, M, N, R, and Z, were caught fishing using electric shock gear on the banks of the Mahakam River, in the Muara Muntai District. The practice of fishing using electric shock is an act that damages the aquatic ecosystem because it can kill fish en masse, including small fish and other organisms that live in the river.⁹ Fish electrocution damages river ecosystems by killing fish and aquatic organisms en masse and harming communities.¹⁰

This phenomenon indicates a shift in values within the local wisdom of fishing communities, with some fishermen abandoning more environmentally friendly traditional methods and adopting methods perceived as faster and more productive.

⁶ Haruna, Selektivitas pancing terhadap hasil tangkapan ikan selar (*Selar crumenophthalmus*) di Perairan Selat Seram, Jurnal Ilmu dan Teknologi Perikanan Tangkap, Vol.8, No.2, 2023, hlm. 119-124.

⁷ Widarmanto, Kearifan Lokal Dalam Pengelolaan Sumber daya Perikanan, Jurnal Ilmiah Perikanan dan Kelautan, Vol.13, No.1, Juni 2018, hlm.1-10.

⁸ Christina Yuliaty, Lubuk Larangan: Dinamika Pengetahuan Lokal Masyarakat Dalam Pengelolaan Sumber Daya Perikanan Perairan Sungai Di Kabupaten Lima Puluh Kota, Jurnal Sosial Ekonomi Kelautan dan Perikanan, Vol.9, No.1, 2014, hlm.115-125.

⁹ Muhammad Rio Rinaldi, Implementasi Larangan *Illegal Fishing* (Racun dan Setrum Ikan) di Kecamatan Sanga-Sanga, Terang : Jurnal Kajian Ilmu Sosial, Politik dan Hukum, Vol.2, No.4, 2025, hlm.283-300.

¹⁰ Doni Hermawan, Efektivitas Dalam Menjaga Ekosistem Di Sungai Desa Merabuan Perspektif Peraturan Desa Merabuan Nomor 4 Tahun 2020 Tentang Larangan Menyetrum, Meracun Dan Mengebom Ikan Dan Udang Di Sungai Di Wilayah Desa Merabuan, *Cross-Border*, Vol.7, No.1, 2024, hlm.43-54.

This Socio-Legal Research (SLR) study demonstrates a discrepancy between prevailing legal norms and social practices in the field.¹¹ Legally, the use of destructive fishing gear such as electrocution is prohibited because it can threaten the sustainability of fishery resources. However, in practice, weak supervision and economic factors often encourage fishermen to use these methods. Therefore, it is important to strengthen the values of local wisdom in fishing practices through community education, strengthening the role of village government, and more effective supervision. Thus, fishing practices in Pulau Harapan Village will not only meet the community's economic needs but also maintain the sustainability of the Mahakam River ecosystem for future generations. Rega Permana The community's dependence on the Mahakam River encourages efforts to maintain the sustainability of the ecosystem for future generations.¹²

Research methods

This research uses a Socio-Legal Research (SLR) approach that combines normative studies with the social realities of the fishing community in Pulau Harapan Village, Muara Muntai District, Kutai Kartanegara Regency.¹³ The research data sources include fisheries laws and regulations, as well as empirical data from interviews and direct observations of local fishermen. The study aimed to analyze fishing practices based on local knowledge regarding seasons and environmentally friendly fishing gear, as well as their relationship to applicable legal provisions. The results indicate that, despite the absence of customary regulations, fishing communities still utilize local wisdom to maintain aquatic ecosystems and conduct sustainable fishing.

Hasil dan Pembahasan

¹¹ Baren Sipayung, Aspek Hukum tentang Pengabaian atas Pengakuan dan Perlindungan Masyarakat Hukum Adat di Wilayah Kalimantan Timur Berpotensi Sengketa Hukum, *Jurnal Begawan Hukum*, Vol.2, No.1, 2024, hlm.23-43.

¹² Rega Permana, Konservasi Pesut Mahakam (*Orcaella Brevirostris*) Berbasis Kearifan Lokal Di Kalimantan Timur, Indonesia : *Mini Review, Aurelia Journal*, Vol.4, No.1, 2022, hlm.1-8.

