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Jambak Jambu Kalko: Nature conservation management of the *Serampas* of Jambi, Sumatra

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ABSTRACT

Hariyadi B. 2012. Jambak Jambu Kalko: Nature conservation management of the Serampas *of Jambi, Sumatra. Biodiversitas 13: 40-45.* *Serampas* is an indigenous group that still inhabits forested areas around the Kerinci Seblat National Park (KSNP) in the island of Sumatra, Indonesia. The group has occupied the area since several centuries ago, long before the KSNP was officially proclaimed as a national park. The blending of local natural conditions, socio-cultural setting and cosmology has gradually produced a number of local wisdoms and practices to manage the local natural resources. The *Serampas* traditional resource management practices are not only friendly to the environment, but also encourage the more equitable distribution of natural resources among the members of the *Serampas* community. *Jambak jambu kalko* is literally means a list of locally important perennial fruit tree species protected by the *Serampas* customary system. Beyond the *jambak jambu kalko* the *Serampas* also recognize customs, traditions, and values that have important role in managing the local natural resources.

Key words: nature conservation, local ecological knowledge, Jambi, Sumatra.

INTRODUCTION

Traditional natural resource management practices have emerged as a community accumulates wealthier knowledge about the associated resources around them. In this case, people who continually interact with their surroundings tend to have a deep knowledge related to the resources (Gadgil et al. 1993; Berkes and Folke 2001). Communities who frequently faced with many challenges tend also to have more local knowledge than those who are rarely confronted with such critical periods (Berkes and Folke 1998). For example, people who inhabit small islands will soon feel the negative impact of natural resource management they did compared to their cohorts who inhabit larger islands. A number of traditional natural resource management model have evolved from such small island communities.

Traditional natural resource management is usually done in an integrated manner, involving various components of ecosystems, including socio-cultural aspects of the local community. For example is the *sasi*, practiced by people in the Moluccas islands in eastern Indonesia. The *sasi* is a traditional institution that regulates exploitation of natural resources, especially fishery resources. The implementation of *sasi* over generation has confirmed that the system is sustainable (Zerner 1994), although the practice of *sasi* is disappearing in some part of the islands (Harkes and Novaczek 2002). Indigenous people of Bali have developed *Subak*; a traditional institutional system that is established mainly to manage water distribution in paddy fields (Windia 2002). In the islands of Hawaii, local people recognize *ahupua*; a concept of traditional natural resource management which involves all elements of the islands landscape, ranging from the oceans, coasts, to mountain peaks. The natural resources are managed as an integrated entity, not just in ecological means but also in terms of social, culture, and spiritual values (Costa-Pierce 1987; Kaneshiro et al. 2005).

The traditional natural resource management models are still widely known and practiced by a number of traditional societies in many regions throughout Indonesia, including the *Serampas*. This community occupies the forested area on the outskirts of Kerinci Seblat National Park. Their livelihoods mainly rely on the shifting cultivation. The practice of the traditional farming system over generations has confirmed that the system is not only sustainable, but also encourages a more equitable distribution of wealth and resources for all members of the *Serampas* society. However, traditional society as *Serampas* is not a static community (also see Cox 2000; Gomez-Baggethun et al. 2010). A number of development initiatives and changes in the surrounding regions have exposed the *Serampas* to the modern lifestyle. As a consequence, traditional values have gradually undermined and replaced by new values adopted from and promoted by outsiders. It is therefore urgent to understand the local knowledge and practices of natural resource management performed by the *Serampas*, particularly related to

biological conservation, before they vanished and replaced by ubiquitous modern introduced values and practices. The research aim to reveal the *Serampas* knowledge, values, and traditions associated with natural resource management.

