

Contribution of Sumalindo Company: In Managing Forest Resources with Local Communities: Mahakam Ulu-East Kalimantan

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Abstract: The role of HPH (Forest Logging Concession) in developing rural communities is very significant. SLJ (Sumalindo Lestari Jaya) as HPH company has an important contribution in empowering local communities, especially in opening land transportation in the interior and helping to build agriculture and gardens. The existence of Sumalindo company participates in developing forest resource management with local communities, among others, increasing livelihoods, maintaining and developing biodiversity conservation and maintaining climate change. These efforts are in accordance with the regulations of the KLHK (Ministry of Environment and Forestry), that every HPH holder is required (*mandatory*) to obtain a certificate of "PHAPL" (Sustainable Production Natural Forest Management) and an "eco label" from the Indonesian Eco Label Institute. Besides, it is recommended that the holders of HPH concessions and HTI (Industrial Timber Plantations) have an FSC (Forest Stewardship Council) certificate from the EU (European Union), and must meet three indicator elements, namely economic, social and ecological in SFM (Sustainable Forest Management). This article examines three critical questions that show the role of Sumalindo Company in economic, ecological and social development and managing forest resources with the community as follows: (1) The role of Sumalindo company contributes to the development of road infrastructure in the interior; (2) The role of Sumalindo in improving livelihoods and economic and social empowerment of local communities; (3) The role of Sumalindo with local communities in managing forest resources, including maintaining and developing biodiversity conservation and maintaining climate change.

Key words: SLJ, economic, ecological and social, forest resource management, PHAPL management, FSC, local communities.

1. Introduction

Deforestation has occurred in Indonesia. Over five decades (1967-2021), Indonesia has lost about 40% of

its forest cover [1, 2]. Forest destruction on average increased from 1.6 million ha during the 1985-1997 period to 3.8 million ha per year from 1997-2000s [3]. As is well known, production forest conversion into oil palm plantation, the practice of illegal logging extraction (illegal) and illegal timber trade are the "main contributions" to forest destruction in Indonesia [4]. In the early 2000s, it was estimated that more than

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75% of the wood supply came from illegal timber sources and this led to forest “destruction” of more than 3 million ha per year. The practice of illegal logging has cost the Indonesian government US \$2 billion per year of “income”. Thus, the biggest challenge for Indonesia is forest “damage” caused by illegal logging and timber exploitation practices that are not based on SFM (Sustainable Forest Management) [5].

The focus of forestry sector development policies since the 1990s is to implement SFM based on three (3) main pillars, namely economically, socially and ecologically (environmentally) feasible [6]. Indonesia has responded seriously to the “destruction” of natural forests in the last ten years (2000s). The government’s response is to issue a forest management policy with a mandatory (*obligation*) and voluntary (recommendation/voluntary) approach for holders of HPH (Forest Logging Concession) and HTI (Industrial Timber Plantation) permits. For HPH holders who are responsive and want their wood products to be sold and have higher prices in both domestic and international markets, the choice to apply PHAPL (Sustainable Production of Natural Forest Management) is an obligation (*mandatory*). To facilitate the concession, which implements the mandatory, Indonesia has established a domestic certificate system for the LEI (*Lembaga Eko label Indonesia/Indonesian Ecolabelling Institute*) and timber exporters are required to comply with this regulation [7]. On the other hand, for HPH owners who only volunteer to do forest management, the implication is that their log products are sold at low prices to plywood or sawmill companies. In addition, the government’s stance is firm, the SFM regulation will be directed to be implemented mandatory (*obligation*) for all future concession holders of HPH and HTI.

In its development, Indonesia has launched a national mandatory policy to implement a “timber legality assurance system” known as the “SVLK” (Timber Legality Verification Standard) which was

formed based on the Strengthening Governance of the Forestry and Trade Law (FLEGT/Forest). Law Enforcement Governance and Trade, which is a partnership agreement negotiated between Indonesia and its partners in the EU (European Union) to obtain a FSC (Forest Stewardship Council) certificate. The challenge for private companies holding HPH and HTI concessions to obtain eco-label certificates from LEI and FSC is to invite local communities to “participate” economically, socially and ecologically in taking part in maintaining PHAPL. In connection with the ecolabel acquisition from LEI and the FSC certificate, the Sumalindo company which has a forest concession area of 257,517 hectares located in Mahakam Ulu-Long Bagun-East Kalimantan and Sungai Boh-Malinau-North Kalimantan has received two certificates of both eco label and FSC in PHAPL. As an illustration according to data (APHI, 2020) there are 9 units of IUPHHK (Business Permission on Natural Forest Management) holders in East Kalimantan (Table 1) who have obtained certificates of PHAPL and FSC from the EU as follows.