¹³ Muhdar, M, 2019, *Penelitian Doctrinal dan Non-Doctrinal: Pendekatan Aplikatif dalam Penelitian Hukum*. Mulawarman University Press. Samarinda. hlm.12.

Local wisdom practices in fishing activities are essentially a traditional ecological knowledge system formed through a long process of interaction between humans and the aquatic environment. This system develops gradually through empirical experience, observations of seasonal patterns, wind direction, ocean currents, tides, and fish reproduction and migration cycles. This knowledge is passed down from generation to generation through direct practice, parental advice, and collective habits within fishing communities. Because it is born from concrete experience, local wisdom is contextual and adaptive, meaning it adapts to local geographic and ecological conditions.¹⁴ Local wisdom is contextual and adaptive because it adapts to geographical and ecological conditions and social changes in society.¹⁵

The shift in local wisdom in fisheries resource management indicates a change in the value systems, norms, and social control mechanisms that previously existed and developed within indigenous communities. Local wisdom is essentially a set of values, knowledge, and practices that develop within a society and are passed down from generation to generation to regulate human relations with their environment. According to Koentjaraningrat, local wisdom is part of a cultural system that serves as a guideline for community life in maintaining balance between humans, nature, and social life. Similarly, Clifford Geertz stated that local cultural values function not only as social symbols but also as systems of meaning that shape community behavior and practices.¹⁶ Local cultural values are not only symbolic in community traditions, but also play a role in shaping behavior and maintaining social life.¹⁷

One example of local values in fisheries resource management can be found in the indigenous communities of Biak through the Snap Mor tradition, a collective fishing practice carried out after an official decision from traditional leaders. Snap Mor is not merely an economic activity to meet food needs, but also a socio-cultural event rich in symbolic meaning and shared values. This tradition usually begins with a traditional deliberation involving tribal chiefs, traditional elders, and clan representatives. The

¹⁴ *Ibid.*, hlm.176-182.

¹⁵ Katriani Puspita Ayu, *Adaptive Co-Management* Kearifan Lokal Dalam Tata Kelola Lingkungan Berkelanjutan Di Kabupaten Gunung Mas, *Jurnal Masyarakat Desa*, Vol.5, No. 2, Desember 2025, hlm.100-130.

¹⁶ Satiya Ferdiansyah, Peranan Tokoh Adat Dalam Menginternalisasi Nilai-Nilai Kearifan Lokal Bagi Generasi Muda, *Jurnal Ilmiah Penelitian Mahasiswa*, Vol.3, No.5, 20`25, hlm. 822-829.

¹⁷ Muhammad Arif Rahman, Makna Simbolik Tradisi Lokal dalam Kehidupan Sosial Masyarakat, : *Jurnal Ilmu Sosial dan Humaniora*, Vol.2, No.2, 2024, hlm.75-81.

decision to implement Snap Mor takes into account various aspects, such as seasonal conditions, the availability of marine resources, and community needs. In its implementation, all community members participate according to their respective roles, from preparing traditional fishing gear to sharing the catch. The catch is generally distributed evenly or based on customary agreements, thus reflecting the principle of communal justice that underpins the life of indigenous communities. The catch is managed and distributed fairly based on customary agreements with community participation, in order to maintain the sustainability of fish resources.¹⁸

Furthermore, there is a prohibition on harvesting marine resources before customary permission is granted, indicating a resource management system based on collective norms. Violations of these rules result in customary sanctions in the form of customary warnings, fines in the form of money, traditional cloth, or other symbolic objects, and even social ostracism. In communal societies, family reputation and honor are crucial social assets. Therefore, social ostracism impacts not only the individual perpetrator but also the dignity of their family. Thus, the Snap Mor tradition serves not only as a mechanism for ecological marine resource management but also as an instrument for strengthening social solidarity within the community.¹⁹ The Snap Mor tradition not only manages marine resources, but also strengthens solidarity and the common welfare of the community.²⁰

