

## Land Rights of Community Forest Plantation Policy: Analysis from an Institutional Perspective

Bramasto Nugroho

Department of Forest Management, Faculty of Forestry, Bogor Agricultural University, PO Box 168, Bogor 16680, Indonesia

### Abstract

*This study aimed to describe the land rights of business permit for timber utilization from community forest plantation (IUPHHK-HTR) in Indonesia and to predict its effectiveness based on property rights theory related to target group characteristics. Field survey was conducted in November 2008 to April 2009 in Riau and South Kalimantan Provinces. The results showed that from the property rights theory perspective, the land rights for HTR could be categorized as lease or management rights consisted of rights to exclude, to manage, to use, and to access, without rights to transfer and to bequeath. This suggests that the mechanism of transfer of rights from the government to the holder of IUPHHK-HTR as a temporary transfer of rights. As a result, the government needs to regulate a rigid and detailed obligation for IUPHHK-HTR holders that may not be fulfilled by the farmers. The granting of permits for a long period (up to 95 years) is predicted to lose the meanings, caused of the prohibition on inheritance of the permits. From these findings it is predicted to reduce the interest of farmers to invest in the HTR.*

*Keywords: land rights, community forest plantation, institutions, property rights, lease/management rights*

*Correspondence author; email: bramasto2001@yahoo.co.id, phone: +62-251-8621244, fax: +62-251-8621244*

### Introduction

Community forest plantation (HTR) is forest plantation on production forest established by individuals or cooperative who live in or adjacent to the forests to improve the potentials and quality of production forest by applying silviculture in order to ensure the sustainability of forest resources (Ministry of Forestry Regulation P.23/Menhut-II/2007 on Application Procedures for Business Permit for Timber Utilization from Community Forest Plantation in Plantation Forest jo P.5/Menhut-II/2008 on the Amendment of P.23/Menhut-II/2007, hereinafter referred to Ministry of Forestry Regulation P. 23/2007 jo P.5/2008). Areas that can be developed for plantation forests with HTR scheme is the unproductive area of production forest that is not burdened with other license/rights and location close to forest products industry is preferred. From such limitations, basically the establishment of HTR can be interpreted as providing access to the people who live in or adjacent to forests to actively invest in forest plantations in production forest areas through the mechanism of business permit for timber utilization from community forest plantation (IUPHHK-HTR). The target for forest utilization for small-scale forest concessions including HTR in production forest areas according to National Forestry Plan (RKTN) 2011–2030 is 5.17 million ha (Ministry of Forestry Regulation P.49/Menhut-II/2011 on RKTN 2011–2030).

A variety of certainty is required such as the certainty of market, price, and business to encourage a willingness to invest, especially those involving the private sector as well as farmers. One form of business certainty is the certainty of property rights of production factors including land. Libecap

(2009) mentions that the improvement of property rights in open access resources can reduce over use, increases investment and trade as well as receives compensations. Therefore, in various countries, improvements of such property rights are set as a priority policy, in particular to encourage the development of small-scale forest management that involves the community. Such improvements are not just happening in developing countries, but also occur in developed countries. For example, in Canada, improvement of property rights was carried out through Woodlot Licenses and Community Forest Agreement (Ambus *et al.* 2007), whereas China uses Household Responsibility System (Zhang *et al.* 2000; Dachang 2001).

Property rights are the rights of the individual, community or the state of a resource (asset/endowment) to manage, acquire the benefits, and transfer of property (Eggertson 1990; Alston & Mueller 2008). These rights are implications of the relationship between resources and the actors involved in the utilization of the resources, meaning that if the actor stands alone without any resources being used, or available resources without any actors to exploit them, then the definition of property rights is not required. Thus, property rights are the bundle of rights that are governed by certain rules. The rules are set forth in the institution, where institution is the rule of the game, norms, prohibitions, and regulations/legislation that regulate and control the behaviour of individuals in the community or organizations (North 1990). Institutional is built to reduce the uncertainty in the control of environment (Menard 2008) and to inhibit the emergence of opportunistic and harmful behaviours, so that human behaviour in maximizing their individual welfare is more predictable

(Kasper & Streit 1998). Thus, property rights are institutional, because it contains the norms and rules of the game and regulator of relationships between individuals.