2. Research and Design: Materials and Methods

The fieldwork was carried out in March 2019 in Mahak Baru village-Sungai Boh subdistrict-Malinau District-North Kalimantan and in September 2019 in Long Bagun and Batu Majang-Mahakam Ulu District-East Kalimantan (Fig. 1). The research method utilized on library exploration related books and journals to the topic, participatory observation and entailed in-depth interviews with purposefully selected 21 informants familiar with the objective “guided questionnaires”, including four forestry agency officers, four NGOs (Non-Governmental Organization) officers World Wildlife Fund (WWF) and Forest Watch (FW), Sumalindo officers in camp 87, Sumalindo officers in Batu Majang, government

Table 1 Data on IUPHHK for PHAPL and FSC certificate holders in East Kalimantan.

Company	IUPHHK	Certificate code
Belayan River Timber	HA	FM
Gunung Gajah Abadi	HA	FM
Karya Lestari	HA	FM
Narkata Rimba	HA	FM
Ratah Timber	HA	FM
Roda Mas Timber Kalimantan	HA	FM
SLJ(Sumalindo Lestari Jaya)	HA	FM
Utama Damai Indah Timber	HA	FM
Korintiga Hutani	HT	CW

Source: Asosiasi Pengusaha Hutan Indonesia (APH), 2020.

IUPHHK: Business Permission on Natural Forest Management;

FM= Forest Management is same certificate to obtain *Pengelolaan Hutan Alam Produksi Lestari* (PHAPL) certificate;

CW= Control Wood is same certificate to obtain Sistem Verifikasi Legalitas Kayu (Verification system on timber legality/SVLK);

HA = Hutan Alam;

FM: Forest Management;

HT: Hutan Tanaman.

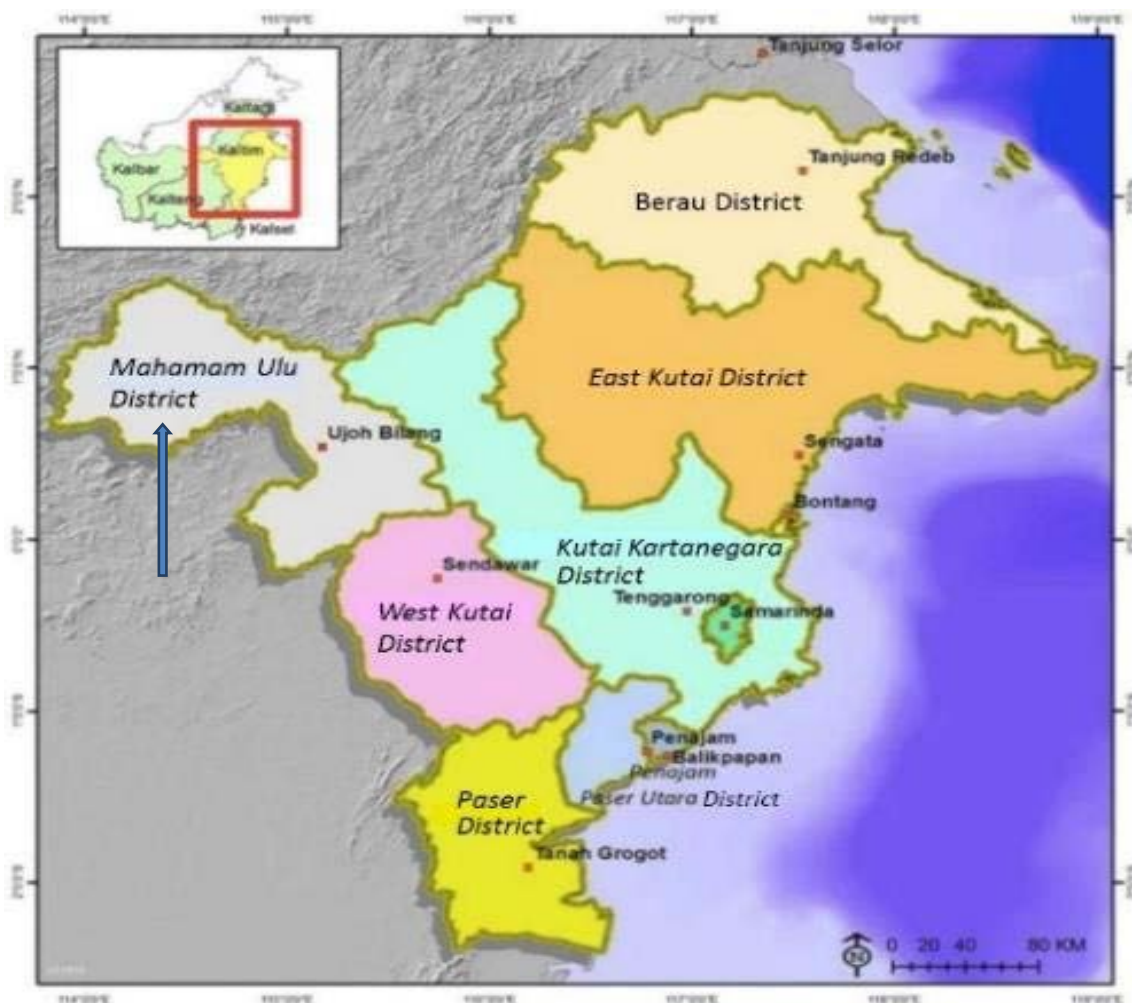


Fig. 1 The map of Mahakan Ulu-Sumalindo logging company area operation.

