

Enhancing Local Economy through Communal Intellectual Property Development in Aceh

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ABSTRACT

The local economy in Aceh remains dominated by natural resource-based sectors and informal activities with low economic value-added. On the other hand, Aceh possesses significant potential in the form of Communal Intellectual Property (CIP), such as traditional cultural expressions, traditional knowledge, genetic resources, and potential geographical indications and appellations of origin, all of which reflect the community's identity and local wisdom. This article aims to analyze the role of CIP in enhancing Aceh's local economy through conceptual and policy-based approaches. The analysis indicates that the development of CIP can serve as a driving force for an inclusive and sustainable culture-based economy, provided it is supported by proper systems of inventory, legal protection, institutional strengthening particularly of local customary bodies and community based commercialization strategies. Local governments should recognize CIP as a strategic asset in economic development planning through regulatory support, research, and multi-stakeholder collaboration. Consequently, the development of CIP in Aceh not only strengthens the local economy but also reinforces cultural identity and economic self-reliance within the framework of Islamic values and Acehnese customary traditions.

Keywords: *communal ip, economic development, local wisdom, aceh*

1. INTRODUCTION

The local economy in many regions of Indonesia remains highly dependent on natural resources and the informal sector.¹ This dependence makes regional economic structures vulnerable to commodity price fluctuations and limits innovation. Through the development of *Communal Intellectual Property* (CIP) such as traditional cultural expressions, traditional knowledge, genetic resources, potential geographical indications, and indications of origin communities can derive sustainable economic benefits while simultaneously preserving their regional cultural identity.²

Communal Intellectual Property, encompassing traditional cultural expressions, traditional knowledge, genetic resources, potential geographical indications, and indications of origin, holds significant economic potential if managed effectively and sustainably.³ Each region in Indonesia possesses unique cultural characteristics, natural resources, and traditions that can serve as the foundation for developing high value-added products. With appropriate legal protection and strategic management, Communal Intellectual Property can function not only as a means of cultural preservation but also as a source of competitive advantage for local economies.

The development of Communal Intellectual Property can strengthen regional identity, enhance the reputation of local products in national and international markets, and provide direct economic benefits to indigenous communities and small-scale entrepreneurs.⁴ Therefore, the management of Communal Intellectual Property represents a strategic approach to promoting economic transformation based on local wisdom and reinforcing regional self-reliance amid global competition.

The development of CIP also plays a strategic role in enhancing regional identity and image in the context of global economic integration. Through legal protection and community-based management mechanisms, CIP can improve the competitiveness of local products by emphasizing their origin, cultural value, and distinctive quality.⁵ Moreover, such development can generate tangible economic benefits for indigenous peoples, micro, small, and medium enterprises (MSMEs), and expand the base of the creative economy at the local level.

Hence, optimizing Communal Intellectual Property is not merely an effort in cultural preservation but also an instrument of sustainable economic development that positions communities as the primary actors in the creation, protection, and utilization of intellectual assets.⁶ This policy direction is essential to foster regional self-sufficiency and equitable prosperity based on local potential.

Aceh possesses a rich and diverse cultural heritage, traditions, and natural resources that form the distinctive identity of its people. This potential is reflected in various cultural products and expressions such as *ranum lampuan*, *didong*, *rapai*, *saman*, embroidery, *songket*, *rencong*, and woven fabrics that have gained national and international recognition. Acehese motifs, imbued with Islamic philosophical meanings, traditional woodcraft and carvings, as well as distinctive local

¹ Dedi Mulyadi et al., "Regional Autonomy in Indonesia : Challenges and Opportunities in Sustainable Development in the Era of Sustainable Development Goals (SDGs)," no. 2 (2024): 1–12.

² Putu Aras Samsithawrati et al., "Traditional Knowledge and Traditional Cultural Expressions as Communal Intellectual Property : Are They Protected Under the WIPO Treaty on Intellectual Property , Genetic Resources , and Associated Traditional Knowledge 2024 ?," *Jurnal Pembangunan Hukum Indonesia Hukum* 7, no. 1 (2025).

³ Muhamad Sigit and Al Furqon, "Safeguarding Heritage : Preserving Traditional Knowledge in Global Patent Law," *International Journal of Current Science Research and Review* 07, no. 06 (2024): 3556–66, <https://doi.org/10.47191/ijcsrr/V7-i6-05>.

⁴ Sigit and Furqon.

⁵ Echa; Hamzah. Cristi, "Legal Protection Of Communal Intellectual Property As A Basic Capital For National Development Based On Local Wisdom," *Journal of Law and Social Change Review* 1, no. 1 (2025): 14–30.

⁶ Aji Baskoro; and Annisa Hafizhah, "BALANCING TRADITION AND INNOVATION: LEGAL FRAMEWORK FOR PROTECTING COMMUNAL INTELLECTUAL PROPERTY IN THE BORDERLESS AGE," *Indonesian Law Journal* 16, no. 1 (2023): 63–107, <https://doi.org/DOI : 10.33331/ilj.v16i1.128>.

cuisines with deep historical value, represent the region's rich heritage.⁷ In addition, Acehnese communities possess traditional knowledge in natural resource management, including agricultural practices, farming techniques, and plant-based medicinal knowledge passed down through generations.

However, the economic value added at the local level remains suboptimal due to the low level of innovation, protection, and commercialization of products derived from local potential. Many local products that embody cultural uniqueness and distinct quality have yet to receive adequate legal recognition or fair market valuation.⁸ The lack of awareness about the importance of Intellectual Property protection, limited institutional capacity, and minimal policy support for the creative economy have hindered the full development of such potential.