It should be acknowledge that not all institutional arrangements can inhibit the emergence of opportunistic and harmful behaviours. If the institutional arrangements cannot inhibit the emergence of opportunistic and harmful behaviours, it can be said that such institutional arrangements have failed to achieve common goals in establishing societal interdependency (*bebrayan agung* in Javanese). By studying various cases in various locations and types of resource management, Anderies *et al.* (2004) concluded that there are 7 principles to achieve institutional reliability. The first principle is clearly defined boundaries between resource and users and this would help identify who should receive benefits and pay costs, since uncertainty will lead to distrust between the beneficiaries and discourage interests in making investment. The second principle is proportionality between the benefits a resource user obtain and his/her contributions to ensure fair procedure in the social system. The third principle is decisions to establish resource utilization and protection can be made by the local users accompanied by enforced rules will be more effective and efficient, since decisions are made based on more perfect information and deviations will be sanctioned. The fourth principle is the control over resources and behaviour of members should be accountable and/or carried out by their own. The fifth principle is that members who violate the rules are subjected to strict and graduated sanctioning. The sixth principle is conflict resolution mechanisms. The seventh principle is the formal rights to run the local institutions (principles 1–6) are not hampered by regulations and government bureaucracy and other external parties.

Providing opportunities for the communities to establish HTR through IUPHHK-HTR mechanism has resulted in the transfer of rights from the government to the communities in and around forests that are framed by Ministry of Forestry Regulation No. 23/2007 jo P.5/2008. One product of this transfer of rights is rights to land as described by Schlager and Ostrom (1992) as "... rights are the product of rules ...". This study describes land rights from the policy of providing for the community to establish forest plantations in production forest area through the HTR scheme and predict its effectiveness based on property rights theory associated with the characteristics of the communities in and around the forests, especially in the vicinity the projected area for the development of HTR.

## Methods

Schlager and Ostrom (1992) divide the rights of property rights into 5 types namely access, withdrawal, management, exclusion, and alienation. From the standpoint of environmental economics, a right can be said to be perfect in the sense that it can encourage its efficient allocation and utilization, if the rights are transferable, excludable, and enforceable (Turner *et al.* 1994). In Indonesia, the term of trasferability

consists of 2 rights, that is, the right to resell and to bequeath including to donate. By combining the 2 concepts within the context of Indonesia, these rights can be divided into 6 rights, specifically the right to buy and sell, bequeath/donate, exclusion, management, withdrawal, and access. The more the bundle of rights is owned by a person or a group, the more ideal is the property right, thus more efficient allocation can be expected (Alston & Mueller 2008). The bundle of rights to buy and sell, bequeath/donate, exclusion, management, withdrawal, and access can be categorized as private property. While the bundle of rights comprised of exclusion, management, withdrawal and access, is categorized as management rights. Meanwhile, if it includes rights to withdrawal and access can be categorized as the right to withdrawal of, and if the right to enter is the only right, then it is categorized as access rights. Certanty of rights are the condition to achieve effective and efficient utilization of common-pool resources that produces high-value benefits as with most forest resources (Ostrom 2008) and will encourage the willingness to invest.

Based on the above theoretical framework and research objectives, basically this research is a descriptive research, that is, research that aims to explain something in depth (Irawan 2007) and extensive (Elliott 2005). Content analysis on HTR-related policies and regulations was done to describe land rights. The analysis focussed on Ministry of Forestry Regulation No. 23/2007 jo P.5/2008 and would be clarified by the Government Regulation No. 6/2007 on Forest Arrangement and Formulation of Forest Management Planning and Forest Utilization jo Government Regulation No.3/2008 concerning Amendment to Government Regulation No. 6 / 2007 (hereinafter referred to as Government Regulation No. 6/2007 jo Government Regulation No. 3/2008) and Law No. 41 of 1999 on Forestry (hereinafter referred to as Law 41/1999). To view the compatibility between the regulations and characteristics of target groups, analysis of the farmers' characteristics, their land utilization and tenure were performed. Based on this information, further analysis performed on the pattern of interaction to predict the effectiveness of institutional arrangements for land rights under the HTR scheme.

To determine the characteristics of the target groups, field research was conducted from November 2008 to April 2009 in the villages of Lubuk Gardens, Situgal, and Rambahan (Logas Tanah Darat Sub-District, Singingi Kuantan District of Riau Province) and Ranggung Village (located in Takisung Sub-district) and Asem Jaya Village (Jorong Sub-district) located in Tanah Laut District, South Kalimantan Province. Structured interview technique with the help of a questionnaire was conducted to determine the household characteristics, utilization and land tenure. The number of respondents in Riau Province study site was 94 people and 107 people in South Kalimantan Province.

## Results and Discussion

**Characteristics of farmers, land utilization and land tenure**  
Characteristics of farmers referred to in this study included

Table 1 Characteristics of respondents in the study sites

Details	Characteristics of respondents	
	Riau study site	South Kalimantan study site
Age	< 30 years: 10% 30–49 years: 65% > 50 years: 25%	< 30 years: 7% 30–49 years: 58% > 50 years: 35%
Education level	Did not graduate from elementary school: 30% elementary–junior high school: 60% senior high school and above: 10%	Did not graduate from elementary school: 9% elementary–junior high school: 73% senior high school and above: 18%
Occupation/main livelihood	Farmers: 86% Others: 14%	Farmers: 63% Others: 37%
Total asset	< Rp20 millions: 86% > Rp20 millions: 14%	< Rp20 millions: 76% > Rp20 millions: 24%

age, education level, main livelihood, and total asset of the respondents. Results of household survey in the study sites are presented in Table 1.

