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Cover images: 1. *Begonia holosericeoides* (female flower and habit) (Begoniaceae; Ardi *et al.*); 2. Abaxial cuticles of *Alseodaphne rhododendropsis* (Lauraceae; Nishida & van der Werff); 3. *Dipodium puspitae*, *Dipodium purpureum* (Orchidaceae; O'Byrne); 4. *Agalmyla exannulata*, *Cyrtandra coccinea* var. *celebica*, *Codonoboea kjellbergii* (Gesneriaceae; Kartonegoro & Potter).

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## BEHIND THE SACRED TREE: LOCAL PEOPLE AND THEIR NATURAL RESOURCES SUSTAINABILITY

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### ABSTRACT

ROYYANI, M. F. & RAHAJOE, J.S. 2014. Behind the sacred tree: local people and their natural resources sustainability. *Reinwardtia* 14(1): 35 – 42. — Local communities have their own means of maintaining their traditional knowledge and sustaining the production system of natural resources by designating the resources as sacred. Without the state's influence, local people have their own strategies to conserve the environment and resources, in ways which are more effective than those enforced by the state. A study done through interview, participatory observation, and ethnographic methods revealed that local people recognized two models of natural resources conservation. The first model is the designation of forests as sacred site, aiming at maintaining the sustainability of ecosystem and the second model refers to adoption of species as a sacred entity to sustain production system. Dynamic processes are operating in the sacredness of both forest and species.

**Key words:** Conservation, local people, natural sacred, production system of natural resources, sacred site.

### ABSTRAK

ROYYANI, M. F. & RAHAJOE, J.S. 2014. Dibalik pohon yang dikeramatkan: masyarakat lokal dan sumber daya alam mereka yang berkelanjutan. *Reinwardtia* 14(1): 35 – 42. — Masyarakat lokal memiliki cara tersendiri dalam menjaga pengetahuan tradisional mereka dan juga menjaga keberlangsungan sistem produksi sumberdaya, melalui pengkeramatan. Tanpa kehadiran negara, masyarakat tetap menjaga wilayahnya. Cara yang dilakukan oleh masyarakat lebih efektif dalam menjaga kawasan maupun sumberdaya penting. Dengan menggunakan pendekatan antropologi diketahui terdapat dua model pengkeramatan yang dilakukan oleh masyarakat, yaitu pengkeramatan hutan dan pengkeramatan pohon. Dari hasil penelitian diketahui kedua model pengkeramatan yang dilakukan oleh masyarakat memiliki tujuan yang berbeda. Pengkeramatan hutan untuk menjaga pengetahuan sedangkan pengkeramatan pohon untuk menjaga berkesinambungannya sistem produksi sumberdaya. Pengkeramatan juga penuh dinamikanya sendiri, sebagai bagian dari proses sosial.

**Kata kunci:** Keramat alami, konservasi, masyarakat lokal, pohon keramat, produksi sumberdaya alami.

## INTRODUCTION

### How to Look at Local Strategy

This article is a respond to Ernst's argument (1999) about collaborative management process between local people and the state. In Ernst's case, the state has initiative in managing the area based on its experience and finally the state will engage with local people to manage the area. Other than Ernst, Peterson *et al.* (2010) also discussed on the co-management of conservation area between state and local people. Ernst's and Peterson's arguments are not false, but are not relevant in looking into the local management in Indonesia, like the phenomena found in Tasik Betung, Sungai Mandau, Siak regency, Riau province where local people

have the initiative to protect and manage an area by themselves as a communal property, instead of following the state's program to conserve the area before getting involved with the locals.

The people in Tasik Betung conserve the area as communal property for a long time, as argued by Hardin (1968), which sees that natural resources are basically communal, but over the time the communal will become private. An action from a member is to be followed by another member. The transformation process from communal to private property is one of the reasons why the ecosystem or a forest becomes damaged. This process is still unseen until now in Tasik Betung village. Hardin assumes that every people have access to natural resources, and people interpret the access as their property. To analyze

human being through local people and their interaction with the environment using Hardin's assuming is erroneous. Local people still consider the environment's capacity, moreover ritual tradition used by local people as nutrition control as a strategy to support carrying capacity (Rappaport, 1968; 1999).