Another example of local wisdom in marine resource management can be found among indigenous communities in Maluku through the Sea Sasi system. Sasi is a customary institution that establishes a temporary ban on the extraction of certain resources, such as fish, sea cucumbers, lola, or other marine products for a specified period. The primary purpose of implementing sasi is to provide an opportunity for these resources to reproduce, thereby maintaining their sustainability. The closure of sasi is usually marked by traditional rituals and the installation of certain symbols as prohibitions in certain locations. During the sasi closure period, the entire community

¹⁸ Eko Prianto, Kearifan Lokal Masyarakat Adat Dalam Mengelola Sumber Daya Perikanan Berbasis Ekosistem Di Sungai Kampar Provinsi Riau: Studi Kasus Lubuk Larangan, *Jurnalkebijakanperikananindonesia*, Vol.6, No.1, 2024, hlm.27-36.

¹⁹ Alfasis Romarak Ap, Snap Mor Tradisi Penangkapan Ikan Masyarakat Biak, *Jurnal Ilmu Budaya*, Vol.6, No.2, Desember 2018, hlm.196-206.

²⁰ Alfred Ayub Moses Padwa, Pewarisan Nilai Snap Mor Pada Anak-anak Dalam Upaya Pelestarian Lingkungan Laut di Kampung Mandori Distrik Bruyodari Pulau Numfor Kabupaten Biak Numfor Provinsi Papua, *Jurnal Pemberdayaan Masyarakat Papua*, Vol.1, No.1, 2019, hlm.23-31.

is obliged to comply with these rules without exception. When the sasi period is reopened through traditional ceremonies, the community is permitted to harvest marine resources together. This momentum often becomes an important social event that strengthens relationships and social cohesion within the community. Violation of sasi rules is not only seen as a violation of customary law, but also as an act that can disrupt the cosmic balance between humans and nature. Therefore, sanctions imposed on violators can include customary fines, confiscation of catches, the obligation to make customary offerings, and even social sanctions in the form of shame (*malu adat*). In some communities, there are even believed to be spiritual consequences or misfortune for individuals who violate these rules. This demonstrates that the sasi system is not only based on social norms but also deeply rooted in a community belief system that reinforces collective adherence to customary rules.²¹ Sasi is a Maluku traditional tradition in managing natural resources sustainably based on social norms and community beliefs.²²

In the Aceh region, coastal communities recognize a maritime customary institution called the *Panglima Laot*. This institution, a traditional institution that has existed since the Aceh Sultanate and still functions today in regulating the lives of fishermen. The *Panglima Laot* has the authority to regulate fishing regulations, determine fishing area allocations, establish fishing no-go days, such as during religious holidays, and resolve disputes between fishermen. The *Panglima Laot* institutional structure is hierarchical and organized, starting from the *lhok* (port area) level to the district or city level. Violations of established regulations, such as the use of prohibited fishing gear, violations of fishing area boundaries, or fishing activities on no-go days, are resolved through customary court mechanisms. Sanctions can include fines, confiscation of fishing gear, temporary fishing bans, or the obligation to publicly apologize to the community. The strength of the *Panglima Laot* system lies in its social legitimacy, as decisions made by this customary institution are considered fair and in favor of the sustainability of marine resources and the common good. Sociologically,

²¹ Heinrich Rakuasa, Pemetaan Kearifan Lokal Budaya Sasi Laut Di Negeri Nuwewang Kecamatan Pulau Letti, Kabupaten Maluku Barat Daya, *Jurnal Geografi*, Vol.19, No.1, 2023, hlm.1-9.

²² Zeranita Ageng Nur Anisa, Kearifan lokal sasi ikan lampa masyarakat Desa Haruku dalam menjaga kelestarian ekosistem laut: Studi literatur, *Social, Ecology, Economy for Sustainable Development Goals Journal*, Vol.1, No.2, 2024, hlm.120-127.

the existence of Panglima Laot shows that community-based marine resource management can run effectively and sustainably.²³ Panglima Laot said that community-based marine resource management can be carried out effectively and sustainably from generation to generation.²⁴