As a result, local communities often serve merely as producers of raw materials or as subsistence-level economic actors, while the greater economic value is captured by external parties who have better access to technology, markets, and legal protection.⁹ This condition underscores the need for an economic development strategy based on strengthening Communal Intellectual Property, so that cultural, traditional, and natural potentials can be transformed into sustainable economic power.

Aceh's rich cultural, traditional, and natural resources constitute forms of CIP assets born from collective creativity and inherited across generations within communities.¹⁰ When managed systematically through legal protection, institutional strengthening, and equitable commercialization strategies, Communal Intellectual Property can serve as a major driving force for Aceh's local economy.¹¹ Beyond generating economic value, the development of CIP also reinforces the cultural identity and selfhood of Acehnese society amid modernization and global economic dynamics. This article examines the factors that hinder the development of CIP in Aceh as a driver of local economic growth and explores strategic approaches to its development in order to promote a sustainable and equitable local economy

2. COMMUNAL INTELLECTUAL PROPERTY

2.1 Types of Communal Intellectual Property

2.1.1 Traditional Cultural Expressions

According to the World Intellectual Property Organization (WIPO), Traditional Cultural Expressions (TCEs) encompass all forms of artistic and cultural expressions that originate from the traditions of a particular community, such as music, dance, rituals, handicrafts, and decorative motifs that reflect local wisdom.¹² In the context of national law, TCEs are recognized as part of communal copyright owned by the state for the benefit of the originating community, as stipulated in Article 38 of Law Number 28 of 2014 on Copyright. Furthermore, the regulation is elaborated in Government Regulation Number 56 of 2022 on the Documentation of Communal Intellectual Property

⁷ Yulia Yulia; Herinawati Herinawati; Raudhatul Jannah; Siti Sara Safina., "Traditional Knowledge Management : Community Understanding and Government Strategic Steps to Strengthen Aceh ' s Economy," *Jurnal Ilmu Hukum Padjadjaran* 12, no. 1 (2025): 115–36, <https://doi.org/https://doi.org/10.22304/pjih.v12n1.a63>.

⁸ Makam Ganesh Kumar, "Geographical Indications and Cultural Protection in India : Harnessing Intellectual Property for Regional Development," no. 2017 (2021).

⁹ Abdul Atsar et al., "Socio-Legal Review of The Implementation of Identification and Inventory of Communal Intellectual Property for Tourism Development" 31, no. 2 (2025): 107–16.

¹⁰ Yulia Yulia, "The Urgency of Protecting Traditional Knowledge of Medicines as Communal Intellectual Property of the Aceh Community Urgensi Perlindungan Pengetahuan Obat Tradisional Sebagai Kekayaan Komunal Masyarakat Aceh," *Jurnal Geuthèè: Penelitian Multidisiplin (Multidisciplinary Research* 6, no. 2 (2023): 166–74, <https://doi.org/10.52626/jg.v>.

¹¹ Yulia Yulia, "The Protection of Traditional Knowledge Under Indonesian Patent Law: Between Opportunities and Challenges," *Indonesian Journal of International Law* 18, no. 3 (2021): 351–74, <https://doi.org/10.17304/ijil.vol18.3.815>.

¹² Peter K Yu and Peter K Yu, "Texas A & M Law Scholarship WIPO Negotiations on Intellectual Property , Genetic Resources and Associated Traditional Knowledge WIPO NEGOTIATIONS ON INTELLECTUAL PROPERTY ," 7, no. 2 (2024): 278–328.

Traditional Cultural Expressions include various forms of expression that emerge from the culture of a society and are transmitted from generation to generation, such as dance, music, oral literature, traditional ceremonies, textile motif designs, traditional architecture, and performing arts. These expressions function not only as aesthetic creations but also as symbols of identity, value systems, and means of cultural transmission within a community.¹³ The scope of TCEs can be categorized according to their forms and media, as follows:

a. Verbal Expressions: This category includes oral traditions such as folktales, legends, myths, proverbs, incantations, traditional poems, and folk songs. These forms serve as a medium for conveying moral values, history, and local knowledge systems that govern the relationship between humans, nature, and their community.

b. Musical and Dance Expressions: This category encompasses traditional musical compositions, folk songs, indigenous musical instruments, and customary dances that form an integral part of religious rituals, social ceremonies, and community entertainment. Traditional music and dance possess distinctive rhythmic and symbolic structures that reflect the spiritual values and cultural identity of the local community.

c. Visual and Artistic Expressions: This includes decorative motifs, carvings, traditional paintings, textiles (such as batik, tenun, and songket), and other visual symbols. These artistic forms often carry philosophical meanings and are used in socio-religious contexts, for instance in traditional attire, vernacular architecture, or ceremonial objects.

d. Ritual and Ceremonial Expressions: This refers to customary processions, religious practices, and symbolic systems in traditional ceremonies such as weddings, circumcisions, harvest celebrations, and funerary rites. These ritual elements reflect the community's spiritual connection with their ancestors and the natural environment.

e. Traditional Architecture and Handicrafts: This category includes traditional building forms, household tools, weapons, and handicrafts that are created using inherited techniques. These forms serve not only utilitarian purposes but also embody aesthetic values and collective identity.

