Preliminary study on ecotourism potency of tropical forest and coastal area on PT Diamond Raya Timber concession area, Riau Province

I Effendi1*, Elizal1, Y Rizal2, R Wiyat1, S Maryanti3
1Faculty of Fisheries and Marine Sciences, Riau University, Pekanbaru, Indonesia
2Faculty of Engineering, Lancang Kuning University, Pekanbaru, Indonesia
3Faculty of Economy, Lancang Kuning University, Pekanbaru, Indonesia
*Email: helpingirwan@gmail.com

Abstract. This preliminary studies aimed to examine potency the area to explore as ecotourism base tropical forest, coastal area, agrotourisme and cultural tourism. The study indicates that the concession has the potential to be an ecotourism area, which contributes to companies, governments and communities. Tourism objects include 1) tropical forest; Sumatran tiger conservation area, primate habitat area (gibbon, unko, monkey), bird habitat (hornbill, punai, bayan, magpie, parrots), tropical forest biodiversity, tropical forest bee farming, tropical forest nursery area, traditional forest harvesting method etc. 2) coastal area; biodiversity of mangrove forest, biodiversity of coastal biota, wild crocodile viewing, tourism of fireflies, mangrove forest walk, planting mangrove activities, mangrove nursery, fishing etc. 3) The agroforestry and silvofishery programs of the company will contribute to the ecotourism program. Agroforestry objects include; viewing agrucutural area, planting, harvesting, cooking and eating some tropical fruit. Silvofishery objects are; viewing shrimp and fish pond area, harvesting, cooking and eating shrimp and some fishes. In addition, local culture can be part of the tourism object, among others; culinary tour, art and culture community presentation, and Malay kampong culture.

1. Introduction
Forest is an ecosystem unit in the form of a stretch of land containing biological natural resources dominated by trees in its natural environment. As part of national asset, it must be explored by using optimally various forest functions so as to produce a real impact on the lives, prosperity of the people and livelihood of the Indonesian people. Includes conservation functions, protection functions, and production functions as well as tourism functions sustainably.

The maritime sector has resources such as the marine services, fisheries, marine mining, maritime industry, and sea transportation sectors. The sector can be one of the mainstay of Indonesian tourism. By basing on aspects of exploration, conservation and management in an integrated manner, one aspect of development in the tourism sector is expected to be able to realize sustainable ecosystem management through ecotourism development [1].

The development of the tourism industry serves as one of the strategies used by the government and even the private sector to promote a certain region as a tourist destination in order to improve the economy and employment opportunities. Tourism development efforts related to future market potential where the World Tourism Organization (WTO) estimates that by 2020 there will be an increase of 1,561.1 million people with the highest growth in Asia-Pacific by 6.5% [2].
Ecotourism is a model for developing conservation-oriented natural tourism that is responsible for natural areas or areas that are managed naturally. The goal besides enjoying the beauty of nature as the main product also involves the element of education and support to conservation efforts and the increase of people's income around the forest by linking tourism with conservation.

PT. Diamond Raya Timber is a company exploring the forest products in the concession area of around 89,155 Ha in Dumai City and Rokan Hilir Regency, Riau. The management of this area has been implemented and extended until 2074. The company has a strong commitment to implement sustainable natural forest management (SNFM). Sustainable forest management commitment and efforts of the company is in line with the policies of the Government of the Republic of Indonesia and the international community in order to maintain the integrity of tropical natural forests, especially peat swamp forests in Indonesia. Viewed from the extent of concession area (89,155 Ha), management permit period (2017), coastline length, forest flora and fauna condition, vegetation condition and mangrove and coastal ecosystem, geographical location, accessibility, socioeconomic factor of community around concession, it is estimated that this location can be utilized and managed into a forest and coastal ecotourism area. And this is the background of this study.

2. Materials and Methods
This research was conducted in the concession area of PT. Diamond Raya Timber in 5 (five) districts; Sungai Sembilan (Dumai City), Sinaboi, Rimba Melintang, Bangko and Batu Hampar (Rokan Hilir Regency), Riau Province, Indonesia. Conducted in January 2017 until April 2018. Aimed to conduct preliminary studies on the potential of this concession area to be managed into a tropical forest and coastal area ecotourism.