MATERIALS AND METHODS

The study was conducted at the *Serampas* society in the District of Merangin, Jambi (Sumatra), Indonesia (Figure 1). This research is a part research umbrella that examines the overall resource traditional management performed by the *Serampas* (see Hariyadi 2010). Local knowledge related to the management of biological resources was collected from the *Serampas* society; particularly those who live in the village of Tanjung Kasri and Renah Kemumu. Some additional information obtained from the other *Serampas* villages namely Renah Alai, Rantau Kermas, and Lubuk Mentilin. The study was mainly conducted between July 2005 and March 2006. Additional short visits were performed in 2008 and 2009.

The data was collected by conducting in-depth interviews to a number of respondents who have affluent knowledge of local customs and traditions associated with natural resource management. Respondents consisted of village officials, community leaders, traditional leaders, healers, and the common people. The number of respondents who were interviewed as many as 51 people consisted of 15 respondents in the village of Tanjung Kasri, 21 respondents from Village Renah Kemumu, and 15 other respondents were government officials, and the staffs of KSNP and some NGOs. The respondents were selected by employing snowball method (see Bernard 2002), starting from the village head. In doing the snowball respondent recruitment, some respondent suggested more than one respondent for the next interview stage. In this case I made a clarification on which respondent is the strongest recommended. Part of the interview was conducted back and forth meaning that interview to particular respondent was done more than once in order to clarify or to dig more information based on information obtained in earlier interviews.

In addition to the above interviews, information is also collected through participatory observations. I followed and actively involved in a variety of daily activities