2.1.2 Traditional Knowledge

Traditional Knowledge constitutes a part of CIP, encompassing all forms of knowledge, skills, innovations, and practices developed by indigenous peoples or local communities and transmitted across generations.¹⁴ This knowledge emerges from the continuous interaction between humans and their natural, social, and cultural environments and is transmitted intergenerationally through practice, oral traditions, and collective habits. According to the World Intellectual Property Organization (WIPO), Traditional Knowledge refers to "knowledge, know-how, skills and practices that are developed, sustained, and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity." Thus, traditional knowledge is not merely technical in nature but also embodies spiritual, social, and ecological dimensions that are deeply connected to the identity of a community.

In the context of national law, Traditional Knowledge has been recognized as one of the objects of Communal Intellectual Property, as stipulated in Law Number 28 of 2014 on Copyright and further elaborated in Government Regulation Number 56 of 2022 on the Documentation of Communal Intellectual Property. Traditional Knowledge encompasses local knowledge systems related to the management of natural resources, agriculture, medicine, traditional technologies, and belief systems formed through the long-standing experiences of communities in interacting with their

¹³ Yu, Peter K, "WIPO Negotiations on Intellectual Property , Genetic Resources and Associated Traditional Knowledge , *Akron Law Review*, Vol. 57 [2024], Iss. 2, 278-328

¹⁴ Nirmalya Syam and Carlos M Correa, "Understanding the New WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge," *Policy Brief*, 2024, 1–6.

environments. The scope of Traditional Knowledge is extensive and covers various aspects of community life, including the following:

- a. Agricultural and Environmental Knowledge: This includes traditional cultivation systems, land management techniques, crop rotation, the use of organic fertilizers, traditional irrigation systems, and methods of environmental conservation. Examples include the subak irrigation system in Bali and the huma cultivation system among indigenous communities in Kalimantan.
- b. Traditional Medicine and Health Knowledge : This encompasses knowledge of medicinal plants, traditional herbal preparations, natural healing techniques, and spiritually based therapeutic practices. Such knowledge often serves as the foundation for the development of modern herbal medicines and traditional pharmacology.
- c. Food and Local Nutrition Knowledge: This consists of traditional recipes, preservation methods, fermentation processes, and techniques for processing regional food materials. Examples include the fermentation process of tempeh, the making of rendang, or the processing of sago in eastern Indonesia.
- d. Traditional Architecture and Local Technologies: This refers to construction techniques for traditional houses, natural ventilation systems, spatial organization, and simple technologies based on local resources, such as traditional boats and handlooms.
- e. Social and Customary Legal Knowledge: This includes systems of values, norms, and customary laws governing social life, ownership systems, dispute resolution mechanisms, and collective management of natural resources.
- f. Artistic and Craftsmanship Knowledge: This covers techniques of textile production, carving, weaving, and other forms of traditional art that reflect local craftsmanship and the worldview of artisan communities.

Traditional knowledge often serves as a foundation for modern innovation; however, it remains vulnerable to exploitation by external parties without fair benefit-sharing mechanisms. Therefore, legal protection of Traditional Knowledge is essential to safeguard the rights of the communities that hold and sustain this heritage.

2.1.3 Genetic Resources

Genetic Resources constitute an integral component of CIP, encompassing all biological materials that contain functional units of heredity (DNA, genes, or germplasm) and possess actual or potential value for human life.¹⁵ These resources form the foundation of biological diversity (biodiversity), which plays a crucial role in sustaining life, ensuring food security, promoting health, and advancing scientific and technological development. According to the Convention on Biological Diversity (1992), Genetic Resources refer to “genetic material of actual or potential value,” meaning any material of plant, animal, microbial, or other origin containing functional units of heredity and having real or potential worth.

Genetic Resources are a vital element in sustainable development and biological sovereignty, as they carry significant economic, social, and ecological potential.¹⁶ They often serve as the basis for research in biotechnology, the pharmaceutical industry, and modern agriculture. These resources

¹⁵ María Vásquez Callo-Müller; Diego F. Ortega Sanabria; Remigio, Alejandro Matsuno. “The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge: Situating a Landmark Development in International Intellectual Property Governance,” *GRUR International* 73, no. 12 (2024): 1128–36.

¹⁶ Chidi Oguamanam, “Information Systems and Digitization of Traditional Knowledge: Trends in Cultural Heritage and Memory Institutions and the WIPO Genetic Resources Treaty *,” no. January (2025): 1–32, <https://doi.org/10.1111/jwip.70005>.

include the rich biodiversity utilized by local and indigenous communities to meet their daily needs, such as local varieties of plants, animals, and microorganisms. Traditional knowledge related to the use and management of genetic resources frequently forms the foundation for modern biotechnological research. Protection of this form of CIP is essential to prevent biopiracy and to ensure fair and equitable benefit-sharing for the communities that own and sustain these resources.

