

The Minister of Forestry
Of The Republic of Indonesia

29 December 2009

Number : S.958/Menhut-VI/2009
Attachment : -
Re : Instruction Letter of conducting UKL and UPL
PT Rimba Raya Conservation in Central Kalimantan Province

Attn.

President Director of PT Rimba Raya Conservation
Jakarta

Regarding your letter number 01/IV/2009/JKT dated 30 April 2009 concerning Business License of the Ecosystem Restoration of Timber Forest Product Utilization (IUPHHK-RE) in natural forest within production forest of PT Rimba Raya Conservation, thus following points is to be informed:

1. The Appraisal team on the 20th October 2009 situated in the meeting room of Forest Production Management Directorate General in Block I VI Floor Manggala Wanabakti Building had appraised the technical proposal from PT Rimba Raya Conservation.
2. Based on the appraisal point 1, PT Rimba Raya Conservation is appointed as the candidate of license holder for area \pm 89.185 Ha located in Saruyan District, Central Kalimantan Province.
3. Based on Article 8 clause (2) of the Forestry Minister regulation No. P. 61/Menhut-II/2008, PT Rimba Raya Conservation as the candidate of license holder instructed to conduct Feasibility Studies (AMDAL-Analysis of Environmental Impact) or Environmental Management Efforts (UKL) and Environmental Observation Efforts (UPL) in accordance with current laws within 150 days since the issuance date of this letter.
4. Based on the letter from Environment Minister No. B-8559/MENLH/LH/11/2009 dated 16 November 2009 regarding the respond of activities idea/Business License of the Ecosystem Restoration of Timber Forest Product Utilization (IUPHHK-RE) stated that for that type of business plan is not included to business plan and/or activities which is obliged to be completed with feasibility study (AMDAL) document to conduct Environmental Management Efforts (UKL) and Environmental Observation Efforts (UPL) according to current laws.
5. If you fail to accomplish the obligation as stated on point 3 above during the period, thus your appointment as the candidate of the license holder is cancelled, after 3 warnings which will be given with interval of 30 days each.

Minister of Forestry

Zulkifli Hasan

CC:

1. The General secretary of Forestry Department
2. The Directorate General of Forest Production Management
3. The Directorate General of Forest Planologi
4. The governor of Central Kalimantan
5. Seruyan Regent
6. The head office of Forestry Department – Central Kalimantan Province



MENTERI KEHUTANAN
REPUBLIK INDONESIA

29 Desember 2009

Nomor : S.958/Menhut-VI/2009
Lampiran :
Hal : Surat Perintah melakukan UKL dan UPL
An. PT. Rimba Raya Conservation di Provinsi Kalimantan Tengah

**Kepada Yth.
Direktur Utama PT. Rimba Raya Conservation
Jakarta**

Sehubungan dengan surat Saudara Nomor 01/IV/2009/JKT tanggal 30 April 2009 perihal permohonan Ijin Usaha Pemanfaatan Hasil Hutan Kayu Restorasi Ekosistem (IUPHHK-RE) dalam Hutan Alam pada Hutan Produksi an. PT. Rimba Raya Conservation, dengan ini disampaikan hal-hal sebagai berikut :

1. Tim Penilai pada tanggal 20 Oktober 2009 bertempat di Ruang Rapat Ditjen Bina Produksi Kehutanan Blok I Lantai VI Gedung Manggala Wanabakti telah melakukan penilaian proposal teknis PT. Rimba Raya Conservation.
2. Berdasarkan penilaian tersebut butir 1, PT. Rimba Raya Conservation ditetapkan sebagai calon pemegang izin untuk areal seluas \pm 89.185 Ha terletak di Kabupaten Seruyan, Provinsi Kalimantan Tengah.
3. Berdasarkan Pasal 8 ayat (2) Peraturan Menteri Kehutanan Nomor P.61/Menhut-II/2008, PT. Rimba Raya Conservation sebagai calon pemegang izin diperintahkan untuk melakukan penyusunan Analisis Mengenai Dampak Lingkungan (AMDAL) atau Upaya Kelola Lingkungan (UKL) dan Upaya Pemantauan Lingkungan (UPL) sesuai Peraturan Perundang-undangan yang berlaku dalam kurun waktu 150 (seratus lima puluh) hari kalender sejak Surat Perintah ini diterbitkan.
4. Sesuai Surat Menteri Negara Lingkungan Hidup Nomor B-8559/MENLH/LH/11/2009 tanggal 16 November 2009 perihal Tanggapan atas usul kegiatan/Izin Usaha Pemanfaatan Hasil Hutan Kayu Restorasi Ekosistem (IUPHHK-RE) disebutkan bahwa untuk jenis rencana usaha IUPHHK-RE tidak termasuk jenis usaha dan/atau kegiatan yang wajib dilengkapi dengan dokumen AMDAL akan tetapi diwajibkan untuk melakukan upaya kelola lingkungan hidup dan upaya pemantauan lingkungan hidup (UKL - UPL) sesuai Peraturan Perundang-undangan yang berlaku.
5. Apabila dalam waktu yang ditentukan Saudara tidak menyampaikan kewajiban sebagaimana dimaksud butir 3 di atas, maka penetapan Saudara sebagai calon pemegang izin dibatalkan setelah diberi peringatan sebanyak 3 (tiga) kali dengan selang waktu 30 hari kalender.

