

“Moderate Industrialization” and Commons: Alternative Development Strategy to Oil Palm Plantation in East Kalimantan, Indonesia

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ABSTRACT

This study proposes “Moderate Industrialization” strategy as partial adaptation of industrialization even as simultaneously maintaining local commons in order to realize sustainable community development. Traditionally Dayaks, the indigenous people in Kalimantan, have been lived self-sufficiently by means of slash-and-burn agriculture, hunting, fishing and gathering non-timber forest products. They managed large customary land as local commons in a sustainable manner until 1960’s when there were plenty of natural resources and low population density. During 1970’s, however, large scale commercial logging changed this scenario. Since then, local people have been integrated into main stream economy as they started working in logging company and joining the illegal logging activities as well. Local commons were disturbed and deforestation ensued dramatically. In 2000’s, however, logging company activities declined because of forest resource-scarcity. The current central administration enforced restriction on illegal logging. This, however, resulted in economic hardships to the local people. In addition to this, large oil palm program implemented by a government agency with PIR scheme is coming up in this region. Now local people are required to adapt to this change. Even though oil palm could alleviate poverty and boost local economy, it is well known that this leads to negative environmental and social effects such as large-scale irreversible deforestation, biodiversity loss and wide ranging land disputes. This study introduces the concept of “Moderate Industrialization” as an alternative strategy to oil palm plantations, which would be environmentally and socially sound strategy. This would be realized by establishing small, dispersed but modern high-yielding rubber blocks through UPP scheme. It is proposed that “Moderate Industrialization” can play an important role in reviving local commons through meeting household economic needs and mitigating utilization pressure on natural resources. It can also facilitate local people to contribute positively to global commons concerns from the natural resources and biodiversity conservation point of view.

Key words: *Oil palm, Rubber, PIR, UPP, Moderate Industrialization,*

TO THE HINTERLAND OF KALIMANTAN

After 27 hours Mahakam river journey from Samarinda, a province city of East Kalimantan, at last public boat arrived in M village². To my surprise, only bush fallow or Alang-alang (*Imperata cylindrical*) plain exists along the way from Samarinda to Melak, a center town of West Kutai District (Figure 1). At one time, when commercial logging started in 1968, dense tropical rain forest exists boundlessly. In the course of last four decades, deforestation has rapidly increased as an outcome of commercial

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² This paper uses fictitious initial for the name of research villages.

logging and expansion of farm land in East Kalimantan. Tropical forest, however, still remain in the Upper Mahakam region. On a public boat through Melak town in the midnight and passing Tering town in the morning, at last we could see the powerful landscape of tropical rain forest in the morning fog. Topography is hilly and it is difficult to access this area through land route. After three hours from Tering, we arrive M village where people still maintain forest-based traditional livelihood such as slash and burn agriculture, fishery, hunting and gathering NTFPs (Non-timber forest products).

However, the wave of globalization has closed-rank with their traditional life. Large oil palm (*Elaeis guineensis*) plantation program came up in 2007. The central government launched "Estate revitalization program (Program Revitalisasi Perkebunan)". Overall 2 million ha (1.5 million ha of oil palm, 300,000 ha of rubber (*Hevea Brasiliensis*) and 200,000 ha of cacao (*Theobroma cacao*)) of expansion, replanting, rehabilitation are planned. The priority in this program is clearly the expansion of oil palm plantation³ (DP, 2007). It is, however, well known that oil palm plantation results in environmental and social problems such as deforestation and land disputes (Marti 2008). The important thing is that most of such changes are environmentally and socially "Irreversible".

The objective of this paper is to propose "Moderate Industrialization", an alternative development strategy to oil palm, as partial adaptation of industrialization even as simultaneously maintaining local commons in order to realize sustainable community development for the Middle-Upper Mahakam region⁴ which has become the target of a large oil palm plantation program. Research site is shown in Figure 1. Development progress in West Kutai District is quite different in Upper stream and downstream. In the South of Tering, topography is plain and road network has been already prepared. Traditional rubber smallholdings and coal mining has been developed. Rich tropical forest has almost disappeared and only degraded forest remains. Contrary to this, the North of Tering, rich secondary forest with many trees which are more than 50 cm diameter such as *Eusideroxylon zwageri* and *Dipterocarpaceae* still remain, although primary forest has retreated in most of the region as an outcome of commercial logging. Because of the hilly topography, there is comparatively less large forest clear cutting in Upper-Mahakam region except for industrial fast-growing tree plantation, HTI (Hutan Tanaman Industri) programs. As the commercial logging involves selective logging, biodiversity loss is relatively prevented and hence secondary forest remains. As per the 2007 statistical data, 31,786 ha (95%) of rubber smallholdings in West Kutai District exists in the South of Tering. Only 1,641 ha (5%) of traditional rubber gardens exist in the North of Tering. And all oil palm plantation (5,371 ha) exists near Jempang lake in South-east parts of West Kutai District. So, it can be assumed that the Middle-Upper Mahakam region is the entrance of "last fort" of tropical rain forest and it is becoming the front line of estate development.

³ The detail target of each tree crops is as follows. Oil palm: expansion 1,375,000 ha, rehabilitation 125,000 ha. Rubber: expansion 50,000 ha, replanting 250,000 ha. Cacao: expansion 110,000 ha, replanting 540,000 ha, rehabilitation 36,000ha.

⁴ Middle-Upper Mahakam region consists of Laham, Long Hubung and Long Iram sub-district in West Kutai District. The population is 18,503, the area is 289,471 ha, the population density is 6.39 per capita per km² as of 2008.

This paper first presents an overview of the change of local commons due to penetration of market economy in Middle-Upper Mahakam region. It then presents the characteristics of two main estate development schemes in Indonesia, that is, PIR (Perusahaan Inti Rakyat) scheme and UPP (Unit Pelaksana Proyek) scheme. It then shows the socio-economic effect of oil palm plantation and rubber smallholdings through the case studies in Paser District and in West Kutai District. And finally the paper proposes “Moderate Industrialization” strategy in Middle-Upper Mahakam Region.

MARKET ECONOMY PENETRATION AND LOCAL COMMONS⁵ CHANGE

The beginning of local commons (1883-1968)

When did forest-based traditional life of local people start in Middle-Upper Mahakam region? How has local commons changed with market economy penetration? The population of M village is 1,480 and the number of households is 385 as of 2008. 75% of residents are indigenous “Bahau” people. This village has 48,182 ha of large customary land⁶. Bahau people who built this village lived in Apo Kayan region near Malaysian border for a long time. They moved to Middle-Upper Mahakam region to get salt and other bare bone essentials. M village were established in 1883. At that time village population was only 65. They lived together in one “Lamin”, a traditional Dayaks’ long house. They had hierarchy structure consists of “Hipui” (Royal class), “Pengawa” (Steward class), “Pangin” (Commoner class) and “Dipan” (Slave class). Dense primary forest spread in front of them. They lived self-sufficiently with traditional slash-and-burn agriculture, hunting, fishery and gathering other NTFPs. They, however, were not isolated from outside world completely. They got cash income from selling NTFPs such as rattan and resin (Damar) to trader. They had been integrated into market economy gradually since early time.

The customary land of M village is divided into private land and communal land. Private land consists of traditional farm land such as Tana’ Luma’ (swidden), Tana Talun (fallow) and Tana’ Lepuun (fruit garden). First person who open primary forest could get land ownership. It is heritable as far as it is not alienated or sold. Hunting, fishery and other NTFPs gathering activities, however, are allowed to villagers without owner’s permission. Communal land is land which owned by village. Tana’ Pra’ is customary conservation forest. People need to get permission from village leaders including village head and customary law head for timber utilization. Hunting, fishery and other NTFPs gathering activities are allowed for villagers without any permission. Tana’ Berahan is forest for various activities such as logging, hunting, fishery and other NTFPs gathering activities for villagers. If villagers want to expand their farm land, they open Tana’ Berahan. In addition to that Tana’ Jaka’ (Grudge forest) and Tana’ To’ (Spirit forest) exist. Such land is also avoided to use because of spirit belief. In general, local commons in M village has been existed as “loose local commons”⁷.

⁵ This paper defines the “local commons” as collective resource management institutions for local resources, principally for the “common pool resources (CPRs)” (Inoue 2000).

⁶ “Customary land” and “Customary forest” in this paper is the land or forest ruled by customary law (Hukum Adat) and exists independently from government land–use-classification.

⁷ Inoue (2000) classified local commons into two in terms of the existence of regulation. 1) “Tight local

Integration into the National law (1968-1998)

Monetary economy has penetrated rapidly since commercial logging started in 1970. Many villagers started working as labor and selling fish and vegetables in logging company. Electric generator, outboard engine, television and other electric devices were spread. Villagers started enjoying modern technology. Traditional life also changed. "Lamin" was pulled down in 1969. Each family started living in their own house individually. At the same time, local commons also started changing dramatically. Logging companies cut down trees in customary forest "legally" with neglecting customary-land-classification of M village. At that time villagers couldn't protest because company was protected by military and police. Villagers, however, also acted opportunistically. They followed illegal logging activities and got cash income. Because local commons of M village existed as "loose local commons", it became open access and deforestation proceeded rapidly. In addition to that customary forest in M village was damaged by the forest fire in 1997-1998.

Figure 1 shows national land-use-classification and research site in West Kutai District. Total area of West Kutai District is 3,162,870 ha. Natural Reserve is 5,500 ha, Protection Forest is 744,038 ha, KBK (Kawasan Budidaya Kehutanan)⁸ is 1,481,066 ha, KBNK (Kawasan Budidaya Non Kehutanan)⁹ is 932,266 ha. Natural Reserve, Conservation Forest, KBK are categorized as national land. Access and utilization for these lands are restricted tightly. Contrary to this, KBNK is allowed to multipurpose use such as city, town, village, farm land like swidden, fruit garden and plantation. Private land tenure is approved only in KBNK. It is important that establishment of oil palm plantation is only allowed in KBNK.

Logging industry declination and economic hardship of local people (1998-present)

In 1998 democratization and decentralization started as a result of Suharto resignation. Since then the repressive government pressure to local people has declined. New forest law in 1999 partly recognized existence of customary land as long as it is not against national interest. Power of military declined and company was required to get agreement with local people to operate in their customary land. Local people's right started improving. Local people, however, usually insisted their rights to boost their economy. Illegal logging activities conducted by broker and local people still continued. Sustainable forest resource management had not rooted in. Present administration restricted illegal logging in 2006. As a result many local people faced economic hardship. They called this situation as "Musim Krisis" (Crisis season). They started planting commercial tree crops and fast grow trees such as rubber and *Albizia falcataria*¹⁰. In addition to that, large oil palm plantation program implemented by government came up in this region in 2007.

commons", where certain regulations are established in the group, and rights and duties are clearly defined. 2) "Loose local commons", where the members of the group have relatively free access without specified regulation.

