Forests and the Malays: Historical Perspective on the Forest Management in Sumatera (Indonesia)

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ABSTRACT

The study figured out dynamic interactions between forests and the Malays in Sumatera (i.e. Riau Province), Indonesia. The interactions observed in this study indicate that in many cases human activities resulted in a direct impact on forest degradation, but at the same time some people have fought to protect the forests. This study also revealed that the forest is undeniable natural resources. Even though the forest is susceptible to human activities because it can easily be explored. History had shown from colonial to independence that forest is an important resource to contribute to state foreign exchange, due to business permit issued by the government for companies to manage natural forests. Somehow, that policy impacted on forest degradation quickly. In every period, the pressure to protect forests is always accompanied by the state's policy. The interactions between humans and forests are mostly affected by external factors, including trading natural resources for economic interest.

Keywords: Dutch East Indies, forest and people, forest economics, forest policy

INTRODUCTION

Forest plays an essential part in human actions related to nature, such as people harvesting trees for building materials, food, medicines, energy, and others (Terrel, 2003). In other words, forest is cultural resources for local people, in which tradition, culture, and their products are formed, such as agriculture (Brush and Stabinsky, 1996), medicine (Swanson, 1995), and spirituality. The forest itself is a discourse to simplify biological life, and based on that the term forest is generally applied in a conservation context. The term was then spread globally through international forums that sharing information about the forest in their area.

We place this study in a debate about the relationship between nature and culture (Hayden, 2003; Dove *et al.*, 2011; Descola 2013). In studies conducted by scientists, especially ecologists, nature is still understood to be outside of humans. Not only that, they generally hold that nature, in this context the forest, is the 'victim' of human behavior (Merchant, 1992; Dafni 2007; Phondani 2012; Eder, 1996). This assumption is not entirely wrong because if we look

at the history of the relationship between humans and forests in Riau, it is indeed found that there are poor forest management practices (Figure 1).

On the other hand, this perspective confirms the fact that humans are different from other animals. Humans are not merely subjects of nature (Lancing *et al.*, 2006). Humans are creatures that are able to reflect and give certain meanings to nature. The way nature is seen and interpreted by humans depends on the way nature is constructed by humans. The results of this construction will determine the way humans build relationships with the natural environment, including forests (Neumann, 1998).

For some anthropologists, nature is human construction. There is no definition of forest, nature, destruction, and conservation, without any construction made by humans. In other words, there is no nature without human construction (Sarin *et al.*, 2003; Edmunds and Wollenberg 2003; Dove *et al.*, 2011). This perspective tends to be radical because it ignores the fact that nature, or forests, also have structures beyond human control.

Figure 1. An example of poor forest management practices in Riau Province of Indonesia

Looking at forests without involving human history and ignoring the reality of a long human-forest relationship has resulted in ecosystem damage, erosion, loss of habitat, loss of biodiversity, climate change. This reality is not only human construction, but the reality of human history. In the Marxian perspective, the terms "first nature" and "second nature" are known as what Biersack (2006) explains: "First nature is original, primal, extra-human, nature as it exists externally, independently of human activity. But second nature is nature as it has been transformed through human activity".... second nature is the product of humanity in its relation to nature and belongs as much to the study of politics, society, religion, art, and to the "soft" science that studies them as it does to the "hard" science.

Study of human-forest relationship with a historical perspective is also to understand the conception of space. In this study, space is not only the physical aspects of the forest landscape, the landscape of ecosystems and biodiversity alone, but space is a product of the interrelation between humans and forests, and the biodiversity in them that forms the conception of forests. In this space, local conceptions meet with global conceptions, conservation interests confront economic, political, socio-cultural, and religious interests. Each interest tries to achieve what it hopes. This interrelation makes human-forest relationship in Riau is dynamic. Sometimes people exploit forests and sometimes awareness arises to protect forests. Thus, space is very complex and diverse. In space, there is a meeting point and negotiations on human construction of forests or nature (Figure 2) (Massey 2005).

In the perspective of environmental politics, forest conservation in Riau is not merely an effort to protect forests from damage but there is also an international interest (Marsden and Mudroch, 2006). The interests of each country and organization by involving the State, NGOs, researchers, and the press, also involve the private sector, and the public who play an active role.

This study intends to discuss the relationship between humans and forests in Riau over a long span of history. The focus of this study is on the dynamics of changing forest conceptions that are reinterpreted by humans in different time periods and situations. In a historical view, forests in Riau have generally been exploited for a long time and have been damaged from time to time, but the way humans relate to forests has also given rise to an awareness to manage more.