Demikian untuk diperhatikan dan dilaksanakan.



Tembusan :

1. Sekretaris Jenderal Departemen Kehutanan;
2. Direktur Jenderal Bina Produksi Kehutanan;
3. Direktur Jenderal Planologi Kehutanan;
4. Gubernur Kalimantan Tengah;
5. Bupati Seruyan;
6. Kepala Dinas Kehutanan Provinsi Kalimantan Tengah.

ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL MONITORING EFFORTS
IUPHHK-RE PT. RIMBA RAYA CONSERVATION
Executive summary

1. Type and location of the activities:

Activities Types of PT. RIMBA RAYA CONSERVATION is a restoration of natural forest within production forest, throughout Business License of the Ecosystem Restoration of Timber Forest Product Utilization (*Ijin Usaha Pemanfaatan Hasil Hutan Kayu Restorasi Ekosistem – called IUPHHK-RE*) in the area of $\pm 89,185$ ha. Geographically the location of activity lies between $112^{\circ} 01'12''$ - $112^{\circ} 28'12''$ east longitude and $02^{\circ} 31'48''$ - $03^{\circ} 21'00''$ south latitude and administratively is located in Seruyan Hilir District, Danau Sembuluh and Hanau, Seruyan Regency, Central Kalimantan. The area of activities included in the group of Seruyan River Forest, and watersheds (catchment area) of Seruyan DAS.

2. The Condition's Overview:

a. The Physical-chemical components:

Rainfall patterns in the study site contains 2 (two) peaks of rainy season, ie at the beginning and end of the year; while the minimum rainfall usually occurs in mid-year. Based on Schmidt and Ferguson's classification, the area of PT. RIMBA RAYA CONSERVATION is included to rain type A ($Q = 0$); Rain Type A is a very wet area with a tropical rain forest type.

There are 4 (four) types of soil associations according to the Exploration of Land Resource Map at the study site. The dominant soil type is the association of Endoaquepts and Dystrudepts made essentially from alluvium and is type of land which lies on the stream. Elevation ranges between 0 and 10 m above sea level, with the whole study area topography as flat land by a slope from 0 to 8% on dry land and 0 - (-3)% in wetland/peat. At the location of PT. RIMBA RAYA CONSERVATION is found 8 (eight) of land systems, with MDW (Mendawai Land System) as the dominant land system. MDW system is a regional system of shallow peat swamps with a slope $< 2\%$ and essential material is dominated by peat. Geological area is formed of 4 (four) geological formations. The dominant geological formation is the Qs, river sediment; gravel, sand, silt, clay and mud containing the remaining organic soil.

The area of PT. RIMBA RAYA CONSERVATION is part of the Seruyan Watershed (DAS). The tributaries of Seruyan River are generally tipped in Tanjung Putting National Park, and estuary into the Java Sea. The average width of the river is 25-110 meters with a depth ranging from 7-23 m. The

drainage patterns of these rivers are generally dendrite (tree-shaped flow pattern).

During the rainy season, within October until May, Seruyan River is always overflowed to the villages located on either side of the river and even to the local people cultivated farm with a distance of ± 2 km from the river. The opposite situation occurs in the dry season (June-October). In that period Seruyan river water flow is very small. From the result of interview with local people live around the river, information obtained that the river water width shrunk to 2 meters. From the laboratory analysis result, it is showed that all the physical parameters river samples were below the standard quality parameters except for TDS (Total Dissolve Solid). The TDS value (suspended solid) in Lajai river is very high; 1160 mg / l far above the quality standard which is 400 mg/l. The high TDS (dissolved solid) due to the north of Lajai River upstream, it is in the process of land clearing for oil palm plantations.

The life of microorganisms, such as fish and other aquatic animals, is influenced by the dissolved oxygen content in water. In general, the polluted water contents very low oxygen. This is because the oxygen dissolved in the water is absorbed by microorganisms is used to separate/degrade the organic waste in order to create volatile material.