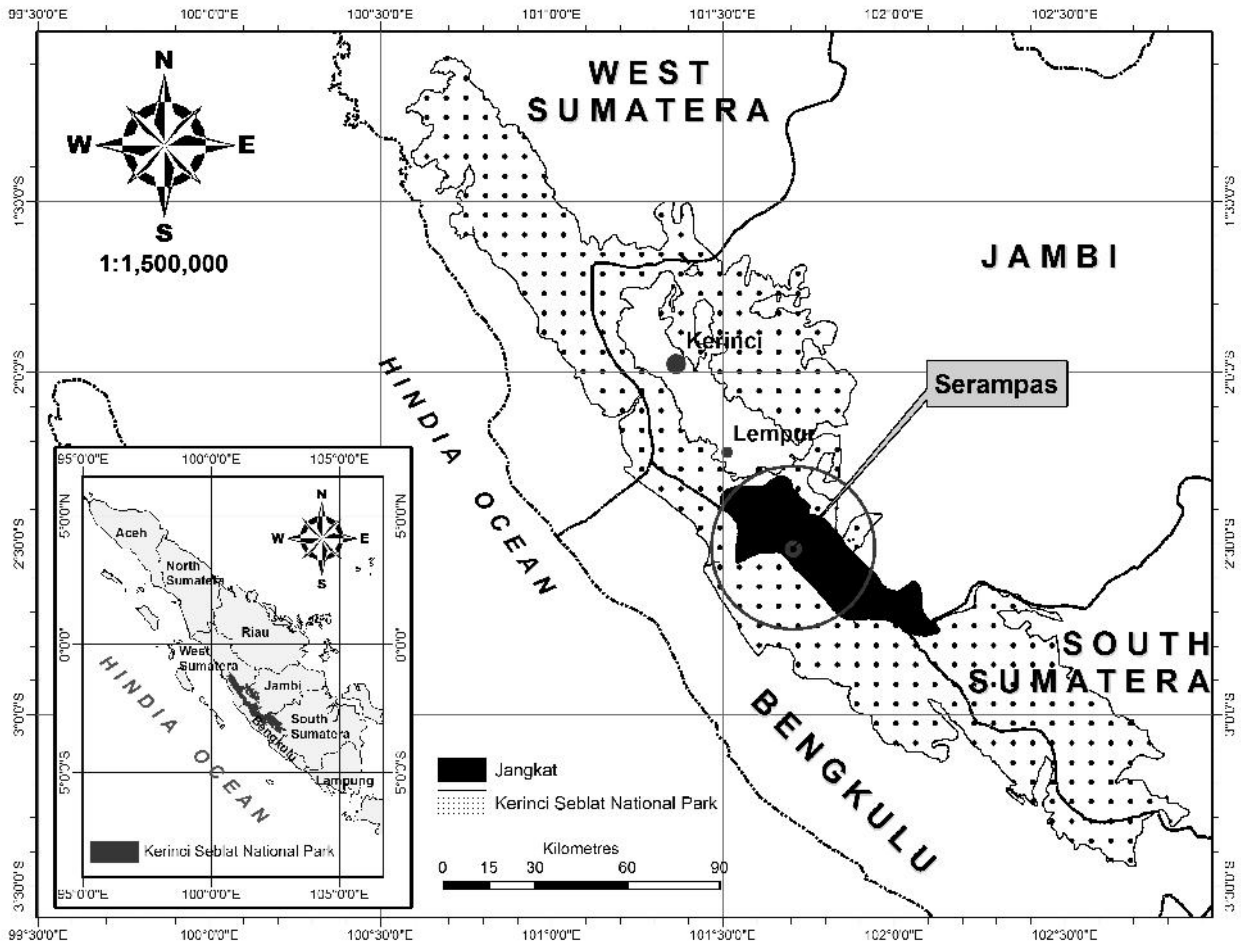

Figure 1. *Serampas* homeland in the southwestern of Sumatra, Indonesia.

undertaken by the community, for example by participating to work in the local people fields. I also took apart in various traditions and rituals performed by local people such as *selamatan ruso* (a ceremony to celebrate someone who succeeds in hunting deer), *negak rumah* (establishing a house) and *kenduri psko* (after rice harvesting fest). The collected information was verified through triangulation over different sources, place, and time. A number of plant specimens emerged from interviews were collected and then sent to Herbarium Bogoriense for identification purposes. Classification and naming of the collected plants carried out following the Index Kewensis online available at the web site of the International Plant Name Index (www.ipni.org). The collected data were analyzed qualitatively.

RESULTS AND DISCUSSION

Serampas communities and the forests

The livelihoods of *Serampas* primarily sustained by agriculture, especially rice fields planted with sedentary farming systems (shifting cultivation). Following Soedjito (2005), in this paper the authors use the term *perladangan daur ulang* (recycled upland rice farming) to indicate that this farming system is basically a sustainable upland agricultural system. A small percentage of the *Serampas* population grows rice in paddy fields, especially in villages that have a fairly extensive wetland such as in the village of Renah Kemumu. In the 1970's, cinnamon cultivation began to develop in *Serampas*, following the same practice, performed earlier by the people of Kerinci, an adjacent district to the *Serampas*. Besides rice and cinnamon, *Serampas* also use the forests around them to meet their various needs, including timber and non-timber forest products such as *rotan sendahan* (*Korthalsia* sp.), *asal* (*Elaeocarpus stipularis*), and *bungkul* (*Stelechocarpus burahol*).

In the eyes of *Serampas*, besides being a land reserve that could be used for agricultural purposes in the future, the forest is also a resource to meet various needs, including immaterial needs such as maintaining ecological functions, socio-cultural activities, and psychological needs. For the last purpose, forests provide comfort and entertainment that enable people to escape and get rid from fatigues and stresses emerged from life tension. For example, when some one under stress due to disputes with his/her family or neighbors, s/he feels enlightened after exploring the local forests for a while.

Land tenure

Most of the existing land at *Serampas* is recognized as common property, which is managed according to customary rules. The adat (local customary institution) controls and manages almost all the land in order to ensure that everyone can get enough land for both agricultural and residential purposes. All members of the community have the right to utilize the land, but they are not allowed to privately own or sell the land. Any land that is not tilled; including rapohen (fallowing shrub land) by itself would be owns and controls by the adat. People outside *Serampas* can also farm on *Serampas* lands, but in order to obtain permit to cultivate the land, ones must perform *ngisi adat*, a ritual aims to culturally receive and bless a new resident join the community *Serampas*.