The scope of Genetic Resources covers all forms of biological materials that can be used for research, conservation, and development purposes. Based on their origin and type, Genetic Resources can be classified into several categories as follows:

a. Plant Genetic Resources

This includes all varieties of crops, medicinal plants, spices, timber, and ornamental plants that possess genetic value and development potential. Examples include local rice varieties, Gayo coffee, medicinal plants such as *Curcuma xanthorrhiza* and ginger, as well as endemic Indonesian species with high genetic value.

b. Animal Genetic Resources

These encompass both wild and domesticated animal species with genetic significance, including local livestock such as Aceh cattle, native chickens, and endemic fish species like semah and arowana. Animal genetic potential is crucial for breeding programs, food security, and biotechnological innovation.

c. Microbial Genetic Resources

This category includes bacteria, fungi, yeasts, and other microorganisms that possess economic or scientific value—for example, decomposing microbes, probiotics, and microorganisms used in fermentation industries and pharmaceutical research.

d. Marine and Coastal Genetic Resources

These include marine organisms such as seaweed, coral reefs, plankton, and marine fish, all of which contain unique genetic traits with potential applications in pharmaceuticals and marine-based food industries.

e. Germplasm (Plasma Nutfah)

Refers to genetic materials used in species breeding and conservation, including seeds, tissues, embryos, or cells. Germplasm forms the essential basis for genetic research and contributes to national food security and biodiversity conservation.

Overall, the protection and sustainable management of Genetic Resources are fundamental to maintaining biodiversity, supporting local economies, and ensuring equitable benefit-sharing in line with the principles of environmental justice and international law.

2.1.4 Potential Geographical Indications

The potential for Geographical Indications (GI) can be found throughout Indonesia, given its vast natural, cultural, and local resource diversity.¹⁷ The scope of such potential spans various sectors of

¹⁷ Alif Muhammad Gultom and Sri Wartini, "Preserving Indigenous Cultures: Analyzing Geographical Indication Registration for Indigenous People Protection in Indonesia," *Journal of Judicial Review* 25, no. 1 (2023): 33, <https://doi.org/10.37253/jjr.v25i1.7647>.

production, including agriculture, fisheries, handicrafts, and region-specific processed goods. The scope of potential Geographical Indications may be outlined as follows:

a. Agricultural and Plantation Products

Agricultural and plantation products often have distinctive characteristics influenced by geographical factors such as soil type, climate, and altitude. Examples include Pidie Jaya cocoa, Tangse Pidie rice, and Pidie durian, each possessing unique sensory and quality traits derived from local environmental conditions and cultivation traditions.

b. Fisheries and Marine Products

Indonesia's coastal and marine areas harbor substantial GI potential due to their unique ecosystems and traditional processing methods. Examples include Aceh kemamah fish, depek fish from Lake Laut Tawar Takengon, Amed salt from Bali—produced through natural evaporation using traditional techniques—jambal roti salted fish from Indramayu, and Sabu Rajua seaweed or Lombok pearls, both valued for their distinctive marine characteristics.

c. Livestock and Animal-Based Products

GI potential also includes animal-based products with unique characteristics influenced by their origin and traditional processing methods. Examples include Sembalun cow's milk from West Nusa Tenggara, Kudus buffalo meat known for its distinctive flavor, and Brebes salted eggs, whose quality is affected by the type of soil and natural preservatives used.

d. Handicrafts and Local Creative Industries

GI potential is not limited to natural products but also extends to handicrafts that embody cultural values and traditional craftsmanship passed down through generations. Examples include Sumba ikat weaving and Palembang songket, which reflect regional cultural identities; Kasongan pottery (Yogyakarta) and Mataram keris blades that merge artistry with tradition; as well as Lombok pandan weaving and Simeulu pandan crafts from Aceh, both showcasing distinctive local materials and motifs.

e. Traditional Foods and Beverages

Traditional foods influenced by local ingredients and distinctive processing techniques are also within the scope of GI potential. Examples include Minangkabau rendang, celebrated for its unique cooking process and rich spices; Garut dodol, Sundanese nasi liwet, and Madura satay, each possessing flavors specific to their geographical origins; as well as Sate Matang, Masak Mirah, Sayur Pliek U, Keukarah, and Timphan from Aceh, which exemplify the culinary diversity of the region.

2.1.5 Indication of Source

The Indication of Source is a form of Communal Intellectual Property (CIP) that serves as a sign or statement indicating the origin of a particular good or product, but it differs from a Geographical Indication (GI).¹⁸ While GI emphasizes the relationship between the quality or reputation of a product and specific geographical factors (both natural and human), the Indication of Source focuses primarily on information about the place of origin of a good or product without necessarily requiring characteristics determined by particular geographical conditions.

¹⁸ Yoan Nursari Simanjuntak, "The Review of Communal Rights on Geographical Indications: Communal Standpoint as Constraints to Legal Protection," *Environmental Policy and Law* 51, no. 5 (2021): 297-308, <https://doi.org/10.3233/EPL-210001>.

In other words, the Indication of Source provides informative geographical identity rather than protection over distinctive quality or reputation. Nevertheless, it still holds legal and economic significance, as it can be used to mark the place of production, build consumer trust, and support the marketing of local products.

The scope of the Indication of Source encompasses various types of goods or services identifiable by their place of production, whether derived from natural resources or human-made processes. In general, its scope can be categorized as follows:

a. Natural Products

This category includes goods directly produced by nature from specific regions, such as agricultural, fishery, or mining products. Examples include: Pamekasan Salt– salt produced in the Madura region. Sumbawa Forest Honey– natural honey from the forests of Sumbawa.

b. Processed or Local Industrial Products

This includes processed goods, assembled items, or products from small and medium-sized industries that utilize local raw materials or distinctive regional production methods. Examples include: Padang Balado Chips, Aceh Chocolate, Samarinda Handwoven Fabric.

c. Handicrafts and Artistic Products

Many handicraft products use the Indication of Source merely to denote their place of production without asserting any unique characteristics. Examples include: Kasongan Pottery (Yogyakarta), Jepara Carvings, Pekalongan Batik Fabric.

