

# 5. Communal Economy (1)

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# **1** EFFORTS IN ADJUSTING THE FARMING CULTURE OF DAYAK COMMUNITY IN FACING THE PROHIBITION OF LAND BURNING

## **(A Case Study in the Dayak Community in Katingan Region)**

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### **ABSTRACT**

Smoke caused by land burning every dry season creates transportation and health problems. Air pollution in Central Kalimantan in October 2015 came to a level of 2000 km with 20 m range of sight, and fire was found in 314 places. Some neighboring countries also complained about the smoke. Currently, government has firmly prohibited the activities of land burning by the big or foreign companies as well as those done by the community. This prohibition has influenced the Dayak community in Central Kalimantan as well, those whose farming culture are *shifting cultivation* and *agro-forestry system*, which are done by burning the land. The Dayak Community actually has good economy. Besides good farming field, they have rubber and rattan fields as well. If the prices of rubber and rattan drop together with land burning, the Dayak's economic situation is disturbed. Because of this, people in the Region of Katingan are still looking for alternatives for their farming activities, for example: cultivating cassava and corns. People are encouraged to follow the program of cultivating cassava and work together with investors. The cassava cultivation can be more suitable because it has something in common with the farming culture of the Dayak people. The problem is that the partner company demands for certain quality. The Dayak people, who are used to farm in an easy way, will have difficulties to adapt to farming cassava in modern way. They are not used to digging the land, and regularly applying fertilizer and drugs. Training program, as well as its control, is needed. The farming culture which used to be eased by nature must be changed to the modern way of farming. This change needs continuous guide and development by the government.

**Keywords:** *Shifting Cultivation, land burning, cassava, and agro-forestry system*

### **INTRODUCTION**

The people of Katingan Regency who live along the bank of Katingan River have a relatively stable economic life. They generally make a living from farm and plantation. The result of rice farming is sufficient to meet their daily need of food. The products of plantation include rubber-sap and rattan that the people gather from their fields and nearby forests. This way of living is satisfying for the people and is sufficient to satisfy their needs; they can feed themselves, save money, build houses, and enroll their children in formal schools.

In general, their farming is conducted in traditional way; i.e. shifting cultivation that is performed by clearing the field, burning the plantation there, and then planting paddy on the cleared field. The soil is fertile because the ashes from the burning serve as natural fertilizer. After harvest, the field is used to plant rubber tree or rattan. The people then move to other area and repeat the process of clearing field, burning it, and planting rice paddy. The rubber tree and rattan plantation from the previous cycle is an investment for these people.

Recently, forest fire often occurs in Kalimantan; particularly in dry season. The fire is often so big that it is barely containable. The smoke from forest fire frequently gets so thick that it poses a problem for transportation systems (land, sea, and air transportation). The broadcast from Public Relation Division of Central Kalimantan Province on 20/10/2015 stated that in Palangkaraya City, Central Kalimantan, the smog (smoke/fog) from a forest fire was very thick that it limit range of sight to only 20 meters (<http://news.detik.com/berita/3048471/ampun-kabut-asap-di-palangkaraya-sangat-pekat-jarak-pandang-20-meter>).

Moreover, that the forest fire is due to major land clearing by domestic and foreign investors. The government has issued a decree that forbid forest clearing by fire (land burning).



Figure 1. Photograph of the President of Indonesia visiting the site of forest fire (Republika Online © 2015) and Photograph of Katingan Regent during Fire Alert Assembly to handle forest and field fire (Humas Pemda Katingan)

Indonesia's National Board for Disaster Mitigation states that the Standard Air Pollution Index (ISPU) in Central Kalimantan, including its capital city (Palangkaraya), has reached more than 2000. The upper limit of ISPU to be considered dangerous is 500. Hence, Air Pollution Index in Palangkaraya is considered highly dangerous. Meanwhile, "the number of URI (Upper Respiratory Tract Infection) patients in Central Kalimantan Province by 27 September has reached 11,522 people", Central Chief D noted in his written report to the press (Monday, 28/9). For comparison, Riau only reached 984 of Air Pollution Index during the peak of its smoke emergency status. (<http://www.cnnindonesia.com/nasional/20150928110454-20-81324/asap-palangkaraya-pekat-berbahaya-penderita-isp-11-ribu/>).