However, the adat of *Serampas* forbids residents to plant tree cash crops, such as cinnamon in the upland rice fields, especially in the hamlets that highly rely on shifting agriculture to meet their needs of rice, such as in the village of Tanjung Kasri. With this kind of rule, a fallowing shifting upland rice fields eventually became rapohen. With in this stage, soil fertility will gradually recover and after some years the rapohen is ready to be reopened to grow upland rice. According to the *Serampas*, it takes at least four years for the rapohen to restore its fertility. By the time, rapohen is ready to be re-cleared for upland rice farming. However, in reality, people usually open old rapohens (more than ten years old) for their shifting cultivation.

Differ from the above upland, wetlands since the beginning of the formation is already regarded as private property. Ownership of this wetland can be passed to children and grandchildren. Most of the wetlands were developed by previous generations who then passed down to their posterities.

In terms of ownership, *Serampas* classifies assets into two main categories: *harta berat* (heavy assets) and *harta ringan* (light assets). *Harta berat* is property which is inherited only to the female lineage. Rice fields and houses are included in this *harta berat* category. While the *harta ringan* is comprised of wealth bequeathed to the male lineage. Various types of plants in the garden or fields and also farming tools, both for farming and for other purposes fit into the category of *harta ringan*. The grouping of assets into *harta berat* and *harta ringan* is also recognized by the people of Kerinci (see Watson 1992 and Neidel 2006). *Serampas* conception of property ownership is more or less influenced by the Minang community, where they recognize the concept of *pusako tinggi* and *pusako rendah* (see Rahardjo et al. 2004). *Pusako tinggi* is assets obtained by inheritance from their ancestors, while the *pusako rendah* is properties acquired from a person's efforts during his lifetime.

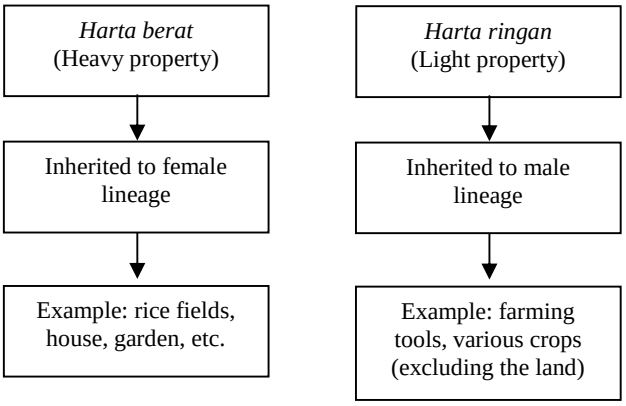

Figure 1. The classification of *Serampas* property

Of all the villages in the *Serampas* region, Renah Kemumu is the village that has the most extensive wetland. Total area of rice fields in this village is relatively stable at about 20 hectare over time. On the other hand, the number of heirs who is eligible to till fields continues to grow. If the wetland is distributed to all heirs, then the rice acreage will be divided into a large number of small parcels. Farming on such small parcels is not only complicated but also inefficient.

To overcome the condition, the *Serampas* implement a system of *ganti gilir* (rotating tenure); cultivation of wetland rice fields is rotated among the eligible heirs in order to maintain integrity of their wetland. In this system, each heir still has the same opportunity to work on these fields. Generally, an heir gets his/her turn to work on particular field once in two or three years, depending on the number of heirs of the land. Those who do not get turns to work on the fields usually cultivate upland rice by clearing rapohen.

Ganti gilir system that provides land use rights for a period of time is a solution to distribute the limited wetland fairly, without having to break it down into small parcels (fragmentation). By keeping the minimum wetland size, rice cultivation can be done more efficiently. Burgers (2004) argues that *ganti gilir* system is an effective way to manage the wetland in a sustainable manner.

The process to obtain land for farming usually begins shortly after a couple started their married life. In the wedding ceremony, after the couple has been inaugurated customarily, local customary leaders and *orang tuo* (elders) perform *ajum arah*, a tradition to advise to newlyweds about various things that need to be prepared to initiate marriage life. They also guide, direct, and inform the newlyweds about a number of vacant lands (*rapohen*) that can be cleared to cultivate upland rice. The ritual of *ajum arah* also encourages the new couple to immediately establish a house that is separated from both parents.