⁸ KBK is a forestry utilization area controlled by central government (minister of forestry). It consists of limited production forest and permanent production forest.

⁹ KBNK is a non-forestry utilization area controlled by district government.

¹⁰ *Albizia falcataria* is utilized as Medium-Density Fiberboard (MDF).

As a whole, customary land-use-classification, National land-use-classification and ecological vegetation are overlapped and sometimes conflicted in Middle-Upper Mahakam region. Totally 282,119 ha of KBNK existed in the north part of West Kutai District. Secondary forest, however, spreads almost whole KBNK in this area “ecologically”. It means it is possible to convert these secondary forests to oil palm plantation. The deforestation as a result of oil palm plantation accused by international environmental conservation institutions and NGOs is occurring in such area¹¹. The question is whether oil palm development is carried out only under the leadership of central and local government? As this paper already discussed, local people’s customary forest and customary law simultaneously exists in KBNK. It is important that, now, the final decision maker for oil palm development is local people as a result of democratization. Thus it is become question whether local people become actors who stop excessive exploitation or become actors who drive up it? The answer is depending on development strategy choices of local people.

ESTATE DEVELOPMENT SCHEME IN INDONESIA

Estate Revitalization Program

Ongoing “Estate Revitalization Program” has two schemes, that is, Mitra scheme implemented “with company” and Non Mitra scheme implemented “without company”. The original forms of these schemes have been known as PIR (Perusahaan Inti Rakyat) and UPP (Unit Pelaksana Proyek) since 1970’s respectively. These two schemes has been known as “integrated scheme” providing high-yielding clone seedlings, fertilizer, agrichemicals, farming tool, technical advice, land tenure and securing market (DP, 1984).

PIR Scheme

PIR scheme started in 1977. The main concepts of PIR scheme in early time were,

- 1) Integrating company and individual farmers and building reciprocal relations of them in order to increase productivities of individual farmers’ smallholdings and simultaneously full fill the demand of mills for raw materials.
- 2) Implementing in “undeveloped land” (including primary forest and local people’s customary forest)
- 3) Establishing new economic sphere with nucleus estate (Inti) of company (in the case of oil palm, 3,000 ha – 20,000 ha of plantation is established per mill).
- 4) Accelerating employment absorption for transmigrant with combining transmigration program.

Company establishes mill and own nucleus estate (Inti) in PIR scheme. Around Inti, usually 2 ha of participant farmers’ smallholdings (Plasma) are established. The structure of resent PIR scheme summarized in Figure 2-a.

¹¹ Koh and Willcove (2008) estimated that between 1990 and 2005, the minimum forest area converted to oil palm plantations was estimated to be 1,704,000 ha, which represented 56% of oil palm expansion and may be it attributed to the conversion of primary, secondary, or plantation forests.

Participant farmers organize cooperatives and contract with company. Participants prepare their own land for Plasma and apply land certificate to National land tenure office (Badan Pertanahan National) through contracted company, a guarantor of them. Bank provides loan through company, and holds the land certificate as collateral. Company establishes Plasma. After harvest time come, the quality of Plasma are evaluated by Department of Agriculture. After evaluation, participants make loan agreement with Bank formally and Plasma is transferred from company to participants¹². Then participants start managing Plasma. Participants sell their products to contracted company. Company deducts 30% from products selling for repayment. After finishing repayment, bank returns land certificate to participants.

Participant farmers in PIR scheme strongly depend on company. In addition to that local community needs to provide a part of their customary land to company. Hak Guna Usaha (Land exploitation right) for Inti is issued for the land where local village agreed to provide their customary land. After HGU expire, the land will be returned to Nation and never be returned to village¹³. This leads to many social conflicts such as land disputes¹⁴. Sometimes companies bribe village heads or customary low heads to get agreement for land expropriation.

This paper tries to provide brief historical overview of PIR scheme program. Table 1-a shows the development of PIR programs until 1999. There are three PIR programs implemented by central government, that is, PIR-BUN (PIR-Perkebunan), PIR-TRANS (yang dikaitkan dengan program Transmigrasi) and PIR-KKPA (Kredit Koperasi Primer untuk Anggota). The first generation is PIR-BUN. Main perennial crops under this program were oil palm (42.7%) and rubber (48.2%). Coconut, tea and sugar corn occupied only 9% of total area of this program. PIR-BUN was implemented by mainly state owned companies (10 state owned companies and 2 private companies). In 1986, PIR-Trans, a second generation of PIR program started. PIR-Trans concentrated mainly on oil palm (91%). Oil palm expansion in PIR-Trans conducted mainly by private company (51 private companies and 3 state owned companies). As a whole oil palm Plasma development under the PIR-Trans shows very high success rate (92%). Then since 1995 PIR-KKPA were implemented by 2 state owned companies and 32 private companies.

Zen et al (2006) reported that “the performance of initial PIR program is not good because of the failed subsistence food crops, too low government setting FFB (Fresh Fruits Bunches) prices and 30% deduction for repayment. Many participants couldn't get enough income and abandoned their lands and selling their plots to rich traders. The settlers' situations, however, improved greatly when their oil palms came into full production after 9-10 years, which was also a stage when they were normally able to complete both their principal and interest repayments. Although there were exceptions, most of the farmers in Plasma areas established up to the mid 1990s were doing well by the mid 2000s”. On the other hands, many social and environmental problems were occurred in new order era such as productivity unbalance between Inti and Plasma, high credit size and delinquency, the delay of

¹² If the quality does not achieve standard (B), the Plasma is not transferred to participant.

¹³ It is mentioned in article 4 and 18 in Government decree Republic of Indonesia No. 40 in 1996.

¹⁴ As of January 2008, Sawit Watch was monitoring 513 active conflicts between companies and communities in the oil palm plantation sector in Indonesia (Marti, 2008).

buying products by mills and so on (Marti 2008). Regarding impact for tropical rain forest, 70 % of oil palm established by 1999 was developed in forest area (Anne, 2000). Many companies had experienced demonstration after Suharto resigned in 1998 and political power of local people increased so that companies are required to compensate them for land expropriation in New Order era and improve their socio-economic condition (Zen et al 2006 and Marti 2008).

There has been no further government-sponsored extension of the oil palm plantation by PIR scheme since 2001. Smallholdings and private oil palm plantation, however, has developed rapidly during these 10 years. Oil palm smallholdings of individual farmers and private companies' oil palm plantation reached 2,752,172ha (3.4 times from 1997) and 3,408,416 ha (2.4 times from 1997) respectively as of 2007. According to Zen et al (2006), "Several private companies have continued to establish such estates with their own resources." Zen et al (2006) shows some examples that "The companies set up large nurseries selling improved seedlings at subsidized prices, in an extension programs implemented by Dinas (Local estate office)". They also reported that there are about 900,000 ha of high yielding smallholder plasma in 1.8 million smallholdings in 2003. A balance of 250,000 ha is high yielding oil palm individual plantation and others are still low yielding individual smallholdings. These high yielding individual plantations have developed through such companies and local government support. And also many settlers in the Plasma had applied their knowledge through planting high-yielding trees on other land outside the PIR schemes (Zen et al 2006).

The important change after democratization and decentralization is that rapid oil palm expansion is pulled mainly by private companies and smallholders. Various new oil palm development schemes implemented by local government and companies, has been developed besides PIR-scheme. The participation of local people to oil palm development has been accelerated through these changes.

UPP scheme

UPP scheme started in 1979. In UPP scheme, government project management unit (= UPP), are organized to support individual smallholders. UPP is supervised by provincial or district local estate office (Dinas Perkebunan). The main concepts of UPP scheme are as follows.

- 1) Implementing in existing traditional farm, the secondary forest, fallow and degraded forest around traditional farm.
- 2) Training smallholders as modern and independent smallholding manager.
- 3) Establishing new economic sphere around UPP. One UPP manage 3,000 ha – 5,000 ha of smallholdings¹⁵.
- 4) Supporting both of transmigrant and local people.

The structure of UPP scheme is summarized in Figure 2-b. Participant organize famer group. They prepare their own land for participating project and apply land certificate to National land tenure office. Participant contracts

¹⁵ Economic feasible size of UPP for rubber is 3,000 ha – 5,000 ha per UPP and 2,000 ha – 3,000 ha per UPP for coconut (DP, 2000).

with Bank. Bank provides loan to participants through UPP and hold the land certificate as collateral. UPP use money for preparing materials such as high-yielding clone seedlings, fertilizer, agrichemicals, farming tool and so on. Participants establish smallholdings with technical support by agricultural instructor from UPP through farmer group. When the crops mature (harvest time), each smallholdings are evaluated by team from Department of Agriculture. The credit size is decided based on the result of evaluation. If the crops failure to grow, government covers the loss (repaying the credit) so that participants are secured from risk. Participants sell product to buyer or mills directly. UPP manage participants' repayment (collecting installment). After finishing repayment, bank return land certificate to participants. Participant becomes independent high-yielding modern smallholding owner and manager.

The main differences between UPP scheme and PIR scheme are 1) participants establish their smallholdings themselves with support from UPP, 2) there is no land expropriation, 3) participants could sell their products to buyers and mills freely (but the access to market is not always secured). The most important point is participants of UPP scheme become independent smallholding owner and manager while participants of PIR scheme strongly depend on company.

There are 12 UPP projects as long as author found shown in Table 1-b. The first UPP project is a PRPTE (Peremajaan Rehabilitasi dan Perluasan Tanaman Ekspor) funded by National budget. After PRPTE most of UPP projects were funded by development bank such as World Bank, Asian Development Bank and International Fund for Agricultural Development from 1980's to 1990's. UPP scheme, however, was not applied for oil palm, because oil palm needs to be developed near the mills¹⁶. Project site of UPP is sometimes far from market or mills so that UPP scheme is suitable for crops which product could be kept for a long time like rubber.

Barlow (1991) analyzed the performance of PRPTE and he concluded "the outcome of the PRPTE scheme was very disappointing and this could be attributed largely to shortfalls in both budgeted material input supplies and technical guidance". He reported that only 26% of rubber plantation in PRPTE was classed 'satisfactory' in respect of its ability to produce reasonable yields. On the other hand, the report of department of agriculture showed 40% to 60% of the rubber is classified as 'good' (Table 1-b). The report, however, recognized that evaluation was partly not satisfies the standard¹⁷. 'Satisfactory rate' of UPP projects increased by 68% in SRDP (Small holders Rubber Development Project) and SCDP (Smallholders Coconut Development Project) supported by world bank because of higher material inputs and more scrupulous management (Barlow 1991). Then the rate also increased by 76% at TCSDP (Tree Crops Smallholder Development Project) conducted in 1990's (DP, 2000). It seems that the performance of UPP scheme has improved increasingly. The report of TCSDP and TCSSP (Tree Crop Smallholder Sector Project) shows the socio-economic impacts of UPP projects such as creating stable employment opportunity including woman, improvements in their lives including better housing, sending children to school, and acquiring a sense of achievement (DP, 2000: ADB, 2002). Contrast with PIR scheme, negative social impacts have little

¹⁶ Palm oil fresh fruit bunches must be milled within 24 hours of harvest to avoid deterioration in quality.