Distribution of land use in Riau study sites were presented in Figure 1 and in Figure 2 for study sites in South Kalimantan. Figure 1 and Figure 2 indicated that about one third of the lands owned were utilized for community forests (HR). This amount will be more extensive if mixed farms with forest trees and rubber plantations which were also considered as woody plants were categorized as HR. Looking at such phenomena, it can be seen that the cultivation of woody perennials is not something that is alien to the community at the study sites.

Of the 94 respondents in Riau, there were 322 parcels of land or an average of 3–4 parcels per farmer. Based on ownership rights, these parcels were generally (98%) self-owned (private property), and the rest (2%) belonged to the parents and land owned by others (Figure 3). While in South Kalimantan, out of 107 respondents there were 359 parcels of land or an average of 3 parcels per farmer. Based on property rights, these parcels were generally (95%) self-owned, while the rest (5%) belonged to the parents, land leased and

property of others (Figure 4).

History of the acquisition of these parcels of land owned by the respondent in Riau study sites were presented in Figure 5 and in Figure 6 for South Kalimantan study sites.

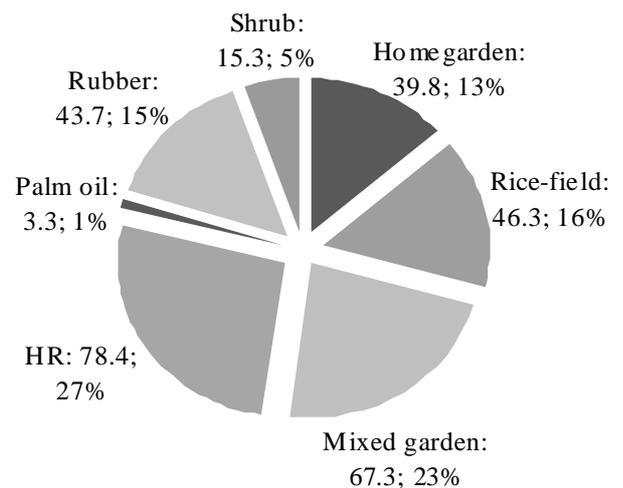


Figure 2 Distribution of land utilization in South Kalimantan study sites.

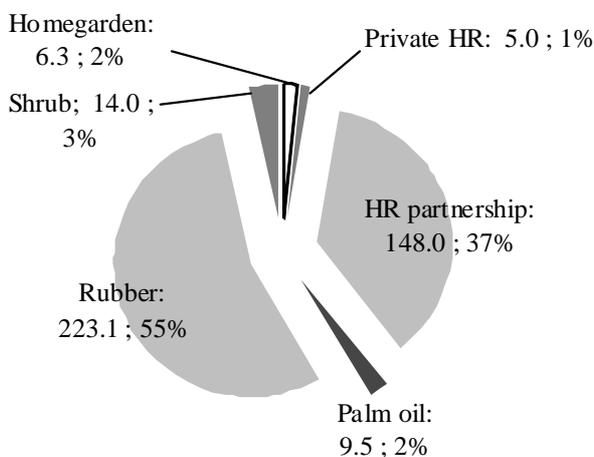


Figure 1 Distribution of land utilization in Riau study sites.

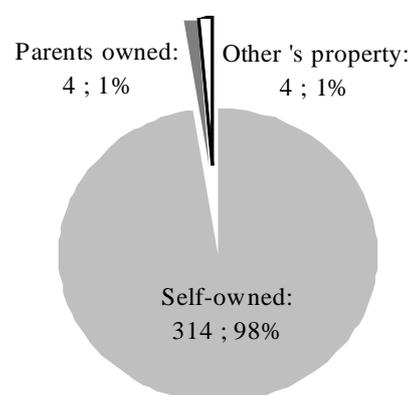


Figure 3 Property rights in Riau study sites.

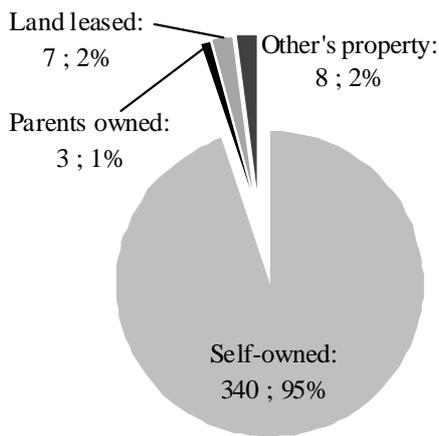


Figure 4 Property rights in South Kalimantan study sites.