Since it is the peat area thus all water samples have low degree of acidity ± 5 . Similarly, the sulphate content in Sekiat Calaan river area of PT PRC has a very high grade to 39.395 mg / l. The grade of DO, BOD and COD are also above the threshold. With high BOD grade, therefore the COD grade is high as well. BOD is the parameter estimator of the amount of oxygen required by the waters to degrade the organic material in it; While COD is the parameter estimator of the organic material total amount in water.

Coliform grade in the Sample Rivers is relatively very small when compared with the grade of the standard quality; this is because the number of people around the rivers is relatively small. To determine the number of Coliform in samples used MPN method (Most probable Number) by double tube fermentation. The bacteriological examination in clean water was to assess the possibility of contamination by dirt or feces. Bacteria that include types of coliform are *Eschericia coli*, *Aerobacter aerogenes*, and *Eschericia freundii*. The natures of coliform bacteria are rod-shaped, not able to form spores, gram-negative, aerobic life / facultative anaerobe, and add yeast the lactose to form gas.

In the area of PT. RIMBA RAYA CONSERVATION is found several cases of forest fires, although on small scales. This happens because the farms around reservation area always occurred every year along either side of the river, distributed throughout most of the prospective areas. Like other areas in

Central Kalimantan Province, in 1997 some areas of PT. RIMBA RAYA CONSERVATION were burnt from the very long dry season.

b. Biological Components

Based on the results of Land sat image interpretation -7 ETM + bands 542 path 119 row 62, on February 22, 2009, the land surface condition of PT. RIMBA RAYA CONSERVATION is as follows:

LAND CLOSING	TGHK		Grand Total
	HP (ha)	HPK (ha)	
Shrub (B)	1.155	329	1.484
Swamp Shrub (Br)	12.754	11.551	24.305
Secondary Swamp Forest (Hrs)	24.503	21.659	46.162
Agriculture mixed Shrub (Pc)		113	113
Farm (Pk)	1.748	171	1.919
Dry Agriculture (Pt)		1.259	1.259
Swamp (Rw)	8.072	2.435	10.507
Open Land (T)	2.317	1.118	3.435
Grand Total	50.550	38.635	89.185

From the result of study estimation of the potential and diversity of vegetation conducted by the Faculty of Forestry, Bogor Agricultural University in January 2008 showed that the area of PT. RIMBA RAYA CONSERVATION had 183 species of plants. For seedling level was found 76 species, 106 kinds of stakes, poles 74 species and 86 species for the tree. Of the 183 species had found, only 28 species had the complete structure of the seedlings, saplings, poles, and trees, 83 species had only one type of growth rate, 10 species only found in the seedlings, 22 species of saplings, 20 species at the pole, and 34 species of trees. From the interests of the orangutan, of which 183 species found there, 29 types were assumed potentially as a food source and tree-nesting places.

The major flora types in the northern are the Heath Forest area and plant-eating insects such as Kantung Semar (*Nepenthes* sp). Real peat swamp forests found in some parts of the region and the river, and there are plants with geniculation root, and aerial root. Along the river side in this area is real freshwater swamp forest (alluvial), with a complex of plant species and large and small woody vines, epiphytes and ferns spread in large numbers. In the northern area to the south there is desert area with large types of shrubs, the results of Heath forest damage due to logging and burning. It is generally found in the sack along the river and its tributaries.

Plants in upstream areas consist of marsh grass which is dominated by floating *Pandanus* sp and stretch makrofita (narcissus), such as *Crinum* sp in coastal area includes mangrove forest and further to the land in the brackish area on estuaries along the river is native palm. The plants broaden to inland rivers, and mark the level of brackish water intrusion into the ground; for the coastal area on sandy beaches usually grown by *Casuarina*, *Pandanus*, *Podocarpus*, *Scaevola*, and *Barringtonia*.

Other types of plants found in the area are meranti (*Shorea* sp.), Ramin (*Gonystylus bancanus*), jelutung (*Dyera costulata*), aloes, wood street, keruing (*Dipterocarpus* sp), ulin (*Eusideroxylon zwageri*), tengkawang (*Shorea stenoptera*) etc.