Source: Google Map of districts of East Kalimantan was quoted on August 12, 2021.



Fig. 2 Sumalindo factory for a plywood mill processing.

Source: SLJ, Samarinda, East Kalimantan (Google access, 6 April 2021).

officers in Sungai Boh and Mahakam Ulu, Sumalindo officers in office-Loa Janan-Samarinda, heads of customary rights forest, and society at large. The Sumalindo company was selected for fieldwork based on two rationales. First, Sumalindo company had practiced SFM and obtained certificate of PHAPL and FSC from EU. Second, Sumalindo company cooperated with local people to practice mutual work in road construction in hinter land, livelihood, to maintain biodiversity conservation and to keep climate change.

A “political Ecology” theoretical framework was applied in this study. This framework emphasizes combining ecological concerns (natural forest conservation and local forest rights) with political economics (logging forest concession, estate plantation/oil palm, and mining concessions). This framework considers both government and private companies’ interest in a side-by-side and ever-changing dynamic tension between natural ecology and human needs-based change and among diverse groups within society, from the local individual to regional, national and transnational entities [8].

3. Results and Discussion

3.1 Sumalindo Contribution to Road Infrastructure Construction

At the beginning of the establishment of the Sumalindo company, AI (Astra International) controlled 75% of its shares and the remaining 25%

was owned by SGS (Sumber Graha Sejahtera). However, in its development, the company’s share ownership has changed. On 18 December 2012, AI sold all of its shares to its business partner SGS and its name was changed to SLJ Global Tbk. The change in the company with a new name has received approval from the Ministry of Law and Human Rights as recorded in Decree No.AHU 25591, AH 01.02, 14 May 2013. In line with this development, through various corporate actions, including mergers, acquisitions, additional investments and divestments capital, the plywood company initially installed its production capacity to increase to 190,000 m³/year and the MDF (Medium Density Fiberboard) factory installed a production capacity of 200,000 m³/year (Fig. 2). In addition, the addition of the expansion of the logging forest concession (HPH) area to 6-units with a total area of 770,445 ha from the previous 1 unit, including IUPHHK-HA on behalf of Essam Timber and SLJ V Company, which is now the expansion unit is in the process of licensing from the KLHK.

In the context of developing isolated areas in the interior, the question arises, to what extent the Sumalindo HPH has contributed to the construction of road infrastructure as far as 165 km inland connecting Batu Majang Village-Long Bagun-Mahakam Ulu district, with Mahak Baru village-Sungai Boh subdistrict-Malinau district. The social and economic role of the Sumalindo company holder in

infrastructure development (roads in the interior) to open isolated (remote) areas is very significant. This is because with the development of road infrastructure there is social interaction and regional economic growth, but it also breaks the isolation of an area by providing accessibility for the community to its resources and marketing. According to data released by the Ministry of Environment and Forestry, the role of HPH (IUPHHK-HA and HTI) permits holders (IUPHHK-HTI) in areas in Sumatra, Kalimantan, Sulawesi, West Nusa Tenggara (NTB), Maluku and Papua in building road infrastructure that connects villages with villages and between sub-districts in the interior is very important (Table 2). This is based on the recommendation of Presidential Regulation (Peraturan Presiden/Perpes) number 7 of 2005 concerning the National Strategy for the Development of Disadvantaged Areas (Stranas PDT) which is related to the development of isolated (remote) areas, including: (1) opening up territorial remoteness is done by developing a network of transportation systems, whether land, air or sea; (2) local economic development based on the potential of each region [9].

In relation to regional development, according to Elias [10], PWH (Forest Area Opening) activities are “forestry” activities that provide infrastructure (infrastructure) such as transportation road networks, bridges, culverts, storage/collection places of *logs pond*, timber landing and delivery areas by the river, watchtowers, base camps needed to facilitate forest management activities. It seems that of all forest

management infrastructures that need to be prioritized to be built, the construction of a transportation “road” network is the most prominent activity and requires a large amount of money from the HPH company, especially if the transportation network system is road-based.

Observing the description of Table 2, it can be seen that most of the forest roads that are estimated to have been constructed come from exploitation of natural forest (Hutan Alam/HA) 261,600 km. Meanwhile, HTIs have been carried out for roads in the interior along 90,360 km. Based on its area, it can be seen that Kalimantan is an area that has the longest forest road of 158,340 km compared to other regions in Indonesia. In the context of forest roads that have been built and connected between regions by several HPH concession companies in East Kalimantan, the following routes include: (1) Batu Majang-Long Bagun with Mahak Baru-Boh River along 165 Km; (2) Muaro/Pasir-Muara Pahu/Kutai; (3) Balikpapan-Semai/Sepaku-Memories/-Loa-Hur-Semb oja-Samarinda; (3) Balikpapan-Semboja-Samarinda; (4) Separi/Embalut-Muara Badak-Tanjung Santan; (5) Muara Wahau-Pongadan/Bontang-Patu Putih and Talisayan/Berau; and (6) Segah Estuary-Kayan River [11]. The length of forest roads built has a positive correlation with the area of forest concessions and the economic growth of local communities. With the increasing intensity of forest exploitation activities (HPH) from the 1980s to the late 1990s, the forest road network built by logging companies also increased. Positive implications have occurred for this

Table 2 The Length of Forest Road Construction in Six Provinces-Indonesia till 2008.

