

Local Wisdom in Environmental Conservation

M G Rindarjono*, S B Ajar and W Purwanto

Department of Geography Education, Sebelas Maret University, 36th Ir. Sutami street, Ketingan, Surakarta, Central Java, Indonesia 57126

*mas6amal@yahoo.com

Abstract. Lubuk Larangan is a unique and typical thing which cannot be found anywhere except in Jambi, Indonesia. Due to the aforementioned reasons, the present study aims at: (1) mapping spatial distribution and pattern of Lubuk Larangan in Bungo regency of Jambi, (2) analyzing the occurring spatial process before, during, and after the formation of Lubuk Larangan, (3) finding out the extent of public role in environmental conservation around Lubuk Larangan, and (4) finding out the extent to which Integrated Conservation and Development Project can work in the society around Lubuk Larangan. The research was conducted in Bungo regency of Jambi by selecting the research samples at Lubuk Beringin village in Bathin III Ulu district of Bungo regency of Jambi. It applied survey method; prior to the pre-survey, a tentative map of Lubuk Larangan distribution using satellite imagery was provided. Focus Group Discussion (FGD) was also conducted to obtain data on social norms applied in Lubuk Larangan and to discuss the existing obstacles during the implementation. All data were analyzed using GIS and descriptive qualitative analyses to find out the spatial pattern and process as required in Geography study.

1. Introduction

Globalization brings the demand of socio-economic change in Indonesia [1]. In this industrial capitalism era, all kinds of investment have entered into several sectors, including natural resource management. The blusters of economic growth are considered as “the truth” by investors to reach strategic areas. Such remote area as Sumatra, for instance, with its prospective forest land, has drawn their attention. Forests in Sumatra are the sources of life for the customary communities (*masyarakat adat*). Forests are their “mother”. By applying local wisdom, they protect the forests from several damages. However, will their wisdom survive in globalization era? It is obvious that global change gives a big influence to the culture of the customary communities. Nevertheless, it seems to be irrational evidence when cases of illegal logging increase along with the ever increasing world timber needs. Also, the change is not considered a truth when the capital possessed by both local and foreign entrepreneurs enables million hectares of forest land in Sumatera to be converted into oil palm plantations on behalf of global cooking-oil demand. Is it possible that the local wisdom changes into a new manifestation?

The 1945 Constitution (UUD—*Undang-Undang Dasar*) mandates that the government regulate the utilization and management of natural resources for the citizens’ need. However, the implementation of the aforementioned utilization is different and varies once in a while. Land tenure in government’s perspective believe is different from that in community’s perspective; for the government, land tenure depends on the its history – it presents as colonial heritage, while for communities, the land tenure is believed to emerge based on ancestral heritage [2]. Colonial tenure in Jambi started in 1908, covering from river’s edge since at that time, river served as the primary mode of transport and the entrance to



the agricultural land lying around river's edge. Such areas which were difficult to reach due to inadequate mode of transport as upland areas in the foot of Kerinci Mountains (which later became the Kerinci Seblat National Park, Bukit Tigapuluh, and Bukit Duabelas), peat swamp, as well as mangrove areas were converted into protection forest areas by colonial government. Meanwhile, the rest areas in the lowland areas which had not been reached in the colonial era were made into sanctuary [3].

After Indonesia's independence, in 1960s, road construction activities in Jambi province began and the forest areas were converted into the areas of Forest Concession Right (*Hak Pengusahaan Hutan*, or HPH). In the early 1990s, the Kerinci Seblat National Park (*Taman Nasional Kerinci Seblat—TNKS*), the largest national park in Sumatera, was the target of an exemplary Integrated Conservation and Development Project (ICDP). The project was closed in 200, as evaluations suggested that its goals were not achieved.