Meanwhile, coastal communities in Lombok recognize a customary legal system called Awig-Awig Laut (Sea Laws). Awig-awig are customary rules, which can be written or unwritten, and are formulated through village community deliberations. These rules govern various aspects of marine resource management, such as the division of fishing zones, permitted fishing gear, prohibitions on damaging coral reefs, and procedures for the sustainable use of coastal resources. The uniqueness of awig-awig lies in its not only normative but also educational nature. This means that these rules are not solely intended to control community behavior but also to instill collective awareness of the importance of maintaining the balance of the marine ecosystem. Violations of awig-awig can result in various sanctions, such as material fines, the obligation to pay customary fees, community service, or public reprimands in front of the village community. These public reprimands serve an important moral function, providing a deterrent effect on the perpetrator and restoring social balance within the community. In this context, customary sanctions are not merely repressive or punitive in nature, but also have a restorative purpose, namely restoring social relations and returning the perpetrator to become a harmonious part of the community.²⁵ Customary sanctions are restorative, restoring social relations and enabling rapid conflict resolution and reducing the burden on formal justice.²⁶

These various examples of local wisdom demonstrate that indigenous communities in various regions of Indonesia have established marine resource management systems based on collective values, environmental sustainability, and social solidarity. However, in modern times, these values face challenges due

²³ Soraya Devy, Peran Panglima Laot dalam Penyelesaian Tindak Pidana Illegal Fishing di Perairan Pulo Aceh, *Jurnal Hukum Pidana dan Politik Hukum*, Vol.8, No.1, 2019, hlm.103-119.

²⁴ Rahmawati, Eksistensi Lembaga Adat Laut dalam Pengelolaan Wilayah Pesisir Aceh Berkelanjutan: Kajian Literature Review, *Jurnal Penyuluhan Perikanan dan Kelautan*, Vol.18, No.1, 2024, hlm.45-62.

²⁵ Akhmad Solihin, Hak Ulayat Laut di Era Otonomi Daerah sebagai Solusi Pengelolaan Perikanan Berkelanjutan: Kasus Awig-awig di Lombok Barat, *Sodality: Jurnal Transdisiplin Sosiologi, Komunikasi, dan Ekologi Manusia* Vol.1, No.1, 2007, hlm.68-86.

²⁶ Pupu Sriwulan Sumaya, Keadilan Restoratif dalam Sistem Hukum Adat di Indonesia, *Jurnal Ilmu Hukum, Humaniora dan Politik*, Vol.5, No.2, 2024, hlm.1136-1143.

to social change, advances in fishing technology, and the introduction of formal state legal systems. This situation has the potential to shift the function and role of local wisdom in regulating the lives of coastal communities. Modernization and capitalism are shifting the function and role of local wisdom in coastal communities.²⁷

The people of Pulau Harapan Village, Muara Muntai District, have historically been inseparable from the development of life along the Mahakam River. Since the time of the Kutai Kartanegara Kingdom, the Muara Muntai area has been known as a river trade route connecting the interior with the coastal areas. The Mahakam River plays a vital role as a means of economic and social mobility for the community. Therefore, the lives of the village community are highly dependent on the existence of aquatic resources found in the surrounding rivers, lakes, and swamps. The lives of the village community are highly dependent on aquatic resources such as lakes, swamps, and rivers, which play vital economic, social, and environmental roles.²⁸

The population of Pulau Harapan Village is dominated by the Kutai people, the region's native inhabitants, and the Banjar people, who arrived through migration and trade interactions from the 18th century through the colonial period. Both communities have strong traditions of fishing in rivers and swamps. These traditions have been passed down through generations and have become part of the social identity of the people living in the waters. Knowledge about fishing locations, fishing seasons, river currents, and fishing gear techniques is passed down from generation to generation through hands-on practice in daily life.²⁹ Traditional fishermen pass down local knowledge about natural signs to determine the location of fish.³⁰

Unlike some coastal areas in Indonesia that have specific customary institutions to regulate the use of fishery resources, the people of Pulau Harapan Village do not have a formal customary institution that carries out this function. Nevertheless, the

²⁷ Sulsalman Moita, Kearifan Lokal Masyarakat Etnis Tolaki Dalam Pengelolaan Sumber Daya Pesisir Di Kecamatan Lalongasumeeto Kabupaten Konawe Provinsi Sultra, *Jurnal Sosiologi Pendidikan Humanis*, Vol.2, No.1, Juli 2017, hlm.16-22.