¹⁷ See note 4) in Table 1-a, b.

been reported. Local people use their own land and need not provide their customary land. Regarding environmental impact, even though one UPP manage relatively large 3,000 ha – 5,000 ha of smallholdings, each operational block is relatively small (100 - 300 ha in PRPTE and 200 - 300ha in SRDP) and are scattered (Barlow 1984: Barlow 1991). It means environmental impacts could be reduced compared with PIR scheme. In addition to that the most area of UPP scheme was applied to existent farm land, bush and alang-alang, not to natural forest (DP, 2000: ADB, 2002).

The main challenge of UPP scheme is a low repayment rate (Barlow 1991: ADB 2002). According to Department of Agriculture report the average repayment rate of 8 UPP projects¹⁸ is 35.8% as of 2003 (DP, 2006). There is, however, a UPP scheme which overcome low repayment problem in Paser District, East Kalimantan. In this case UPP scheme was applied to oil palm smallholdings. UPP contract with oil palm companies and sell product from smallholders. The financial resource is from local government budget, not from development bank. The credit size is limited only for high-yielding seedlings expenses and administration fee of land certificate. Fertilizers and agricultural chemicals are provided gratis by local government but only for first and second year. After that period, participants buy fertilizer and agrichemicals themselves. Participant repays to UPP and local government provides credit to next participants. Details of this flexible UPP scheme are analyzed in following section.

In general, to compare with PIR scheme, UPP scheme has less environmental and social negative impacts. Even though UPPs were disassembled and merged with each district estate office (Dinas Perkebunan) in 2000's after decentralization, the framework was passed to Non Mitra (non partner or company) scheme in recent Estate Revitalization Program.

Partial support

In addition to PIR Scheme and UPP scheme, Indonesia has Partial support for smallholders. Partial support is complementary scheme and has been applied in the areas where PIR scheme and UPP scheme was not applied. Partial support provides a part of support such as “only” high-yielding seedlings or fertilizer or agrichemicals or farm tools and so on. It encourages farmers' incentive for increasing productions of their farm (DP, 1984). Farmer groups are organized and government agricultural instructors provide technical support. Usually credit and land certificate preparation is not included in Partial support. Most of activities are conducted by farmer's own efforts. The short point of Partial support is shortage of budget and the limitation of technical support and information distribution.

Non-support smallholdings

In this paper, smallholdings established by farmers without any support from company or government call Non-support smallholdings.

THE IMPACT OF OIL PALM AND RUBBER PLANTATION IN EAST KALIMANTAN

¹⁸ PRPTE, TCSDP, TCSSP, STCPP, ISDP, UFDP, EISCDP and S3TCDP

As of 2007, total area of oil palm plantation in East Kalimantan is 339,292 ha. Province government of East Kalimantan strongly encouraging palm oil industry and has target to develop 1 million ha of oil palm plantation by 2013. On the other hand, still many secondary forest exist in rural area including Middle-Upper Mahakam region and primary forest also remain in the Malaysian border known as “heart of Borneo”.

First this section tries to clarify economic condition of Middle-Upper Mahakam region. Then socio-economic impacts of oil palm plantation and rubber smallholdings on local community are clarified.

Paser District is selected as the case of oil palm plantation. Paser District is the first district in which oil palm plantation has been developed in East Kalimantan since 1983. As of 2008 the total area of oil palm plantation in Paser District is 95,822ha. Inti established by state owned company is 13,440 ha, Inti established by private company is 46,475ha, Plasma established by state owned company is 24,854 ha, smallholdings supported by local government (UPP and Partial support scheme) is 9,345 ha and non-support oil palm smallholdings is 1,708 ha. The data of non-support oil palm smallholdings, however, is not correct. Estate office staff said there are many non-support oil palm smallholdings which are not counted or registered to estate office. Paser people is a indigenous people in Paser District. Because most of Paser people are Muslim, they are distinguished from Dayaks, a general term of non-Muslim indigenous people in Borneo. They, however, have many similarities with Dayak people as they have lived with slash-and-burn agriculture. Paser Districts consists of 10 sub-district and 117 villages. The population is 191,117. The area is 1,160,396 ha. The population density is 16.47 km². T village and G village are selected as research site in Paser District. Both villages has Inti and oil palm mill established by state-owned company. They are located in the center of oil palm industry.

As the case of rubber smallholding established by UPP scheme, Sendawar region¹⁹ is selected. 1,208 ha in PRPTE (1981-1983) and 9,179 ha in TCSSP (1992-2001), totally 10,387 ha of high-yielding rubber smallholdings were developed by UPP scheme. Majority people are Tonyoi People. N village is selected as research site in this region.

Methods

9 villages, mainly in M village, were visited in Middle-Upper Mahakam region from 2007 to 2009. T village and G village in Paser District were visited from July to August 2008. N village in West Kutai District was visited in November 2008 and March 2009. Formal and informal interviews to village heads, customary law heads, villagers were conducted in each village and tried in order to clarify the socio-economic impact of oil palm plantation and rubber smallholdings. Formal and informal Interviews for government officers in Department of agriculture in Jakarta, local estate office in East Kalimantan Province, West Kutai District and Paser District

¹⁹ Sendawar region consists of Melak, Barong Tongkok and Linggang Bigung sub-district in West Kutai District in this paper. The population is 44,632, the area is 147,938 ha, the population density is 30.2 per capita per km² as of 2007.

were implemented from 2007 to 2009. Formal interviews for staffs of state owned estate company (Perseroan Terbatas Nusantara XIII, PTPN XIII) in Paser District were implemented in July and August 2009.

Structural household survey was also conducted in order to estimate amount of cash income and non-cash income from oil palm plantation, rubber smallholdings, traditional farms and other subsistence activities. Fixed income data such as salary from company and public servant were collected accurately. Non-fixed income data such as income from agriculture, trade and small business, however, were estimated by asking value of commodities and frequency of selling these commodities. The contradict data were corrected through re-interviews if possible. Interview was conducted by author in Indonesian language. Although interview methods were same, sampling methods were different in each region and village so that there is some bias.

In Middle-Upper Mahakam region, structural household survey was conducted to members of Credit Union Petemai Urip (CUPU)²⁰ in 9 villages from November 2007 to March 2008. 150 members were selected randomly from 2,246 CUPU members except for members under 17 years old, staffs and board members. Then 101 households who agreed were interviewed. In this paper data of 48 households who lives in Middle-Upper Mahakam region are used for analysis.

In T village household survey was conducted in July 2009. 31 households were interviewed. Then 25 of indigenous people households' data are used for this paper. Sample households were selected by village head of T village and some RT (Rukun Tetangga, a kind of neighborhood association) heads on a voluntary basis. 12 households have Plasma (PIR-KKPA²¹) oil palm smallholdings. 6 households have Parcial supports (P4: Proyek Peningkatan Produksi Perkebunan²²) oil palm smallholdings, 3 households has non-support oil palm smallholdings, 7 households don't have oil palm smallholdings. 3 households have plural schemes oil palm smallholdings. In G village household survey was conducted in August 2009 for only the indigenous households having UPP scheme (PIR-SWADAYA) oil palm smallholdings. The sample households were selected by village head and village staffs on a voluntary basis. Then 20 households were interviewed randomly. 7 households have Plasma oil palm smallholdings and 4 households have non-support oil palm smallholdings in addition to UPP scheme oil palm smallholdings.

In N village, West Kutai District, 20 sample households were randomly selected in RT 3²³ and household survey was conducted in March 2009. 18 households have UPP rubber smallholdings, 1 household have non-support rubber smallholdings and

²⁰ This CU has operated in Middle-Upper Mahakam region since 2002. Because CU adapts both of poor people and rich people, this paper assumes that the members of CU represent the local people's economic condition in Middle-upper Mahakam region, even though it is considered that there is a bias that the rate of rich households of CUPU members little bit higher than that of non CUPU members.

²¹ Even though the name, PIR-KKPA, is same as PIR program implemented by central government (Table 1-a) in 1990's, this is deferent program. This PIR-KKPA program is PTPN XIII's own PIR program.

²² This is a program of local government of Paser District. This it a Partial Support. Local government gave high-yielding oil palm seedlings, fertilizer and agrichemicals.

²³ There is no apparent socio-economic difference of households between each RT.

1 household works in other person's UPP rubber smallholdings.

Because such bias exists, sample households could not represent all village or region members. These household survey data, however, might be useful for estimating the condition of each village or region residents in a certain range by cross-checking with qualitative data from formal and informal interviews.

Sample households are categorized based on the economic status as follows. Very low: under 0.60 US\$²⁴ per capita per day (a poverty line defined by Indonesian statistic office in 2007), Low: more than 0.60 to under 1.08 US\$ per capita per day (a poverty line defined by World Bank), Middle: more than 1.08 to under 2.00 US\$ per capita per day (an average poverty line in developing countries) and High: more than 2.00 US\$.

The economic condition of Middle-Upper Mahakam Region

Table 3-a shows 33.4% of sample households live under the Indonesian poverty line, 0.60US\$. Many of them lost their cash income as a result of commercial logging industry declination and prohibition of illegal logging. Average cash income per year from "Forestry" is 50,000Rp, "Company" is 0 and "Total" is only 5.4 million Rp. They get little money from "fish" and "labor"²⁵. Some households couldn't prepare education and medical expenses. In this region 20 million Rp per year per household is required as minimal cash income in order to live without large deficiency. The cash income resources to meet this level are "government" such as public servant and "merchant" such as shopkeeper. Opportunities to get such works are, however, limited for many households in this region.

On the other hand, traditional swidden agriculture, fishery, hunting and other NTFPs gathering activities still continues in Middle-Upper Mahakam region. Table 4 shows self-sufficient rate of each products. Although the self-sufficient rate of rice is 57%, it is 100% in usual year. Production of rice decreased drastically in 2007 because of the long draught. Many families were required to buy rice from external. The self-sufficient rate of vegetable, fish and meat was 61%, 58% and 65% respectively. In addition to that, local people could use timber woods for their own needs such as house and boat, even though selling timbers to outside market such as Melak and Samarinda is restricted by government²⁶. Fire woods are also acquired from customary forests. Forest-based traditional livelihood plays an important role in the maintaining subsistence of local people.