d. Services and Tourism Products

Beyond tangible goods, services or tourism products may also use an Indication of Source to indicate the origin of the service or destination. Examples include: Sabang Marine Tourism, Banda Aceh Coffee House, Belitung Sea Transportation

2.2 Communal IP Ownership

Communal Intellectual Property represents a form of intellectual property that originates, evolves, and is transmitted from generation to generation within a community.¹⁹ Unlike individual intellectual property, which is personal in nature and subject to limited protection duration, CIP is collective, continuous, and reflects the socio-cultural identity of a particular community. It is inseparable from the value systems, knowledge, and living practices of the indigenous or local communities that serve as its custodians. Ownership within the framework of CIP differs fundamentally from the concept of ownership in the conventional intellectual property system, which is individual-based and grounded in exclusive rights.²⁰ CIP is the result of collective creativity that emerges, develops, and is inherited over time within indigenous or local communities. Consequently, its ownership is communal, collective, and intrinsically linked to the social and cultural identity of the community that possesses it.

The ownership rights over CIP are not oriented toward individual interests but toward the continuity of cultural values and the collective well-being of the community. Therefore, the rights

¹⁹ Yulia Yulia et al., "Legal Protection of Traditional Medicine Knowledge as Intellectual Property of North Aceh Communities," *Queen Mary Journal of Intellectual Property* 13, no. 4 (2024): 407–21, <https://doi.org/10.4337/qmjip.2023.04.02>.

²⁰ Zulkifli Zulkifli et al., "Co-Ownership of Communal Intellectual Property in Perspective Support to Regional Tourism," *Journal of Law and Sustainable Development* 11, no. 10 (2023): e459, <https://doi.org/10.55908/sdgs.v11i10.459>.

attached to CIP are not merely economic rights but also moral and cultural rights, ensuring recognition, respect, and protection of the community's existence as the creator and custodian of traditional knowledge and cultural expressions.²¹ The legitimate owners of CIP are indigenous or local communities that create, preserve, and develop the various forms of knowledge and cultural expressions in question. These communities may take the form of social groups, ethnic communities, or customary territories that share common historical ties, values, and traditional practices.

This ownership can take two primary forms:

- a. Direct Collective Ownership, where a community collectively possesses and utilizes a particular CIP such as distinctive weaving motifs, traditional rituals, or medicinal knowledge.
- b. Representative Collective Ownership, where the community is represented by a customary institution, local government, or legally recognized entity that is mandated to manage, protect, and utilize the CIP for the benefit of the community.

Accordingly, the system of CIP ownership is non-exclusive and intergenerational, allowing every member of the community the right to use, inherit, and safeguard the CIP without individual monopoly or privatization.

3. COMMUNAL INTELLECTUAL PROPERTY IN ACEH

3.1 Traditional Cultural Expressions of Aceh

3.1.1 Traditional Dance and Music in Aceh

Seudati, Saman, Rapa'i, Ranup Lampuan, and Didong, which represent artistic expressions reflecting religious spirit, solidarity, hospitality, and heroism. These forms of art convey both social and spiritual meanings that reinforce communal identity and collective values.²²

3.1.2 Literature and Oral Traditions

Hikayat (epic tales), Hadih Maja (proverbs), Meudike (religious chants), Hikayat Prang Sabi, Nandong Simeulu, Doda Idi (folk lullabies), and Pantun Aceh (traditional rhymes). These oral traditions serve as media for transmitting Islamic teachings, ethics, and local history. They function to preserve the community's collective memory and strengthen cultural identity across generations.

3.1.3 Customs and Traditional Ceremonies

Rituals such as Peusijek (blessing ceremony), Khanduri Blang (harvest festival), Khanduri Laot (sea ritual), Turun Tanah (first steps ceremony), Nujuh Bulan (prenatal ritual), marriage, birth, and circumcision ceremonies. Each of these embodies the harmonious relationship between humans, nature, and God, carrying profound social and spiritual significance while reinforcing community solidarity.

3.1.4 Traditional Architecture and Handicrafts

²¹ Miranda Risang et al., "Inclusive Rights to Protect Communal Intellectual Property: Indonesian Perspective on Its New Government Regulation Inclusive Rights to Protect Communal Intellectual Property: Indonesian Perspective on Its New Government Regulation," *Cogent Social Sciences* 9, no. 2 (2023), <https://doi.org/10.1080/23311886.2023.2274431>.

²² Fika Amaly et al., "Tangan Motif Aceh Sebagai Ekspresi Budaya Tradisional Di Kabupaten Aceh Utara Legal Protection Of Copyrights Of Aceh Motif Handicrafts As An Expression Of Traditional" 8, no. 1 (2020).

Rumoh Aceh (Acehnese traditional house), Songket weaving, Rencong (traditional dagger), Pintu Aceh (decorative door carving), and Kopiah Meukeutop (traditional cap) represent indigenous architectural knowledge emphasizing ecological, aesthetic, and Islamic principles. The craftsmanship in Acehnese songket weaving, wood carving, and metalwork demonstrates refined artistic sensibility and symbolic meaning passed down through generations.

3.2 Traditional Knowledge of Aceh

Traditional knowledge in Aceh covers various aspects of community life, including agriculture, medicine, architecture, and food culture.²³

3.2.1 Agriculture and Environmental Management

The Acehnese people possess local knowledge in managing agricultural land, fisheries, and forests. Examples include tandak (customary land-sharing system), keuneunong (traditional irrigation system), and pawang laot (traditional marine guardians) who regulate fishing seasons and methods in accordance with ecological balance and customary norms.