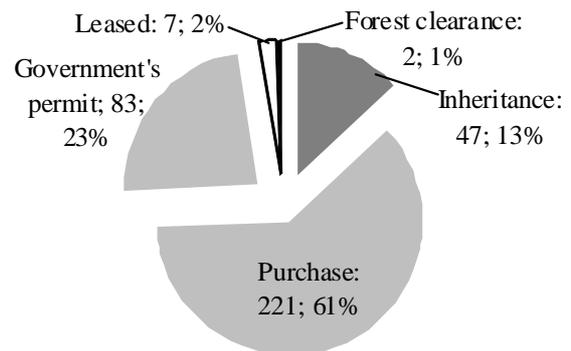


Figure 6 Land acquisition in South Kalimantan study sites.

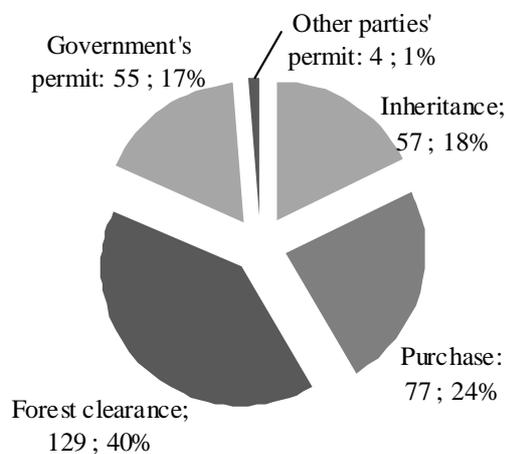


Figure 5 Land acquisition in Riau study sites.

Figure 5 and Figure 6 above indicated that the acquisition of parcels of land in Riau study sites were generally derived from forest clearance (40%), whereas in South Kalimantan study sites, they were generally derived from purchase (61%). This showed that land resources that could be accessed by local users in Riau study sites were relatively abundant compared to those in South Kalimantan. This was clarified through observations made which indicated that South Kalimantan study site were generally open lands (shrubs and weeds), which although looked barren (idle land) but basically were proprietary, while in Riau study sites there were still many secondary state-owned forest area that were not managed nor encumbered with rights. Nevertheless, the abundant land resources in Riau study sites has begun to show scarce, especially in easily accessible lands. This was indicated by the relative large land acquisition through purchases (24%).

State property rights in many cases were very vulnerable to open access resources with unclear property rights or termed by Chichilnisky (2005) as ill-defined property rights. In such circumstances, it is very vulnerable to be used by unrightfully parties. Consequently, the phenomenon of

illegal logging and forest encroachment occurred in forest resources management, illegal mining phenomena occurred in mining management, and illegal fishing phenomenon occurred in marine management. Let alone the management of forest resources, mining, and marine fisheries which were generally located at remote locations from the centres of policy makers, the phenomenon of corruption of national budget and break-ins of government Banks have occurred close to the centre of decision-makings.

Other means of land acquisition were to inherit and government's permit. In Riau, inheritance reached 18% and 13% in South Kalimantan. This suggested that inheritance was a form of transfer of rights which were commonly practiced in Sumatra Malay community (Surwansyah 2005) and the Dayaks of Kalimantan, in particular West Kalimantan (Pranadji 2005). So important is inheritance for the people of Indonesia (formerly Dutch East Indies) for the Dutch colonial government to acknowledge and regulated it on law on plantation (*Cultuurwet*) F.v.d Putte (1863–1874) which was then considered very progressive by the statement that “inherited personal use rights (*erfelijk individueel gebrui*)” must be guaranteed (Tjondronegoro 1996).

In both study sites, the acquisition of permits from the government has also been known as a form of transfer of rights over land they currently own/manage. Acquisition of land with government's permit mechanism found in Riau covered 17% of which were generally obtained from the village government for land partnership for community forest development with one of the industrial plantation forest (HTI) company and the area were divided equally by the village, that is 2 ha per house hold. Those lands were originally agricultural lands that were abandoned by their owners and subsequently occupied by the village. While in South Kalimantan, such means of land acquisition covered 23% of which were obtained from the Central Government (Ministry of Transmigration) as lands for migrants. Such land gains were very possible. North (1990) mentions that one way of land acquisition rights is through the arrangement of government's administration.