As a whole, although people maintain forest-based traditional livelihood, it is quite required alternative cash income resources to declining commercial logging industry in Middle-Upper Mahakam region. So, if oil palm would be accepted, how would be the impact? Does oil palm brings positive effects or negative effects?

²⁴ 1 US\$ is 9,140 Rp as of 2007, 9,666 Rp as of 2008 as per Indonesian Central Bank annual reports.

²⁵ "Labor" is wage from working in neighbours farm such as swidden. This is a kind of labour exchange in the village and have a redistribution function of cash income for poor.

²⁶ Main illegal logging check points of government exist downstream area such as Long Iram and Melak town so that timber utilization by local people within the villages of Middle-Upper Mahakam region is approved tacitly.

The oil palm development in Paser District

In T and G village, majority is indigenous people, Paser. The population of T village is 3,161 people and 811 families. 75% is Paser people. Oil palm plantation has been developed since 1991 by state owned company. According to village statistics, the customary land is 7,910 – 9,700 ha²⁷, Inti of state owned company is 1,500 ha, villagers' oil palm smallholdings are 752 ha. There are also about 1,000 ha – 4,300 ha of wet land and 550 ha of paddy field in the low land. Forest has been already degraded. In G village, the population is 3,976 people and 1,071 families. 42% is Paser people, 37% is Jawa people and 21% is other ethnics. In 1983 state owned company estate is developed. The customary land of G village is 10,500 ha. Inti established by state-owned company is 2,800 ha, Inti established by private company is 940 ha. Villagers' oil palm smallholdings are 809 ha. Paddy field and land for swidden agriculture is 204 ha. In the mountain area, 4,600 ha of national forest exist.

The common point of both villages is that indigenous people had been discriminated from oil palm plantation development at the beginning. At that time, still Suharto regime, and state owned company expropriated local people's customary land under the military support. At that time villagers cultivated rice in both swidden and paddy field and got cash income from selling rattan and following day works. Villagers said "Our economic condition was hard". In G village, after 1993, local government started to support establishing UPP scheme oil palm smallholdings for local people. The participant, however, limited. Plasma for local people also was not developed even though there were promises with state owned company. In 2000, after democratization some villages including T and G villages demonstrated to state owned company. Then they got Plasma. After that, state-owned company established Plasma program, PIR-KKPA. Many local people joined the program and got Plasma. State-owned company also hires many local people²⁸.

The result of household survey shows that the average area of 17 households who have oil palm smallholdings in T village is 2.3 ha and got 1.8 million rupiah per a year. The average area of 20 households who have oil palm smallholdings in G village is 3.3 ha and got 3.3 million rupiah per a year. The advantage of oil palm cultivation is that it could be developed as side business. Only 2 times of harvest are needed in a month. Fertilization and weeding is needed only 2 – 3 times in a year. Some smallholders hire worker for harvest. So smallholders need not use many time to oil palm maintenance. 31 sample households have side business. High cash income resources in Table 3-b and Table 3-c are "Company", ex. working in the oil palm company, "Government" such as public servant and village government staffs, and "Merchant" such as FFB carrier, middleman, and shopkeeper. Only 6 sample households get cash income only from oil palm smallholdings. The "Low" income households who have oil palm are only 3 households in both villages. Thus the household survey data shows oil palm smallholdings is quite effective for alleviating poverty. On the other hands, 4 households in 8 households who don't have oil palm smallholdings stay under the poverty line (1.08 US\$). These household doesn't have

²⁷ The number of area is based on the statistic data of villages. The number is changing depending on the data resources.

²⁸ According to state-owned company staff, local workers occupy around 50 % in total worker in both of Inti and factories.

their land for making oil palm smallholdings. Ongoing PIR scheme by state owned company, PIR-KKPA, require participants to have their own land so that the villagers who don't have land couldn't join the program. This is the different point from PIR-BUN and PIR-TRANS, central PIR scheme project before.

Table 5 compares the production, revenue and expenditure of each crops and scheme per 1 ha. Highest production is acquired in Inti. Then Plasma, UPP, partial support smallholdings show almost same relatively high productivities. These schemes use high-yielding seedlings supplied through state owned company. On the other hand, the production of non-support smallholdings is low. Their seedling origination is not clear. The important point in this table is that the profits of UPP and Partial support smallholdings exceed that of Plasma smallholdings. This is because of transportation cost and credit size. The total credit size of Plasma is about 30 million rupiah per ha. On the other hand, the credit size in UPP scheme is only 5 million rupiah per ha. In the Partial supports there is no credit. In UPP and Partial support scheme, participants work themselves and don't use labors so that they could save cost. In addition to that, these smallholdings were established around the villages and main road, so that the transportation cost is saved. On the other hand, Plasma smallholdings exist in the area apart from residence and the transportation cost become high. The advantages of UPP scheme and Partial support is that participant could chose market both of middleman and mills. In Plasma, participants have to sell to only a contract company. 4 households in 7 households who has both UPP scheme and Plasma smallholdings answered UPP scheme is better than PIR scheme because credit size is small. The rest of 3 households answered both has each advantage. In this case the advantage of Plasma is "High production" and "Company make a roads from main roads". 18 participants in 20 households who have UPP scheme smallholdings finished repayment at the research time. The problem is the delay of issuing land certificate. Only 7 households got land certificate and 2 households got land certificate for a part of their smallholdings and 9 households didn't get land certificate yet.

In the view point of company, management of Plasma is difficult. Some staffs of state owned company explained that although company provides technical support regarding optimal fertilization and weeding, they couldn't force participant to do so. The range of production of sample 19 households' Plasma is 8 to 20.3 ton per ha per year. The fertilization cost is from 0 to 3.5 million rupiah per a year. Weeding cost is from 0 to 1.4 million rupiah per a year. The variability is quite large between each smallholding. A participant of Plasma said "an advantage of oil palm is that oil palm bear FFB without enough maintenance. Low production (compared with production of Inti) is no problem because we have sub-business." It shows interests between companies and smallholders are different. Each smallholder invests in their Plasma as their own need. They need not to maximize profit while company wants to do so.

Regarding the land expropriation, 15%-19% of land in T village, and 36% of land in G village were expropriated. Because in T village still many wet land exists, the land expropriation is limited and paddy fields and oil palm plantation could coexists. 12 households in 17 sample households who have oil palm smallholdings cultivated paddy field and 8 households cultivated vegetables, too. The noteworthy point is the self-sufficient rate of rice in T villages is 54% (Table 4). On the other hands, in G villages, oil palm mono culture proceeds. Paddy fields and vegetable farms exist a

little. Only 2 households in 20 sample households in G village cultivate paddy and vegetables respectively. The land for new cultivation is only about 200 ha. It is become the critical issue for the preparation of next generation's land. It is very important to consider how much customary land is provided to company if accepting oil palm.

Regarding the environmental impacts, some villagers said after oil palm plantations were developed, the groundwater often dry up. On the other hand, the impact on forest degradation in this area is not critical because villagers told that forest in this region already degraded before oil palm plantation exists.

The rubber plantation development in West Kutai District

As per 2009 sub district statistical data population of N village is 975, the number of households is 244. The area of village is 3,277 ha. Majority people is Tonyoi people. In N village, 34 ha from PRPTE, 474 ha from TCSSP, totally 508 ha of high-yielding rubber smallholdings were established. This occupies 15.5% of village area. Table 3-d shows the average cash income of N village sample households. In 2008, the cash income from rubber smallholdings occupies 86% in total cash income. 2 households in "very low" income households didn't join UPP scheme. 15 households in 18 sample households who join UPP project exist in middle or rich category. Before UPP project started, the main occupations of villagers were slash-and-burn farming, cultivating vegetable, fishery, hunting in the forest. Cash income resource was unstable day work, selling rattan and so on. Villagers said the quality of life couldn't increase in the life with traditional farming. Then after UPP scheme rubber project entered, participants got stable cash income and fulfill most of expenditures such as the food, education, buying motorcycle, electric appliance, furniture, building house and so on. According to villagers, the advantages of rubber smallholdings are that participant could get stable cash income through only 2 hours work in every morning. Participants could work in other job such as public servant and following daily work and they also have time to rest in the daytime. Villagers regard the lifestyle change through UPP project positively. In 2008, the profit from UPP rubber smallholdings per ha is higher than UPP oil palm smallholdings (Table 5).

The challenge of UPP rubber scheme in this village is proceeding of rubber monoculture and shortage of new land for cultivation. In N village, villagers who realized the profitability of high-yielding rubber smallholdings open new rubber smallholdings competitively. Then the land shortage occurred in this high-population density region. The reason self-sufficient rate of rice is relatively high (49%) is that the households who have land make paddy field. It will be converted to new rubber smallholdings later. So it really has to be considered how much intensive rubber smallholdings are needed to establish in Middle-Upper Mahakam region. The other challenge is the repayment rate of TCSSP project. The success rate of PRPTE is 89% (DP, 1985). Most of participant finished repayment fast in order to get land certificate. On the other hand, the repayment of TCSSP delays because UPP was merged into estate office of West Kutai District after decentralization. The repayment has just started in September 2008. The agricultural staff in each village collects credit from each participant. Other challenges are low seedling quality in TCSSP and monopolization of local latex selling market by buyers from Banjarmasin. This paper discusses how to cope with these challenges next section.

“MODERATE INDUSTRIALIZATION” AND REVIVING COMMONS

What kind of strategy the middle-Upper Mahakam region could choose based on the results stated above? Here this paper proposes two alternatives: “Perfect Industrialization” based on oil palm plantation and “Moderate Industrialization” based on rubber smallholdings.

“Perfect Industrialization” based on Oil Palm Plantation

Inoue (1994) called as “Incomplete industrialization”, a phenomenon people who come from other regions and adapt the industrialization like Jawa people, who benefited from industrialization (ex. HTI, Industrial afforestation), whereas local people who live in forest area get little advantage or disadvantage from industrialization. On the other hand, Inoue called “Perfect Industrialization” an industrialization in which people adapt to industrialization and sell their land and join the working force without any inhibition. At first oil palm development in Paser District proceeded as incomplete industrialization and discriminating local people. After democratization, however, local people started participating in oil palm development and also started getting benefits. Oil palm could encourage job creation such as wage labor in company and transporter or middleman of FFB. The economic ripple effect of oil palm is very attractive to local people. Thus we can say that the recent oil palm development in Paser District aspires to become “Perfect Industrialization”.