3.2.2. Traditional Medicine

Aceh has a long tradition of herbal medicine based on natural ingredients derived from forest plants and spices. Traditional healers (tabib or dukun kampung) use inherited knowledge combining herbal formulations, prayers, and Islamic-based spiritual practices for healing.

3.2.3 Architecture and Local Technology

Traditional Acehnese houses (Rumoh Aceh) reflect deep architectural understanding of climate, wind direction, and religious values. The construction technique, which uses interlocking wooden joints without nails, demonstrates advanced environmentally friendly local technology.

3.2.4 Culinary Knowledge and Food Processing

The Acehnese have developed rich culinary traditions such as Kuah Beulangong, Mie Aceh, and Gayo Coffee. These dishes not only represent cultural identity but also possess significant economic potential as local and export commodities.

3.3. Genetic Resources of Aceh

Aceh's strategic geographical position and diverse ecological conditions ranging from mountains and tropical rainforests to coastal and marine ecosystems have produced a high diversity of genetic resources, both flora and fauna. Major biodiversity areas include the Gunung Leuser National Park, Ulu Masen Ecosystem, Seulawah Agam Forest, and the marine regions of Sabang and Simeulue.

3.3.1 Plant Genetic Resources (Flora)

Aceh's plant genetic resources encompass food crops, spices, medicinal plants, and economically valuable forest species. Examples include: Local rice varieties such as Beras Sigupai, Beras Sikuneng, and Beras Cantek, known for their adaptability to local soil and climatic conditions. Gayo Arabica Coffee, protected by Geographical Indication, recognized globally as one of the finest coffee varieties due to its unique highland genetic characteristics. Aceh Patchouli (Nilam Aceh), with high

²³ Y. Yulia, et al "Protection of Traditional Knowledge of Indonesian Society in the Field of Medicines: In the Development of Pharmaceutical Industry Technology," *Intellectual Property Rights Review* 3, no. 2 (2020): 221-26.

patchouli alcohol content, serving as a key export commodity for the global perfume and cosmetics industry. Traditional medicinal plants, such as pasak bumi, lemongrass, red ginger, saga, and akar kuning, used in traditional herbal medicine.

3.3.2 Animal Genetic Resources (Fauna)

Aceh is also rich in faunal diversity, particularly endemic species in the northern Sumatran tropical forests. Notable examples include: Sumatran Elephant (*Elephas maximus sumatranus*) and Sumatran Tiger (*Panthera tigris sumatrae*), both endangered and protected within the Gunung Leuser National Park. Aceh Buffalo and Peusangan Cattle, representing local livestock breeds well-adapted to environmental conditions. Keureling Fish, Aceh Catfish, and Giant River Prawns from Krueang Aceh River, which are vital protein sources and part of local culinary identity.

3.3.3 Microbial Genetic Resources

Local microorganisms derived from traditional fermentation and tropical ecosystems in Aceh hold vast biotechnological potential. Examples include microbes from fermented products such as *Peugaga* (herbal drink), *Asam Sunti* (fermented lime), and *Ikan Kayu/ Keumamah* (dried fish), which exhibit unique enzymatic properties valuable for food and pharmaceutical industries.

3.4 Geographical Indication Potential of Aceh

Aceh possesses distinctive geographical conditions that support the development of Geographical Indications. Contributing factors include: Agro-ecological diversity allowing various commodities to develop unique genetic characteristics. Strong traditional knowledge and customary systems preserving authentic production methods. Historical reputation of Acehese products in national and international markets, such as coffee and spices. Institutional support and growing community awareness of the importance of local product protection.

3.4.1 Agriculture and Plantation Sector

Ulu Masen Robusta Coffee, known for its strong flavor and tropical forest aroma. Aceh Utara Cocoa, recognized for its high fat content and balanced flavor profile. Aceh Timur Hot Pepper, with high spiciness resulting from unique coastal soil and climate. Sikuneng and Cantek Rice from Aceh Besar, featuring distinctive color and aroma derived from traditional cultivation and natural irrigation.

3.4.2 Fisheries and Marine Products

Ikan Kayu (Keumamah) from Banda Aceh, made from skipjack tuna using traditional drying techniques known since the spice trade era. Windu Prawn from the West-South Coast, cultivated naturally without chemical feed, producing distinct taste and texture. Langsa Shrimp Paste (Terasi), made from local small shrimp through inherited natural fermentation methods. Langsa Soy Sauce (Kecap Langsa), traditionally brewed from soybeans with a unique local recipe.

3.4.3 Handicrafts and Cultural Products

Acehnese Songket (Songket Inong Balee) from Aceh Besar and Aceh Barat, featuring Islamic motifs and customary philosophy. Keris and Rencong Aceh, distinctive in shape and forging techniques reflecting local identity. Simeulue Pandan Weaving, Grass and Clay Handicrafts from Pidie, showcasing local materials and traditional craftsmanship.

3.5 Indications of Origin from Aceh

Many Acehese products are widely recognized by their place of origin, even if they do not possess specific geographical characteristics as required for GI protection. Examples include:

3.5.1 Food and Culinary Products

Mie Aceh, a signature noodle dish rich in spices, nationally recognized for its traditional cooking method. Kuah Beulangong from Aceh Besar, a meat based dish symbolizing communal cooperation in social gatherings. Keukarah and Timphan, traditional cakes representing cultural symbolism in religious and ceremonial events. Sate Matang from Bireuen, nationally famous for its distinctive seasoning and flavor.