Provinces	IUPHHK-HA (HPH)		IUPHHK-HT (HTI)		Total (km)
	Width (Mill.ha)	Length (km)	Width (Mill.ha)	Length (km)	
Sumatra	1.84	18,400	4.34	39,060	57,460
Kalimantan	12.27	122,700	3.96	35,640	158,340
Sulawesi	1.78	17,800	0.17	1,530	19,330
Maluku +NTT	1.47	14,700	0.21	1,890	16,590
Dan NTB					
Papua+PapuaBarat	8.80	88,000	1.36	12,240	100,240
Total	26.16	261,600	10.04	90,360	351,960

Source: Ministry of Forestry (2009); processing data based on Nurrochmat, Dodik Ridho dan Hasan, M Fadhil (eds.), INDEF (2012: 109).

road network in the increase in the level of area opening, economic growth of local communities, and increased community income. Thus, the number of isolated areas around logging forest concessions will decrease.

3.2 Sumalindo Contribution Helps Community Livelihoods

Based on an “agreement” between the owner of the Sumalindo company and the regional government of Mahakam Ulu that the HPH area along the road between Km 0 and Km 03 is managed by the villagers of Batu Majang and Long Bagun. The agreement between the two actors, both the company and the village community, is to establish good “social relations” in order to maintain a “harmonious” life and avoid social conflict for both the company and the community. For the company, maintaining social relations with the community is beneficial for SFM and sustainable timber production. On the other hand, for the community to be facilitated to work on a “cultivation” area of 3 km is “positive” to carry out agricultural activities with guidance and incentives for providing seeds, capital, training and providing market facilities for agricultural production and their gardens have a significant economic and social impact.

The agreement to use the km 3 of land is used as a means of “farming” activities to plant fruits, vegetables, rice cultivation, poultry farming and inland fisheries. In planting vegetables, farmers plant, among others, spinach, red chilies, green chilies, eggplant, long beans, kale, and so on. The fruits planted include breadfruit, durian, rambutan, etc. Guidance from HPH Sumalindo staff to be able to market the production of vegetable and fruit crops, the company has provided a “market” facility at 21—for buying and selling transactions between farmers and consumers every two days in a week, namely on Tuesday and Thursday. And the market is quite busy being visited by the public with vehicle facilities from the company to transport people from Km 0 and Km 03. In addition,

the company provides truck transportation to transport the community’s agricultural products and markets it once a month at the Ujoh Bilang large market, the capital of Mahakam Ulu. As a result, the facilities provided by the company and the condition of agricultural and garden activities carried out by the community, associated with the production of agricultural products that can be sold in the market have a positive impact on increasing economic and social “income” for rural communities.¹

The role of the company’s contribution in improving livelihoods, logistics and transportation for rural communities is as follows:

(1) The company provides water transportation (water boats) to transport 50-60 SMP (Junior High School) students and SMA (High School) students every Monday to Saturday transporting students in the morning at 6:30 am from Batu Majang to Batu Kelu and Ujoh Bilang and picking up the students to return home in the afternoon (4:30 pm) from Ujoh Bilang and Batu Kelu to Batu Majang. In addition, the company has prepared truck transportation facilities to transport the farmers to Km 13 and Km 21 to carry out agricultural activities on Monday. The farmers work on their agricultural fields at Km 3, Km 13 and Km 21 for 5 days and live in the huts. In Saturday afternoon, the farmers were facilitated by taking a truck back home to meet their families in Batu Majang and Long Bagun.

(2) The company provides “funds” to be given to administrators of places of worship both mosques and churches to hold ceremonies to commemorate Muslim holidays, including IdulFitri and IdulAdha, commemoration of the Prophet Muhammad’s birthday, Isra Mikraj etc. Besides the company also provides “funds” for organizing ceremonies, including Easter Day, Ascension Day of Jesus, Christmas, etc. for Christians and Catholics.

(3) The company helps partly to provide “seeds”

¹ Interview with informant W on September 13, 2019.

and fertilizer for agricultural activities and vegetable and fruit crops for the village community, in addition, providing training in both human resources and techniques and marketing of agricultural and garden (marketing) production for agricultural, fishery and plantation technicalities.