There, however, are some risks. In recent Estate Revitalization Program, a new scheme called PIR-PSM (Pola Satu Namajemen) has been implemented. Companies manage Plasma from planting time to replanting time (about 25 years) entirely in order to redress the differences between Inti and Plasma and try to maximize productivity and efficiency. It means PIR-PSM remove participant smallholders from management of Plasma. As a result participants are provided two choices. First, they get dividend as owner from a part of revenue. Second they work as wage labor in the company while taking dividend from their Plasma. So a question arises about the transparency of benefit-sharing and adaptabilities of participants to this scheme. Thus as in the case of Paser District, if oil palm could apply various participatory schemes such as UPP and Partial scheme, and keep the independency of smallholdings, oil palm industry would be able to expand as “Perfect Industrialization”.

Oil palm plantation, however, raises apprehensions about the irreversible expansion of land expropriation and monoculture. The ratio of Inti and Plasma is recognized as 80:20 based on Decree of Agricultural Minister (Peraturan Menteri pertanian) No. 26 2007 so that company allowed to expand Inti broadly. As of September 2008, there were 3 companies applied for operation in the Middle-Upper Mahakam region. If their applications are approved, maximum of 55,000 ha of oil palm plantation would be established. That is, half of KBNK in Middle-Upper Mahakam region (110,404 ha) would be converted into oil palm plantation. Then it is assumed that company would target to expropriate local commons where no individual land owner exists. If it is realized, local people would lose existing customary forest, the important livelihood asset. In addition to that, as this paper already mentioned the land expropriated by

company never returns to village. Thus village leaders need to consider carefully whether they accept oil palm or not. In this case, the key point is how much customary land would be provided to the company. If the land expropriation is limited, traditional farm and customary forest could be maintained like T village. However, palm oil mill needs large plantation, and it is difficult to avoid monoculture. Given these drawbacks, we propose alternative development strategy, that is, "Moderate Industrialization".

The possibility of "Moderate Industrialization"

"Moderate Industrialization" is a strategy for partial adaptation of industrialization and simultaneously maintaining traditional livelihood means and local commons. It would be realized by establishing small, dispersed but modern high-yielding rubber blocks through UPP scheme without land expropriation by company. There are 4,656 households in Middle-Upper Mahakam region. Even though every household has 2 ha of high-yielding rubber smallholdings which is minimum to ensure meeting household expenses, i.e., 9,312 ha in all. It is still a small proportion (10%) of KBNK. And if intensive rubber smallholdings are established dispersedly, it would ensure avoiding monoculture while traditional farms and customary forest would also be maintained (Figure 3). Traditional rubber and albizia garden cultivated by local people would bring in cash income after 5-6 years. Fruit garden and paddy field play an important role in the ensuring traditional livelihoods. Intensive high-yielding rubber smallholdings and local traditional agriculture would complement each other. It is important to highlight that such livelihoods diversification cannot be realized under the perfect industrialization.

The transportation routes of each product to mills are shown Figure 3. A new rubber mill was established in Sendawar area and new oil palm mill was established around the Jempang lake region. In case of rubber, the transportation cost would decrease and the selling price would increase because of competition (Route 3). Albizia could be sold in Samarinda through existing timber selling route (Route 2). FFB of oil palm also could be sold within 24 hours through land route few years later because the rapid progress of constructing road infrastructure in West Kutai District (Route 4). Applying "Moderate Industrialization" model in case of oil palm in Middle-Upper Mahakam region, however, needs to be chosen carefully because it is difficult to plant oil palm in hilly areas and there is relatively high transportation cost, too.

There are, however, some challenges for realizing "Moderate Industrialization" with UPP scheme. In West Kutai District, 972 ha (443 ha is Middle-Upper Mahakam Region) of Non Mitra (UPP) rubber project in Estate Revitalization Program application has been accepted by estate office as of 2008. BRI (Bank Rakyat Indonesia), however, has not accepted this application yet.

Until 1990's, most of UPP projects were supported by development banks. While it succeeded in establishing high-yielding smallholdings, the low repayment rate was an issue. This is typical characteristic of subsidized and supply-led traditional agricultural credit (Adams and Graham 1981). On the other hand, ongoing UPP scheme in Estate Revitalization Program, bank provides credit on commercial basis. UPP scheme, however, needs high inputs. The cost for rubber project in Non Mitra (UPP) scheme in Estate Revitalization Program is 25.7 million rupiah per ha for five

years as of 2008 including labor wages. It leads to high default risk.

As shown in Paser District case, however, smallholders need not to maximize their smallholdings productivities. In that case small credit size and land title gives repayment incentive for the participants. A West Kutai District estate office staff who has the experience working in TCSSP project revealed that the total credit size could be reduced by 10 million rupiah per ha by using clone high-yielding seedlings and suitable amount of fertilizer and agrichemicals and further labor wages need not be paid as beneficiaries /smallholders themselves manager and worker simultaneously. Barlow (1991) also discusses optimal inputs for transformation from traditional to higher yielding technologies and proposed “dispersal” approach includes setting up nurseries to provide better quality planting materials and advice individual farmers as alternative to 1980’s UPP and other high input intensive schemes. This paper tries to combine advantage of UPP scheme and “dispersal” approach in order to achieve flexible and suitable smallholding development scheme for smallholders’ interest.

In addition to that, some Micro Finance Institutions (MFIs) succeeded in achieving sustainable rural finance, as a part of their social goal to alleviate poverty in the recent years. In Indonesia, BRI is known as one of the famous successful rural MFI. BRI, however, haven’t had effective repayment collection scheme in Middle-Upper Mahakam region. On the other hand, in East Kalimantan, 6 Credit Unions, semi-formal financial institutions, have been developed by Dayak people in rural area including Middle-Upper Mahakam region since 1999. CU is developed based on “common bond” such as ethnic, religious, work and community relations and cope with high transaction cost and information asymmetric problem in rural area. Collaboration with such semi-formal financial institutions may be one solution to promote UPP project. They would be able to complement the shortage of existing formal financial institution. Even though further research is required in this area, it is important to revise UPP credit scheme (See more details in Appendix).

Another challenge is that “Moderate Industrialization” still doesn’t have mechanism for controlling peoples’ economic rational incentive. As we see in the case of N village, the high-yielding rubber smallholdings also accelerate unlimited monoculture development. “Moderate Industrialization”, however, has an important aspect as a tool in order to proceed with “gradual” development. It pays attention to development “speed”. “Moderate Industrialization” could realize “well-thought” and “reversible” development. In the era of globalization, when environmental destruction and socio-economic change is rapid, such “not rush” and “returnable” development has significant meaning. The important is to quickly establish sustainable forest management institution and at the same time increasing cash income of local people confronting economic hardship. In this context, it is important to revive the local commons.

Reviving Commons

In the past, local commons in Middle-Upper Mahakam region couldn’t function sustainably in face of rapid growing commercial logging industry. In recent years, oil palm companies and coal mining companies are coming up rapidly. And conflict related to local commons seems to be more confused. On the other hand, in East Kalimantan, democratization and local peoples’ participation has been rooting in

increasingly as a positive outcome of globalization. As already discussed, it is the “local people” who have decision making right for development nowadays.

Although there still are many difficulties to realize “Moderate Industrialization”, the important aspect is that “Moderate Industrialization” could balance the recent dualistic discourse dominating in the Middle-Upper Mahakam region, that is, whether local community accept oil palm plantation with PIR scheme or refuse it and continue traditional way of living. Here, “Moderate Industrialization” would add “gradational options” for local people shown in Figure 4. Which options would be chosen depends on the back ground of each region. In the critical land where forests already degraded, spread alang-alang and no one (including local people) could use these lands, industrialization through oil palm may bring economical prosperity and efficient land use. On the other hand, in the region where there are still many primary and secondary forest, and thus many forest products still are utilized by local people exists, “Moderate Industrialization” could become a strong option from economic, social and environmental point of view²⁹. “Moderate Industrialization” thus could play an important role to revive local commons through meeting household economic needs and mitigating utilization pressure on natural resources, and may also facilitate local people to contribute positively to the global commons concerns from the natural resources and biodiversity conservation point of view. It is a challenge how we realize reviving local, regional and global commons from the long term perspective, through collaborative governance between multi-stakeholders such as local people, central government, local government, company, NGO and researchers.

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²⁹ Koh and Willcove (2008) mentioned “ any future expansion of oil palm agriculture should be restricted to pre-existing cropland or degraded habitats.” And “The best way – and probably the only way – to reconcile biodiversity conservation and oil palm agriculture is to stop clearing primary or secondary forests in order to plant oil palm” (Wilcove and Koh, 2010).