Helmi and Yonariza tried to compare villages which were involved in the project with those villages outside [4]. The study concluded that the ICDP succeeded in achieving the objectives on conservation awareness, but failed to match the rate of development through alternative livelihood options. Ironically, contrary to its program name – “integrated” –, the ICDP's failure was in fact caused by the absence of integration among the related parties, particularly by the absence of communities' for the villagers to guard the national park when confronted with outsiders who intruded in the forest though their village. Besides, the conservation grant was not allocated well and efficiently; also, its disbursement triggered inequity and social jealousies [5]. For that reason, its implementation should not stop the search for integration of conservation and development through other means [6].

To establish an effective reconciliation, local, national, and global stakes in the outcome are required. Before 1998, rights-based approach was difficult to apply due to the absence of universally-accepted baseline to serve as a reference [7]. However, agreements on the types of resource use and benefit sharing could be negotiated. In Sumatera, substantive shifts towards tenure security resulted in positive effects for both livelihoods and environmental services, even though all rights of the related parties needed to be clarified to make mutual agreement [8].

The 1998 political upheaval changed the playing field, though not necessarily the actors and the related parties [9, 10]. The Indonesian Forestry Law No. 41 of 1999 involves a number of mechanisms, including privately-owned forest (*hutan hak*), recognition of customary forests (*hutan adat*), community-based forest (*hutan kemasyarakatan*, or HKM) management, and village forest (*hutan desa*) management. These mechanisms could be applied to protection forests, and forest areas that were subjected to sustainable logging practices or degraded areas for forest plantation development (including *Hutan Tanaman Rakyat*, or HTR). However, many efforts needed to be made to align forest governance agencies at regency, province, and national levels when implementing the program and providing legal opportunity for the related parties. Until implementation agreements had been established, no forest was formally designated as village forest, except Lubuk Beringin.

The 1999 forestry law was influenced by decentralization concepts which emerged in 1998 Reformation period. In 2002, forestry sector was quickly shifted to recentralization concept. The decentralization of forest resource management authority to local government has resulted in a situation in which district governments are neither accountable upward to the central government nor downward to the local people. The decentralization of authority without appropriate devolution processes or control mechanisms has resulted in the decentralization of opportunistic behavior that is in direct opposition to the development of good local forest governance [11]. The delegation of authority has in fact resulted in the decentralization of power to the private sector [12].

International concerns over the tropical rainforest condition, biodiversity, greenhouse gas emissions, and climate change focused on issues of governance. More involvement of local communities is regarded as important part of any solution. REDD discussion before the 13th UNFCCC Conference at Bali in 2007 emphasized the importance of reducing conflict over forest boundaries and of engaging local communities in forest management [13, 14].

Jambi province was intended to be a pioneer in REDD programs, and this was supported by provincial government to move ahead with new initiatives for local forest governance.

2. Methods

The research was conducted in Bungo, Jambi, by selecting the research samples at Lubuk Beringin village in Bathin III Ulu district of Bungo regency of Jambi. It applied survey method; prior to the pre-survey, a tentative map of Lubuk Larangan distribution using satellite imagery was provided. Focus Group Discussion (FGD) was also conducted to obtain data on social norms applied in Lubuk Larangan and to discuss the existing obstacles during the implementation. All data were analyzed using GIS and descriptive qualitative analyses to find out the spatial pattern and process as required in Geography study.

3. Results and Discussion

3.1. *Lubuk larangan*

Lubuk Larangan, by definition, is a form of river management and is included as one of local wisdoms existing in Bungo regency, particularly Lubuk Beringin village. In the village, it is applied by local people to preserve and manage exploitation of natural resources, especially freshwater fish. Furthermore, its implementation aims at both preserving and maintaining environmental quality as well as surrounding natural resources.

Lubuk Larangan requires certain rules to obey. The rules regarding management and utilization of Lubuk Larangan were deliberated by customary leaders (*pemangku adat*) together with communities of Lubuk Beringin. The deliberative decisions are binding on all community members of Lubuk Beringin as well as the outsiders visiting the village. Prior to its implementation, a group was given authority to punish whoever breaks the rules. All communities, however, are expected to actively be involved in its management control.