Critique to Hardin also came from Ribot and Pelluso (2003) through differentiation between access and property. Both access and property are interaction between people and the environment related with values and benefits. Access is an ability to get and collect resources, material and non-material, whereas benefit, generally, covers access and property. Access is a right and through access availability, people can now have right to natural resources. Property is a claim over specific areas or natural resources but everyone can access its natural resources. Ribot and Peluso make a differentiation between access and property expressively. According to Ribot and Peluso, access is an action from an individual to get the benefits from natural resources and property is social avowal and support for custom, state rule, *etc.*

The aim of this article is to discuss about cultural phenomena through sacred species and sacred site by local people in Tasik Betung village, Sungai Mandau district, Siak regency, Riau province. They have two kinds of sacred, namely sacred site and sacred species. The example of sacred site is *imbo botung* or custom forest and the sacred species are tiger (*Panthera tigris sumatrae*) and several trees. The trees that are made sacred by local people are called *sialang*. The *sialang* is not only considered sacred but also controlled through custom rule. According to the custom rule, people who inadvertently cut the tree and/or parts of the tree will be punished by custom law. The custom rule is not merely given but is a long process about interaction between the people and the certain plant. In this process, the base is not only about local belief but also about material.

Generally, the environment management by local people is a traditional wisdom interpreted as a social system that is inherited over generation. The knowledge is regarded as given over generations as guide of how people should adapt to the environment's condition. Local wisdom is also interpreted as local awareness and managed by the people through custom mechanism and local belief (Adimihardja, 2007; Golar, 2007; Iskandar, 2007; Kaber *et al.*, 2007; Soedjito, 2007).

This view renounces the social process in the social life itself, because the conservation or local environment management, including sacred site, has its own dynamic and complicated process. There are many interests and other factors of why one area becomes a conservation area rather than the others (Dove *et al.*, 2011). Moreover, local wisdom is a counter discourse from modernism. According to Dove, local wisdom is the "son" of modernism, which creates the dichotomy in people, urban-rural, civilized-uncivilized, usually the dichotomy refers to a certain community. The word wisdom itself, especially associated with environment, can be separated from political ecology. This word can be used as a 'gun' to go against domination from the state and other power. The traditional wisdom is everyday practice as constructed according to their identity. How tradition, wisdom, and knowledge were constructed is debatable. Traditional knowledge and traditional wisdom is dynamic, fluid, flexible, flexure and can change over time.

### **Biodiversity as Cultural Resources**

In this case, biodiversity does not only include wild living in the forest, but also the discourse and cultural practices in society. Biodiversity also has practical implication and on other side biodiversity is a discourse developed by people through interaction with others and will return as something practical but with new interpretation. According to Ernst (1999) this process is called entification. Forest and biodiversity are significant elements in supporting human being and their activities. Forest is not only the ecosystem and biological being but also as a part that cannot be separated from a society's culture that are living close by the forest. Besides saving the biodiversity, forest also record footsteps of interaction between people and forest.

In some practices, human's life depends on the biodiversity around the village. Biodiversity is one of the significant elements as cultural resources, this means that from biodiversity people create the tradition and improve their knowledge. After creating the tradition, people manage the biodiversity due to their mechanisms; one of them is to make the elements sacred. Like in Tasik Betung, after the trees became sacred, people strengthen it through custom law as local strategy to conserve the area or species that needs sustaining. Involving local people in maintaining conservation area is more

effective to protect the area from damage than management by state without local people's inclusion, like in New Zealand and Mississippi Delta (Tipa & Welch, 2006; Shoreman & Haenn, 2009). Biodiversity makes cultural identity stronger through entification process where the wrestle of discourse and practice when they interact with others. Biodiversity is one of the significant elements to support a society's tradition, human health, cultural spiritual and individual thought (Githae, 2009). Power relation shadows the process of biodiversity use, including for religious rituals (Snoogras, 2008).

Currently, usage of biodiversity became one of the parameters to reduce poverty target in Millennium Development Goals (MDGs) due to the need to conserve and sustain the use the biodiversity (Emerton, 2009). Even local people strategy is effective to conserve and manage an area, but it is still not enough. It also takes other parties to participate in managing the area, because many problems are related with the sustainability of development (Ninan, 2009).