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FIGURE AND TABLE

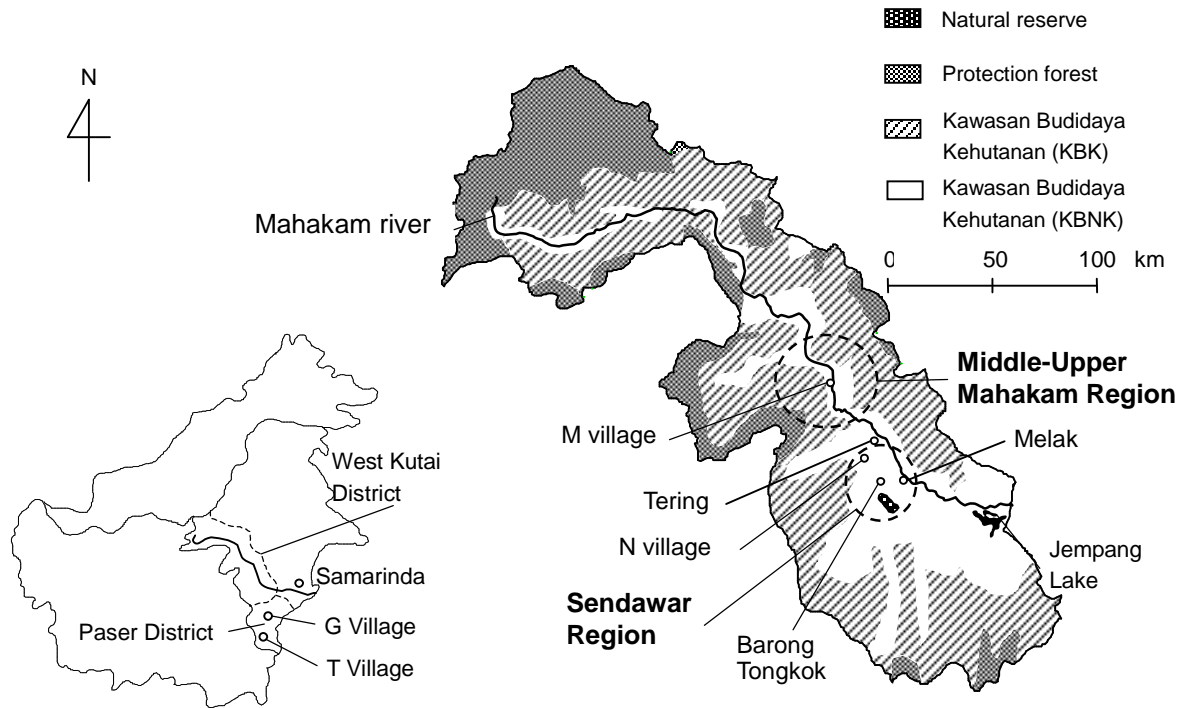


Figure 1. Research site and Land-Use-classification of West Kutai

Source: Peta Peruntukkan Kawasan Kabupaten Kutai Barat Propinsi Kalimantan Timur

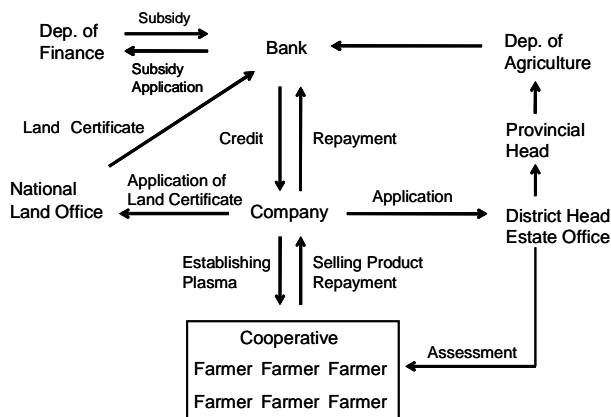


Figure 2-a Summary of PIR Scheme

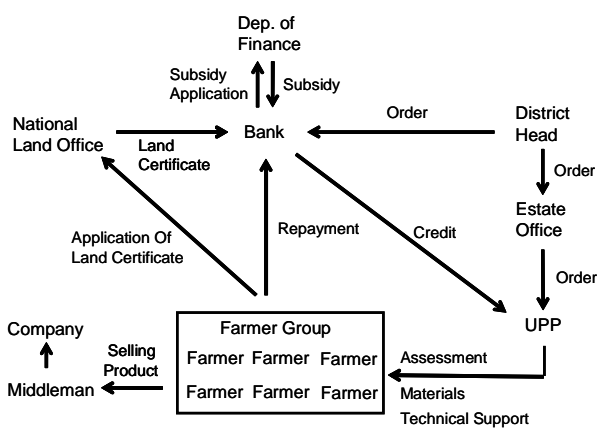


Figure 2-b. Summary of UPP Scheme

Source: Author

Table 1-a. Development of PIR Programs by 1999

Program	PIR-BUN					PIR-TRANS					PIR-KKPA				Total			
	1981-1993					1986-1998					1995-1999				-			
Financial Resource	WB, ADB, KfW, SFD, CDC					Bank Indonesia					Bank Indonesia				-			
	Inti (ha)	Plasma (ha)	Total (ha)	Family	Class A+B	Inti (ha)	Plasma (ha)	Total (ha)	Family	Class A	Inti (ha)	Plasma (ha)	Family	Class	Inti (ha)	Plasma (ha)	Total (ha)	Family
Oil Palm	65,813	160,816	226,629	82,247	85%	151,670	394,334	546,005	167,847	91%	0	97,272	N.A.	N.A.	217,483	652,423	869,906	250,094
Rubber	83,323	172,268	255,591	74,804	58%	-	-	-	-	-	0	1033.22	N.A.	N.A.	83,323	173,301	256,624	74,804
Coconut	12458	13549	26,007	9795	53%	12,900	44,190	57,090	22,095	100%	-	-	N.A.	N.A.	25,358	57,739	83,097	31,890
Tea	829	9,631	10,461	24,156	52%	-	-	-	-	-	-	-	N.A.	N.A.	829	9,631	10,461	24,156
Sugar corn	4,297	7,437	11,734	5,277	100%	-	-	-	-	-	-	-	N.A.	N.A.	4,297	7,437	11,734	5,277
Grand Total	166,720	363,702	530,422	196,279	71%	164,570	438,524	603,095	189,942	92%	0	98,305	N.A.	N.A.	331,290	900,531	1,231,822	386,221

Source: DP, 1999

Table 1-b Development of UPP Projects by 2002

Project	PRPTE	SRDP I	SRDP II	SCDP	TCSDP-GOI	TCSDP	TCSSP	STCPP	ISDP	UFDP	EISCDP	S3TCDP	Total												
Plant Year	1979-1984	1980-1986	1986-1990	N.A	1988-1990	1992-1998	1992-2000	1993-2002	N.A	1993-2002	N.A	N.A	-												
Fund Resource	BI	IBRD	IBRD	IBRD	BI	IBRD	ADB	ADB	IBRD	ADB	IFAD	IFAD	-												
Commodity	Area (ha)	Class Good	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B	Area (ha)	Class A+B							
	Rubber	92,053	57%	46,500	68%	73,112	70%	-	68%	9,035	58%	71,025	76%	78,000	N.A.	20,965	N.A.	4,510	N.A.	395,204					
Coconut	147,461	58%	-	-	30,000	-	14,799	45%	41,032	45%	-	-	12,500	N.A.	-	-	-	-	252,618						
Coffee	62,731	60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62,732						
Tea	2,717	34%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,642						
Pepper	8,969	60%	-	-	-	-	-	-	19,925	N.A.	-	-	-	-	-	-	-	-	8,970						
Cacao	5,557	42%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,557						
Cashnut	-	-	-	-	-	-	-	-	-	-	-	-	-	5,500	N.A.	34,820	N.A.	-	40,320						
	319,488	N.A.	46,500	68%	73,112	70%	30,000	68%	23,834	50%	112,057	64%	97,925	N.A.	20,965	N.A.	12,500	N.A.	10,010	N.A.	34,820	N.A.	6,825	N.A.	788,043

Source: DP 1984, DP 1985, Barlow 1991, DP, 2000, ADB 2002, ADB 2004a, ADB 2004b, ADB 2005

- 1) BI: Bank Indonesia, IBRD: International Bank for Reconstruction and Development, ADB: Asian Development Bank, IFAD: International Fund for Agricultural Development, KfW: Kreditanstalt für Wiederaufbau, SFD: Saudi Funds of Development, CDC: Commonwealth Development Corporation
- 2) PRPTE: Peremajaan Rehabilitasi dan Perluasan Tanaman Ekspor), SRDP: Smallholders' Rubber Development Project, SCDP: Smallholders' Coconut Development Project, TCSDP: Tree Crops Smallholder Development Project, GOI: Government of Indonesia, TCSSP: Tree Crop Smallholder Sector Project, STCPP: Small holder Tree Crop Processing Project, ISDP: Integrated Swamps Development Project, UFDP: Upland Farmers Development Project, EISCDP: Eastern Islands Smallholder Cashew Development Project, S3TCDP: South Sumatera Smallholder Tree Crops Development Project
- 3) Estate evaluation standard of Department of Agriculture in Indonesia consists of 4 categories, that is, A, B, C and D. A and B are regarded as success. C and D are regarded as failure.
- 4) Category "Good" in PRPTE is a temporally evaluation result. It didn't follow the evaluation standard of Department of Agriculture (DP, 1986).

Table 2. Economy Condition of Sample Households in each area and Village (%)

Poverty Line (US\$)	N	Very Low	Low	Middle	High	Total
		< 0.60	0.60 - 1.08	1.08 - 2.00	2.00 <	
Middle-Upper Mahakam	48	33.4	20.8	33.3	12.5	100.0
T Village	25	0.0	24.0	40.0	36.0	100.0
G Village	20	0.0	5.0	10.0	85.0	100.0
N Village	20	10.0	15.0	25.0	50.0	100.0

Source: Household Survey in 2007-2008, 2009

Table 3-a. Average cash income of sample households per year in Middle-Upper Mahakam Region (10,000Rupiah)

	N	Rice	Vegetable	Fruit	Fish	Hunting	Livestock	Forestry	Rubber	Labor	Government	Company	Craftsman	Merchant	Others	Total
Very Low	16	5	12	7	163	1	12	5	0	185	45	0	63	0	47	544
Low	10	0	4	41	152	55	6	36	213	102	88	0	110	169	386	1,362
Middle	16	11	39	54	117	38	10	35	176	136	648	153	38	424	160	2,038
High	6	0	0	326	156	533	103	250	406	0	1,481	450	0	764	381	4,849
Total	48	6	18	70	144	91	21	52	154	128	434	107	57	272	197	1,750

Source: Household Survey 2007-2008

Table 3-b. Average cash income of sample households per year in T Village (10,000Rupiah)

	N	Rice	Vegetable	Fruit	Fish	Hunting	Livestock	Forestry	Oil Palm	Labor	Government	Company	Craftsman	Merchant	Others	Total
Very Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low	6	66	117	3	0	0	0	0	222	0	124	666	63	0	0	1,260
Middle	10	45	9	5	10	0	19	0	1,133	0	27	385	174	183	12	2,001
High	9	0	0	67	0	0	85	0	2,214	0	1,182	870	360	1,568	196	6,541
Total	25	34	32	27	4	0	38	0	1,303	0	466	627	200	637	75	3,443

Source: Household Survey in 2009

Table 3 c. Average cash income of sample households per year in G Village (10,000Rupiah)

	N	Rice	Vegetable	Fruit	Fish	Hunting	Livestock	Forestry	Oil Palm	Labor	Government	Company	Craftsman	Merchant	Others	Total
Very Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low	1	0	0	0	0	0	0	0	1,128	0	0	0	0	0	0	1,128
Middle	2	0	0	0	0	0	0	0	1,822	0	0	0	0	0	0	1,822
High	17	15	1	14	71	0	18	0	3,653	0	222	427	261	676	71	5,429
Total	20	13	1	12	60	0	15	0	3,344	0	189	363	222	514	121	4,853

Source: Household Survey in 2009

Table 3 d. Average cash income of sample households per year in N village (10.000 Rupiah)

	N	Rice	Vegetable	Fruit	Fish	Hunting	Livestock	Forestry	Rubber	Labor	Government	Company	Craftsman	Merchant	Others	Total
Very Low	2	0	0	0	0	0	0	0	731	0	0	0	0	0	0	731
Low	3	0	0	0	0	0	0	0	1,732	0	0	0	0	0	0	1,732
Middle	5	0	0	0	0	0	31	0	2,356	0	0	156	0	0	0	2,543
High	10	0	0	0	0	0	116	0	3,156	10	224	360	0	0	0	3,866
Total	20	0	0	0	0	0	66	0	2,498	5	112	219	0	0	0	2,900

Source: Household Survey in 2009

1) "Rice" is selling rice. "Vegetable" is selling vegetables such as cassava, eggplant, cucumber, peanut, string bean, coan, green onion, sweet potato and so on. "Fruit" is banana, coconut, durian, papaya, painapple, mango, rambutan, langsats. "Fishery" is selling fish. "Hunting" is selling meat of hunted boar and deer. "Livestock" is selling meat of boar and chicken. "Forestry" is cash income from participating logging activities, selling timber, selling resin (Damar). "Rubber" is selling latex. "Oil Palm" is selling Fresh Fruit Bunchies of oil palm. "Labor" is wage from work in neighbour's swidden. "Government" is public servant or temporary worker such as staff of sub-district, village and elementary school and junior high school teacher. "Company" is wage from working in company. "Craftsman" is carpenter, making and selling handicrafts such as rattan and beads work, needlework, etc. "Merchant" is small business worker such as shopkeeper, daily goods seller, telephone station owner, fuel seller, middleman or carrier of FFB in T village and G village, etc. "Others" is interest income from CU, wage from cooperatives, selling swallow nest, selling gold dust, from support from family, selling land.