Nowadays, the community group that usually open field by burning forest is also forbidden to do so, under legal penalty. This group of people now faces a problem since they are no longer allowed to open field for farming and plantation in the usual way. They now must abandon their farming and plantation fields.

To help the economy of these people, the Regional Government of Katingan Regency directs them to use their abandoned field for cassava planting. Cassava farming is relatively easy to do; it is suitable for implementation in the region because it is like the farming practice that Dayak people usually do. Dayak people are used to working on naturally fertile land. The farming culture in the area needs to be changed gradually to a more modern practice, without completely eradicating the local culture of farming and plantation.

## SOCIALIZATION OF CASSAVA FARMING AS AN ALTERNATIVE

The prohibition to burn forest for farming purposes may decrease the economic capability of the people. Therefore, the Regional Government of Katingan Regency needs to provide an alternative to help its people. Following several studies, and considering the local farming culture, there are several alternatives available. One of them is encouraging people to plant cassava or corn. Between the two kinds of crops, cassava is considered more suitable for Katingan people. The suitable land for cassava planting is non-peat-moss land, such as that available along the bank of Katingan River.

Katingan Regency is one of the regencies in Central Kalimantan Province. Katingan regency is 17,800 km<sup>2</sup> and has a population of 146,439 people. The capital of the regency is Kasongan. The regency is comprised of 13 sub-districts, 154 villages, and 7 *kelurahan* (sub-subdistricts). The main characteristics of regions in Kalimantan Island are rivers and forests. This is also the case with Katingan Regency, one of the regions that Katingan River, the second largest river in Central Kalimantan, passes through. Katingan is one of the biggest producers of rattan in Indonesia (<http://www.bi.go.id/id/publikasi/kajian-ekonomi-regional/kalteng>).

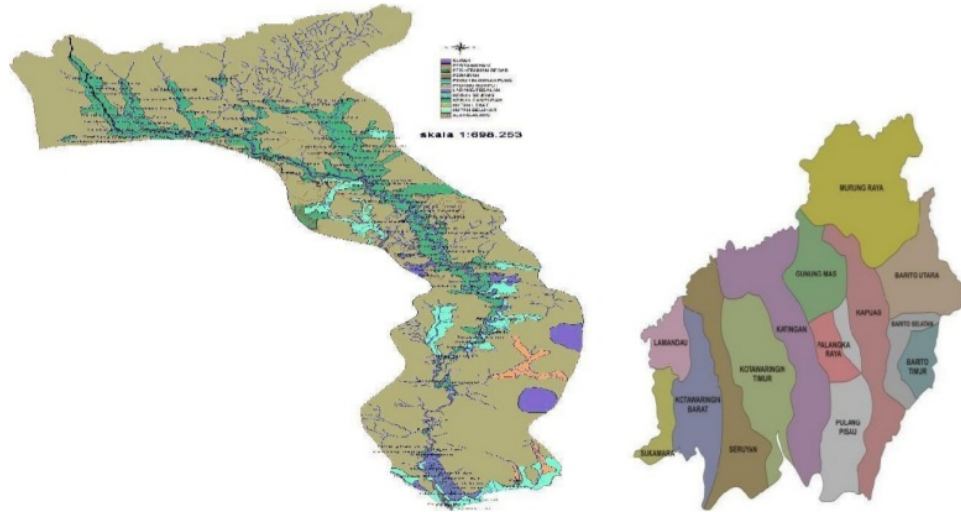


Figure 2. Map of Katingan Regency

The farming practices that involve forest burning and/or deforestation are strictly regulated nowadays; they are even prohibited. The price of rattan and rubber today fluctuates sharply and there is no indication that it will get better. Since the farming practice of the local people involving land burning is prohibited; which will pose severe challenges for local economy. This is damaging for Katingan people because it is widely known as a region with higher level of competition, compared with other regencies in Central Kalimantan.