Globally, biodiversity is considered as natural resources to support human being. Global concern in biodiversity issues can be seen from the global agendas and global conventions (CBD, CITES, IUCN, *etc.*). In global convention, traditional knowledge is one of the important agenda discussions for all parties. In every meeting, access and profit sharing mechanism with stakeholder's knowledge related to international law is interested in such issues (Kamau, 2009) because medicine, cosmetic and food development are based on traditional knowledge that uses biodiversity.

Biodiversity includes natural resources that can potentially reduce poverty, hunger and health due to the extraction of natural resources. Biodiversity also supports the invention of culture, especially agriculture; loss of biodiversity will mean loss in agriculture potencies as well (Wood, 1999). Thus, biodiversity can mean cultural resources that create custom, belief and culture that support the human activities, thought and action from which knowledge, belief and culture are created.

### **Sialang: The Taxonomical and Ecological Perspective**

*Koompassia malaccensis* Mangay ex Benth.

Observation: a very large tree up to 60 m tall with columnar bole on average 60 cm in diameter but sometimes up to 210 cm and large buttresses, bark very finely, irregularly, closely fissured, dark grey or blackish to reddish-brown, crown made up

of large sub-crowns; leaves with 5–9 (–14) leaflets of 5.5–12.5 cm × 2–4 cm; flowers small, sepals and petals up to 3 mm long, ovary compressed globular, hairy; pod 9.5–13 cm long. *Koompassia malaccensis* is considered to be the third commonest big forest tree in peninsular Malaysia and occurs from sea level up to 600 m alt. It is a frequently encountered tree in peat-swamp forests (Soerianegara & Lemmens, 1994).

### *Duabanga moluccana* Blume

Observations: a medium-sized to fairly large tree up to 35 m tall, but sometimes reaching 45 m, with columnar bole up to 100 cm in diameter, not buttressed but slightly fluted at base, young parts brownish hairy; leaves ovate, oblong or sometimes lanceolate, 7–30 cm × 4–12 cm; flowers 4-merous, stamens 12; fruit ellipsoid. *Duabanga moluccana* is locally co-dominant, along streams, on slopes, along logging track and in regrowth in former cultivation areas, up to 1200 m alt. The density of wood is 270–510 kg/m<sup>3</sup> at 15% moisture content (Soerianegara & Lemmens, 1995).

### *Octomeles sumatrana* Miq.

Observations: large to very large dioecious ever green trees up to 60 (–75) m tall; bole cylindrical, straight, branchless for up to 30 (–40) m, up to 250 (–400) cm in diameter, with prominent buttresses up to 6 m high; bark surface fissured or irregularly cracked, often pustular, grey to grey brown, inner bark fibrous, yellowish but rapidly turning brown on exposure, without exudates; crown open, pagoda-like with whorled branches when young, semi-globular when mature; twigs sharply 3-angled. Leaves arranged spirally, simple and entire, thin, roundish cordate, 12–30 cm × 6–23 cm, acuminate, with 5–7 (–9) palmar veins, minutely scaly and below with large domatid glands in the axils of the main veins; petiole 6–30 cm long; stipules absent. Flowers unisexual, actinomorphic, sessile, 5-8merous, green, in solitary axillary spikes. Male inflorescence 20–60 cm long; flower *ca.* 5 mm long, calyx campanulate, petals absent, ovary inferior, 1-celled, with 3–8 parietal placentae and many ovules, styles 5–8, inserted on the throat of the calyx tube, on a 10–20 mm long peduncle. Fruit a barrel-shaped capsule, splitting from the top down words, 12 mm long. Seed many, spindle-shaped, *ca.* 1 mm × 0.2 mm (Soerianegara & Lemmens, 1995).

### **Imbo Botung: When People Conserve an Area**

According to interview and investigation, Tasik

Betung people has a forest area which is custom forest that saved by themselves. Local people keep the forest from damaging and the trees in this forest are never cutting down, including trees that so called *sialang*. *Imbo botung* is local words that mean forest in betung (name of the village). *Imbo botung* has 150 ha and the location is closed to settlement. According to *bomo* (elder people), local people has a mandate to protect, with custom role, the forest because its Siak kingdom property. Sometime, local people called its forest with *hutan keramat* (sacred forest).