Table 4. Average self-sufficient rate of sample households per year in each region and village (%)

Region and village	N	Rice	Vegetable	Fish	Meat	Total
Middle-Upper Mahakam	47	57	61	58	65	59
▯ Village	21	54	27	28	15	33
▯ Village	20	6	1	11	18	8
▯ Village	19	49	24	10	31	33

Sumber: Household Survey in 2007-2008, 2009

- 1) Self-sufficiency rate is calculated by $(\text{“estimated price of the product consumed per year”} / (\text{“total cash expenditure for the product per year”} + \text{“estimated price of the product consumed per year”})) * 100$
- 2) Data of one household in Middle-Upper Mahakam region, four households in T village and one household of N village was removed for the analysis because the data of their expenditures are not enough.

Table 5. Comparison of Production, Revenue and Expenditure of Each Perennial Crops and Scheme per ha as of 2008 ^{1), 2)}

Perennial Crops Scheme ^{3), 4)}	Oil Palm					Rubber	
	Inti	Plasma (PIR-KKPA)	UPP (PIR-SWADAYA)	Parcial Support ▯ P4▯	Non Support	UPP (PRPTE/TCSSP)	Non Support
N (Household)	-	19	20	6	6	18	9
Areal (ha/Household)	-	2.2	2.3	0.8	1.9	1.4	1.9
Production (ton/ha/year)	16.7	13.3	12.0	11.2	7.3	2.6	1.2
Revenue (10,000 Rp/ha/Year) ⁵⁾	2,166	1,731	1,558	1,448	951	1,779	810
Fertilizer	N.A	99	91	168	126	28	1
▯ Pesticide	N.A	32	42	9	36	1	5
Labour ⁶⁾	N.A	114	114	47	115	41	3
▯ Transportation ⁷⁾	N.A	201	52	28	34	0	0
▯ Loss of seling to middleman ⁸⁾	N.A	17	77	18	18	0	0
▯ Repayment	N.A	519	0 ⁹⁾	0	0	0 ¹⁰⁾	0
Total Expenditure (10,000 Rp/ha/Year)	N.A	982	376	270	330	70	9
Profit (10,000 Rp/ha)	N.A	749 (1,268)¹¹⁾	1,206	1,178	621	1,708	801

Source: Household Survey 2007-2008 and 2009

- 1) For oil palm, data of 17 households in T village and 20 households in G village are used. For UPP scheme rubber smallholdings, data of 18 households in N village are used. For non-support rubber smallholdings, data of 9 households in 6 villages around Jempang lake region (Jempang Siruq Ngurai and Bongan Sub-District) in West Kutai District are used.
- 2) Planting year of each smallholding is deferent so that it might affect variability of production.
- 3) 128 oil palms per ha in Paser District and 525 rubber trees per ha in West Kutai District were planted in UPP scheme smallholdings. It is unclear the number of plants per ha in Non support oil palm and rubber smallholdings.
- 4) Parenthetic name is the project name in the field.
- 5) Revenue is calculated by that $(\text{average price per year per kg}) * (\text{production per year per ha})$. Average FBB price per a year is 1,297 Rp/kg which was calculated by local government in Paser District. Average latex selling price per a year for middleman in N village is 6,783 Rupiah/kg.
- 6) Most of labors are employed by sample households in oil palm smallholding for harvest work. The price is 150,000Rp per ton per capita at the research time. In the case of rubber smallholdings, most of labors are hired for weeding. The price is 50,000 Rp per day per capita.
- 7) This is transportation cost for product from smallholdings to mill. The cost depends on the distance and road condition. In T village the cost is 50,000 Rp per ton in the area within 10 km from mill,

200,000 – 300,000 Rp per ton in the area 30km – 40 km from mill. If road becomes muddy in the rain season, the cost more increases.

- 8) This is the calculated loss in the case smallholders sell their products to middleman, not to official route. Usually middleman buys products from smallholders 200-300Rp per kg cheaper than company. The reason smallholders sell products to middleman is they could get cash immediately, because state owned company pay once a month. A part of Plasma owners sell their products to middleman in order to avoid repayment. In the case of rubber in West Kutai District, the only route to sell latex is middleman so that this cost is not calculated.
- 9) At the research time, 18 households in 20 households finished repayment and 2 households began repaying.
- 10) 2 households participating PRPTE already finished repayment. Repayment of TCSSP delays because UPP merged with district estate office after decentralization. The repayment started in September 2008. The total amount of credit is about 7 million Rp per ha including both of principal and interest. Repayment amount is lower than that of Estate Revitalization Program because Rupiah collapsed after Asian economic crisis in 1997. At research time, there is still no sample households starting repay.
- 11) Parenthetic number is the profit after repayment is finished.

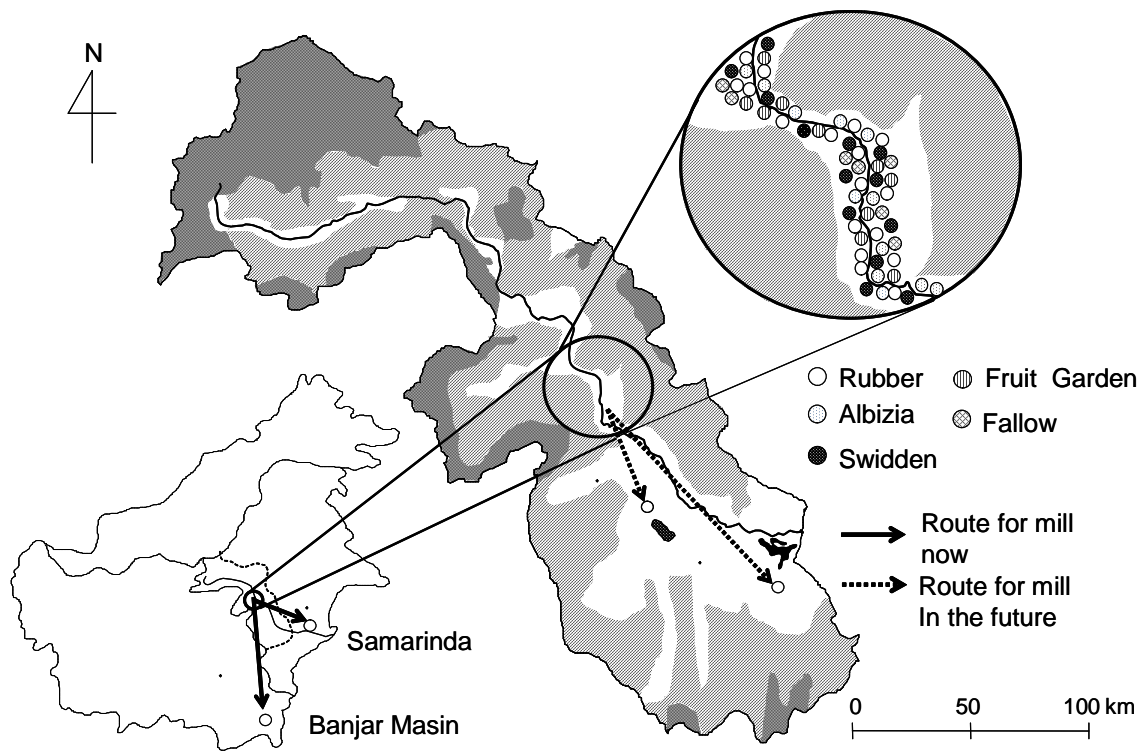


Figure 3. Moderate Industrialization and transportation route of each product to mill.

Source: Author

- 1) [Diagonal hatching] [Cross-hatching] [Dotted pattern] [White box] same land-use-classification with Figure 1
- 2) [Open square] is existing route to rubber mills. [Square with horizontal lines] is existing route to plywood mills. [Square with vertical lines] is route to new rubber mills which will operate near future. [Square with diagonal lines] is new route to oil palm mills

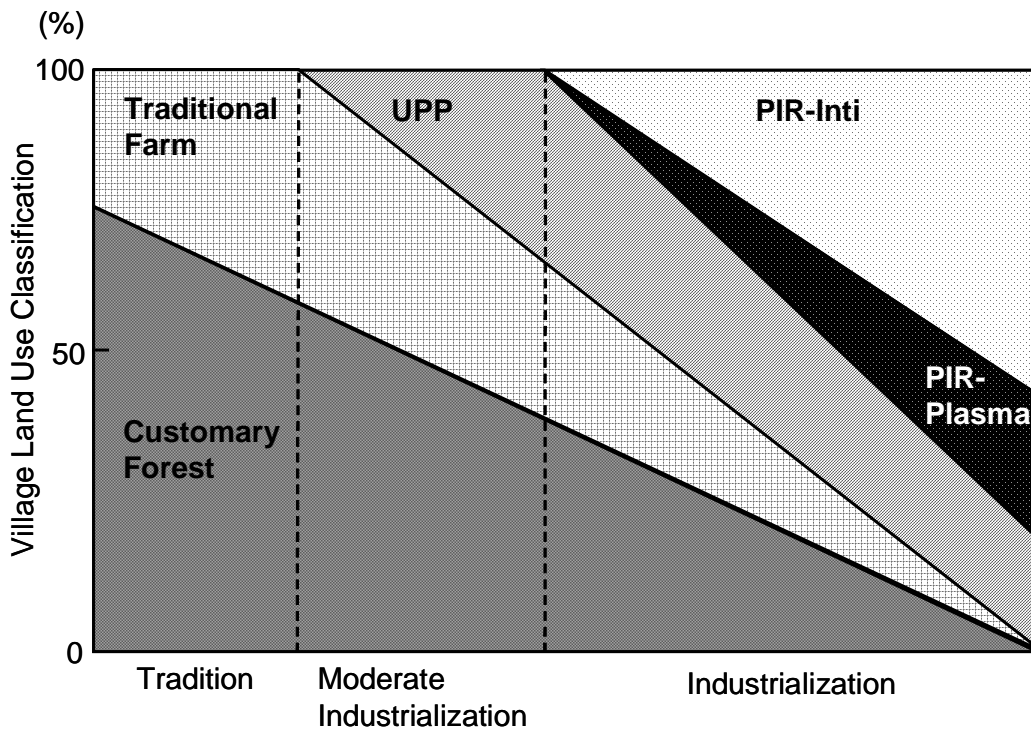


Figure 4. Conversion of Customary Forest and Traditional Farm into Intensive High-Yielding Plantation and Smallholdings

Source: Author

- 1) Customary Forest, Traditional Farm such as swidden, fruit garden, Arbizia garden, traditional rubber garden and so on, UPP High-yield Rubber or Oil Palm Smallholdings, Plasma High-yielding Oil Palm Smallholdings, Inti Intensive High-yielding Oil Palm Plantation
- 2) Vertical axis shows village land use classification, horizontal axis shows conversion of customary forest and traditional farm into intensive plantation. The leftmost shows the recent land use classification of Middle-Upper Mahakam region. The rightmost shows the condition that all village area is converted into intensive plantation by PIR scheme and UPP scheme.