²⁸ Dita Aulia Rahma, Dampak Sosial Masyarakat dari Pendangkalan Danau Rawa Pening, *Jurnal Mediasi*, Vol.3, No.2, 2024, hlm.141-153.

²⁹ Sulistyono, 2015, *Kehidupan Sosial di Kutai Kartanegara*. Gadjah Mada University Press. Yogyakarta. hlm.110.

³⁰ A.Noer Chalifah Ramadhany, Sistem pengetahuan ekologis lokal (*local ecological knowledge*) pada nelayan tradisional, *Jurnal Kajian Sosial dan Budaya*, Vol.9, No.3, 2025, hlm.66-72.

community maintains unwritten social norms that govern how to fish in a reasonable manner and without damaging the environment. These values are reflected in the use of relatively simple and environmentally friendly traditional fishing gear. The people of Pulau Harapan Village use a variety of traditional fishing gear such as nets, sero nets, bubu traps, and longlines. These tools are simply constructed using readily available materials such as bamboo, wood, rattan, and nylon rope. These fishing gears are typically used by small-scale fishermen, primarily to meet family consumption needs or sell in limited quantities. Small-scale fishermen meet consumption needs and contribute to food security.³¹

Picture.1.1. Jala (Traditional Throwing Net)



Data source: Document from Mongabay 2022.³²

The net is made from nylon or monofilament thread woven into a circular net. A lead or small metal weight is attached to the edge to ensure the net sinks completely. The net is made manually using a specific knotting technique to ensure the mesh size matches the target fish species. Purpose: It is used to catch medium-sized fish in limited quantities for family consumption or small-scale sale. The fishing practice involves fishermen standing in small boats or on the riverbank, then throwing the net in a circle

³¹ Ary Wahyono, Karakteristik Nelayan Kecil Dalam Ketahanan Pangan Ikan: Kasus Di Kota Kendari, Sulawesi Tenggara, *Jurnal Masyarakat & Budaya*, Vol.18, No.3, 2016, hlm.319-338.

³² Mongabay Indonesia, Dokumen tentang alat tangkap ikan tradisional, 2022, diakses melalui <https://www.mongabay.co.id> pada tanggal 18 Februari 2026.

on the water's surface. Once it sinks, the net is slowly pulled in so that the fish are trapped inside. Environmental Sustainability: The net is selective because the mesh size can be adjusted so that small fish can escape. It does not damage the riverbed or destroy fish habitats. This demonstrates environmentally friendly fishing practices. The net is easy to use, selective, and environmentally friendly.³³

Picture.1.2. Sero (Fish Trap Made of Bamboo and Wood)



Data source: Document from Kompas.com in 2021.³⁴

A trap is made from bamboo or wooden slats arranged and tied tightly. They are arranged to form a fence or funnel with a one-way entrance, allowing fish to enter but have difficulty exiting. The purpose of this trap is to catch larger numbers of fish, usually during the abundant fishing season or at low tide. The trap is set permanently on the banks of rivers or estuaries and left for a period of time. Fish carried by the current enter the trap, which is then periodically retrieved. Environmentally sustainable, as it is made from natural materials (bamboo/wood), this tool does not pollute the waters. The use of a trap is usually seasonal and is not installed year-round, thus allowing fish time to breed. A trap is a passive fishing gear that utilizes water currents and is usually installed seasonally to allow fish to continue breeding.³⁵

³³ Monalisa, Selektivitas Alat Tangkap Jaring Insang di Desa Pangkalan Terap Teluk Meranti Kabupaten Pelalawan Provinsi Riau, *Jurnal Ilmu Perairan (Aquatic Science)*, Vol.11, No.2, 2023, hlm.128-134.

³⁴ Kompas.com, Dokumen mengenai pembuatan alat tangkap sero, 2021, diakses melalui <https://www.kompas.com> pada tanggal 18 Februari 2026.

³⁵ Gazali Salim, Analisis Sosial Ekonomi Dan Keramahan Lingkungan Alat Tangkap Sero (Set Net) Di Perairan Pulau Bangkudulis Kabupaten Tana Tidung, Kalimantan Utara, *Buletin Ilmiah Marina Sosial Ekonomi Kelautan Dan Perikanan*, Vol.5, No.2, 2019, hlm.85-94.