Katingan regency is an area with high economic potentials. One of the potentials is the availability of physical infrastructures, particularly electrical infrastructure. The potential for developing hydroelectric power plant, and the availability of recycled, environment-friendly energy, require the use of wood-processing waste. Planting trees in empty/abandoned field (such as industrial forest program) will produce wood waste that can be sold to the National Electric Company, industrial power plant, or the people in isolated areas in Katingan province, indicates an expectation for improvement in regional competitive advantage (<http://suprayitnoyakusa.blogspot.co.id/2015/04/keunggulan-daerah-kompetitif-di.html>)

The regional government of Katingan Regency is looking for a partner that can provide land for cassava plantation. The partners that call the challenge are PT. Sidomuncul and PT. Tambora. It has been assessed for equal partnership with equal profit concept. The partnership is carried out with local people, facilitated by regional government.

Cassava is food plant as well as industry plant. It produces carbohydrate and can replace rice. As industrial plant, cassava produces cassava flour, tapioca, *gaplek*, ethanol, glucose, fructose, maltose, sorbitol, et cetera. Indonesia, with 21.6 million ton/year production of cassava, ranks fifth in the world's cassava production, below Nigeria, Somalia, Thailand, and Brazil. On national level, the biggest cassava producers in Indonesia are Lampung, East Java, Central Java, West Java, Nusa Tenggara Timur, and Yogyakarta.

Central Kalimantan Province, with its wide area, is potential for cassava plantation. According to Regional Government of Katingan, 26,000 hectare of area is reported to be ready for cassava plantation. 8000 hectare of open, non-peat-moss, field has been prepared, and the initial stage will begin with 2000 hectare. Cassava is planted by the people in their own lands, which have been cleared and worked on for generations.





Figure 3. Photograph of the sample of field that has been planted with Cassava at Labehu village, Sanaman Mantikei Kabupaten Katingan  
(Source: BPM-PTSP Kabupaten Katingan Tahun 2016)

According to Suhaemi, Head of Investment and Integrated One Stop Services (BPM-PTSP), Katingan has implemented cooperation with an investor, i.e. the owner of the cassava processing plant. The plant does not open its own land, but it provides guidance and directly purchases raw materials from the people (farmer groups, local plantation owners, cooperatives and regional companies of Katingan). The people welcome this cooperation very well, particularly since cassava plantation can be a promising and sustainable primary job. The partnership is easy to execute because it is set in long-term contract with the guarantee of lowest price. There are two potential investors who will build their own factory; i.e. Tapioca factory and organic Styrofoam factory. Both factories are interrelated because their primary raw material is cassava. The products do not contain chemical, the waste is biodegradable, and it can be used as organic fertilizer. With these two factories operating, the people who plant cassava in their lands will have an opportunity of employment because no matter how much cassava they can produce, the companies will absorb them. This is a guarantee since the world's needs of Tapioca flour and Styrofoam has not been met. Tapioca is a substitute for the expensive and imported wheat flour. Katingan Regent (H. Ahmad Yantenglie) is the initiator and policy maker in the empowerment effort with the principle of equal partnership. He states that the implementation of this partnership will provide great multiplier effect for the welfare of the people, especially Dayak farmers. With modern land cultivation development and sustainable and continuous guidance, the lands will be cultivated using modern technology and without burning forests.



Figure 4. Photograph of Katingan Regent, H.A. Yantenglie, Head of BPM & PTSP Suhaemi, And representative of investor in a socialization of the program to the people  
(Source: BPM-PTSP Katingan Regency)

The economic value of cassava plantation, as exposed by PT. Amino Alam Lestari Bogor, will be achieved using Amino Technology. It is a cultivation system using recent innovation of fertilizer and Aminofert drugs (registered at Indonesia Department of Agriculture No. L016/PPI/2006). There are four packages of this drug; *Aminofert Cassava*, *Planta*, *Metha*, and *Bifu*. Aminofert Cassava contains microbes to repair soil and nutrition to fertilize soil. Aminofert Planta is natural enzyme to accelerate growth and cell division. Aminofert Metha is insect repellent, while Aminofert Bifu is controller for rotten tube of Cassava. The people are taught how to use these packages in planting and cultivating Cassava.