Streams which were selected to be Lubuk Larangan include basins, streams, and estuaries of deep rivers and offer great potential to provide fish, allowing the communities to manage. Not only can Lubuk Larangan be a long river of which length reaches 1 kilometer, but it can also be a basin which attains a length of 23 meters. Its areas were determined through deliberation between customary leaders and local communities. Furthermore, Lubuk Larangan provides various types of rarely-found local fish, such as mahseers (*semah*), Tor tambra (*garing*), fire eel (*tilan*), klari, hampala barb (*barau*), meta, giant devil catfish (*dalum*), yellow catfish (*baung*), stonefish (*batu*), clown loach (*bajubang belang*), and clown knife-fish (*belido*).

Most local communities conduct *yasinan* (Islamic gathering to read Surah Yaseen) to ask God to avoid Lubuk Larangan from crime act of stealing fish. In case that the community members break the agreement, for instance catching fish prior to the set period of time, they will get customary sanctions – they have to customarily apologize and are fined a goat, 20 bushels of rice, and 4 pieces of timber. Apart from that, the local communities believe that picking up fish haphazardly or stealing fish causes to get a curse – like suffering from disease – since the communities have conducted *yasinan* there.

Fish harvesting in Lubuk Larangan is carried out by all community members once a year after previous deliberation. The harvesting is allowed if using nets, hooks, spear guns. Poison and electrical current are forbidden fishing tackle. Funds raised at auctions are allocated for social activities and village development, for example reconstructions of mosques and their supporting facilities, Islamic schools, roads, bridges, village offices, etc. For the communities' daily needs, freshwater fish in certain areas – those outside Lubuk Larangan – are permitted to be caught. The location of Lubuk Larangan in Lubuk Beringin village is figure 1.