3.5.2 Natural and Agricultural Products

Aceh Coffee, including varieties such as Ulu Masen Coffee, Pidie Coffee, and Ulee Kareng Coffee, which, despite lacking GI registration, already possess strong reputational value. Aceh Timur Pepper, historically a major export commodity during the Aceh Sultanate era. Simeulue Coconut and Southwest Aceh Nutmeg, key regional commodities with export potential.

3.5.3 Handicrafts and Cultural Products

Aceh Songket, produced in various regions such as Aceh Besar, Aceh Barat, and Pidie, characterized by Islamic motifs and local aesthetics. Rencong Aceh, the traditional weapon symbolizing Acehese identity and often used as a cultural souvenir.²⁴ Pandan and Rattan Weaving from Pidie, reflecting local craftsmanship, aesthetic quality, and distinctive raw materials. With their unique characteristics and deep-rooted cultural and environmental values, Aceh's CIP products possess high economic value and great potential as pillars of regional development. Through legal protection, institutional strengthening, and market development based on local wisdom, CIP can serve as a sustainable economic growth driver that benefits communities while preserving Aceh's cultural identity and natural resources.

4. INHIBITING FACTORS IN THE DEVELOPMENT OF COMMUNAL INTELLECTUAL PROPERTY

Although Aceh possesses a wealth of cultural heritage, traditional knowledge, and abundant local resources, the development of CIP in the region still faces numerous challenges. These obstacles can be categorized into several key aspects: institutional, regulatory, socio-cultural, economic, as well as technological and informational factors.

4.1. Institutional and Governance Aspects

One of the main barriers to CIP development in Aceh is the weak coordination and governance among relevant institutions. The absence of a designated managing body for CIP at the regional level has resulted in unsystematic inventory, registration, and promotion processes. The involvement of customary institutions, local government, and universities often remains sectoral and fragmented, lacking integration within a unified management system.²⁵ The absence of a strong institutional structure has caused many of Aceh's cultural and traditional knowledge assets to remain undocumented or unregistered in the national database of CIP.

4.2 Regulatory and Legal Protection Aspects

²⁴ Yulia, "The Urgency of Protecting Traditional Knowledge of Medicines as Communal Intellectual Property of the Aceh Community Urgensi Perlindungan Pengetahuan Obat Tradisional Sebagai Kekayaan Komunal Masyarakat Aceh."

²⁵ Yulia Yulia; Herinawati Herinawati; Raudhatul Jannah; Siti Sara Safina., "Traditional Knowledge Management : Community Understanding and Government Strategic Steps to Strengthen Aceh ' s Economy."

Although the government has issued Government Regulation No. 56 of 2022 on Communal Intellectual Property, its implementation in Aceh remains limited. The challenges include: Lack of socialization and legal awareness among communities and local authorities regarding the mechanisms of CIP registration and protection. The absence of a Qanun (regional regulation) specifically governing the protection and management of Aceh's CIP.

4.3 Socio-Cultural Aspects and Community Awareness

Socio-cultural factors also represent a significant obstacle. Many communities still lack awareness and understanding of the economic and legal value of CIP. Traditional knowledge is often perceived as a communal heritage to be shared openly without considering the need for legal protection. Younger generations tend to be less interested in continuing traditional crafts or practices due to modernization and limited economic incentives. As a result, many traditional cultural expressions and local knowledge practices in Aceh are at risk of extinction because they are no longer practiced or transmitted.

4.4 Economic and Financial Aspects

Limited economic resources also constitute a crucial barrier. Insufficient funding and financial support from the government for activities such as inventory, promotion, and certification of CIP products have slowed down protection and development processes. Local CIP based products often lack significant added economic value because they have not been developed into market-oriented commercial products. Access to capital and markets for cultural practitioners, artisans, and customary groups remains very limited. Without adequate economic support, communities tend to lack strong motivation to preserve and develop CIP as a productive asset.

4.5 Technological and Information Aspects

In the digital era, information technology plays a crucial role in supporting the documentation, promotion, and protection of CIP. However, Aceh still faces challenges such as: Limited digitalization and lack of integrated CIP databases at both provincial and district levels. Low digital literacy among indigenous communities and small entrepreneurs, which hampers the promotion and distribution of CIP based products. As a result, the potential of Aceh's CIP remains underrecognized both nationally and internationally.

4.6 Synergy and Partnership Aspects

CIP development requires cross-sectoral synergy between government, academia, industry, and the community. However, partnerships among these stakeholders remain weak, and a sustainable CIP ecosystem has yet to be established. There is still no effective collaborative model between customary institutions and local governments for managing the economic benefits derived from CIP. Therefore, the Aceh Government must urgently formulate strategic policies by drafting regulations on CIP management, conducting systematic CIP documentation, and fostering partnerships with industries to ensure the sustainable utilization and protection of Communal Intellectual Property.

5. THE ROLE OF COMMUNAL IP IN THE LOCAL ECONOMY

Communal Intellectual Property (CIP) represents a vital asset in the development of a local wisdom-based economy in Aceh. CIP not only reflects cultural identity but also holds significant economic potential when managed in a structured and sustainable manner. The development of CIP can serve as a strategic instrument for enhancing community welfare, strengthening the regional economy, and supporting sustainable development goals. To achieve these objectives, an integrated and systematic development strategy is required.