(4) The company also helps develop and provide capacity building such as “training” human resources in managing the community “chicken farm” at Km 13. This chicken farm is supported by local farmers and provides 700 chickens and added to 1,000 chicks next year. The cooperation of developing “chicken farms” with farmer and Sumalindo company is very important.²

The company helps provide some of the capital and management training, so that the chicken farm business grows. This chicken production requires rearing time and can be slaughtered for consumption for 3 months. With regard to the marketing efforts for chicken products, some of the products are marketed in the Ujoh Bilang market and some are absorbed to fill the consumption of Sumalindo employees and family companies because every day the company requires 40 chickens. As it is understood, the unit price of a chicken which weighs 2 kg and the price is 45,000 Rp. per kg. So, for a chicken weight of 2 kg the price reaches 90,000 Rp. The tens of Sumalindo employees at the base camp of Batu Majang and Km 13 and Km 21, the need for chicken meat per month reaches $90,000 \text{ Rp.} \times 50 \text{ people} \times 30 \text{ days} = 135,000,000 \text{ Rp.}$ It seems that the cash flow of money (*circulation of money*) managed by chicken farmers is quite large, because the market demand is high and can develop, if the management of chicken farms is managed transparently and accountably.

3.3 Work Together on Maintaining Biodiversity Conservation

Conceptual understanding of “conservation” is an

² Interview with Sumalindo company manager, on September 14, 2019 at Batu Majang village, Long Bagun subdistrict, Mahakam Ulu district.

effort made by humans to be able to preserve nature. Conservation comes from the English word “conservation” which means preservation and protection. The purpose of conservation is to seek the realization of the preservation of living natural resources and the balance of their ecosystems, so that they can further support efforts to improve community welfare. In a study by UNEP (United Nation Economic Program), the UN (United Nations), “conservation” includes the concept of sustainable use of natural resources (*sustainability*) (Google Access “conservation” March 18, 2021).

The economic benefits of NBSs (Natural Based Solutions) are significant [12]. The conservation of mangroves, protected areas, flood plains and watersheds yields high economic benefits, including non-market benefits such as carbon sequestration, soil and water conservation as well as flood management and storm protection services. For instance, study in Thailand estimated the benefits from conserving mangroves to be 3.6 times higher than from shrimp farming. It is also supported from study report [13]. In mangrove protected forest over 500 ha in Mentawir village, Sepaku subdistrict, East Kalimantan that production of shrimp and fishes estimated 2.7 times than fish and shrimp farming. Another study noted the avoided losses from coastal flooding and other non-market benefits from mangrove forests valued at US\$120-130 billion per year globally. Thus, forest ecosystems that are managed properly and sustainably by stakeholders, including private companies, communities, NGOs, academics, and the government, can provide great and sustainable benefits for future generations.

To address the aspects of forest ecosystem conservation, Sumalindo has managed forest resources based on the principles of PHAPL since its inception until today. This is related to the mandatory forest management regulations from the Ministry of Forestry. The implication of SFM leads to the goal of forest conservation principles to protect forest ecosystems.

The management of HPH Sumalindo by means of PHAPL accelerated the acquisition of an “eco label” certificate from the Indonesian Eko Label Institute in 1999. Following the FSC certificate from the EU was obtained in 2006. Profits from the Sumalindo company obtained two certificates. In this regard, plywood companies, both in East and South Kalimantan, are looking for certified “wood” products, although the price is relatively more expensive than the HPH which does not have a certificate. As an illustration of a concessionaire that already has a certificate, the price of logs reaches 2-2.5 million Rp. per cubic meter (m³). On the other hand, a concessionaire that does not have a wood price certificate is 1-1.5 million Rp. However, the important thing is that plywood companies can sell their products, including venal, block panel, plywood sheets, etc. in the export market, because the log raw material is FSC certified and eco-label, especially for export markets to Western Europe, Japan and the USA more expensive price than domestic market without certificate of FSC.

Actually, SFM implementation by most of the HPH company owners, including Sumalindo, has carried out forest resource management that is oriented to the biodiversity “conservation” program, both the maintenance of flora and fauna. To support forest “conservation”, HPH Sumalindo makes a major contribution to providing seedlings for in-situ trees including ironwood (*zwagery*), red meranti (red shorea), yellow meranti (yellow shorea), lime, bangkirai, crew, etc. and cooperation with local communities, including Mahak. Baru, Dumumahak, Agung Baru, etc. in 2009-2010 were agreed by the Head of Sungai Boh. Each family head gets 7-9 fruit tree seedlings (durian, rambutan, breadfruit, langsung, lai, etc.) and 10-12 hard tree seedlings (meranti, bangkirai, lime, etc.) to participate in planting tree seedlings for planting both in the community land and yards.³

³ Interview with informant Y, head of customary forest rights, on March 19, 2019 at MahakBaru, Sungai Boh subdistrict, Malinao district.

According to HPH Sumalindo staff, the company and the community must take part in protecting biodiversity conservation by carrying out action programs in the field as follows:

HPH companies prepare Annual Work Plans (*Rencana Kerja Tahunan/RKN*) to implement 60 percent of log cutting with diameters of up to 50 and more. The types of wood to be cut are very selective, including meranti (*Shorea spp*), bangkirai (*Shorea laevis*), nyatoh (*Palaquium spp*), lime, pulai (*Alstonia spp*), Meranti Batu (*Shorea spp*), Kampas (*Koompasia malaccensis Maing*), Kapur (*Dryobalanops spp*), Jelutung (*Dyera spp*), etc. There are some timber trees that are prohibited or strictly forbidden to cut down, such as banggris—because these trees are the houses for which bees can roam to produce honey; rattan, agatis, ironwood trees (iron wood), gaharu (agarwood) trees, and ramin. The HPH company must also protect several septic faunas which are prohibited from being hunted under CITES (The Convention on International Trade in Endangered Species) of Wild Fauna and Flora regulations, such as orangutans (pongo), rhinos, monkeys, sun bears and other types of birds (*hornbills, Nguraibatu, and Suitable Rowo, etc.*).

