

**The 7th International Symposium on Kuroshio Science.
Summaries of Sessions
Management of Forest Fire, Palm Oil Plantation, and Peat Soil**

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“Management System to Overcome Land and Forest Fire by Local Communities in the District of Sanggau West Kalimantan Indonesia” by Augustine Lumangkun and A. B. Tandililing from Tanjungpura University. She stated that the land and forest combustion, intentionally or unintentionally, happened in shifting cultivation areas, forest land, and timber and estate plantations in the Sanggau District. This condition is very fearful due to environmental damage and forest degradation and deforestation. The team tries to find out the management system of overcoming land and forest fire associated with the effort, knowledge, commitment of local community’s mostly indigenous peoples, and the role of customs. The research used survey method with descriptive associative on 30 head families as respondents. The research conducted in three remote villages. The result showed that community efforts to address the fires are done with traditional wisdom but it is not significant. Local knowledge is done by considering the weather, helping each other, social gathering called ‘*belale*’, keeping their own fire, and paying of customary sanctions. The most responsible parties to overcome are local communities, government e.g. agricultural extension, and corporate. Their knowledge to anticipated fires by: preparing equipment, not burning and throwing cigarette, reporting to village officials, reducing cutting the forest and giving customary sanctions. Mitigation measures by them, namely: cooperated to create firebreaks, flushing with hand sprayer and extinguishing by banging. Their responsibility to protect the forests is relatively high. The tribal council is to handle conflicts among themselves as a mediator between local people and outsiders. If the problem can’t be solved in the village level up to the district level, it is raised to the government.

“Model of Palm Oil Plantation Management with Sustainable Plasma in Increasing Regional Competitiveness of West Kalimantan Province” by

Ari Krisno Hadi, Maswadi, and Novira Kusriani from Tanjungpura University. This research focuses on the development of palm oil plantation based on the community of local people surrounding the palm oil area. Indonesia government have the regulation to all the palm oil industries to build and give the right to the people surrounding the palm oil area as an owner of palm oil plantation area at least 30% of their concession. This regulation called plasma aims to increase the economy value of local value. This plasma system has benefit to reduce the land degradation and for sustainability for the palm oil plantation. This system reduces the conflict between industries and local community.

“An Assessment of Anthropogenic Disturbances on Peat Depth and Carbon Stock in Rasau Jaya Peat Dome, West Kalimantan Province, Indonesia” by Gusti Zakaria Anshari, M. Afifudin, E. Gusmayanti from Tanjungpura University. They presented that tropical peat degradation is now one of the hottest issues. Peat disturbance and conversion is considered as one of major sources of carbon emissions in Indonesia. The meaning of peat degradation is not a value-free. Different peat uses drive different perspectives on the meaning of peat degradation. So, the changes of peat properties and environment may be considered either good or bad. Land users and focal stakeholders have strong influences on the current definition of peat degradation, the meaning of peat changes, and impacts of land use changes on peats in relation to human life and environment. This research has been conducted at Rasau Jaya peat dome, which is situated between Sungai Kapuas Kecil and Sungai Kapuas Besar, in West Kalimantan Province, Indonesia. At present, these peats are drained and used for many kinds of agricultural production. The researcher also measured bulk density, water contents, and carbon density. The main purpose of peat conversion in Rasau Jaya was to support a transmigration program, i.e. the removal of

peoples from densely populated Java and Madura Islands into Sumatra, Kalimantan and Papua. The conversion was done in 1972, and the program was not successful because of infertility and unsuitability of peat soils for rice paddy cultivation. The majority of transmigration peoples returned to Java after selling the unproductive lands to local peoples. At present, peats in Rasau Jaya are used for producing many kinds of vegetables, local maize variety (*Zea mays*), *Aloe vera*, rubber trees (*Hevea brasiliensis*), and oil palm (*Elaeis guineensis*). Ferns appear to be a common landscape in this degraded peat. Secondary forest occurs in the remaining part of peats. Every year, regardless the occurrence of droughts associated with El Niño phenomenon, small-scale corn farmers practice slash and burnt cultivation, which causes trans-boundary haze pollution.

Finally, human settlements substantially expand as a result of governmental decision on the power devolution and the development of a new district. The result indicates that some parts of the peats appear to change into non-organic soil as indicated by the lower level of both water and carbon contents, and relatively high bulk density. The meaning of this change relies on the end of agricultural practices. Impacts of peat property changes

on agriculture production might be unimportant when the peat lands are kept productive. And productivity of peat lands for agricultural practices mainly depends on major external inputs, in particular man-made fertilizers. This view is true and commonly seen at the current practices of vegetables and oil palm farming on peats. On the other hand, the decline of water and carbon contents in peats is a major sign of peat degradation as peats are environmentally important for water and carbon storage. It is clear that peat degradation in Rasau Jaya peat dome is associated with anthropogenic disturbances, i.e. the conversion of peat forests into agriculture, drainage and fires. It is also true that drivers of peat degradation are so complex, consisting of interactions among socio-economic development, physical-biological-chemical peat properties, contemporary climatic condition, and pragmatism of land use practices. Under globally large human pressures on lands, it seems impossible to preserve peat land for its Carbon only. There is a need to find a way for developing a new management scheme that leads to intensively sustainable peat land uses, and conservation. Competing interests between economic and environmental point of views should be balanced into a collaborative framework.