Data was collected through survey and observation some objects in the location of study. Includes the physical condition of the study area (topography, physical facilities, number of physical facilities, distribution of physical facilities, physical utility networks, and existing land use. Conditions of forests, plantations, fisheries, livestock, agriculture with a view to knowing land use maps for the benefit economy. Includes land area, agricultural conditions, and the number of industries engaged in agriculture, distribution of agricultural facilities, and utility networks supporting agricultural activities, social conditions of population by looking directly at the field of community conditions.

Interviews were conducted to find out the community's aspirations regarding development in the region. For instance public facilities they need, the social conditions of the community, the problems and obstacles that occur in their community. Interviews were also conducted on government apparatuses, aiming to find out the development programs that had been and would be applied to the study area. Foto mapping carried out to simplify and clarify the physical condition of the existing study area in more detail, including the condition of the facility, the condition of the utility, road conditions, and the condition of the plantation, especially in the company's concession area.

Secondary data were collected from government offices in Dumai City and Rokan Hilir Regency, and Province of Riau offices. Namely: Regional Development Planning Agencies, and other offices dealing with public works, agriculture, maritime-fisheries, livestock, industry and trade and others. All data were the analyzed descriptively through SWOT analysis, situation analysis, participatory analysis, and economic analysis.

3. Results and Discussion
From the results of this study, based on SWOT analysis, situation analysis, participatory analysis, and economic analysis [3, 4] the potential for ecotourism that is feasible to be developed in this area can be grouped above; 1) tropical forest ecotourism driving locomotives (called locotourism), 2) coastal and coastal ecotourism and 3) agriculture-based ecotourism or agrotourism. Besides that, culture-based ecotourism can also be used as a complement.

Tropical forest ecotourism in the study area will be ideal done by riding a locomotive on a rail that will be built parallel to the locomotive rail transporting natural wood products owned by PT. Diamond Raya Timber that is already in existence today. This activity is referred to as "locotourism". The tourists will be carried in one or carriages. Along the way the carriage will be stopped a few minutes at several forestry-specific object points. These objects include; 1) Sumatran Tiger crossing line, 2)
Forest plant nursery area, 3) Primate gibbon observation area, 4) Primate bro observation area, 5) Mammalian slow lorises observation area, 6) Birds observation area, 7) Giant tree observation Area, Traditional logging areas, 8) Animal beekeeping area, 9) Forest cultivation and forestation area, 10) Palm observation area, 11) Tree house area.

Indonesian regulation [5, 6] states that the utilization of forest areas is directed not at exploitation activities but rather by developing the fulfillment of natural tourism services. The potential of natural tourism in forest areas with high attractiveness is a potential that has high selling value as a tourist attraction, so that natural tourism in the forest area deserves to be developed [7, 8]. Ecotourism is one of the tourism activities that are environmentally sound by prioritizing aspects of nature conservation [9], aspects of socio-cultural economic empowerment of local communities and aspects of learning and education [10]. Ecotourism begins when there is a negative impact on conventional tourism activities. This negative impact is not only expressed and proven by environmental experts but also cultural observers, community leaders and tourism businesses themselves. The impact of environmental damage, uncontrolled influence of local culture, reduced role of local communities and business competition that began to threaten the environment, culture and economy of the local community [11].

Ecotourism activities are potentially developed in forested areas because forests are unique in both the landscape and the richness of their biodiversity [12]. Although there are still some obstacles in its implementation [13], natural tourism environmental services are still a great potential for conservation areas. Today, tourism activities in protected areas tend to increase along with increased awareness about nature conservation [14]. The increase in tourism is in line with the increase in outdoor tourism activities, among others in the form of leisurely walks in the outdoors, tracking or camping activities, as a whole this activity is carried out to enjoy the natural beauty and tourist attractions in the intended ecotourism development area.