**The policy of providing access to the community to establish forest plantations in production forest area through HTR development** HTR Scheme is geared to utilize production forest area and did not have not been encumbered with rights (KTDH). Currently, there were 13.4 million ha of KTDH. On KTDH areas that were still virgin forest and good quality logged over area (LOA), the policy is directed to encourage investment of intensive silviculture (Silin), while on damaged LOA, the policy was directed to development of HTI and HTR. The target allocation of reserves 2007–2010 was 5.4 million ha, with a planting target of 200,000 ha per year since 2007 and it is expected that by 2016 the whole area of HTR reserve can be planted (Directorate of Forestry Production Development 2007). This target was revised in 2011–2030 RKTN to 5.17 million ha (Ministry of Forestry Regulation P.49/Menhut-II/2011) and not only intended for HTR but also for other small-scale forest utilization schemes such as village forest (HD) and community forestry (HKm). However, as of 30 April 2011, the total reserve area of HTR was 650,663 ha distributed over the 26 provinces and 103 districts/cities. While IUPHHK-HTR issued by the regent was 126,295 ha (Sub Directorate of Community Forest Plantation 2011).

Development of HTR aimed to provide wider access of forest utilization to the local community to increase their welfare, to increase the potential and quality of production forest, to ensure the sustainability of forest resources and to resolve tenurial conflict permanently (Ministry of Forestry Regulation No. 23/2007). IUPHHK-HTR can be given to individuals and cooperatives, in which the cooperative is a cooperative referred to in the scale of micro, small, and medium which is built by people who live in or around the forest. For individual IUPHHK-HTR, the largest total area that could be given to each head of family applicants was 15 ha, whereas for cooperative, the total area was adjusted to their business capabilities.

IUPHHK-HTR issued by regent/mayor on behalf of the Minister of Forestry on the recommendation of the village head and consideration of the head of technical implementation unit (UPT). The length of IUPHHK-HTR period at the most was 60 years (Ministry of Forestry Regulation No. 23/2007 jo P.5/2008) and according to Government Regulation No. 3/2008 could be extended once for 35 years. Such permits could not be bought and sold, transferred, and inherited as well as could not be used as collateral. Timber utilization activities of HTR in plantation forest included land preparation, seeding, planting, maintenance, harvesting, and marketing, in addition included processing based on Government Regulation No. 3/2008. The plantations (trees) that grow in IUPHHK in HTR were assets to the business permit holders and could be used as collateral.

Issuance of IUPHHK-HTR by the government is the embodiment of the provisions of Law 41/1999 which states that one of the government authority is to regulate and determine legal relations between people and forest, and regulate the legal actions concerning forestry (Article 4, Verse 1.c), where utilization of production forest were carried out through

business permits, one of which is timber utilization permit (Article 28, Verse 2) and each permit holder were subject to business license fees, provisions, reforestation funding, and performance bonds (Article 35, Verse 1). To ensure fairness, equity and sustainability, forest utilization permits were limited by considering forest conservation and business certainty aspects (Article 31, Verse 1). Aspects of sustainability referred to environmental sustainability, production sustainability, and implementation of fair, equitable and transparent social and cultural functions (Explanation of Article 31, Verse 1). While aspect of business certainties included area certainty, time of business certainty and legal assurance to conduct business (Explanation of Article 31, Verse 1). While the restrictions mandated to Government Regulation (Article 31, Verse 2) by Law No. 41/1999 was restrictions on area, number of business permits, and arrangements of business locations (Explanation of Article 31, Verse 2).

Provisions of permits utilization translated in Government Regulation No. 6/2007 jo Government Regulation No. 3/2008 by stating that every activity must be accompanied by forest utilization permit (Article 19), in conjunction with HTR, such permits are called IUPHHK-HTR. This permit might be transferred after obtaining written approval from the permit issuer (Article 20, Verse 1). Nevertheless, land area with forest utilization permit could not be used as collateral, or pledged to another party (Article 20, Verse 2). In Government Regulation No. 3/2008 which is an amendment of Government Regulation No. 7/2007, there are changes associated with land activity and orientation for HTR. IUPHHK-HTR activities consisted of land preparation, seeding, planting, maintenance, harvesting, and marketing as well as processing. Lands that were subjected to IUPHHK-HTR were no longer “unproductive production forest”, but was changed to “priority on unproductive forest” meaning that IUPHHK-HTR could be applied to unproductive production forest.

Referring to the above provisions, it is known that there were regulations on land rights permits under HTR scheme on Ministry of Forestry Regulation No. 23/2007 jo P.5/2008 which were consistent with the higher regulations, and some that were not consistent which comprised of contraction and expansion of the interpretation of the higher regulations. The consistent regulations consisted of permit-based forest utilization including for HTR and the permit period. Regulations that were not consistent under the category of contraction consisted of restricting the right to transfer, IUPHHK-HTR activities which do not accommodate processing activities and land orientation for IUPHHK-HTR. While the inconsistent regulations under the category of expansion of interpretation included restrictions of right (could not be sold, transferred and inherited according to Ministry of Forestry Regulation No. 23/2007), where according to Law No. 41/1999, the restrictions were hinted at 3 things, namely, restrictions on size, number of business permits, and arrangement of business locations, not on restricting the rights. Meanwhile, according to Government Regulation No. 6/2007 jo Government Regulation No. 3/2008, IUPHHK is transferable after obtain-

ing written approval from the permit issuer, but could not be pledged as warranty, collateral, or pledged to another party. Thus there appeared to be some inconsistencies between Ministry of Forestry Regulation, Government Regulation, and the Forestry Law.

