Participatory Village Spatial Planning in Efforts to Save Conservation Areas in Mantan village, Semitau Sub-district, Kapuas Hulu District

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Abstract. The community's interest in the necessities of life that depend on natural resources through slash-and-burn cultivation is always in conflict with the interests of territorial conservation. On the other hand, the conversion of agricultural land into oil palm plantations with a profit-sharing scheme eliminates community tenure rights of the Mayan tribe. The clarity of village boundaries with concession areas is unclear, as well as demands from village legislation about village maps. This research was conducted in Mantan village, Suhaid Sub-district, Kapuas Hulu District. This study took 2 years with a qualitative inductive method. The results of this study indicate that the rights of indigenous peoples of Mayan tribe become the cultural conservation area GupungNibungTujuh became the cultural center of the community in Mayan village. There is a customary law that prohibits logging and slash-and-burn shifting cultivation systems. The boundaries of community-owned palm oil management are coordinated through cooperatives with a fair sharing system for both parties. Oil palm companies make the village of Mantan as a priority village in incorporated with social responsibility activities in the form of organic crops and moringa. The map of the village community mapping is adjusted to the Mantan village spatial plan which includes the structure and pattern of village space, land ownership, and land use. The mapping results provide guidance for villages in developing the region.

1. Introduction
Kapuas Hulu regency has designated its territory as Conservation District through the regulation no. 20 of 2015 [1]. Conservation areas included in the regulation consist of national park, protection forest, protected forest. One of the most famous national attractions in Kapuas Hulu district is DanauSentarum National Park (TNDS). The location of TNDS is very influential on the upstream area of the lake, where the lake is an ecological unity from upstream to downstream of the lake. The majority of land use in Kapuas Hulu is a forest consisting of both primary and secondary forest (figure 1).

Ecological unity in an ecological system is inseparable from humans as regional managers, which are known to local communities and indigenous peoples. Management of upstream areas of Sentarumlake consists of several villages, especially villages around the Suhaid river, consisting of
Village Menapar, Mantan, Kerengas, and Mensusai. Land use in the village of Mantan has now been converted to the location of oil palm plantations, which has been started since 2007 [2]. Changes in land conversion, of course, lead to reduced forest cover. In the local context, local people who initially farmed had to switch professions to become oil palm workers. The lands that were dominated by customs by the community of the Mayan tribe believed to be the community began to be unclear as to the extent of its reach. On the other hand, efforts to realize the conservation of Kapuas Hulu As a conservation district is also not fully in because of it. In 2014, the Government shall issue a regulation relating to the village law which regulates the authority of the village as an autonomous region, which must be identified through a regional map, since the government does not yet have the smallest administrative unit map of the village [3].

The management of the village area will be very difficult if there is no clear boundary. Clear boundary areas, must have appropriate coordinates and not in contradiction with the district of Kapuas Hulu. Strategic value within borders gives regional authority, implies administrative and management processes, and if not resolved will have an impact on regional imbalances in natural resource management [4]. The boundary issue is also endless, because there is still a debate in the past related to land status and governance in the past.

Figure 1. Administrative Map and Land Use of Kapuas Hulu District.

The smallest administrative unit of the Indonesian state is the village. Suhaid sub-district of upstream regency still recognizes village boundaries in accordance with customary boundaries owned by indigenous Dayak and Mayan Dayak tribes. In 2014, the area in Suhaid district is present by a palm oil company in the village of Mantan. The problem of space processing begins to arise because there is no clear boundary between the company and society [5]. The mapping process is also not fully understood by the local community, due to limited knowledge and equipment. Mapmaking should contain a participatory element by emphasizing the FPIC (Free, Prior, Inform Consent) agreement or free, prior and informed consent [6].

Programs in achieving prosperous villages according to the mandate of the law have not been resolved because the already mapped boundary has not indicated the extent of existing land use, thus requiring land use map. The condition of the use of oil palm, community land, must be done clearly by involving the community, as the owner of the region. By means of such a plan, the need for spatial
planning can accommodate the management of villages, government, companies, indigenous peoples in determining the rights and management of the area.

The purpose of this study is as a form of community-based model of spatial mapping, in order to determine the governance of space owned by the community and the company. The resulting maps can illustrate land use, as a source of biomass for environmental sustainability and regional conservation resources.