5.1. Strengthening Institutional Frameworks and Regional Policies

The first step in developing CIP in Aceh is to reinforce the institutional and policy frameworks that support its protection and utilization. This may include establishing a competent institution responsible for managing CIP, such as a CIP Service Unit under the Department of Culture or the Department of Industry, tasked with documentation, registration, and facilitation of CIP product development. Furthermore, the formulation of the Qanun Aceh on Communal Intellectual Property should serve as a legal umbrella tailored to the special autonomy of Aceh under the Law on the Governing of Aceh, ensuring that CIP management aligns with principles of sharia, customary law, and local wisdom. The integration of CIP policy into regional development plans is also essential, so that it becomes part of the regional economic and cultural development strategy. Strengthened institutions and regulations will provide Aceh's CIP with legal legitimacy and clear policy direction.

5.2. Mapping and Inventory of Communal Intellectual Property

The second strategy involves conducting a comprehensive inventory and digitalization of CIP data across all districts and municipalities in Aceh. This process should be implemented through collaboration between local governments, traditional institutions, universities, and local community groups. The data should be stored in an integrated digital database containing detailed descriptions, locations, economic values, and legal statuses of each CIP. The use of geospatial and cultural information systems can facilitate spatial mapping of CIP, such as production sites, the spread of traditional knowledge, and geographical indication areas. This inventory not only serves as a foundation for legal protection but also as a roadmap for local economic potential, supporting the growth of culture-based creative industries and tourism.

5.3. Empowerment and Capacity Building of Local Communities

CIP is fundamentally owned and preserved by indigenous and local communities. Therefore, development strategies must focus on empowering these communities as the legitimate owners of CIP. Local governments and educational institutions should organize training programs on business management, marketing, and intellectual property literacy for community members. The establishment of cooperatives or Village-Owned Enterprises based on CIP can ensure fair production, marketing, and benefit sharing among community members. Access to financing and economic incentives for CIP based entrepreneurs should be facilitated through village funds, corporate social responsibility (CSR) programs, and Islamic financial institutions. This community-centered approach ensures that the economic benefits of CIP management return directly to the producers and cultural bearers.

5.4. Development of Creative Industries and CIP-Based Derivative Economy

CIP can serve as the foundation for developing local creative industries with high economic value. Local governments can initiate cultural and traditional technology business incubators to help communities innovate products without losing their traditional essence. The creation of derivative products from CIP such as fashion inspired by traditional motifs, herbal cosmetics based on indigenous knowledge, or cultural tourism derived from traditional expressions can add substantial value. Collaboration between local artisans and modern designers will also strengthen the branding of Aceh's local products in both national and international markets. This approach ensures that CIP is not only preserved but also transformed into a sustainable driver of economic growth.

5.5. Enhancing Market Access and Local Product Branding

To optimize the economic value of CIP, effective branding and marketing strategies are essential. The development of collective marks for Aceh's CIP products such as Gayo coffee, Acehese songket, or traditional culinary specialties should be prioritized. Promotion through digital

platforms and e-commerce, as well as participation in regional, national, and international trade fairs, will enhance visibility and competitiveness.

Partnerships with the private sector and the tourism industry can further strengthen cultural and geographical indication-based destination branding. A robust branding strategy not only increases the market value of CIP products but also elevates the image of Aceh's local economy in the global market.

5.6. Collaboration between Government, Academia, and Communities (Triple Helix Model)

The development of CIP requires a collaborative approach based on the Triple Helix model—synergizing the roles of government, academia, and local communities or industries. The government acts as a regulator and facilitator, universities contribute through research, documentation, and innovation of CIP-based products, while communities and entrepreneurs implement and manage the economic utilization of CIP on the ground. This collaboration fosters a sustainable innovation ecosystem rooted in local wisdom, ensuring that cultural preservation and economic advancement progress hand in hand.

The development strategy of CIP in Aceh must aim at achieving synergy between cultural preservation and local economic empowerment. Through institutional strengthening, community empowerment, creative industry development, and effective product promotion, CIP can become a strategic resource for enhancing the welfare of Aceh's people. CIP is not merely a cultural heritage it is a form of social and economic capital that, when managed wisely, supports regional development grounded in identity, self-reliance, and sustainability.

6. CONCLUSION

Communal Intellectual Property (CIP) plays a strategic role in strengthening the local economy in Aceh through the utilization of cultural, traditional, local knowledge, and natural resource potentials that possess economic value. CIP which encompasses traditional cultural expressions, traditional knowledge, genetic resources, geographical indications, and indications of source constitutes a collective asset of the community that reflects the identity and local wisdom of Aceh.

Through proper management and protection of CIP, communities can obtain sustainable economic benefits, such as increased income through the commercialization of local wisdom-based products, the development of creative industries, and the enhancement of local products' competitiveness in national and global markets. Moreover, legal protection of CIP can prevent exploitation and biopiracy while ensuring fair benefit-sharing for the communities who own and preserve such knowledge and traditions. Therefore, the Aceh government should urgently formulate strategic policies by establishing regulations on CIP management, conducting comprehensive CIP documentation, and fostering partnerships with industries for the sustainable utilization of communal intellectual resources.

AUTHORS' CONTRIBUTIONS

The title "AUTHORS' CONTRIBUTIONS" should be in all caps.

ACKNOWLEDGMENTS

Thank you to the Ministry of Higher Education, Science, and Technology, and the Ministry of Law for their support in conducting this research.

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