The Possibility of Collaboration between Credit Union and Local Government in order to Progress Non-Mitra (UPP) Estate Revitalization Program

Monetary economy has penetrated rapidly in Middle-Upper Mahakam region since 1968 with commercial logging industry. Financial access of local people, however, has been limited.³⁰ Even though BRI (Bank Rakyat Indonesia) is known as successful Microfinance Institution (MFI) in Indonesia and expands financial service to rural area self-sustainably (Yaron 1994), BRI has not reached by Middle-Upper Mahakam region yet³¹. On the other hand, some semi-formal financial institutions such as financial cooperatives (Koperasi Simpan Pinjam) supported by government are established in some villages. Their low management ability and embezzlement, however, often become problems and most of them have failed. Arisan, a kind of ROSCAs (Rotating Savings and Credit Associations), develop between neighbors and workers as informal financial institution. Participants of arisan, however, are limited and it couldn't reach wide range of local people. Local financial institution has not rooted in Middle-Upper Mahakam region for a long time.

Credit Union (CU)³² movement came to East Kalimantan since 1999 after democratization and spread to local Dayak people. 6 CUs were established one after another by 2003 (Table A-1). The characteristics of CU are "self-help organization", "democratic and member owned financial cooperatives", "non-profit cooperative institutions" and "voluntary leadership". The activities are developed based on "common bond" such as ethnic, religious, work and community relations. CU is categorized as semi-formal financial institution because it is regulated by cooperative law. CU is expanding worldwide with achieving high saving mobilization and serving poor people (Richardson, 2003).

Figure A-1 shows the organization structure of CU in East Kalimantan. They get technical support and audit from Credit Union Coordinate Organization (Badan kordinasi Credit Union Kalimantan: BKCUK). BKCUK belong to the World Council of Credit Union (WOCCU) network³³. Board members of CU are selected through members' direct election. Staffs are recruited from local people generally. In addition to that there are collectors who collect saving, repayment and information from CU members in each village. They also provide information and advertisement to CU members and villagers. Collectors are selected from village CU members. They are voluntary workers and get only small reward around 200,000 Rp per year. Staffs and collectors contribute to mitigate high transaction cost of CU operation in rural area through utilizing their local common bonds.

Author has researched CUPU (Credit Union Petemai Urip), an only CU established in Middle-Upper Mahakam region³⁴. This CU was established by local village women. CUPU is facilitated by local woman empowerment NGO, Perkumlulan Nurani

³⁰ In general, rural financial market is not matured in many developing countries because of high law enforcement cost and information asymmetric problem (Hoff and Stiglitz, 1990).

³¹ The success of rural finance and MF is evaluated based on "Outreach" and "Self-Sustainability" (Yaron 1994). The former evaluates whether the financial service reaches target (usually poor people and small enterprises). The latter evaluates whether the management of MFI is self-sustainable. These two criteria are usually trade-off. Sometimes MFIs which have priority to "outreach" accept subsidy while MFIs which have priority to "Self-sustainability" serve to "richest of the poor" or "above the poverty line" (Morduch 1999). BRI are categorized as the latter.

³² As of 2009, there are 49,330 CUs in 97 countries in the world. They provide financial service to 183,916,050 people. 950 CUs exist in Indonesia and they serve to 1,153,931 people. 48 CUs exist and serve 334,119 people in Kalimantan.

³³ See more details about WOCCU in the Website: <http://www.woccu.org/>

³⁴ CUDL also have branch office in Middle-Upper Mahakam region. CUDL, however, was established in Samarinda city.

Perempuan (PNP). PNP organized financial mutual aid woman group, KUB (Kelompok Usaha Bersama), in Middle-Upper Mahakam region in 2001. The group members borrowed money from the KUB and made traditional beads handicrafts and rattan carpets. They sold them and succeeded to repay. After that this KUB became CU in 2002. The financial access of local people was improved through CUPU.

This paper tries to propose the possibility of collaboration between CU and local government in order to progress Non-Mitra (UPP) Estate Revitalization Program in West Kutai District. Figure A-2 shows the structure of UPP scheme with CU. CU has following three major strong points.

First, CU have village level repayment scheme while BRI and other formal financial institutions doesn't have it.

Second, CU could use semi-formal land certificate, Surat Keterangan Pemilikan Tanah (SKPT), issued by sub-district head and village head as credit collateral instead of formal land title issued by national land tenure office. The high administration cost of formal land certificate is one of the barriers to going ahead with recent Non-Mitra (UPP) Estate Revitalization Program. It is more than 3 million Rp per ha in West Kutai District. It is difficult for general local farmers to prepare the cost. Formal financial institution such as BRI, however, couldn't provide credit without formal land title (or other valued physical collaterals). On the other hand, the administration cost of SKPT is only 350,000Rp per 2 ha as of 2010 in West Kutai District. Participant farmers could prepare SKPT easily. Even though SKPT is semi-formal land title, it is enough for CU because SKPT has legitimacy in local context where CU operates. Staffs and collectors of CU could check the location directly and know the condition.

Third, CU accumulates the loan funds from local people as saving. In the case of CUPU, all loans are prepared by members' savings. The capital sources of traditional UPP scheme were development banks and government. Farmers often met funds scarcity after the projects finished. The dissemination of high-yielding smallholdings was limited. On the other hand, CU utilizes local financial capital. Thus as long as CU operates self-sustainably, UPP scheme could be independent from the outside funds.

In addition to that, knowledge, skills and experiences of the past UPP project still remain in West Kutai District. Even though two UPPs in West Kutai District at the time of TCSSP were disassembled and merged with district estate office, most of ex-UPP staffs still work as estate office staffs. The recent head of estate office of West Kutai District is also ex-head of UPP in TCSSP.

Thus if the collaboration between CU and local government is realized, UPP scheme would be revived as "local based, "autonomous" and "self-sustainable" smallholder support scheme.

Litrature Sited (Appendix)

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Figure and Table (Appendix)

Table A-1. Summary of Credit Unions in East Kalimantan (31 December 2008)

Credit Union ¹⁾	Establish Year	Members	Asset (million Rp)	Saving (million Rp)	Loan (million Rp)	Revenue (million Rp)
CUSNO	1999	3,110	19,055	17,599	14,575	292
CUDL	2001	16,219	89,295	82,767	59,565	230
CUPU	2002	3,083	19,014	17,564	14,253	3
CUFP	2002	2,982	26,659	24,735	16,025	150
CUAJ	2003	640	3,739	3,192	2,753	111
CUCD	2003	664	2,094	1,844	1,475	40
Total	-	26,698	159,856	147,701	108,646	826

Source: Staff of Badan Kordinasi Credit Union Kalimantan in 2010

1)

Abbreviated names are used for each Credit Union in East Kalimantan.

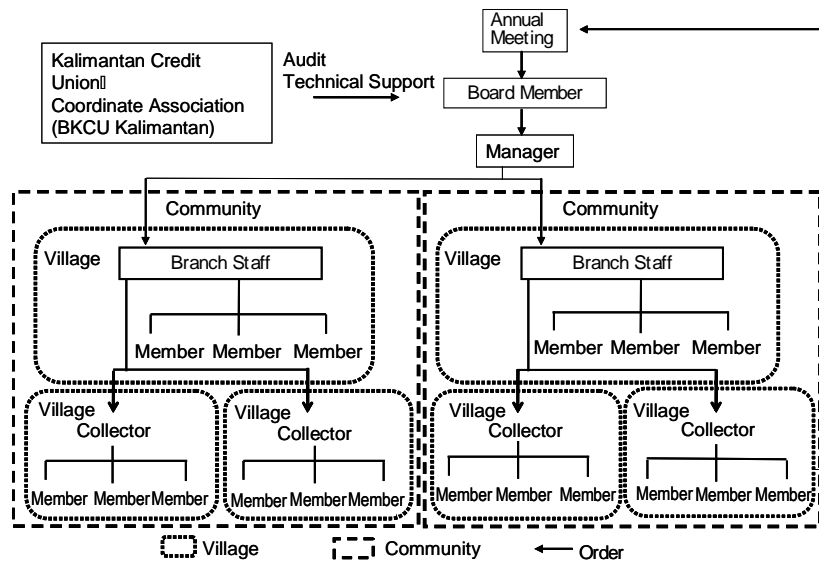


Figure A-1. Organization Structure of Credit Union in East Kalimantan

Source: Author

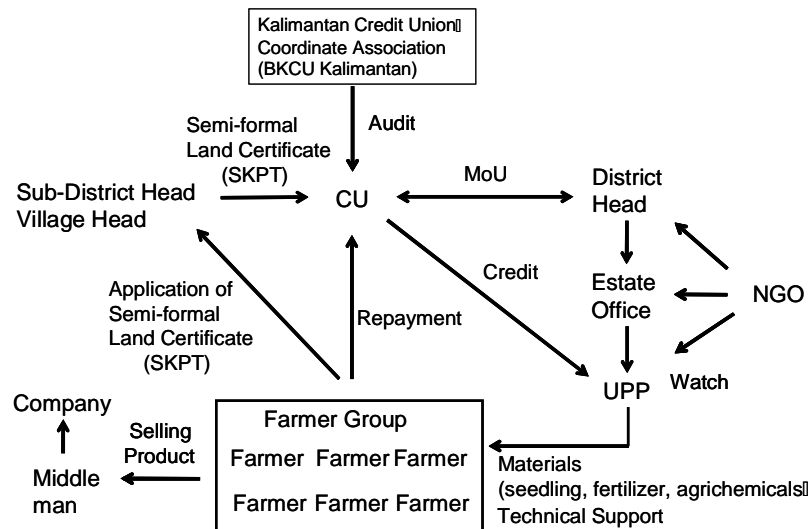


Figure A-2 Structure of UPP Scheme with Credit Union

Source: Author