In the area of PT. RIMBA RAYA CONSERVATION, it is estimated that there are about 38 species of mammals. Seven of them are well-known and protected primates such as orangutan (*Pongo pygmaeus*), proboscis monkey (*Nasalis larvatus*), gibbons (*Hylobates agilis*), and honey bears (*Helarctos malayanus*). The types of large mammals such as sambar deer (*Cervus timorensis*), deer (*Muntiacus muntjak*), smaller deer (*Tragulus javanicus*), and wild boar (*Sus barbatus*) can be found in this area. In fact, some types of aquatic mammals such as mermaids (*Dugong dugong*) and dolphins reportedly seen in the waters around the TNTP area. Several species of reptiles found in the surrounding area include sinyong supit crocodile (*Tomistoma Schlegel*), estuarine crocodile (*Crocodylus porosus*), and bidawang (*Trionyx cartilagenous*). It is recorded that more than 200 species of birds live in the area around Tanjung Putting National Park. One bird species in this area, namely Sindang Lawe (*Ciconia stormii*) is considered to 20 species of the world's rarest birds. The area around Tanjung Putting is also a place for all types of bird's colonies "great alba" as *Egretta alba*, *Arhinga melanogaster*, and *Ardea purpurea*.

C. Socio-Economic Culture Components and Public Health

Based on the study of maps and the results of field visits, it is identified that there are 16 villages located in and around the area of IUPHHK-RE PT. RIMBA RAYA CONSERVATION. Administratively, the governmental of these villages is included to 3 districts, ie Seruyan Hilir District (5 villages), Danau Sembuluh District (6 villages), and Hanau District (5 villages), all in Seruyan Regency, Central Kalimantan Province.

The number of residents in 16 villages around the area IUPHHK-RE PT. RIMBA RAYA CONSERVATION is 21,233 people of 4964 families, 11,504 men and 9729 women with an average sex ratio of 118. The average population density is relatively rare, classified as 4 persons per km², with a population density of the most villages of 5 people/km or lower, and only in Hanau district which is located

closest to Sampit road - Pangkalan Bun, most of the population density per village is above 10 people km. Estimated number of productive age population in this area is around 14,777 people, which consisted of 8210 men and 6566 women.

Basic occupation of the villagers in the surrounding area IUPHHK-RE PT. RIMBA RAYA CONSERVATION mostly are farmers, fishermen and small numbers are as labor and services, traders, and employees. The activity of fishermen / fishing is the most important economic activity in this region. Fishing activities is carried out either by catching fish in rivers, swamps and lakes and cultivated by Karamba (fish breeding in sea/river). Fishing is done by various techniques and tools, such as using toils, nets, bubu with various shapes and sizes, fishing (tangkul, rawai, etc.), and pick the fish in hole or trapped pond in the drying swamp. While fish cultivated is done by keeping the fish in karamba placed in the river or swamp. The results of fishing, besides for consumption, is also to be sold to traders coming from outside the area and into camps of oil palm plantation companies in the region.

Economic infrastructure of the society in general is still relatively limited, ie, a few stalls selling basic commodities, and land and river transportation facilities, while market and bank have not been established just yet, except in villages engaged as the capital of the districts, such as Kuala Pembuang (Seruyan Hilir District), Pembuang Hulu (Hanau District) and Telaga Pulang (Danau Sembuluh District).

The local people in the area IUPHHK-RE PT. RIMBA RAYA CONSERVATION majority are originally from Dayak Malay ethnic, and the rest are from other ethnics such as Banjar, Java, and others. Most of the populations in the region around IUPHHK-RE are Muslims, which covers approximately 94% of the total population, and the rest are Hindus/Kaharingan, Christian, Catholic, and Buddhist. There are several public institutions that play a role in the villages around the area IUPHHK-RE, especially the village government institutions, social institutions of religious, economic and social institutions. The village government institutions consist of a head of village assisted by a secretary and few village officials, and some Village Representatives (BPD). There is primary school (SD) in each village around the area IUPHHK-RE, while junior and senior high school are only in some villages, especially in the district capital and/or village with a relatively large population. Facilities and health personnel already exist, although still limited, such as health centers, village midwife, and other informal health midwife/herbalist villages, while the health center and doctor are in the district capital.

Perceptions and Public Attitudes To IUPHHK-RE PT. RIMBA RAYA CONSERVATION

From a series of Focus Group Discussion processes with leaders and local people in the study villages and dissemination in order to UKL-UPL in three districts, it shows the majority of FGD participants and the dissemination of opinions, expressly agree to the activities planning of IUPHHK-RE PT. RIMBA RAYA CONSERVATION, a small numbers of participants still need to be assured regarding the benefits to be gained by the communities from the activities, and no participant clearly states refused.

However, the agreement is followed by a variety of conditions that must be fulfilled by the company. Some requirements are:

- Before doing the activities, company shall first coordinate and provide a more detailed explanation about the company activities planning to the public.
- The company provides access to the public to continue utilizing natural resources in the area IUPHHK-RE PT. RIMBA RAYA CONSERVATION, especially the dry land which is used as rubber plantations and Cow grazing, holes/fishing place, non-timber forest products such as publicity leather, rattan, sugar palm, Banban, pandanus forest, etc.
- The company shall prioritize local labor with wages is not under the province Minimum Wages.
- The company shall truly carry out the promises or activities planning related to the benefits for society.
- Respect the society norms and avoid negative behavior which will interfere or disturb the society.