From the standpoint of the theory of property rights, land rights for HTR as described above were the rights to lease or manage, because the bundle of rights of the recipient comprised of exclusion, management, withdrawal and access, without the rights to sell and buy and to inherit. Not even be used as warranty, collateral, or pledged to another party according to Government Regulation No. 6/2007 jo Government Regulation No. 3/2008. Rights to lease was reinforced with the provision that each business permit holder for forest utilization were subject to business permit fees, provision, reforestation fees and performance bonds (Law No. 41/1999) which could be interpreted as “land rent”.

**Patterns of interaction and prediction of institutional arrangements** Strengthening of the opportunities for communities in and around the forest to play an active role in forest management seems to have become a global trend, which is basically an act of restoration of community rights uprooted by the hegemony of empire, colonialism and later by the state. Oyono (2009) reports that in Cameroon in the era prior to colonialism, land tenure rights were regulated by customary/communal law that produces 2 forms of property rights, that are personal and nucleus family rights resulted from forest clearance and communal rights for forests that have not been cultivated by the community. In the era of colonialism (1885–1960), forest and uncultivated land that were owned by the community were acquired by the colonial government (Germany, France, and UK) where the management was carried out under the colonial laws. In the early era of independence (1960) to forestry reform (1994), such colonial laws continued and even expanded and strengthened through concessionary commercial and industrial logging, which consequently marginalized the communities and only gained the use rights. After the forest reforms marked by the enactment of the Cameroon Forestry Act (Forestry Law 1994), it opened the opportunity for the communities to manage forests through community forest schemes with certain rights to access, manage, transfer and exclude. If the strengthening of the rights in Cameroon began in 1994, in Canada it began in 1950 with the issuance of 37 Farm Woodlot Licences (Ambus *et al.* 2007), in India with Joint Forest Management (JFM) scheme since 1990 (Kant 2005), and in China it began in 1980s with the Household Responsibility System (HRS) (Zhang *et al.* 2000; Dachang 2001).

In Indonesia, community involvement in developing forest plantations is a necessity, especially when the policy is intended for development of forest plantations without converting natural forests. There were at least 3 explanations. First, the characteristic of property rights of non-productive lands that were de facto recognized by local institutions would be able to maintain and uphold their rights. Development of

forest plantation was ideally geared to improve the productivity of land by planting idle land and unproductive forest. Changes in land cover from natural forest to an idle land and unproductive forest generally occurred due to forest clearance to be cultivated as described previously. Based on the local institutions outside Java, the party who cleared the forest for the first time became the forest owner hence the work lands became the property of the cultivator (de facto). This phenomenon might explain why all respondents in Riau study sites stated that the land acquired from forest clearance were self-owned. Such situation is in line with the findings by Saptomo (2004) whom states that in local concept, the relationship between the local users with the land is determined by the history of how the lands were worked, recognition by customary leaders, and testimony of others. However, since investment capabilities of rural communities outside Java were still low, not only financially but also in terms of labour, this has resulted in the land being left barren and became idle as though they were not proprietary. If such lands were authorized by the State to large companies (HTI and plantations), then there would be risk of major land conflict. This would be avoided by large companies, thus they would be more interested in converting natural forests rather than working the on degraded lands.

Second, with the presence of local institutions that recognized land property right that were idle and unproductive secondary forest, have formed a strong foundation for community-based plantations and could be expected to be more sustainable, secure from theft and looting (for example illegal logging) and would become an incentive to carry out long-term investment. Gibson *et al.* (2002) emphasizes that the de facto institutions (recognized and enforced by local institutions) is better than the de jure institutions such as state property. However, to ensure legal certainty, the formal legitimacy of informal recognition by the state (government) is still required.

Third, the characteristics of labour intensive in community-based forest management could help solve the problem of unemployment and poverty in rural areas. Most communities in the countryside (Riau and South Kalimantan study sites) were farmers at productive ages (30–49 years old). Moreover, they were have the technical ability of growing woody plants shown by the distribution of land they own, where 93% of land owned by the respondents in Riau study sites were used for woody perennials (HR and rubber), while in South Kalimantan allocation for woody plants reached 65% (HR, rubber, and mixed farms). Thus, it could be predicted that the technical problems in cultivation were not an obstacle to the development of community-based forest management programme. As signalled by Mayers *et al.* (2002) who finds that many of the related problems of sustainable forest management are not rooted in technical issues, but instead on the weakness of institutional governance, weak social institutions and weakness in forestry governance.