The cultivation begins with loosening the soil using tractor or manually. The soil is then fertilized with natural compost and administered with aminofert cassava. After 8-12 months, cassava can be harvested and processed into chips and tapioca. With a profit, it is expected to motivate the people to change their culture of farming into cassava plantation. It is also possible for them to do other jobs while cultivating their field.

## THE EFFORT TO ADJUST WITH DAYAK CULTURE

According to Dr. Fridolin Ukur, several mindsets can be applied to improve economic growth of the people: Keeping, developing, and improving the spirit of *rumah panjang*. The core of *rumah panjang* principle is to support, maintain, and improve public welfare. All people feel that they belong to each other and are responsible for everyone. This makes the people will not allow one individual lives in hardship while the others are wealthy.

The modern economic equivalent to this spirit is cooperatives. It means that the building and development of cooperatives should be approached culturally.

Reliving and adjusting the art of Dayak: For thousands of years, art has played great roles in the life of Dayak people. Art is incorporated in many forms, including ceramics/clays pots, engraving, plaits, beads, architecture, dance, etc. In this modern age, the art products can be a source of income. To improve the economy of the people, training and development are conducted, targeting the youths to possess the skills related to the art of their people. It is also possible to present the arts of Dayak as household industry, as the case in Bali; for this to happen, the regional government needs to commit their political will.

Developing and modernizing farming and plantation system<sup>2</sup> To develop farming system, there are several alternatives as proposed by Prof. DR. Mubyarto et al (see. *Kajian Sosial Ekonomi Desa-Desa Perbatasan di Kalimantan Timur*, Aditya Media, Yogyakarta, 1991, p. 70-71):

- The farming **system** should be recognized as a **cultural part** of farming society. It means that plantation system should be developed rather than being replaced by farming system from other cultures.
- In the plantation system, we can find various alternatives of farming which can be developed in accordance with the culture of the people. In Kalimantan, the farmers have developed an agro- forestry system, in which they plant rattan, rubber tree, or other plants on the field where they previously planted paddy (<http://bilayuk.blogspot.co.id/2008/04/kebudayaan-orang-dayak.html>)

The spirit of *rumah panjang* and the development of art are not discussed in this paper. The socio-economic analysis of Mubyarto et al is appropriate when the price of rattan and rubber is high. However, both commodities have decreased in values, so that an alternative is needed. The alternative plant should be compatible with their culture of cultivation, even though it has been modernized.

Fridolin Ukur notes that plantation system has been a cultural part of Dayak society. Shifting cultivation or agro-forestry system can still be implemented and developed, if they do not involve forest burning. Cleaning the field without burning it is the main problem that Dayak people face in this area. A habituation, which takes long time and process, is needed. Starting with cassava cultivation program, it is expected that their fields can be maintained without having to burn anymore forest or field.

Table 1 The Matrix of Change from Traditional Farming Culture to Plantation Industry

.No	Activities	Traditional way and culture {rice paddy}	Amino way (cassava)
1	Opening field	Cut down and burn. The ashes is natural fertilizer	Cut down, clean, and ferlize the land
2	Planting	Creating holes by piercing the soil using sharp woods, and planting the seed	The soil is made loose using tractor or hoe. Than it is planted with cassava
3	Harvesting	After rice paddy is ready for harvest	As needed
4	Storing	As supply of consumption for the family	Sell and obtain profit

The effort to change the traditional culture and ways of farming into plantation system as developed by PT. Amino Alam Lestari (using packages of fertilizers and drugs) requires a lot of practice and guidance. Such habituation may take time. The most important thing is to change the mindset of the people; for instance, the thinking that the ashes of burning field are natural fertilizer should be changed into the thinking that fertilizing the soil needs other fertilizers and drugs.

## CONCLUSION

Land clearing through burning it is a part of Dayak culture. However, forest burning may cause smog, obstruction of transportation (land, sea, and air) and has negative effect on health. The government does not forbid the people to change the area of farming, but they forbid forest burning, for whatever reason. Katingan province attempts to help its people who are used to processing their land by burning to develop a cassava plantation program with equal partnership with cassava collecting investors; which will be processed in their factory. This program is expected to change the way people manage their fields, improve economic and welfare, without dismissing their local culture.

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