In choosing a site that will be used for rice farming, people consider the physical condition and fertility of the land. In addition, people usually perform *melambeh*, especially if the forested land that will be cleared is categorized as *rimbo gano* (primary forest). *Melambeh* is performed by cutting a small portion of the forest will be cleared, its size approximately 10 by 10 m. *Melambeh* plot is usually placed in a location that can be seen easily and by people who walk through the forests. The existence of *melambeh* plots in the midst of *rimbo gano* informs that the parcels of forest surrounding the *melambeh* plots has been titled by someone and will be opened soon, usually in less than three months. *Melambeh* is temporary land recognition so that others no longer have rights to open or farm forested land around the *melambeh* plot. If within three months the forested land around the *melambeh* plots is not being opened, with its own the status of the *melambeh* land become void and no longer recognized customarily. Furthermore, the forested land re-belongs to the *adat* and everyone has a right to open and cultivate the land.

According to the *Serampas* worldview, *melambeh* is not just to inform people about a plan to clearing forests for farming. More than that, *melambeh* tells all creatures, including the invisible creatures, about ones intention to open a parcel of forested land. By doing *melambeh*, people seek to get a blessing, both from the villagers and the various creatures that inhabit the forest that will be opened. During the three month period of the *melambeh*, people frequently take a handfuls of soil from the *melambeh* plot then bagged, taken home and placed it under their pillow in order to improve their sensitivity to communicate with unseen creatures.

Within the *melambeh* period, the presence of negative signs such as nightmare is understood as complaints from unseen creatures that inhabit the forests. The existence of unclear diseases that suffered by people who will open the forest also indicates a similar objection. Such diseases commonly experienced by people who open up sacred site areas, such as the forest around the ancestor's shrine.

In responding the negative signs, people usually leave the forested land and seek other forest areas for their farming. However, people can still open the forest that originally wanted, but before clearing the forest, he has to perform *ngisi tanah*, a ritual to ward off unseen creatures that wait for forests to be opened. This ritual is performed by local *orang tuo*. The absence of negative signs indicates that the entire components of nature bless one's intentions to open the forest.

Forest protection and water resources

The concept of protected forests is not only known in the modern conservation principles. A number of traditional communities, including *Serampas*, have already recognized and applied the concept of protected forest long before the conservation of forest resources is widely known and promoted throughout Indonesia. The forested lands targeted for protection are forests that traditionally recognized as catchments area for local rivers. Therefore protected forest areas are commonly known as *ulu ayi* (upstream river). Later, the term *hutan adat* (customary forests) is more popular and replace the term *ulu ayi*, especially after the coming of several NGOs involved in the implementation of the KSNP Integrated Conservation Development Project.

In general, *hutan adat* is a forest that has never been cleared for farming. However, some secondary forests that used to be farmed were also included in the category after local residents experienced the ecological impacts (disaster) of clearing such forested land. In addition to water catchments areas, *hutan adat* also includes steeped forested areas that prone to erosion and landslides. Forest areas around sacred sites such as ancestral graves, are also recognized as protected forest, although they are not included in the category of *ulu ayi*.

The protection of *ulu ayi* ensures the availability of water either to meet domestic needs or to irrigate the rice fields. A number of restrictions are applied in this *hutan adat*. For example, people are not allowed to urinate in the upstream river. Residents are also prohibited to open the area of *hutan adat*. However, they are allowed to take some forest products including timber but only for their own uses (not to be traded). Although timber extraction is allowed, *hutan adat* is not the major source of timber. People can