Picture.1.3. Bubu (Bamboo Woven Trap)



Data source: Document from Mongabay 2019.³⁶

How to make Bamboo is split thinly, then woven into a tube or box with a one-way funnel door. Tied using rattan or natural rope to make it strong and waterproof. The purpose of use is used to catch bottom fish or swamp fish in limited quantities, often for household consumption. The fishing practice Bubu is baited (bran, old coconut), then soaked in the river or swamp bottom. Left for a few hours or overnight, then lifted. Environmental sustainability Bubu is very selective and does not damage the habitat. If the fish caught are too small, they can still be released back alive. Folding bubu is environmentally friendly, selective, does not damage the habitat, and small fish can be released alive.³⁷

Picture.1.4. Pancing Rawai (Fishing Hook Assembly)



Data source: Document from Kompas.com in 2020.³⁸

³⁶ Mongabay Indonesia, Dokumen tentang pembuatan bubu tradisional, 2019, diakses melalui <https://www.mongabay.co.id> pada tanggal 18 Februari 2026.

³⁷ Hery Susanto, Analisis Tingkat Keramahan Lingkungan Alat Tangkap Bubu Lipat Di Perairan Laut Jawa Kabupaten Bangkalan, *Journal of Fisheries and Marine Research*, Vol.7, No.3, 2023, hlm.45-53.

³⁸ Kompas.com, Dokumen mengenai alat tangkap pancing rawai, 2020, diakses melalui <https://www.kompas.com> pada tanggal 18 Februari 2026.

How to make a main line from nylon, attaching branch lines at specific distances. Each branch is attached to a fishing hook and baited. It is equipped with a float and weight. The purpose of using it is to catch larger fish with more controlled results. Longline fishing practices are installed across a river or lake and left for several hours. After that, fishermen pull back and retrieve the caught fish. Environmental sustainability is more selective because only fish that eat the bait are caught. It does not damage the water bottom and does not catch small fish en masse. Longlines are environmentally friendly, selective fishing gear, and do not damage habitats or catch small fish en masse.³⁹

The use of traditional fishing gear demonstrates local values that emphasize a balance between natural resource utilization and environmental sustainability. This practice indirectly serves as a social control mechanism to prevent overfishing, which could damage the Mahakam River ecosystem.⁴⁰ This practice also aligns with national fisheries law. According to Articles 6 and 7 of the Minister of Maritime Affairs and Fisheries Regulation Number 36 of 2023 concerning the Placement of Fishing Gear and Fishing Aids, cast nets are classified as drop or cast fishing gear, while bubu and sero are classified as traps, and longlines are classified as fishing lines. These types of fishing gear are permitted for use because they are relatively environmentally friendly and do not damage aquatic habitats.⁴¹ Cast nets, traps, seine nets and longlines are environmentally friendly fishing gear because they do not damage aquatic habitats.⁴²

Although the people of Pulau Harapan Village have a tradition of using relatively environmentally friendly fishing gear, changes in fishing practices have begun to occur. These changes are influenced by increasing economic needs, technological developments, and changes in community mindsets. The orientation that

³⁹ Sutikno Subehi, Analisis Alat Penangkap Ikan Ramah Lingkungan Berbasis *Code Of Conduct For Responsible Fisheries* (Ccrf) Di TPI Kedung Malang Jepara, *Journal of Fisheries Resources Utilization Management and Technology*, Vol.6, No.4, 2017, hlm.1-10.

⁴⁰ Wawancara dengan Bapak Jailani, Selaku Nelayan Desa Pulau Harapan, Minggu, 28 Desember 2025, Pukul 15:00 WITA.

⁴¹ Pasal 6 dan Pasal 7, Peraturan Menteri Kelautan dan Perikanan Republik Indonesia Nomor 36 Tahun 2023 tentang Penempatan Alat Penangkapan Ikan dan Alat Bantu Penangkapan Ikan di Zona Penangkapan Ikan Terukur dan Wilayah Pengelolaan Perikanan Negara Republik Indonesia di Perairan Darat.