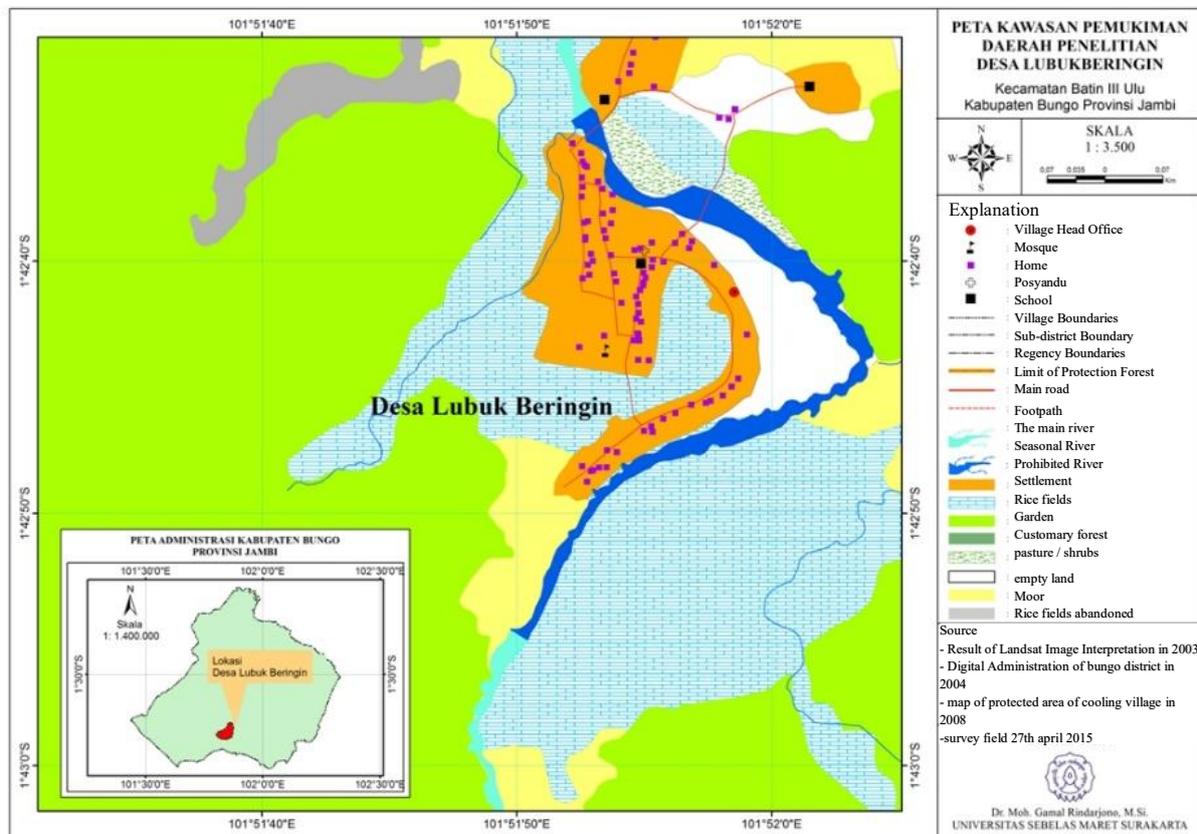


Figure 1. Settlement areas of Lubuk Beringin.

Lubuk Larangan of Lubuk Beringin village has a length of 1,200 meters. The local communities name it 'Sungai Larangan (Larangan River)'. As seen from the figure 2, the Larangan River is colored deep blue. It lies around settlement areas of Lubuk Beringin, exactly along stream in eastern to northern settlement.



Figure 2. Larangan river in Lubuk Beringin

3.2. Customary forests

Most of Lubuk Beringin areas cover protection forests. For the local communities, they are regarded as village forests. Customary forest areas administratively include Rantau Bayur-Bukit Panjang protection forest areas with width of 2,356 hectares. The areas are protected and preserved by the local communities since they serve as main upstream for Batang Bungo subbasin. The village forests in Lubuk Beringin are included as buffer zones of conservation areas (Kerinci Seblat National Park).

According to results of a study based on participatory inventory studies, 971 tree species exist in Rantau Bayur-Bukit Panjang protection forest areas. Among them are *Tebalun (Parashorea aptera)*,

Maranti kalip (*Shorea parvifolia*), *Meranti Bungo* (*Shorea leprosula*), *Jelutung* (*Dyera polyphylla*), *Kulim* (*Scorodocarpus borneensis*), *Abang Daun*, etc. In addition to the tree species, there are 37 mammal species found in the forests. They include the Southern pigtail macaque (*Macaca nemestrina*), the crab-eating macaque (*Macaca fascicularis*), the wild boar (*Sus scorfa*), the agile gibbon (*Hylobates agilis*), the Bornean bearded pig (*Sus barbatus*), the plantain squirrel/ the Prevost's squirrel (*Callosciurus notatu/ Callosciurus prevostii*), the sambar deer/ the Indian muntjac (*Cervus unicolor/ Mutiacus muntjak*), the Java mause-deer (*Tragulus javanicus*), the greater mouse-deer (*Tragulus napu*), the Malayan porcupine (*Hystrix brachyura*), the Sunda pangolin (*Manis javanicus*), the Sunda slow loris (*Nyctecibus coucang*), the Malayan flying lemur (*Cynocephalus variegatus*), The sun bear (*Ursus malayanus*), the Malayan tapir (*Tapirus indicus*), the dhole (*Cuon alpinus*), etc. The areas are tropical rainforests with hilly topography.

The village forests are protected by customary laws which were formulated by customary leaders (*pemangku adat*) and local communities. Their forest products such as fruit and timbers are exploited by the local communities. The exploitation of timbers should be approved by the local customary leaders. The local communities are only permitted to utilize the timbers for the establishment of such public facilities as mosques and integrated health post (*posyandu*).