As custom and sacred forest, the *imbo botung* manage by custom rule. Nobody can access to change the land for other utilization and cutting down the trees. If someone damaged the tree on imbo botung even by an accident, *bomo* as the elders' people will give punish for the man. He (people who cutting the trees) should conducted the ritual and invite the villager to join the ritual. According to *bomo*, the main purpose of *imbo botung* is natural resources deposit for local people. In imbo botung, *sialang* trees saved very well and imbo botung also provide many local people need, mainly for traditional medicine and non-timber forest products.

For local people, biodiversity is significant things to support their culture, because some biodiversity is needed by people as traditional medicine and ritual tradition and the imbo botung provide what people want so that the reason why people saved *imbo botung*. Another conservation area that founded in Tasik Betung as sacred site is cemetery area of founding father of the village (Imam Tasik). In this area, beside *sialang* trees we also found some forest trees grow up very well. Local people have different reason to protect the area in imbo botung the reason is as deposit of biodiversity and in this area the reason is cultural.

### ***Sialang*: Sacred Tree and the Strategy to Sustainable Production**

The ethnicity of Tasik Betung is Melayu and all of them are Moslem. Even formally Islam is their religion but local people still keep local belief and custom in their life, *i.e* sacred tree. The local belief of sacred tree is a kind of syncretism case between religion and tradition in Melayu people, like Tasik Betung people. Religion, especially Moslem, on the one hand, as normative teachings assumed come from the outsider and come from above is something abstract; on the other hand, religious practices and belief are things that are real.

Culturally, the sacred tree that local people still

belief is a sort of living document that describes the interaction between religion and local traditions. Some ritual refers to local belief related with *sialang* shows that Islam is involved in the local belief. In other words, the *keramat* is word that people say it refers to Arabic words that remaining traces of the long history of Islam in Melayu Ethnic. The coming and development of Moslem in Malayanese areas encountered two traditions at once. The first is the tradition and the "metropolis" mindset; second is a Hindu-Buddhist tradition which is strongly inherent to the society. Cultural contact between Moslem and local traditions that already existed made acculturation. This acculturation between Moslem in one side and local traditions on the other side is also called a syncretism. The sacred tree is a tradition typical to local people who are familiar with their environment. Like people of the past time they have close relationships with the environment in which they live.

Tasik Betung people believe that Sumateran tiger (*Panthera tigris sumatrae*) is the village protector, forest keeper, and other name that refer to admiration, thus sacred. Moreover, Tasik Betung people also have another sacred species, trees called *Sialang*, a tree that has bees nest on the tree. *Sialang* is a tree where bees make a nest on the branch. No specific tree but all trees with bee nest is called *sialang*. But commonly, the tree would be a *magggris / kempas* (*Koompassia malaccensis*), *duabanga* (*Duabanga moluccana*), and *Octomeles sumatrana*. All these trees are the ones that grow and can be found in peat swamp-forest. Economically, the species is also an important species like *ramin* (*Gonystylus bancanus*) which can be used as paper material, *jelutung* (*Dyera costulata*) for gum material, *meranti* (*Shorea spp.*) for the wood, *punak* (*Tetramerista glabra*), *perepat* (*Combretocarpus rotundatus*), *pulai rawa* (*Alstonia pneumatophora*), *terentang* (*Camptosperma spp.*), *bungur* (*Lagestroemia spesiosa*) and *nyatoh* (*Palaquium spp.*) for building materials (Tricahyo *et al.*, 2004). *Koompassia malaccensis* has good wood and fiber for housing material. This species is also traded for furniture and other purposes. Melayu ethnic uses this wood for the flooring of their traditional houses (Fakhrozi, 2009). Suku Anak Dalam uses this wood for housing material and the leaf is for stronged the fontanel of babies (Setyowati, 2003).