⁴² Almira Marsha Devina, Identifikasi Alat Penangkapan Ikan Ramah Lingkungan di Perairan Batam, *Jurnal Laut Khatulistiwa*, Vol.7, No.1, 2024, hlm.51-57.

previously emphasized the balance between the utilization and conservation of fishery resources has shifted towards meeting short-term economic needs. This change is marked by the emergence of environmentally unfriendly fishing practices such as the use of fish electrocution devices. This method allows fishermen to obtain large catches in a relatively short time. However, this practice has a negative impact on the aquatic ecosystem because it can kill fish of various sizes and damage the natural habitat where fish breed. Pulau Harapan Village on September 2, 2025, when authorities discovered the practice of electrocution of fish carried out by ten fishermen, namely R, B, F, H, J, J, M, N, R, and Z. The perpetrators admitted their actions and were cooperative during the investigation process. Based on information obtained, most of the perpetrators were first-time perpetrators of this violation and had never been involved in a legal case before.⁴³

In practice, electrocution causes a certain number of fish deaths but does not cause human casualties or damage to public facilities. Therefore, some people view the impact of this practice as relatively limited. However, ecologically, this practice still has the potential to reduce fish populations and disrupt the balance of the Mahakam River's aquatic ecosystem.⁴⁴ Electrocution and environmentally unfriendly fishing gear reduce fish populations and damage aquatic ecosystems.⁴⁵ Changes in fishing practices are influenced by several main factors:

First, there's the economic factor. Most fishermen in Pulau Harapan Village depend on fishing for their livelihood, with an uncertain income. This situation forces some fishermen to seek faster ways to increase their catch to meet their family's needs. The choice of fishing gear is influenced by ecological and economic conditions, as fishermen seek quick results to meet their family's needs.⁴⁶

Second, limited education and employment options. Some fishermen lack skills outside the fishing sector, severely limiting their employment options. This

⁴³ Wawancara dengan Fuji Adhaji, Jabatan Penyidik BAPOLSEK Selaku Kepolisian Sektor(Polsek) Muara Muntai, Senin 29 Desember 2025, Pukul 9:00 Wita.

⁴⁴ *Ibid.*, hlm.283-300.

⁴⁵ Ernawati S. Kaseng, Praktik *Destructive Fishing* Nelayan dan Pendekatan Ekologi Budaya dalam Pembangunan Berkelanjutan, Jurnal Sosialisasi, Vol.10, No.1, 2023, hlm.23-31.

⁴⁶ Rr Dyah Paramitha Mentari, Studi Sosial Ekonomi Penggunaan Alat Tangkap di Wilayah Pesisir Sungsang: Dampaknya terhadap Pendapatan dan Kesejahteraan Nelayan, *Journal of Marine Research*, Vol.14, No.3, Agustus 2025, hlm.645-652.

situation forces them to persist in fishing, even when using environmentally unfriendly methods. Limited education forces fishermen to continue fishing to meet their families' needs, even when using unsustainable methods.⁴⁷

Third, there is the weakening of social control. With the passage of time, the values of local wisdom that previously governed societal behavior have begun to decline. The younger generation no longer fully inherits these values, leading to a tendency to prioritize short-term economic gain.⁴⁸ Fishermen's social control is weakened due to internal and external factors, so that local wisdom is reduced and short-term economics is prioritized.⁴⁹

Criminal law, the use of fish electrocution devices is an act that is prohibited based on Article 8 paragraph (1) of Law Number 45 of 2009 as an amendment to Law Number 31 of 2004 concerning Fisheries. This provision states that every person is prohibited from using tools or methods that can damage fish resources and their environment.⁵⁰ Violations of these provisions can be subject to criminal sanctions in Article 84 paragraph (1) of the Law. The use of fish electrocution devices is an act that is prohibited based on Article 8 paragraph (1) of Law Number 45 of 2009 as an amendment to Law Number 31 of 2004 concerning Fisheries because the act has the potential to damage the sustainability of aquatic ecosystems.⁵¹ Under civil law, acts that damage fishery resources can give rise to civil liability if they cause harm to communities dependent on those resources. These harms can include decreased fish catches, destruction of aquatic habitats, and disruption to the livelihoods of communities dependent on river resources.⁵² Fishing gear destroys the basic habitat of the waters, reduces catches, and disrupts the livelihoods of fishermen.⁵³

⁴⁷ Soetji Andari, *Kebutuhan Nelayan Miskin Dalam Pemenuhan Kesejahteraan Keluarga Di Kecamatan Ujung Tanah, Kota Makassar*, *Jurnal Kebijakan Sosial Ekonomi Kelautan dan Perikanan*, Vol.12, No.1, 2022, hlm.11-21.