Based on this research, coastal ecotourism is considered potential to be developed in this area [8, 3, 4]. It is more appropriate to do it in two ways, namely 1) walking along the courtyard built in mangrove areas and 2) driving a small speed boat along the coast, Senepis River, Teluk Dalam River. Along the way the group will be dismissed for a few minutes at some special object points of the mangrove ecosystem, including; 1) Introducing to mangrove biodiversity, 2) Mangrove nursery area, 3) Various mangrove invertebrate observation areas, 4) Mangrove seed planting areas, 5) Observation tower of mangrove forests, 6) Observation and feeding areas for estuarine crocodiles, and 7) Observation areas mangrove fireflies (night).

This is consistent with the opinion of some experts [9, 15, 16] which states that coastal and marine areas that can be developed into tourist areas in the form of beautiful coastal scenery and environmental authenticity such as life in underwater. Coastal development as a place of ecotourism is an environmental service from resource allocation which tends to give benefit to one's inner satisfaction because it contains certain aesthetic value. Coastal areas are often developed as attractive tourist attractions because they have various natural potentials such as mangroves, beaches, and fisheries [17, 18]. Water tourism attractions based on the potential of waters can be used as one of the attractions diversification efforts that can be offered to consumers, in this case the tourists, as a form of attraction that invites tourists not only to come to a tourist area to see the scenery, but also to enjoy and do activities offered within the tourist area [19].

Agrotourism is an agricultural, fishery, plantation and animal husbandry business that is also intentionally or designed in such a way for the needs of the tour. In other words, agrotourism is a tourism business based on agriculture, fisheries, plantations and livestock. From the results of this study it can be seen that there is a potential for agrotourism if later the PT Diamond Raya Timber has implemented a social forestry program through cooperation with local communities, namely agroforestry program, silvofishery and silvopasture. This program will be implemented after the agriculture, fisheries and animal husbandry partnership program has been established. The commodities to be produced should be done carefully and precisely.

Agrotourism activities can be done by riding a small speed boat and continued with a car and walk in several agricultural, fishery and partnership locations in Mekar Sari, Teluk Dalam and shrimp pond location. Along the way the group will be stopped a few minutes at some special object points,
including: 1) Site viewing of farming sites, shrimp ponds and livestock, 2) Tourism of harvesting, cooking and consuming corn, yams, cassava, taro and other food crops, 3) Harvesting, cooking and consuming commodities of shrimp, fish and crabs, 4) Tourism to grow crops.

Growing the right commodities based on local soil and climate is the crucial step in agriculture. Building and developing agrotourism businesses with an environmental perspective requires the maintenance of natural resources and a sustainable environment. On the other hand, from agriculture, fisheries, livestock and plantations can help preserve the environment. Agrotourism business is a long-term and almost impossible as a short-term business, therefore all efforts need to be done in a long-term perspective. On the other hand agrotourism will also be able to provide added value and benefits for farmers and agricultural entrepreneurs, where the price of commodities will sell more with a better price. It can be stated, that agrotourism is a business that requires harmony with the environment in all aspects. [20, 21, 22].

Ecotourism in this study area can also be linked to cultural tourism of people who have settled in the company's concession area. The wealth of the treasures of Malay, Javanese, Sundanese, Minangkabau, Batak and other cultures can also be used as a complement to ecotourism. Customs, culinary, dances, singing, musical performances and other community traditions can also be used as tourist commodities [23, 24].

4. Conclusions and Recommendations
The results of this study indicate that this concession area has the potential to be managed into an ecotourism area. The tourism object includes;
1. Tropical forest; Sumatran tiger conservation areas, primate habitat areas, bird habitats, tropical forest biodiversity, tropical forest bee cultivation, nursery tropical forest plants, traditional natural forest harvesting and others.
2. Coastal area; mangrove forest biodiversity, diversity of coastal biota, wild crocodile cultivation, firefly tours, walking along the bridge of mangrove forests, planting mangroves, mangrove nurseries and others.
3. Agroforestry programs (agroforestry tourism; views of agricultural areas, planting crops, harvesting, harvesting and harvesting and eating) and silvofishery (scenery around shrimp and fish ponds, harvesting, cooking and consuming shrimp and fish).
4. The culture of the local community can also add to this ecotourism object (culinary tourism, community art and cultural presentation).
From this study it is recommended to the companies and local governments to conduct more in-depth research on the feasibility and proper strategy exploring the concession area as an ecotourism object.

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