Table 1. Potential nature conservation of some *Serampas* traditions

Traditions	Conservation and social implication
Protection of *Jambak Jambu Kalko*	• Promotes regeneration of locally important fruits • Conserve some wildlife associated with the fruits • Assures food security
Banning of picking unripe duian (*Durio zibethinus*)	• Promote the recruitment and regeneration of the durian • Conserve some wildlife associated with the durian • Promote an equal distribution of the durian among the local people
Protection of *hutan adat* (customary forest)	• Conserve fragile landscape • Provide ecological services, especially water for irrigation and domestic use • Conserve local biodiversity • Promote food self-sufficiency
Banning of planting tree cash crops in shifting cultivation fields	• Promote sustainable cycle of shifting cultivation • Reduce pressure on old-growth forest • Promote more equal access to the land for farming

still find some good wood in other forests, such as from the *rapohen* and *rimbo gano*. Furthermore, cutting timber in *hutan adat* is at risk and difficult because most of *hutan adat* usually stretched on steep lands. The conservation implication of the Serampas traditions is briefly presented in Table 1.

Conservation of local important useful plant

Adat of *Serampas* controls a number of locally important perennial fruit tree species called *jambak jambu kalko. Adat* prohibited villagers from cutting trees of the *jambak jambu kalko* wherever they grew, even if they grew on one's own farm. The *tambo anak*, an *adat* document from *Renah Kemumu* updated in 1969 (Neidel 2006), listed some species of *jambak jambu kalko* including durian (*Durio zibethinus* Murr.), *petai* (*Parkia speciosa* Haask.), *juwo* (*Syzygium* sp.), *buah kereh* (*Aleurites moluccana* Wild.), *payang* (*Pangium edule* Reinw.), *bungkul* (*Stelechocarpus burahol* Hook. f. & Thoms.), *enau* (*Arenga pinnata* Merr.), *seri* (*Ficus tinctoria* G. Forst. f.), *sirih* (*Piper betle* L.) and *gambir* (*Uncaria gambir* Roxb.). Some other fruit species, such as *jambu aye* (*Syzygium* sp.) and *nangko* (*Artocarpus heterophyllus* Lam.) were also regarded as *jambak jambu kalko* although they were not listed on the *tambo anak*. People of *Serampas* confirm that the *jambu kalko* fruits benefit not only people, but also other creatures including birds.

Durian is one of the most the most prized fruit in this area. The local customary law prohibits people from taking the unripe durians. People had to allow the fruit to ripen completely and fall down naturally. The law endorsed fairer distribution among villagers of the fruit that mostly grows in secondary forests. From an ecological perspective, the law allows seedling recruitment to maintain population of the durian in the village. Allowing the durian to fall of its own accord also permits some mammals to enjoy the fruit, and more importantly, disperse its seeds throughout the local forest. Failing to obey the law, one would be charged one chicken and a *gantang* of rice. The people of *Sama Dua* in northwestern Sumatra shared a similar customary rule dealing with the durian (e.g., McCarthy 2005). Rather than enforcing a sanction with fines, *Sama Dua* attached a social stigma (*malu*, or shame) to breaking such a strongly held norm of village life. A villager would lose his credibility in his community by selling unripe or inedible durian or picking durian from a tree. The customary law elicited a good reputation for the durians from *Sama Dua* and the villagers enjoyed high appreciation and good prices for their durians in the nearby provincial town.

The Serampas traditional natural resource management practices bear some values that can be further developed to promote nature conservation in the region. However, Gilchrist et al. (2005) warn that the traditional system should be treated with caution due to the lack of scientific judgment. To address the weakness, Moller et al. (2004) suggest combining traditional practices with scientific perspective in order to asses the scientific perspectives of the traditional system while maintaining support and participation from the local people. Drew and Henne (2006) argue that the collaboration could reduce the extinction threats of plant and animal on earth.

CONCLUSION

The *Serampas* customs and traditions obviously play important role in the management of local natural resources although they are not intended to direct the natural resource management. The *Serampas* traditional natural resource management system attaches to some values including a view that nature is an integrated entity that should be treated comprehensively, the spirit of togetherness (social justice) and the connection with ancestors (spiritual values). The application of traditional resource management system as the case of *Serampas* is not only in accordance with the principles of biological conservation but also encourages more equitable access and distribution of natural resources.

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