Figure 2. An example of human-forest relationship. Forests in Riau, there are many lakes that are formed from overflowing river water, generally, on peatlands

METHODS

Biodiversity has been known as an anchor that connects the global interest to local people as it can move global financial power to conduct research and digging related local knowledge (Hayden, 2003; Schiebinger, 2004; Franklin, 2006). Throughout Indonesian history, biodiversity (especially the precious exotic spices) has always been the principal reason that fascinates traders from various places on earth, from Arabia to China to come to Indonesia. Through biodiversity, the Indonesians have become 'global people' since their very early history. Indeed, at least as early as Srivijaya Empire in the 8th century AD has become an important player in global trade and economy supported by a report of Persian origin scholar, Ahmad Ibn Muhammad Ibn Al-Faqih Al Hamadani (known as Al-Faqih, 902 AD) and written

in the famous five volumes of books collectively known as “Mukhtasar Kitab Al Buldan” (translated as Concise Book of Lands). These magnificent works were compiled, printed, and published by a Dutch orientalist M.J. de Goeje in 1870 as “Bibliotheca Geographorum Arabicorum” (de Goeje, 1870; see also Cosim, 1995).

Al-Faqih traveled to Srivijaya and reported that he saw a cockatoo (a species of bird commonly found in the eastern parts of the Indonesian Archipelago) was sold in a market in Palembang (the capital city of the Empire) that could speak Arabic, Greek, Hindustan (presumably Sanskrit), and Persian (de Goeje, 1870). The species is likely ‘Sulphur-crested Cockatoo’ (*Cacatua galerita*) or in Indonesian known as ‘Kakatua Jambul Kuning’, which is well-known as a ‘smart’ bird that can be trained to speak human languages, including Indonesian, Malay, Javanese, and many other tribal languages in Indonesia. This fascinating story shows that:

- a. At least by the 10th century AD, Srivijaya had already been a strong and well-established trading empire with the area of influence extended from Malacca Strait to the eastern part of the Archipelago (i.e. the Malay Archipelago), including Sulawesi, the Philippines, Moluccas, New Guinea, and adjacent islands. Northern Australia might have also been included.
- b. At least by the 10th century AD, Srivijaya had been a major player in an important international trading network especially spices and other precious commodities such as incenses, oriental medicines, exotic animals, gold, silver, and various other commodities. So much, that there had been international communities (including Arabs, Chinese, Indians, Jews, Persians, Greeks (presumably Byzantine), Turks, and many others) that lived in the Empire, particularly the capital, Palembang. In other words, even back then Palembang has already a cosmopolitan city that harbors international societies.

Other Muslim travellers include the legendary Ibn Battuta, who recorded his observations on the use of various plants and animals in the daily life of the people in Srivijaya in his famous book, ‘Rihlah’, which means exactly traveling (Monteil, 1968; Adler and Pouwels, 2010).

Other important reports regarding the importance of biodiversity in Indonesia, especially Sumatra were also made by other nations, especially from the neighboring China, in which one of them was Chinese Tang's Dynasty Buddhist Monk, I'Tsing (sometimes pronounced Yijing) who first traveled to Srivijaya in 671 AD (Takakusu, 1896; Takakusu, 2005; Sen, 2006). I'Tsing regarded Srivijaya was an important empire concerning the international trading network between China and India. Not only because Srivijaya then holds two most important straits, Sunda and Malacca (Dellios and Ferguson, 2015), but also as it was the center of precious trade items, especially spices and incenses (Sen, 2006). So much, that he stayed in the empire for 10 years (685 to 695 AD).

Following the Arabs and Chinese were the European explorers, who gained information regarding the precious Spices Islands through the Arabs following the “Reconquista” of the Iberian Peninsula. String of explorers and opportunists then poured into the Malay Archipelago to study the biodiversity and its fortunes; from the legendary blind seeker of Ambon, Rumphius (1743) to the scientific vagabond Wallace (1890), diehard mountain lover Junghuhn who brought quinine to Java and saved millions of people in the Archipelago from the malicious malaria (Beekman, 1996; Sternagel, 2011) and many more. Their reports, accounts, and publications have become primary sources of literature concerning Indonesian biodiversity up to this present day encompassing various branches of sciences from biology, ecology, ethnobotany up to systematics, and other related sciences. The historical records show that the people of Indonesia always regard biodiversity as an important part of their existence. This can also mean that biodiversity is an active component constructed by the Indonesians through various media, which later influences the people to act something (Ingold, 2012). Following

the aforementioned information, we used the ethnohistorical approach, which is looking at historical events with an anthropological perspective. For this reason, in collecting the data, we not only conducted interviews and in-depth observations of human-forest relationships, but also used literature reviews and historical documents (Lurie, 1961; Axtell, 1979).