⁴⁸ Wawancara dengan Bapak Nanang, *Selaku Nelayan Desa Pulau Harapan*, Sabtu, 27 Desember 2025, Pukul 15:00 WITA.

⁴⁹ Doni As'adi Eka Putra, *Hambatan Solidaritas Sosial Nelayan Dalam Menjaga Kearifan Lokal Di Danau Singkarak Nagari Sumpur Sumatera Barat*, *Jurnal Ilmu Pengetahuan Sosial*, Vol.12, No.6, 2025, hlm. 2334-2343.

⁵⁰ Pasal 8 ayat (1), *Undang-Undang Nomor 45 Tahun 2009 sebagai perubahan atas Undang-Undang Nomor 31 Tahun 2004 tentang Perikanan*.

⁵¹ Ahmad Royani, *Sanksi Hukum Pidana Terhadap Penggunaan Bahan Peledak Dalam Penangkap Ikan*. In *Jurnal Independent*, Vol.6, No.1, 2018, hlm.1–10.

⁵² Joejoen Tjahjani, *Class Action As A Form Of Community Participation In Environmental Law Enforcement*. *Jurnal Independent*, Vol.9, No.2, 2021, hlm.25–30.

⁵³ Joneidi Tamarol, *Dampak Perikanan Tangkap Terhadap Sumberdaya Ikan Dan Habitatnya Di Perairan Patai Tabuka Tegah Kepulauan Sangehe*, *Jurnal Perikanan Dan Kelautan Tropis*, Vol.8, No.1, 2012, hlm.12-16.

In Pulau Harapan Village, there is no customary institution authorized to impose customary sanctions for such violations. Therefore, cases are usually resolved through social mechanisms, involving the village head and neighborhood association head as mediators. In some cases, cases are also reported to the police. The approach often prioritizes the concept of restorative justice, which involves resolving cases through dialogue between the perpetrator, the community, and related parties with the goal of restoring social relations and increasing public legal awareness. This approach is usually considered when the perpetrator is a first-time offender, is cooperative, and the impact is relatively limited.⁵⁴

However, this approach also presents challenges if violations are repeated without adequate oversight. This can weaken the deterrent effect and potentially threaten the sustainability of fisheries resources in the Mahakam River. Therefore, a balance is needed between community development approaches and firm law enforcement against environmentally damaging fishing practices. Strict law enforcement supported by a strong legal basis against illegal fishing practices.⁵⁵

Conclusion

Fishing practices in Pulau Harapan Village reflect local wisdom passed down through generations through the use of traditional fishing gear such as nets, seines, traps, and longlines that are selective, environmentally friendly, and in line with fisheries law. However, a shift in values has occurred with the emergence of fishing practices using electric nets, which damage the ecosystem and violate legal provisions. Violations are largely resolved through a restorative justice approach due to the lack of formal customary institutions to regulate and impose sanctions. Therefore, strengthening local wisdom, effective oversight, and strict legal enforcement are needed to maintain the sustainability of fishery resources and the balance of the Mahakam River ecosystem.

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⁵⁴ Wawancara dengan Bapak Basri, Selaku Ketua RT 01 Desa Pulau Harapan, Sabtu, 25 Desember 2025, Pukul 15:00 WITA.

⁵⁵ Mery Pemilia Astriyanti, Pengelolaan, Pemahaman dan Perlindungan Masyarakat, Serta Penegakan Hukum Tindak Pidana Mengenai *Illegal Fishing*, Jurnal Ilmiah Wahana Pendidikan, Vol.10, No.10, 2024, hlm. 498-507.

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