Analysis of land property rights showed that land rights on HTR scheme was the rights to lease or manage. Leasehold

indicated that the mechanism of transfer of rights from the government to the holder of IUPHHK-HTR was a temporary transfer of rights. On temporary transfer of rights, such as leases, it is necessary to set out how resources owned should be treated by the receiver/tenant (Eggertsson 1990). The logic is that a person who leases the asset would always write down the things that can and can not be done by the tenants in the lease contract. From such logic, then Ministry of Forestry Regulation No. 23/2007 jo P.5/2008 regulated in detail about the rights and obligations of IUPHHK-HTR holders. According to this regulation, the rights of IUPHHK-HTR holders included conducting activities in line to the permit, access to funds for financing the construction of HTR, technical guidance and counselling, and opportunities to marketing of forest products. To run these rights, they were required to (1) prepare the management plan (RKU) IUPHHK-HTR no later than 1 year after the permit was issued, (2) prepare the annual work plan (RKT) at least 2 months prior to the RKT of the current year, (3) in the case of IUPHHK-HTR holders borrowed HTR development funds from P2H Central BLU, the holder is obligated to repay the loan, (4) implement the administration of forest products, (5) carried out measurements and defining the species of forest products, and (6) implement silvicultural systems based on location and type of plants that are developed. Taking into account the characteristics of the local users that were on average low educated, farmer by profession and has limited amount of wealth, it could be predicted that these obligations were difficult to be met, even if the government provide funding assistance.

As explained above, the allocated areas for HTR were non-productive production forest due to forest clearing in the form of cultivated land where *de facto* (recognized by the local institutions) belonged to the person whom cleared the forest for the first time and has the full rights to sell, transfer, bequeath, exclude, manage, withdraw, and access. With IUPHHK-HTR scheme, the full rights of such land owners would be limited to the rights of lease/manage that could not be sold, transferred and inherited. In such situations, it could be predicted that the communities would not be interested in enrolling their lands to become the areas for IUPHHK-HTR. Moreover, based on experience (Figure 5 and Figure 6), acquisition of lands by way of lease and worked the land owned by others were not common (less than 2% of the land parcels which they own). Even if they already have experience with land acquisition through government regulation, however their rights were not the rights to lease/management, but evolved into private property with a complete set of rights.

The given timeframe of 60 years and could be extended once up to 35 years under Government Regulation No. 3/2008 seemed to be the main incentives to attract farmers. However, with the dominant age of the candidate receiving the IUPHHK-HTR that ranged between 30–49 years old and even some more than 50 years, long period of time (up to 95 years) would eventually lose their meaning with the restriction to inherit, considering the average life expectancy in Indonesia

on the average is 70.6 years in 2009 (Grehenson 2009). In contrast to the plantation rights (HGU) that has a complete bundle of rights, although the limited period is 20–35 years, but was able to push the rights holders to behave sustainably, and not exploitative of their resources. For example, there never been any facts where a rubber plantation, tapped rubber trees from the base to the top branches although the market price of rubber was expensive. Provided that plant cycle could be technically accommodated, it seemed that land rights issues were not with regard to the length of the period of permit, but on the perfection of the bundle of rights that were transferred.

## Conclusions

From the standpoint of property rights theory, land rights for HTR is the right of lease or manage the bundle of rights for exclusion, management, withdrawal and access, without the right to sell, transfer and inherit. Such rights indicated that the mechanism of transfer of rights from the government to the holder of IUPHHK-HTR was a temporary transfer of rights. This required the government to regulate the rigid and detailed obligations, similar to the obligations imposed on large plantations (HPH and HTI). From these findings, in the end, land rights policy to develop forest plantation in production forest through HTR scheme could be predicted to be ineffective. Rights to lease/manage accompanied by obligations that were not able to be borne by the recipients of the rights could be expected to lower the interests of farmers to invest in HTR. Forestry investments that have the characteristic of long-term investment require a perfection of the rights to reduce business uncertainty. Nevertheless, it was realized that this study had not been able to address the most effective land rights for HTR scheme, since to determine the most effective scheme, it is required to have a complete data and information on the motives of land tenure, political networks (local, regional and national), the growing discourses and real implications of most probable alternatives. It appeared from this study and analysis of other similar research results, it could be said that a single policy (one size fits for all policy) for rights to develop community-based forest plantation would reduce the effectiveness of the policy itself.

## Acknowledgement

This study is part of a research entitled “Strengthening Rural Institutions to Support Livelihood Security for Smallholders Involved in Industrial Tree-planting Programs in Vietnam and Indonesia”, an international research collaboration between CIFOR, BMZ-Germany, CeTSAF-Germany, Humboldt University-Germany, Faculty of Forestry IPB-Indonesia, and FSIV-Vietnam. Acknowledgement is also addressed to BMZ-Germany who has funded this research collaboration.