RESULTS AND DISCUSSION

Conservation and Bulkhead of Nature

Throughout history, an issue that involves environment and conservation has been the oldest known (Jepson and Whittaker, 2002), and as a discourse environment issue is always constructed by agents at any level, which then becomes human practices (Faucoult, 1980; Arnscheidt, 2009). Generally, the environmental issues are concerning biodiversity, conservation, climate change, and sustainable development (Arnscheidt, 2009). At least since the end of World War II, environment issue has become a global problem that involves many stakeholders, thus are not only exclusively activists and scientists but also countries and businesses (Meakin, 1992). The Earth Summit held in Rio De Janeiro, Brazil in 1992 was an important event that since has become the milestone for environmental movements. The event has produced two conventions on biodiversity and climate change (Miller, 1992).

One of several important agendas that have become global interest is Agenda 21. This agenda is about action planning to conserve the environment in the 21st Century. As a discourse, this agenda is not legally binding to the country, but is more likely to moral binding, in which the main emphasis is the basic new international partnership in the world's sustainable development and conservation (Meakin, 1992; Miller, 1992). As this involves many social components, the improved transfer of technologies and fundraising from the industrial world (i.e. developed countries) to the third world (i.e. developing countries) is essential (Meakin, 1992; Miller, 1992). Every country should make its own National Strategic Biodiversity Action Plan as a guide in their environment policies (Meakin, 1992). Every country also has the mandatory to their biodiversity control and supports every conservation initiative and pushed the private sector to also care about the environmental issue in their products.

In relation with the current situation in Sumatera (i.e. Riau Province) that means illegal and legal loggings to support pulp industries, which now have been over capacity; thus growing the species of *Acacia* (particularly *A. crassicarpa*, *A. floribunda*, and *A. mangium*; Fabaceae) in plantations has been regarded as the best solution for the maintainable of the raw materials for the pulp industries (Awang, 2005). However, the impact of the opening of vast-wide plantations to the environment, especially indigenous species and habitats is devastated. The Indonesian Government has long been suggested to give more pressure to the private sectors to involve more in the environmental issues.

In the global context, biodiversity has become a profound global agenda (Hayden, 2003), such as in the World Trade Organization (WTO). Perez (2004) studied the relations between environmental issues with WTO, especially concerning the property right. Biodiversity and Conservation have been constructed as international agreements, such as CBD (Convention on Biological Diversity), CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services), Nagoya Protocol, and GRTKF (Genetic Resources, Traditional Knowledge and Folklore). CITES controls and regulates the international relationship and national technical policy, including Indonesia.

Indonesia has a long association with conservation from the colonial era up to the present day (Honig and Verdoorn 1945; Awang, 2005; Cribb, 2007). The Dutch East Indies government established numerous protected areas from 1916 to 1933. The policy was proven to be excellent in preserving and conserving the nature, thus later has been carried out after the Indonesian independence in the forms of National Park, Nature Reserve, and Wildlife Reserve (Jepson and Whittaker, 2002).

Implementing historical analysis, Jepson and Whittaker (2002) show global interest in the Indonesian conservation policy. During colonial time, the private sectors and networking were initiated, in which they had played the important role in pressuring the colonial government to establish some part of the Dutch East Indies' forests as protected areas, although it was not executed yet due to the regulation on the Limitation of Business in the state of Netherlands East Indies implemented by the colonial government.

After the Indonesian independence, the government of Indonesia adopted the previous colonial policy concerning the conservation of the forests. During the President Suharto's administration (known as the New Order), the regulation for the Forest Concession Rights ('Hak Pengusahaan Hutan' or HPH for short) was established and put into practice as the basis for the development of agroforestry and related matters concerning the utilization of forest resources (Klassen, 2010).

Following the implementation of the regulation, the number of HPH related industries significantly increased and had made Indonesia as the largest exporter of wood (logging) in Asia, in which the largest parts were shipped to Japan and South Korea (Klassen, 2010). As the illustration, for just approximately one year, 1989 to 1990, there were more than 600 companies that had been granted the exclusive license to manage the forests, particularly lowland tropical rainforests from Sumatera to Papua with more than 27 million cubic of log per year (see Awang, 2009). As a consequence of the vast growing logging industries, the area of lavish tropical rainforests in Indonesia has then rapidly decreased. This frightening fact has since made International communities put pressure on the Indonesian government to protect their forests, particularly their pristine lowland tropical rainforests.