2. Metodology

This research was conducted in Mantan village, Suhaid district of Kapuas Hulu Regency, West Kalimantan Province. The method used was qualitative qualitative in participatory spatial. The basis of this activity is based on the principle of FPIC, which consists of four elements, namely Free Mapping process is divided into 6 main stages, including; first, the identification of areas in the form of village sketching together with the community, specifically for village boundaries, focus group discussion with stakeholder (village officials, custom representatives, community representatives, youth, parents, children, women).

Participation / involvement in the process brings the community to full involvement in planning, decision-making, implementation, evaluation and monitoring as well as taking responsibility in the mapping process [7]. Second, training of facilitators to the village mapping team to use the tool in the form of Global Positioning System (GPS), the use of tools intended for the community to operate alone, and trained the use of form point coordinates to be taken. In addition to the GPS community is also equipped with active geotagging camera, in order to backup the object taken. The third stage is the collection of primary data, where the community takes all agreed coordinates, and will be verified together with the facilitator when the coordinates are entered into arcgis software, and digitized together, the purpose of this process is as part of spatial correction and learning for both the facilitator and the village community. Participatory mapping and Geographical Information System (GIS) can be a model that links human and environmental, cultural and landscape interactions. [8] The last stage is public consultation and map validation, the forum invites some stakeholders to participate in the mapping done, and ultimately the map is legalized according to village rules. The map document is a public property belonging to the village that can be accessed by anyone according to village approval.

3. Results and Discussion

The mapping process is done by delivering the intent and purpose of the facilitator. The community representatives are obliged to accept or reject the proposed activities, which are covered by mid-April 2014. Armed with a letter from the Suhaid Sub-district Head, the facilitator takes the village and community representatives (women, customs, youth), related to the mapping plan, and receipt by the community. Mantan administrative village there are 2 hamlets of Mantan village and Kenabak hamlet, the hamlet of Mantan received the facilitator's offer, but from Kenabak hamlet refused because there was concern about the loss of fields and rubber after mapping. The explanation regarding the mapping plan has been explained, but the rejection continues from the village of Kenabak.
Administratively, the Mantan village is in Semitau Sub-district, Kapuas Hulu District, West Kalimantan Province. In the north it is bordered by Suhaid Village, South is bordered by Kenerak Village, Kerengas Village, Regency of Mensusai in the east, and West of Marsadan Raya and Semitau Village. The process of appealing to the community is done by requesting permission from the Semitau sub-district. Village coordination and approval was conducted in February 2014, the village team was formed and village boundary mapping was conducted with other adjacent villages.

Once agreed upon by the boundaries and the coordinates are taken, the facilitator takes concentration on the village land use, by sketching the village with the community (Figure 2). The community in principle is well aware of the space processes used both privately and publicly, with landcover, but also land use and land tenure [9]. At that stage, understanding of tenure, especially land tenure, cultural value of land and location points can be found.

3.1. Land use image of the Mantan Territory

Mapping process is done by giving training to the mapping team, related to the use of GPS, camera, flagging tape, and tally sheet (list of contents of coordinates). The mapping process was carried out during August 2014, with 5 teams with composition (1 GPS carrier, 2 road pioneers, 1 camera holder, 1 tallysheet distributor). Road pioneers are the ones who know the location to be mapped, and as an opening area for the team, because the terrain is mapped through the bushes. The initial process is the happening of the area to be mapped with each team, at that stage will determine the target area to be mapped.

At the time of mapping traced information relating to the status of land ownership (individual, corporate, custom, and reserve) The people of Mantan village are not familiar with the term of protected forest, as protected in local perceptions as well as protected forests of DanauSentarum National Park where honey taken, timber and non-timber forest products are strictly prohibited. An understanding of conservation in one location will affect other sites, so the terminology used is customary forest.

Coordinate point retrieval results, then consultation and facilitated by the facilitator, accompanied by a village mapping team. Based on the verification result there are several wrong location points of placement such as LebakLalis interchanged with DehianJunti. And the wrong point of naming, for example PehantuEngkabang, the true is EntaliEngkabang, and others. The approach is part of open participation, in order to accommodate all the interests, the community must be fully involved in every process [10]. The public will also be very open to provide explanations related to the name, location and ownership of the land.