Also in the FGD is recorded some people's expectations for the ecosystem restoration planned by PT. RIMBA RAYA CONSERVATION, which generally can be summarized as follows:

- The company activities are expected to encourage lifting the community economy up by local employment absorbing, business opportunities through joint implementation of ecosystem restoration activities with the community groups, productive business development technical guidance such as the development of non-timber forest products, rice fields, rubber plantations / *jelutung*, domestic industries development, technical guidance and management of productive enterprises, etc.
- Establishing a harmonious relationship with the community throughout a coordination with local community leaders, involvement of local community leaders in business activities, and solving problems that arise between communities and company by consultation and to avoid the use of security elements and / or external parties that are not directly related to subject matter if possible;

- Providing assistance for rural development and improving the quality of human resources by supporting the education infrastructure, health facilities, particularly clean water, electricity, and others.

3. The potential impact, Management Effort and Environmental Monitoring Efforts

a. Physical-Chemical Components

Impacts which will occur:

Insignificant negative impact will appear on the construction and operational activities. The Source impact on construction activity was the opening of forest areas and the facilities construction while on operational activity is the waste management.

The impact of physical-chemical components arising from HPH RE activities on operating stage is the micro-climate, it is considered as positive impact. The Source impact is the logged-over forests enrichment activities and the rehabilitation of unoccupied land. The type of arisen impact is the air temperature decline followed by the rise in humidity which in turn the conditions will improve the comfort around the activities area (micro scale).

Another impact arising is the environmental parameters of forest and land fires. These effects arise because of the activities of forest protection and security is positive. PT. RIMBA RAYA CONSERVATION is expected to develop the standard operating procedures of fire prevention, improvement of human resources (training) related to the damkarhut (forest fire protection) procurement and vehicle-control infrastructure. The next impact is the changing in hydrology due to IUPHHK-RE PT. RIMBA RAYA CONSERVATION. The estimated activities cause the environmental impacts on hydrology component is the enrichment activities of logged-over forests and the rehabilitation of unoccupied land (Re-vegetation). Type the impact is the soil's ability increasing to hold ground water in logged-over forests and the rehabilitation of unoccupied land (Re-vegetation). The last physical-chemical environment component which is affected by IUPHHK -RE PT. RIMBA RAYA CONSERVATION activity is the water quality. These impacts arising from orangutans release activities, positive waste management, which is able to be turn around, and cumulative.

Environmental Management Efforts:

The objectives of microclimate parameters management is to improve and maintain the positive impact of the decline air temperature that followed by the rise in the humidity with a measure of the temperature difference day and night $< 5^{\circ} \text{C}$ and maximum temperatures around the area of PT. RIMBA RAYA

CONSERVATION is equal to maximum temperature of the average temperature in Central Kalimantan Province; Whereas the minimum humidity range is between 70-80%. The efforts carried out by planting and always maintaining the greening plants which serve as the bio-monitoring of air pollution and absorb heavy metals and air pollutant compounds, providing a smoking room, exhaust fans maintenance and operation, and restricting the use of generators. This management is conducted in and around Base camp location of, germ plasma conservation area (KPPN) and Bahaur villages, Telaga Pulang, Ulak Batu and Muara Dua, with a frequency of once every 6 months during this activity is in progress.

Environmental management for waste management parameters aims to reduce waters pollution due to liquid waste generated in the operational support activities and utility activities and to reduce space, land, and soil disruption, with the benchmark impact of quality standards based on KEPMENLH No. 51 of 2004 on Water Standard Quality. Environmental management activities to be developed is to drain gray water into the oil trap before discharging to the water, while water considered into the category of black water entered into the septic tank so that the black water is not directly go into and react with swamp water/river. To minimize the impact of used oil leakage from the garage/workshop thus on site workshops will be built used oil and oil trap storage system. The waste management is done at the oil trap installation location and around base camp and garage/workshop's location.

Water quality environmental management aims to minimize the load pollution in water, the content of suspended solids (TSS) in water, and caught most of the sediment in the sedimentation pond so that it will not enter the waters with standard water quality for suspended solids (TSS) is 400 mg / l in accordance with the Standard Quality No. PPRI. 82 of 2001 for class III category. Meanwhile, for dissolved metals comply with the provisions of PPRI No. 82 of 2001 for the category of class III. Management efforts undertaken is in the form of making the landscape with a stabile slope close to the natural landscape in the low slope area while on a steep slope, the landscaping is done by considering the stabile slope, apart from compacting the soil and building drainage around the open area; Also making sediment pond to reserve flowing sediments in the running water. The pond will precipitate particles so that sediment in the water content is reduced before entering the water.