In 1982, the Indonesian government started the National Network on Protected Areas, including several areas in Riau Province. The network is based on scientific principles and proposed ecosystem backups in all bio-geographical regions in Indonesia. To support the network, in 1985 the Indonesian government implemented high taxes to the non-productive logging companies and issued a regulation to prohibit the export of sawn wood. The new policy changed the orientation of companies so much that they stopped selling logged wood and changed to processed wood. The result was clear and in that year Indonesia became the largest exporter of plywood.

In the following years, the Indonesian government developed regulations concerning control and management on forest concessions. For example, in 1990 to obtain the concession, any companies should pass the more complicated procedure including more than 69 policies and regulations regarding the forests (Bennett, 2001). Unfortunately, despite some new laws and regulations that have been made, they do not reduce the damages in the forests. From 1990 to 2001 for example, 16% of Indonesian forests had been reduced (Bennett, 2001). This is to show that power-based approach only implemented in the management of conservation areas was not enough to protect and conserve forests; thus, another approach is needed and this involves other aspects and actors in land management in or around the forest areas (Fay and Sirait, 2002; Gaveau *et al.*, 2009).

In many cases the environmental problems are related to politics and social dynamics as reported by Boomgaard (2004), where agriculture and plantations drive migrations, economic activities in villages, and creating new jobs. Ecosystem damage is proven to be

directly correlated with the forest damage, which is mostly due to logging (both legal and illegal) and this includes the loss of important species, which have important roles in the biology of the ecosystem (Awang, 2009).

In most logging related cases, the companies usually take economically important species and as they are usually large tall tree species, such as dipterocarps, the consequence is that the other species, which are mostly understorey tree species simply unprotected and soon disappear (Grieser, 1997). As the ecosystem and its biodiversity are important to mankind as cultural resources, the loss of biodiversity means the loss of medicine (including human health), cultural identity, spirituality, and individual consciousness as well (Sujarwo *et al.* 2014).

Environmental changes induce people to new challenges in their life through dynamic strategies which adjust social and environment contexts (Netting, 1981). Historically, the changes even introduced new plant species outside their natural habitats, such as sugar cane (*Saccharum officinarum*; Poaceae) and rubber (*Hevea brasiliensis*; Euphorbiaceae) that gave important impacts on social lifestyle and consumption (Mintz, 1985). People develop an adaptation system as well, so they can be appreciated and appropriated through new production strategies (Netting, 1981). This is also true for the people of Riau, where they should develop new strategies to survive in a changed situation. They should be adaptive with forest without trees.

International pressures have changed the conservation paradigm in Indonesia, from a state-controlled to the multi-stakeholders. It shows that discourses always develop a relationship with social dynamics (Leipold, 2014). At first, the state has a significant role in management but in the present day the state only plays as a facilitator to other stakeholders, private sectors, and local initiatives (Gaveau *et al.*, 2009; Leipold, 2014).

Since World Summit in Brazil (held in Rio de Janeiro from 3rd to 14th of June 1992; see Zentili, 1992), the conservation trends have changed, from protection policy to policy that involves people that live in closed forests. The reason of that policy is based on the fact that forests provide all human needs, such as food, drugs, building materials for houses, and the fact that human has a long relationship with nature (Zentili, 1992).

Forest: Space to Save Memory

Indonesia has long been visited by foreigners, both for trades and researches. Sumatera is one of the five principal islands in Indonesia, which has been visited by foreign traders from many places in the world, from China up to Persia and the rest of the Middle East up to Mediterranean countries. Ancient kingdoms in Sumatera are trading kingdoms, such as Melayu Kingdom, Srivijaya Empire, and followed by various kingdoms and Sultanates such as Dharmasraya, Aceh Darussalam, and Siak Sri Inderapura, where they trade various goods from spices to gold.

Riau was also an important part of Sumatera. Many scholars in the past believed that Riau was the original place of the precious spices (Turner, 2005; Amal, 2010). Other scholars explored the area for scientific purposes (Wallace, 1890; Ijzerman, 1895; Merrill, 1919; Wallace, 2009), even before the concept of biodiversity itself was well defined (Schiebinger, 2004; Goss, 2011).

In the beginning, the explorations were made by amateur scientists and nature enthusiasts simply to collect animal and plant specimens for museums and hobbyists (Wallace, 1890; Schiebinger, 2004; Goss 2011). Following the development of knowledge, the nature of exploration was changed, from simply just collecting for passion and exploring economic potentialities to scientific researches for new food and drugs (i.e. medicine) discoveries (Schiebinger, 2004; Goss, 2011).