Map of land use results, became the basis of development and proposed activities, especially in the Mantan village. Villagers know the extent of ownership of paddy fields, groves, customs of NibungTujuh, settlements, oil fields, and ponds. The mapping results show that the land area in

![Figure 2. Sketches of Mantan hamlet, one of the mental form of Local Community Map](image)

![Figure 3. Discussion Activities before conducting the Coordinate Point of Taking Survey](image)
the Mantan village is dominated by rubber, oil palm, field, forest (table 1). The extent of the mapped area can address the challenges of village legislation regarding boundaries and land use in Mantan villages. Mapping results are combined with mapping in the Kenabak village to gain the extent of the Mantan village overall.

Table 1. Land Use in Mantan village in Year of 2016

| Land use’s          | Hamlet’s             | Total(ha) |
|---------------------|----------------------|-----------|
|                     | Mantan(Ha)           | Kenabak Hulu(Ha)* |          |
| Forest              | 227,82               | 783,04    | 1010,86  |
| Forest of Customs   | 28,49                | 28,49     | 2330,37  |
| Rubber tree         | 1179,28              | 1151,09   |          |
| Ponds               | 3,46                 | 3,46      |          |
| Farm                | 778,96               | 956,6     | 1735,56  |
| Nibung Tujuh        | 1,56                 | 1,56      |          |
| Funeral             | 9,69                 | 9,69      |          |
| Settlement          | 13,66                | 3,47      | 17,13    |
| Rice fields         | 72,16                | 4,23      | 76,39    |
| Oil palm            | 1614,13              | 49,84     | 1663,97  |
| Swamps              | 107,85               | 107,85    |          |
| Total               | 3929,21              | 3056,12   | 6985,33  |

*done by NGO WALHI

At the request of the community, a public consultation was conducted on 13 November 2015, which was attended by representatives of oil palm plantations, village government, sub-districts, community representatives, indigenous representatives. The consultative forum discussed the mapping process undertaken, the village history and the mapping map of the village. At the end of the event the signing of the official report and signing of the map has been agreed so that it can be used for development in the Mantan village.

3.2. Spatial planning, land conflict, and tenure system

Spatial planning tells about the shape of the structure (settlement and network center) and spatial patterns (protected and cultivated areas) [11]. Land conflicts often occur in West Kalimantan communities, especially in the Mantan villages, the dispute over territorial boundaries, always occurring, because in the perception of the local community, the boundaries are always imaginary, where in the boundary location, the last activity of the farming is done by the satau family. Boundaries are always a concern for the Mantan villagers, so that mapping activities are carried out on the part of the parties and the representation of gender, religion, ethnicity and cross-age.
Tenurial is closely related to unrestricted breeding on the body of the soil, but also on the surface of the soil, below the surface of the soil and above the surface of the soil. The tenure study deals with land tenure, which consists of subjects, objects and types of rights [12], objects relating to the extent / crops present on the ground, subterranean minerals, as well as the type of rights in the current system of transferring rights. Participatory mapping can describe the general tenure system, as well as the values that exist within a society.

Figure 3. Map of Land Used in the Mantan Villages that has been Legalized by Village Government and Customary Leaders

The mapping process is conducted with the principle of prioritizing the community both in terms of plan, implementation, monitoring and evaluation. The four basic elements of FPIC (Free, Prior, Inform, Consent) have been made, where in the free process the community is given the opportunity to accept or reject, be delivered without coercion, and delivered early before the event takes place [13]. Participatory FPIC will be more aware of the community of the region and the environment where life. The right to society, it is important to uphold in spatial planning. Map of the results of participatory mapping activities such as administrative boundary map, land use, spatial structure and spatial pattern, land ownership and spatial interaction.

4. Conclusion
Participatory mapping provides spatial guidance for communities in managing the region. Map mapping results conducted from, by, and for the community for the construction of the Mantan village in a good direction. The boundaries among individual land ownership, the public and the palm oil companies are becoming more and more comprehensible and understood by various parties. Ideal participative, should be based on the principle of FPIC, by occupying the right of society above all interests. The already legalized map serves as a tool to protect the forests of the Mantan village as part of the world's lungs. The map can reveal three main areas of land conflicts related to borders, ownership of land and village layout. The village government in the presence of maps can conduct spatial development programs as well as answer village laws.

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