The benchmarks of the forest and land fires is the area of PT PRC which becomes the fire breaker in case there is land and forest fires in the surrounding area of PT PRC. The objective is to control the level of fire when the forest and land fires occur in the area of PT PRC during the long dry season (in extreme weather). The management activities is in the form of making a fuel bulkhead of vacant land between the patch and the sub patch, or by providing sufficient distance

between the empty patch and plant sub-patch. This activity is done periodically every year in the green line/burnt screen.

b. Biological Components

Impacts which will occur:

In general, activities IUPHHK-RE PT. RIMBA RAYA CONSERVATION does not have a significant negative impact on biological component because all the activities carried out in order to return the quality and ecosystem function. Negative impact appeared insignificantly on the construction and operational activities. Source impact on construction activity is the forest opening and the construction of facilities, both for operational and camp/station of orangutans release. PT. RIMBA RAYA CONSERVATION has determined not to open a new road and will only use existing roads, the negative impacts that will arise is the process on the road maintenance activities; the pioneer species that grow in the old not used road will be greatly reduced. The diversity of flora will be disturbed at the level of seedlings, saplings and even perhaps the pole for this kind of fast growing species.

Meanwhile the diversity of fauna is effected by the diversity disruption of the flora where considered as the habitat of residence or food source. The fauna diversity disruption here usually about the diversity index changing caused by the migration of fauna and less influence on the animals status in the context of extinction rates. As for infrastructure development impacts on the diversity of flora and fauna is also on a small scale since the need of the area for infrastructure development is also relatively small. The impact of this activity is lessening flora diversity at all levels of regeneration as these activities related to land clearing in a particular area. Impact on the diversity of fauna is similar to the forest opening, which the diversity index changing is caused by the migration of animals in order to adjust to changes in habitation.

At the operational stage almost all activities related to the flora fauna has positive impact, includes on seedlings preparation, enrichment planting, the maintenance of plant enrichment, protection and security, orangutans release. There is only one activity with small negative impact such as a land preparation activity. This activity will affect the diversity of flora disruption of seedling level. While the activity of orangutans release has two effects, positive impact that the orangutan population will increase, in the other side it will negatively affect the existence of the competitors.

Environmental Management Efforts:

Environmental management efforts undertaken aims to minimize any negative impact arising which is less diversity of flora and fauna, and minimize the population decline and water biota diversity. The Management benchmarks of ecosystem restoration activities to the flora fauna is that forest condition with a complete structure and a high diversity and optimal functions according to the management objectives maintained.

The efforts of environmental managing to the construction activities is to do reforestation in the open area, used location of infrastructure facilities preparation activities which should be restored to its original state, warning signs installation to not disturb the plants in open area, to protect by conducting routine checks and doing embroidery plants when it is necessary, and conducting counseling activities to encourage community participation to take care the plants and conserving the released orangutans in the area. The counseling activities should be coordinated with local government (village institution, district) and local official education. Location of environmental management is in unoccupied area that is used PWH activities and preparation of facilities and infrastructure (including facilities to release orangutans) while the counseling location is in the village and schools around the forest. The activities time is during the construction phase and continued to the operational stage in accordance with given ecosystem restoration IUPHHK term.

At the operational activities of the environmental managing effort the thing must be done is to maintain and plant on the unoccupied land or non-forest, secondary forest and or in areas where the levels of regeneration is less, conduct installation and maintain the forest damage prohibition signs of and caught protected species (orangutans), optimize the protection activity and forest protection, to monitor the habitat and the succeed of orangutans release by making transects studies vegetation and released orangutans behavior observations and encroachment prevention, also illegal logging by community counseling, schools around the area of PT. RIMBA RAYA CONSERVATION and conduct routine patrol, waste management, extension counseling for villagers and school children, and to coordinate with local government (village institutions district officials) and official education, while to minimize the negative effects is to avoid seedling damage at a minimum level on land preparation activities.

Environmental Monitoring Efforts:

Environmental monitoring efforts carried out by a thorough observation of the types of activities that bring impact to flora, fauna (orangutans and other fauna) and water biota. The monitoring time is at least once a year, while for water

biota monitoring conducted together with water quality monitoring in the physical and chemical components.

Social – Economy – Culture – Health – Community components:

Impacts will occur:

In social-economy-culture-health-community component, the impact will occur at all stages of the Pre-Construction, Construction, Operation and Post Operation.