Companies must follow the regulations from the Ministry of Forestry to practice TTPI (Indonesian Selective Cutting) in post-harvesting trees, which means that a tree replanting program, evaluation and cutting of wood must be carried out in the rotation of the cropping and harvesting cycle (1 to 25-30 years). The TTPI scheme launched by the Ministry of Forestry aims to provide a sustainable supply of wood materials for the forestry industry (plywood, sawmill, molding, furniture, etc.). Thus, the TTPI program is to maintain the availability of wood supplies.

The HPH company and the community must work together to monitor the behavior of timber barons’ traders to practice illegal logging (illegal), because this practice is against the principles of SFM.

The company cooperates with local communities in “socializing” the need to maintain regulations to

respect animistic beliefs and dynamism and to protect ancestral graves that are respected by the community and the location of worship needs to be excluded from the HPH area and used as a conservation area for ecological aspects.

The company encourages local communities to participate in protecting the forest area, especially on the right and left banks of the watershed (DAS) from upstream to middle by not cutting timber trees with a left and right width of 50 m. The goal of this riverside conservation program is to keep the “spring water” flowing and clean. The importance of protecting water resources and water availability in the future is very important. The UN General Assembly declared 2018-2028 as the decade of International Action “Water for Sustainable Development”. The main focus of World Water Day is to support the achievement of Sustainable Development Goal 6: water and sanitation for all by 2030. Even the clean water produced by upstream watersheds (DAS) comes from sustainable forests, praised by Professor Masaru Emoto, with his words that “the water from the spring is clear, showing a pattern of brilliant, complex and colorful snowflakes. On the other hand, water that is polluted or exposed to negative thoughts is formed incomplete, asymmetrical patterns with dull colors” [14]. In the context of rivers in Long Bagun sub-district, with the availability of good water supplies during the rainy season and dry season, there is no flood in the rainy season and landslides. This situation shows a symbiotic relationship between the Sumalindo HPH concession company and local communities in maintaining biodiversity conservation. In addition, clear and clean river flows can be used as “natural tourism” (eco-tourism) for tourists and a source of protein for public consumption from river biota such as fish, shrimp, shellfish, etc. This can be seen in the illustration in Fig. 3 as the river as “eco-tourism” for excursions in the dry season. The implication of maintaining a clear and maintained river is that local people get additional “income” to

increase their economy from domestic tourist visits in the dry season around June to October each year.

In the context of implementing conservation of forest resource maintenance for the people of Batu Majang and Long Bagun, Sumalindo company collaborates with other stakeholders including the Mahakam Ulu regional government, the local communities of Batu Majang and Long Bagun, administrators of NGOs WWF, officials of the East Kalimantan Provincial Forestry Service, and the Directorate General of Forest Production Development in September 2013 held a discussion deciding to jointly define an area of 400 ha as “protected forest” or known as “Tana Ulen” (in Dayak language). In the view of the community, the 400 ha area wants to be used as “customary rights forest” and protected forest. The AMAN (Nusantara Indigenous Peoples Alliance) has proposed the recognition of “customary forest land” in various areas after the



Fig. 3 Tourists spend time for Eco-tourism in Sungai Boh River.

Source: photo achieve of team work, March, 2019.

Reformation era (early 2000s) to be managed by indigenous peoples.

In the development of this proposal, there was a decision from the Constitutional Court (*Mahkamah Konstitusi/MK*) in March, 2012 to acknowledge the proposal by giving recognition to indigenous peoples' ownership of customary forest land rights [14]. In the process of recognition from the Constitutional Court, it is interesting to present the opinion of Colchester and Lohmann (1993) [15] that "recognition of the rights of indigenous peoples and customary law is a reflection of the evolution in the international struggle between indigenous peoples versus post-colonial states over time 50 years in resolving the issue of recognizing indigenous peoples' rights." When examined, the 400 ha area located at Km 05 Sumalindo company is seen geographically as very strategic as a water catchment area, environmental tourism (eco-tourism), protecting biodiversity (flora and fauna). Fauna recorded include hornbills, various types of birds, deer, bees, monkey, etc. Kalimantan *in situ* wood collections include Kapur (*Dryobalanops* spp), various types of Meranti (shoreaspp), Ulin wood (*Zwagery*), Bangkirai (*Shorea laevis*), Banggris (*bees tree*), Mersawa (*Anisophtera* spp), Keruing (*Dipterocarpus* spp), etc. Meanwhile, there are plants and medicinal plants in flora, including earth pegs, bajakah, turmeric, red ginger, yellow root, etc. Fruit plants such as durian, rambutan, breadfruit, forest cimpedak, Lai, etc..