The tree called *kempas* in local name is a big tree that can be found in peat-swam forest. In 2004, IUCN listed this species in the red list,

which is an endangered species. In 1990 the Malaysian Government protect this species under wild rule (Baillie *et al.*, 2004). Unfortunately, Indonesia has no specific rule to protect this species, even in government law number 7 year 1999 about wild plants and animal protection this species is not included. Local people believe that bees have good intuition and special consideration in making nests on the tree. When making a nest, ancestors and all 'inhabitant' have guided the bees to choose a tree. With this belief, local people believe that the tree consists a bee's nest is sacred. Other than that, local people also have local rules to manage *sialang*.

Everything about *sialang* is sacred. People are not allowed to take a leaf, cut a branch, or cut down the tree. If someone does any of that by accident, he will still be punished under custom law. The penalty is that he should cover all parts of the tree with white cloth and organize a ritual tradition that needs a great amount of money. After the ritual, the white cloth will be shared with all the people who have a *sialang*. After the honey is harvested, the tree will not be called *sialang* anymore and it may be cut down, but commonly people will still protect and maintain the tree with the expectation that next year the bees will come back and make another nest there.

The tree that is considered sacred by the local people is not only based on local belief but also they have logical reason behind the belief, which is economic calculation. Honey is one of their income sources provided by nature. People can create products from a bee's nest and earn cash money of around 1-3 millions rupiah, depending on the condition. The common technique to harvest the honey is by sharing profits with other people who hunt and harvest honey as their job and called the nest. In this case, the motive is mostly because they need cash money.

The sacred species and restrictions to impair the *sialang*, which has been enforced from the past, are based on honey production sustainability. Local people have known well to protect the habitat of honeybees and their nest making (*sialang*). With that knowledge, local people also protect the specific species to keep them alive as host for the bees. Due to its sacred status and restrictions around trees with bee nests (*sialang*), people will not only contribute to conservation but also gain economic values. It means local people in Tasik Betung hold a role in the development of natural resources. They have mixed economic interest with conservation. Custom mechanism

due sacred species is effective to stabilize economic interests and conservation.

### **Maintain the Trees, Maintain the Value**

Different from Hardin (1968), Tasik Betung people strengthen the communal property instead of making them personal property. Some people claim an area but not as communal property, but rather private. Dove *et al.* (2011) opens our perspectives in seeing broadly on conservation issues concerning sacred sites in relation with other issues. According to Dove's argument, it has four paradigm, videlicet' postcolonial perspective, post-equilibrium, poststructural/postmodern, and post-Western (Dove *et al.*, 2011).

*Sialang* as a concept or conservation area is not independent. This concept is related to other people, even outside the Tasik Betung society's knowledge; it has been public. *Sialang* is an embodiment of people's awareness to protect natural resources against big capital (private sector), which in the people's perspective has been damaging their forest.

People do cultural movements against private sector through different action. If private companies cut down the trees, people will plant more trees. If private companies clear the forest so people will continue to maintain and protect the forest. The conservation practice by local people is based not only on religion or cultural logic but also has a base on material and many other interests. Conservation or the idea of sacred nature is created, dynamic, and active, not given and static (Harris, 1964; Rappaport, 1968; 1999). Indeed, behind ideological reason is material as the primary logic, like sacred cow in India (Harris, 1966). This factor is positive, because it means they will lend a hand in protecting the species.

The forest and its biodiversity is an important element to support the lives human being. Forest is a part of human culture. Forest not only saves the biodiversity but also cultural footprint over generations that are waiting to explore because local people have a special manner to protect the environment and its species. The awareness is a long process in social life. It is an accumulation of experience as an adaptation system to the environment's condition. Local strategy to protect environment came from self-awareness; a new commitment among them because it supports their custom, myth and local belief for generations. In Tasik Betung natural resources management to conserve the forest and its species has been reinterpreted to support production system.

Through traditional strategies, many important species are saved from damage, like trees as host of honeybees (Sialang). Without local management, many of the important trees would be lost. To conserve and protect biodiversity as a cultural and economic interest, local people use local language and 'jargon' as their tools. Sialang is not only about conservation and economic interest, but also about its own network and interaction between local people and the market. Honey production by local people holds significant contribution to the national needs of honey. With sacred species, supply to national market can be provided, although not on a national level yet

As an illustration, 1.000 to 1.500 tons of the national honey supply is provided 70% from the honey harvested in forest that of threatened sustainability, while the national needs to honey is 4.000 tons (Maryanto, *et al.*, 2013). Other than that, one of the functions of honeybee is as bio-indicator of the environment, in agriculture and plantation (Porrini *et al.*, 2002).