In Pre-Construction stage the impacts will occur during the maintenance activities of licensing and survey areas in order to arrange initiate planning and land conflict solving (as the agreed mechanism is not going accordingly). Public restlessness and social conflict due to the circulation of incomplete and inaccurate information which is related to company activities in the field, also conflict solving process, especially land conflicts, which were considered out of expectation and the community's wish. In Construction stage, the impact source is such as employment and business opportunities which are available in Construction stage, including: the arrangement of work areas, forest clearing, infrastructure development, and labor supply. Types of impact that occur are increased employment and business opportunities for local people around the area. These employment opportunities potentially are used by local people to increase their income. As the activities are still limited, total permanent employment is about 80 people. Available occupation for the local workers especially is the middle-lower position for about 45 people. Meanwhile, non-permanent employment opportunities in the construction stage is still relatively small for only about 40 people consisting of worker/carpenter, daily survey worker and daily working area arrangement worker. Another source impact is public restlessness and social conflict due to revenue and business opportunities where usually is engaged by people from outside the area. This will lead to social jealousy for the local community. Working area arrangement on lands claimed by the community will also lead to conflict.

In the Operation stage, the impact source are employment and business opportunities, and local people income which are available on the operation stage, particularly on seeds procurement, land preparation, logged-over forests Enrichment, rehabilitation of unoccupied land (Re-vegetation), plant maintenance, forest protection and security, fauna habitat restoration, Social Management, Utilization of non-timber forest products, utilization of environmental services, and facilities maintenance. Public restlessness and social conflict due to revenue and employment opportunities for non local people will continue to occur in the company operation stage. On Post-operation Stage, labor termination shall be the impact source, also the cessation of company

operation as the license period is expired. This will trigger public restlessness and social conflict.

Environmental Management Efforts:

To avoid the restlessness and social conflict in Pre-Construction, Construction, Operation, and Post-Operation Stage thus the management efforts through technology approach, social economic approach and institutional approach are conducted within 16 villages around the location of activities; there are Tanjung Rangas, Muara Dua, Jahitan, Baung, Sungai Perlu (Seruyan Hilir District), Telaga Pulang, Cempaka Baru, Palingkau, Ulak Batu, Paren, Banua Usang (Danau Sembuluh District), Pembuang Hulu 1, Bahaur, Parang Batang, Tanjung Hanau, Paring Raya (Hanau district).

1) Pre-Construction Stage: restlessness and social conflict

Technological approach

- Preparing the work area maps which is completed by initial information identifying the locations of public use and area of ecosystem restoration activities.
- Creates varieties of socialization tools/media.

Socio-economic approach

- Increasing/intensifying the socialization to local people, especially those who are still in doubt and/or refuse the plan of ecosystem restoration activities.
- Implementing the early identification and inventory of claims forms/land occupancy, public claims locations, and the territorial boundaries of the villages in the area of IUPHHK-RE. Identification and inventory activities carried out in a participatory way, involving the local community leaders who are competent and citizens who are directly related to land and forest resources in the area of work IUPHHK-RE. Furthermore the inventory and identification of the claim/land occupancy maps is overlayed by work area map of IUPHHK-RE PT. RIMBA RAYA CONSERVATION so that the distribution of the claims location/land occupancy and villages boundaries within the work area of PT. RIMBA RAYA CONSERVATION is known.
- Conducting initial steps to establish working agreement between the company and the local communities around working area of IUPHHK-RE PT. RIMBA RAYA CONSERVATION.

Institutional approach

- Coordinating and maintaining a good relation with leaders of formal and informal leader of the local village.
- Coordinating with related institutions at provincial, district, and regency.

1. Construction Stage: Employment and Business Opportunities

Socio-Economic Approach

- Prioritizing local labor in accordance with standard qualification and the needs of the company;
- Providing opportunities for local people to take advantage of business opportunities in these locations IUPHHK, such as selling basic commodities for employees, camp construction materials, seedling media, etc.
- Conducting training in order to improve workers knowledge and skills includes the local worker, as well as the local entrepreneurs/corporate partners.

Institutional Approach

- Coordinating with the local formal and informal leaders of the villages and with related institutions in the district and regency.

3. Construction Stage: Social Conflict

Technology Approach

- Arranging the technical standard and standard qualifications including the requirements of each position/type of work and implementation of labor recruitment system which suppose to be transparent and objective in order to avoid suspicion and/or jealousy in the recruitment process;

Socio-Economic Approach

- Socializing the recruitment plan to the local community through the formal and informal leader;
- Giving priority to local people to fill up the available vacancy.
- Prioritizing the needs of the company and employees from the local businesses.
- Optimizing the partnership activities and social management.
- Solving social conflicts when it happens through the mechanism of deliberation to reach a solution.