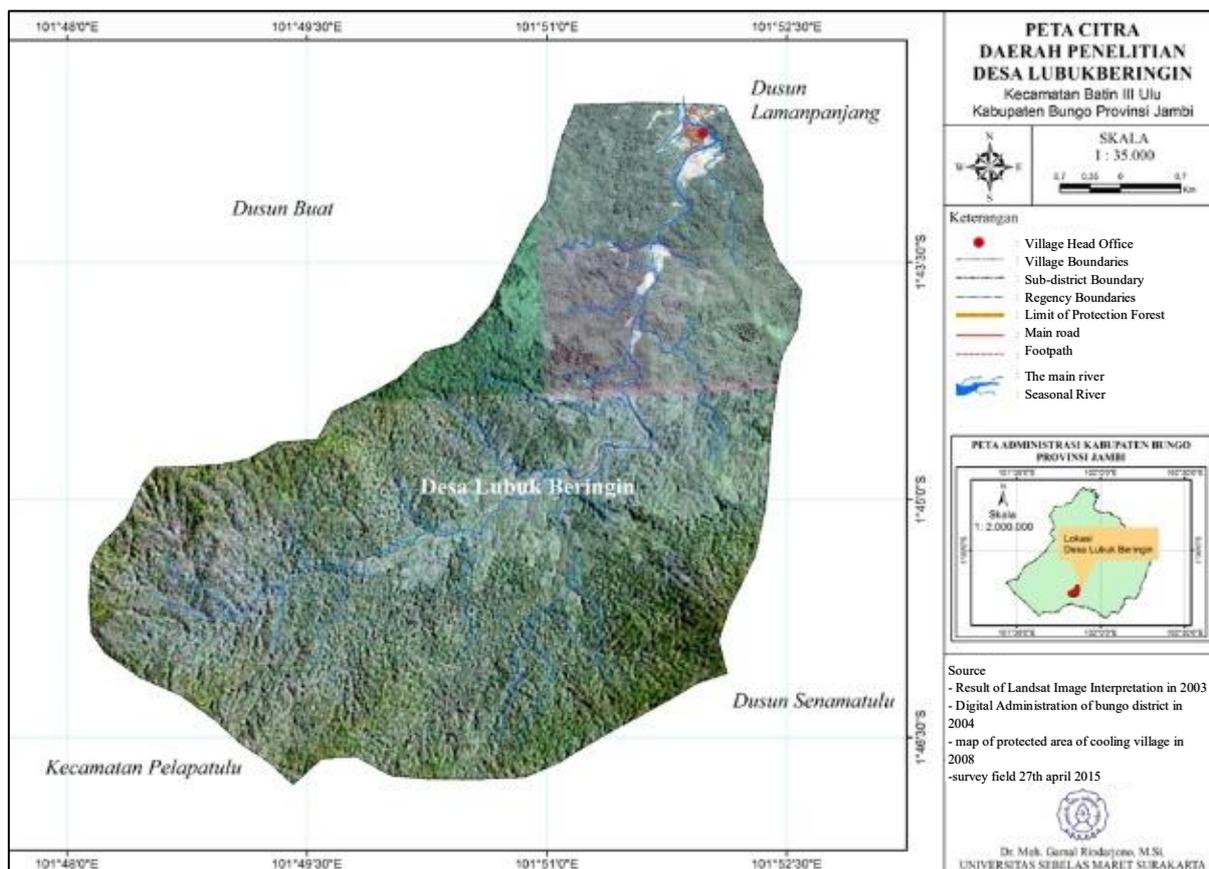


Figure 3. Image of research location of Lubuk Beringin.

In reference to figure 3, most of Lubuk Beringin areas cover protection forests or village forests. Several images of the village forests located in Lubuk Beringin are shown by Figure 4.



Figure 4. Lubuk Beringin village forest.
Source: Field Survey

4. Conclusions

Lubuk larangan and forest village is a form of local wisdom that is still awake at this time in the village of Lubuk Beringin, District Bathin III Ulu Bungo District. The community is still Lubuk Larangan and the village forest can directly become a form of conservation of river and forest village in Lubuk Beringin village. This can be seen in the area around Lubuk Beringin village has started many coal mines that destroy the forest and conversion of forest land into palm. In addition, many gold mining found in the rivers around the village of Lubuk Beringin.

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