Riau has been scientifically explored at least since the 19th Century. In 1891, a large scale exploration was conducted in Riau involving numerous scientists and engineers lead by a well-known Dutch Petroleum Engineer, J.W. Ijzerman. Although mainly studied forests in Riau, particularly within Siak vicinity, but in truth they were looking for oil in the potentially rich petroleum mining area (Hasselt, 1881; Veth, 1881; Ijzerman, 1895). The exploration itself was fully funded by the Dutch East Indies' military and was not only intended to research botany or biology of the area, but it was more to gain strategic data regarding the Siak area, in which once a prosperous Sultanate that challenged the Dutch colonial expansion in the Eastern Coast of Sumatera that rich in rice, honey, cotton, rattans, medicinal materials, and –of course– gold (Marsden, 1966).

Even the botanical exploration also produced important data that the lavish lowland tropical rainforest of Siak is proven to be rich in timbers and building materials. The people of Siak Sultanate, including the people of Bengkalis have long established a prosperous wood trade with Singapore, Malaysia, and other countries (Japing, 1929; Fernando and Bulbeck, 1992). Thus, logging has been the major industry in the Siak area and it reached the peak around the time of Sultanate Siak Sri Indrapura (1723-1946), ironically supported by Dutch timber companies following the results of the exploration lead by Ijzerman.

The international trade between Siak and Bengkalis with Singapore and Malaysia was started in 1850 and lasted until 1942, in which most of the time the trade was prosperous (Bodegom, 1932). Despite the busy trade, in 1931 Siak was reported still lavishly covered with lowland tropical rainforest (Meys, 1931). Other forests and agriculture products were also found in Siak, but mostly in high altitudes with different types of soil, usually clay and sandy (Meys, 1931). The activities in this area included forest exploitations, wood (i.e. loggings), and fishing trades.

As previously mentioned, logging was (and still is) the primary product of silviculture in Siak, where the logging industries have long been established. Since the involvement of silviculture industries, the harvesting of logging products (i.e. timbers) has increased. As a consequence, people are massively harvesting timbers from the forests and this is worrying some people, who concern about the existence of the forests. These people propose a system that cares, saves and protects the ecosystem for the sustainability of human needs in the future (Ruiter, 1951).

Following the proposals, the Colonial Government (i.e. Dutch East Indies Government) issued some regulations regarding forest management at the beginning of the 20th century (Galudra and Sirait, 2009). Unfortunately, however, the regulations were not effective and the illegal loggings were still carried out and even increased in the Eastern Coast of Sumatera, including Siak and Bengkalis (Japing, 1934; Galudra and Sirait, 2009). In the annual report of 1930, it was reported that numerous Chinese companies were active in logging the forests and processing charcoals (Meys, 1931).

Despite the regulation implemented by the Colonial Government that stated the only tree with 35 meters height and 123 m³ can be harvested, trees with less than those values were harvested uncontrollable and consequently there was not enough time for the forest to regenerate (Swandono, 1937). In response to the atrocious fact, scientists gave recommendations on the sustainable utilization of the forest to the government (Swandono, 1937).

Following the recommendations, some regulations issued by the government become a conservation policy (Burger, 1927), the policy to reduce and control logging and land-use changes (Burger, 1927). Conservation area would ensure the protection of existed hydrology system and improving income for the local government (Myer, 1927). At that time, the main reason concerning conservation was to conserve the area as an area for tranquillity, recreation,

appreciating natural beauty, and human moral obligation to nature (Myer, 1927; Schnepper, 1936).

As the logging industries have a conspicuous economic significance, the colonial government had to be ensured to implement the regulations, so the forests can be sustainably exploited for the future. Mol (1939) described the importance of protecting areas from an economic point of view. Furthermore, the government then also mentioned that the forests have other values to mankind, such as aesthetics and ethic (Schnepper, 1936), scientific (Beekman, 1912; Koorders, 1912) as well as amusement like for hunting and game areas (Schnepper, 1936).

CONCLUSIONS

Colonial government used scientific recommendations that studied vegetation, hydrology, local people, and other land use before issued a policy and decide an area as conservation. The reason is to ensure protection from exploitation in the future. Colonial government reset forest and protected forest, for example, the Kerinci Mountains became nature reserve that strictly forbidden for all activities related to logging, and then Leuser Area catch up as nature reserved with 400 thousand hectares. Also, the department of economic issued licenses for hunting. The hunting license is to control hunting activities, and to protect the forest from damage. To manage a protected area, the colonial government involved the private sector. The private sector would get the government to ensure a non-timber forest product.

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