Institutional Approach

- Carrying out the coordination with the local formal and informal leaders as well as with related institutions in the district and regency.

2. Operation Stage: Employment and Business Opportunities

Socio-Economic Approach

- Continuing the efficient use of local labor in a variety of ecosystem restoration activities in the operational stage accordance with the standard qualification and the needs of the company;
- Providing opportunities for local people to take advantage of business opportunities in these locations IUPHHK, such as selling basic commodities for employees, camp construction materials, seedling media, etc.
- Fulfilling the rights of employees according to the laws and regulations as well as the company standard.
- Prioritizing the improvement of local human resources quality potential.

Institutional Approach

- Creating a harmonies relation the local formal and informal leaders as well as with related institutions in the district and regency.

3. Operation Stage: Increase local people Income

- Providing opportunities for communities to use the land during the restoration of plant saplings on vacant land for intercropping;
- Prioritizing community development activities (Comdev) on the productive activities, such as agro forestry development, product processing/forest-based handicrafts and home industries such as palm sugar, fish processing, rattan handicrafts, wooden handicrafts, agricultural product processing, etc. Community development types of activities in each village is determined through participatory planning and synchronized with government programs and Community development programs from the companies around.
- Encouraging/facilitating the capital accumulation institutions development, and joint efforts development such as business groups (Savings and Loans Union/Baitul Mal wat-Tamwil-BMT/etc) in the villages around the working area.

- Facilitating training of productive business development, business units management, and partnership with other stakeholders;
- Arranging agreements with the community about the distribution of the environmental services selling result based on the current law regulation and international conventions.
- Facilitating cooperation with financial institutions (banks, credit union, etc.) for socialization and encouraging the public funds savings into financial institutions to minimize the negative impact of increased revenue for consumptive purposes;
- Coordinating with related institutions in the district and regency around the location.

4. Operation Stage: Social Conflict/Cooperation

Socio-Economic Approach

- Implementing a transparent system of labor recruitment and human resources improvement and promotion and objective as well in order to avoid suspicion and/or social jealousy between local labor and immigrants;
- Developing a cooperation mechanism for forest management and benefits and responsibilities distribution between the company and local communities which can bring profits and advantages for both parties;
- Providing ecosystem restoration activities result party to the local community in the form of community empowerment activities by type and volume of activities accordance with the company's ability and agreement with local communities, also the current laws and regulations.
- Optimizing and managing the activities of social partnership.
- Conducting public education regarding the forest conservation, especially conservation of orangutans;
- Solving social conflicts when it happens through a deliberation mechanism for mutually beneficial agreement (win-win solution).

Institutional Approach

- Establishing a harmonious relationship with local formal and informal leaders and the local people through various media in accordance with the economic and social conditions of the local culture;
- Coordinating with related institutions in the district and regency.

5. Post-Operation Stage: Employment and Business Opportunities

Technology Approach

- Creating various forms of media to socialize the plans of labor termination and company operation discontinuation;

Socio-Economic Approach

- Socializing the plans of labor termination and company operation discontinuation at least three years before the implementation;
- Solving the issue of employee termination in accordance with the current laws and regulations and giving priority to the settlement by consultation;
- Allocating budget for environmental management, especially for socialization. Investment costs as well as personnel and operational costs are included in the cost of harvesting and transportation and social managing. Termination and labor problem solving costs are part of the termination and general cost of the company;

Institutional Approach

- Coordinating with related institutions and the head of the village around the area.

6. Post-Operation Stage: restlessness Community and Social Conflict

Technology Approach

- Creating various forms of media to socialize the plans of labor termination and company operation.

Socio-Economic Approach

- Socializing the plans of labor termination and company operation discontinuation at least three years before the license expired;
- Solving the issue of employee termination in accordance with the current laws and regulations and giving priority to the settlement by consultation;
- Identifying the potential and opportunities of local labor distribution in plantation activities elsewhere.
- Facilitating the productive activities development of alternative workshop both in the area IUPHHK PT. RIMBA RAYA CONSERVATION (when later returned to the government), starting three years before PT. PRC license is

expired. Workshop is followed by public figures and local government representatives and other Forest Institutions;

Institutional Approach

- Coordinating with the head of local villages and institutions leaders/religious leaders in the villages.
- Conducting consultation and coordination with the Ministry of Forestry, Provincial Government and the district.

Environmental Monitoring Efforts:

- Monitoring is carried out by using in-depth interview method (depth interviews) with selected respondents from the village formal and informal leaders and local people related to the conflicts, FGD also by analyzing the secondary socio-economic data.