## References

Alston LJ, Mueller B. 2008. Property Rights and the State. In:

- Menard C, Shirley MM, editors. *Handbook of New Institutional Economics*. Heidelberg: Springer-Verlag Berlin Heidelberg. pp573–590.
- Ambus LD, Case D, Tyler S. 2007. Big expectations for small forest tenures in British Columbia. *BC Journal of Ecosystems and Management* 8(2):46–57.
- Anderies JM, Janssen MA, Ostrom E. 2004. A framework to analyze the robustness of social-ecological systems from an institutional perspective. *Ecology and Society* 9(1): 18–35.
- Chichilnisky G. 2005. The Kyoto Protokol: Property Rights and Efficiency of Markets. In: Kant S, Berry RA, editors. *Institutions, Sustainability, and Natural Resources: Institutions for Sustainable Forest Management*. Netherlands: Springer. pp141–154.
- Dachang L. 2001. Tenure and management of non-state forests in China since 1950: a historical review. *Environmental History* 6(2):239–63.
- Direktorat Bina Produk Kehutanan. 2007. *Pembangunan Hutan Tanaman Rakyat*. Jakarta: Departemen Kehutanan.
- Eggertsson T. 1990. *Economic Behavior and Institutions*. New York: Cambridge University Press.
- Elliott J. 2005. *Using Narrative in Social Research: Qualitative and Quantitative Approaches*. London: SAGE Publications.
- Gibson CC, Lehoucq FE, Williams JT. 2002. Does privatization protect natural resources? Property rights and forest in Guatemala. *Social Science Quarterly* 83(1):206–225.
- Grehenson G. 2009. Menkes: penurunan angka kematian ibu dan bayi jadi program prioritas tahun 2009. <http://www.ugm.ac.id/index.php?page=rilis&artikel=1368> [8 November 2011].
- Irawan P. 2007. *Penelitian Kualitatif dan Kuantitatif untuk Ilmu-ilmu Sosial*. Jakarta: DIA Fisip UI Press.
- Kant S. 2005. Organizations, Institutions, External Setting and Institutional Dynamics. In: Kant S, Berry RA, editors. *Institutions, Sustainability, and Natural Resources: Institutions for Sustainable Forest Management*. Netherlands: Springer. pp83–113.
- Kasper W, Streit ME. 1998. *Institutional Economics: Social Order and Public Policy*. Northampton: Edward Elgar.
- Libeap GD. 2009. The tragedy of the commons: property rights and markets as solutions to resource and environmental problems. *The Australian Journal of Agricultural and Resource Economics* 53:129–144.
- Mayers J, Bass S, Macqueen D. 2002. *The Pyramid: A diagnostic and planning tool for good forest governance*. London: International Institute for Environment and Development (IIED).
- Menard C. 2008. A New Institutional Approach to Organization. In: Ménard C, Shirley MM, editors. *Handbook of New Institutional Economics*. Heidelberg: Springer-Verlag Berlin Heidelberg. pp281–318.
- North DC. 1990. *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- Ostrom E. 2008. Institutions and the environment. *Journal Compilation of Institute of Economic Affairs*:24–31.
- Oyono PR. 2009. New niches of community rights to forest in Cameroon: tenure reform, decentralization category or something else? *International Journal of Social Forestry* 2(1):1–23.
- Pranadji T. 2005. Kemajuan ekonomi, reformasi agraria dan land reforms di pedesaan: analisis social ekonomi pada masyarakat pedesaan ber-etnis Dayak di Kabupaten Landak dan Pontianak, Provinsi Kalimantan Barat. *Analisis Kebijakan Pertanian* 3(2):159–178.
- Saptomo A. 2004. Di balik sertifikasi hak atas tanah dalam prespektif pluralisme hukum. *Jurisprudence* 1(2):207–218.
- Schlager E, Ostrom E. 1992. Property-rights regimes and natural resources: a conceptual analysis. *Land Economics* 68(3):249–262.
- Sub Direktorat Hutan Tanaman Rakyat. 2011. Perkembangan HTR sampai dengan April 2011. <http://subdithutanamanrakyat.wordpress.com/2011/05/11/perkembangan-htr-sampai-dengan-april-2011> [3 November 2011].
- Surwansyah. 2005. Suatu kajian tentang hukum waris adat masyarakat Bangko Jambi [tesis]. Semarang: Program Pascasarjana Universitas Diponegoro.
- Tjondronegoro MP. 1996. Tanah: aset utaman pembangunan. *Jurnal Analisis Sosial* 3:23–32.
- Turner RK, Pearce D, Bateman I. 1994. *Environmental Economics*. New York: Harvester Wheatsheaf.
- Zhang Y, Uusivuori J, Kuuluvainen J. 2000. Impacts of economic reforms on rural forestry in China. *Forest Policy and Economics* 1:27–40.