### Local People: Between State and Private Company

Local people develop a protection system to protect production by themselves through the sanctity of the trees that has direct relation with the production of natural honey. Unfortunately, local people's strategy has no support from the government. The state has no regulations to protect the production system related with wild honey. Peat-swam forest as the habitat of the honey tree is going to be damaged, because many of the regulations issued by the Indonesian government related with peat-swam forest refer to plantation and agriculture by planting and burning.

Some regulation issues by Indonesia government are:

1. UU No. 41/1999, Forestry clause 78 verses 3, 4 and 11 about punishment burn the forest
2. Ministry of Forestry Rule No: P.12/Menhut-II/2012 about second change to Ministry of Forestry rule P.32/MENHUT-II/2009 about technique of forest rehabilitation and river stream area.
3. PP No 28/1985 forest protection.
4. PP No. 4/2001, ban of fire using in forest.
5. PP No. 6/2007 about forest planning management and forest utilization.
6. President Decree No. 32/1990 about prohibition of development in peat-swamp deep more 3 meters.
7. Government Rule No 7 Year 1999 about plant

and animal preservation.

8. Government Rule No 8 Year 1999 plant and animal utilization.
9. Ministry Decision No. 260/Kep-II/1995 about guidance prevention and control forest fire equipped with technical guidance.
10. Ministry Decision No.14/M. Ekon/12/2001: national policy direction of water resources that promote integrated water resources management.
11. Director General PHPA Decision No. 243/Kpts/DJ.VI/1995 about technical guidance prevent and control forest fire at forest utilization and other area.
12. Director General Plantation Decree No. 38/95 about preparation land without burn for plantation.

All regulations issued by the government only concern about peat-swamp forest management and utilization for plantation, agriculture, and other utilizations that are not meant to protect peat-swamp forest, even has tendency to threat the peat-swamp itself. One of the regulations is a rule about canal development as border area between cultivated and conservation area and other canals (primary, secondary and tertiary) in cultivated area. The canals' function is as drainage system for the conservation area and palm plantation. This system is peat-swamp digging and watering.

In nature sustainability perspective, this regulation will result in mere plantation sustainability, not development or further protection of an area or specific species. In 1972, Ministry of Agriculture issued Decree No. 54/Kpts/Um/2/1972 about prohibition of tree cutting with diameter smaller than 60 cm. This decree is still considered too general. The state's rule are not specific, thus the sacred tree by local people have no support from the government. The state remains abstain to the protection of people's interest about forest and *sialang*. Local people's initiative and collaboration are more effective than the state's ignoring local people to manage the conservation area. In this case, Tasik Betung village is also against private companies whose existence have no good impact for the local people.

All the government rules also show that biodiversity conservation discourse have been a long time process in Indonesia with all practices, decision making, law and all actors that play a part in this issue (Arnscheidt, 2009). Some people have prejudice towards the government that all government rules have private company intervention; in fact Corporate Social Responsibilities implementa-

tion developed by company has interest to control people and their access to natural resources, especially forest resources (Peluso, 1993; Welker, 2009). The state and private companies see local people as trouble maker not collaborator to protect and manage the environment.

## CONCLUSION

Welker (2009) has an assumption towards conservation discourse by the state and private companies because in the implementation they are using coercive approach, physical and non-physical. Without the state, local people already have self-mechanism to protect the area around settlement area and also to sustain production system. Sacred natural resource is one strategy to protect an area. Due to the sanctity and custom law, an area or species are protected from damage. Local people use easy 'jargon'. Custom law, myth and legend, are the basics of *jargon* used by them because sanctity is not only about biodiversity but also related with other aspects, such as economic, politic, political-ecology, religion and culture. Behind the sacred species is a dynamic of social processes. Maintenance of protected area also means to maintain practical local knowledge in the people's minds, especially using plants as medication and in this context *sialang* is natural production.

At first, sacred species was a discourse, which is then, practiced by the people, and after the practice the sacred became a discourse, especially when they interact with others. The consequence is that the local people use discourse to go against private companies and the state.

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