In August 2018, there was a "conflict" of interests over who has the authority between the villagers of Batu Majang and Long Bagun in managing "nature tourism", so that the WWF NGO management resigned from managing "natural tourism" (eco-tourism) with the community. In its development, finally there was an agreement again in August 2020 "co management" to manage "natural tourism" facilitated by the regional government and Sumalindo company to jointly manage "protected forest" or "tana ulen" stakeholders around 400 Ha between the

Sumalindo company, the community of Batu Majang village, Long Bagun, and WWF officials. According to the local community's response, the importance of natural tourism (eco-tourism) in Tana Ulen 400 Ha is to protect the biodiversity icon of forest resources, and the preservation of springs and views of natural rock mountains, part of the Mahakam River in Long Bagun. It is hoped that tourists from domestic and foreign countries will come to enjoy the interesting "eco-tourism" and the cultural performances of Dayak Kenyah and Dayak Bahao. The implication of the natural tourism sector in Sumalindo company "protected forest" has multi-player effects, both local community income from water boat service enthusiasts, floating restaurants on the Mahakam River, restaurants in Long Bagun and Batu Majang, shops, inns and hotels, so that PAD (Regional Original Income) has also increased and the economic and social growth of the community is growing.⁴

3.4 Keeping on Climate Change

In the last 30 years (1990s-2020s) many of the most interesting balancing acts to discuss between global and local are the domain of "environmental" governance. The desire to find global solutions to "human environment" problems is a major issue. Starting in the 1970s, nations have realized together with environmental issues that threaten the existence of human life, including the issue of acid rain, damage to the ozone layer, dangerous industrial waste, sea water pollution, damage/loss of biodiversity, certified wood products, and climate change [16]. In the context of climate change issues, the head of the Indonesian delegation in attending the world "climate change" session in the 2015 Paris Agreement committed to reduce (mitigate) greenhouse gas emissions by 29 percent by 2030 to curb the increase. Global temperature (global warming) does not reach

⁴ Interview with Alimin, head of Community Development of Sumalindo Company on March 11, at Batu Majang village.

2 °C and if possible, to reduce it to a level of 1.5 °C [17]. In order to reduce the air temperature to a lower level of less than 1.5 °C, reducing gas emissions can be done by reducing the use of fossil energy (petroleum, gas, coal, etc.). This is because it is related, that the dependence of use on “fossil” energy is a factor that causes air pollution, environmental pollution, and Indonesia’s trade balance deficit. According to Government Regulation Number 79 of 2014 concerning “National Energy Policy” states, the primary energy mix in 2025 will consist of 30% coal; new and renewable energy 23%; petroleum 25%; and natural gas 22%. However, data from the government state that the achievement of new and renewable energy until the end of 2020 is only 11.5% [18]. Thus, it can be seen that the role of fossil energy use is still very dominant (77%) in the national energy mix. The consequence is that the production of gas emissions is still high in Indonesia, so that the warming of the earth’s temperature continues to occur which triggers global warming of the earth’s temperature.

The implication of this dominant use of fossil energy is that Indonesia and other parts of the world will be faced with the threat of “environmental damage” (ecological damage), extreme rain resulting in massive floods and landslides, drought, forest fires in tropical forests, cyclones and typhoons that often occur in the tropics and the Pacific Ocean, rising sea levels that trigger abrasion on the coast, submerging small islands in various archipelagic countries both in Indonesia and small countries in the Pacific Ocean [19].

In the context of reducing climate change, said Monardo, as Head of the BNPB (National Disaster Management Agency) in a scientific oration entitled: “Models of Natural Resources and Environmental Management” at IPB (Institut Pertanian Bogor) University, in Bogor, Saturday, March 27, 2021 in giving doctor honoris causa, Monardo said, “the diversity of vegetation types (breadfruit, avocado,

coffee) can be used for optimal planting to reduce the risk of disasters. As an area with high disaster prone, ecosystem-based ‘mitigation’ needs to be promoted as the main strategy” [20]. As a result, according to Monardo, ecosystem-based mitigation must be our main strategy in dealing with potential disasters; this is related to the World Bank report which states that Indonesia is one of 35 countries with the highest level of disaster threat in the world.

What contribution did the Sumalindo company in collaboration with the community make to manage forest resources? The government promulgated mandatory regulations (obligation) for private companies that have HPH and HTI (Industrial Plantation Forests) to carry out PHAPL and obtain an “eco label” certificate from the Indonesian Eco Label Institute (Lembaga Ekolabel Indonesia/LEI) and obtained a FSC certificate from the EU to manage forests in a sustainable manner.

In an effort to implement the aforementioned regulations, the Sumalindo company, which has a base camp in Batu Majang, is trying to obtain an “eco label” certificate and an “FSC” certificate by 2020. The objective of obtaining both eco label and FSC certificates is in relation to climate change mitigation efforts (climate change) or adaptation to forest conservation. Thus, in order to take a path towards climate change mitigation, HPH companies must maintain positive steps as follows:

(1) HPH companies must maintain “basic data” in preparation for log cutting permits, namely in the “legality” aspect and HPH companies must continue to implement the Annual Work Plan (RKT) program within the area of the HPH area that is planned to be cut wood and a target of several cubic meters (m³) the timber production wants to be cut down.

(2) HPH companies must maintain a high “conservation” value in terms of maintaining biodiversity, both flora and fauna, technical regulations for cutting logs, and providing felling numbers using the *barcode* system.

(3) HPH companies must follow a social impact assessment for local communities, so as to prevent social conflict with the community.

So, to carry out the above principles, companies and local communities must take positive steps as follows:

Companies must carry out sustainable wood production (sustainability) by following environmentally friendly principles (ecology), there is no social conflict with local communities, and follow the principle of cutting wood, "TPTI" (Indonesian Selective Cutting and Planting). In the context of following the TPTI, log cuttings have reached more than 50 diameters of log trunk width, which make an annual work plan (RKT) in the proposed HPH area where the wood is to be cut, the target of wood production is a few cubic meters (m³) of wood to be cut.

HPH companies must give importance to "environmental education" programs to communities and socialize regulations to prohibit "forest burning" in any way. This program aims to reduce the occurrence of forest "fires" and their smoke resulting in the emergence of emission gases (carbon dioxide) in the air, which eventually results in "air pollution" and endangers public health.

Local people must not "burn" the land in any way to open new farms or practice shifting cultivation for rice cultivation or vegetable gardening. Because land fires can generate smoke and increase gas emissions, resulting in air pollution.

The company must make a tractor road map to cut logs before cutting the logs. This is intended, so that young tree saplings can grow and do not suffer damage or die, because they are run over by tractors when cutting logs.

4. Conclusion

The novelty of this paper is highlighted on the contribution of Sumalindo Logging Forest Concession role on road infrastructure in the development of

isolated areas is very significant. The existence of land roads in hinterland areas could encourage regional "economic" growth, but it is also able to open up the isolation of an area by providing accessibility for people to resources. The case of territorial isolation experienced by the people of Sungai Boh, Malinau Regency in providing basic (primary) and secondary needs has been difficult since many years (1960s-1980s) before the Sumalindo company business permit was issued before the 1980s. The implication of the "difficulty" of road accessibility has a major impact on the economic gap due to the difference in the "price" sold in the Mahak Baru market-Sungai Bohsub-district with the suppliers of goods in Batu Majang-Long Bagun subdistrict. The contribution of Sumalindo company in making hinterland roads, especially log road transportation that can be accessed by the community along a distance of 165 km is very important, namely the road distance from Km O Batu Majang to Mahak Baru-Sungai Boh 165 km, and assistance in providing truck to transport community members in Sungai Boh to Batu Majang market to purchase primary and secondary goods needs. Viewed from an economic perspective, there is road accessibility, regional isolation has been opened, economic transactions in society are open and developing, and people's income has increased. As a result of the existence of community economic transactions in the market both in the Batu Majang-Long Bagun market, and the sale of these goods at the Mahak Baru, Dumu Mahakin Sungai Boh has a correlation with increasing community income, regional economic growth, and the community's economy on a wider scale as well as increased social welfare. This can be seen from the three decades of the 1980s to the 2010s, economic and social growth, including the creation of shops, the purchasing power of people in transactions for goods at the Sungai Boh market, increased ownership of vehicles, both motorbikes and cars, and the construction of more houses. Permanent occurrences

are common in the Mahak Baru, Dumu Mahak in Sungai Boh and also in Batu Majang-Long Bagun.

Collaboration between Sumalindo company and local communities also took place and the volume was increased. The company provides land to carry out agricultural and gardening activities, livestock and fisheries between Km 0 and Km 3. The company provides tree seedlings and fruit trees, provides facilities for agricultural development both for planting rice, vegetable gardening, growing fruit, raising chickens and fisheries land. There is “cooperation” in improving community livelihoods in order to establish good social relations and a harmonious life between the company and the community. From an ecological perspective, to maintain and develop “conservation” of biodiversity and to safeguard climate change, there has been good cooperation. For biodiversity conservation, the company always discusses the Annual Work Plan (RKT) in plans and targets for cutting logs with the community. The community asked Sumalindo company not to cut timber stands that are equivalent to the river basin from upstream to middle, with a width of 40-50 m. The goal is to maintain timber stands along the watershed, springs are available throughout the year, and river water remains clear as a source of transportation to land and take advantage of river biota products such as fish, shrimp, shellfish that could be consumed by the community. On the other hand, rivers that are well maintained and have clear water can be used as “eco-tourism” to increase people’s income.

In maintaining and preventing climate change, the company formed 3-4 groups of “fire-care communities” (Aksi Peduli Api/API) per village. Group1 consists of 5-6 people. In collaboration with local communities, the company provides technical training on fighting and preventing forest fires, providing equipment such as sticks, gloves, glasses, hats to fight forest fires, and the community is asked to reduce “burning” of land. However, if you want to clear land, “burning land”

must use “local wisdom” to see the direction of the wind and be taken care of by community members.

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