

STATE OF DEVELOPMENT AND IMPLEMENTATION OF CODE OF HARVESTING (INCLUDING REDUCED IMPACT LOGGING) IN INDONESIA

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I. INTRODUCTION

Indonesia is blessed with forests that are abundant with natural resources. This gift from God should not be wasted and should be maintained and managed in a responsible manner.

As a national development asset these forests provide significant benefits in a balanced and dynamic way for the Indonesian people. These benefits are ecological, socio-cultural and economic. It is important that the present and future generations of Indonesia manage, protect and utilize these resources in a sustainable manner. Forests are life sustaining for all of us and should be well preserved.

Timber harvesting is one of the main activities carried out in production forests, providing wood supply to meet the demands of in-country downstream industries and international market. The volume of wood extracted from these forests depends upon the carrying capacity of the forest and the manner in which the harvesting is practiced. The direct or indirect impact of these activities reflects the harvesting practices and the quality of the harvest. In line with this practice, the forest utilization in Indonesia use a silvicultural system namely Indonesian Selective Cutting and Replanting System (ISCRS) or so called TPTI. The objective of this system is to manage the harvesting, regeneration and forest tending in order to achieve the sustainable forest management.

Furthermore, Indonesia also has other silvicultural system namely Clear Cutting and Man-made Regeneration, Clear Cutting with Natural Regeneration, and Selective cutting with Stripe Planting System. However, the most practice used of the system is the Selective Cutting and Replanting System/TPTI which defined the diameter limit to be cut is 50 cm up in dryland forest area, and diameter 35 cm up for the swamp forest area. With this system, it is expected that the residual stand will form a good stand for the next cycle.

In the reality, however the practice of this several silviculture system did not provide the expected result. There are found many degraded area and environmentally destroyed. This is caused by the field activities still focused on harvesting only, ignoring the regeneration and the forest tending. The impact of the environmentally destroyed including : a) land cover area opened; b). eroded land and forest devastation; c) damage to residual stand and d) harvesting waste.

The significant impact of unsustainable harvesting practice is the regeneration could not perform as expected. This situational condition has shown that the objective of Indonesian Selective Cutting and Replanting System to improve the quality of natural forest, could not be achieved successfully.

II. THE DEVELOPMENT OF FOREST CONCESSIONAIRES IN INDONESIA.

- a. Total of concessionaire holders in Indonesia now 270 units, with status definitive permits. The remain 16 units have been returned to the Ministry of Forestry before the deadline of their permits.
- b. In the restructuring of concessionaires system, Indonesia now is undertaking an evaluation process using an Independent Evaluation Institution and Task Force which is formulated by the decree of the Ministry of Forestry.
- c. The central government, Ministry of Forestry, has been systematically reducing its annual allowable cut allocation to the forestry sector. The objective of this soft landing is to reduce the target of total production step by step, started year 2003 with production 6,892,000 cum and year 2004 : 5,743,759 cum. This decreasing target is adjusted with the carrying capacity of Natural forest.

III. THE CONCEPT OF SILVICULTURAL SYSTEM FOR NATURAL FOREST

The silviculture system in Indonesia is a series of planned activity of forest management prescription which includes harvesting, regeneration and forest tending to achieve Sustainable Forest Management in producing timber and NTFP (Decree of DG of Forest Utilization no. 151/Kpts/IV-BPHH/1993 concerning guidelines of TPTI/ISCRS).

From the above definitions, in concept, silvicultural scope will consists of three phases such as regenerating, tending and harvesting. Each phase could be breakdown as follow :

- a. Regeneration: natural or artificial (seedling, planting)
- b. Tending : release cutting, pruning, thinning, intermediate cutting.
- c. Harvesting : clear cutting method, shelterwood method, selection method.

In general, the silvicultural system is a technical combination of harvesting, intermediate treatment and a regeneration of even-age tree in an appropriate time. Good correlation of each component will guarantee to achieve a sustainable forest management.

Logging intensity which ignoring the sustainable aspect could influence the performance of residual stand. From several research has been resulted that if appropriate silviculture system being applied, which is only cut the mature tree, it will increase the potential growth of residual stand. It means, if we use or select the appropriate logging techniques, we could expect to have enough of good regeneration tree.

IV. STATE OF DEVELOPMENT OF CODE OF HARVESTING INCLUDING RIL IMPLEMENTATION IN INDONESIA.

- A. Harvesting activities involve many people, starting from the planners who formulate the plans in the head office to the operators who carry out the tasks in the field. Many times, even the best planning, will not provide the expected results. Although the planners have put forth their best efforts when formulating the plan, and the operators have put their efforts into implementing the harvesting practices according to the plan, there is no guarantee that the implementation of the planned harvesting practices will provide the expected results.

Logging practice or harvesting in the field has resulted bad impact to the environment such as :

- Land opening
- residual stand damage
- High impact of erosion
- Inefficient use of timber resulting plenty of logging waste

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The implementation of good harvesting practices is the responsibility of the field-site operator. Without good planning consequences to the environment cannot be avoided.

The principles and practices for forest harvesting in Indonesia have been developed (in 2000) to provide a uniform set of minimum standards for forest harvesting in the Production and Limited Production Forests. They provide the standard for WHAT is involved in planning and implementing logging activities in natural forest and WHY certain operations should be undertaken. By introducing environmentally friendly harvesting principles, timber harvesting can be improved and negative environmental and social impacts can be reduced. Included in these principles and practices are criteria and indicators for sustainable forest management which are required to obtain SFM certification.

These principles and practices encourage the implementation of reduced impact logging (RIL), a key component of planned field implementation. The RIL Guidelines for Indonesia provides the mechanism for HOW the standards will be applied in the field or "how to do the work"

RIL has an effort to minimize the impact on the forest environment. From several study in Indonesia done by donors such as GTZ, USAID, DFID and BFMP have resulted some conclusions as follows :

- 1). RIL will improve the intensity of timber utilization
- 2). Land opening will decrease to 29 %
- 3). Damage to residual stand decrease 20 %
- 4). From financial aspect, the implementation of RIL has increased the operational cost as of \$1 per cum. However, the increasing of this cost will be balanced with the long term benefit such as reducing in regeneration and environmental treatment cost.

From these studies, it is mentioned that the implementation of RIL is a key success to achieve eco-label certificate. In other words, by implementing of RIL techniques which aim at minimizing soil disturbance, impacts on wildlife, and damage to the residual stand, Progress towards sustainable forest management will be promoted.

With regard to this, the Directorate General of Production Forest has issued an official memo (no. 274/VI-PHA/2001 dated 23 February 2001) concerning Reduced Impact Logging. The memo consists of technical guidance for natural forest operation units that intend to implement an environmentally sound logging system.

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Instead of that, the Ministry of Forestry has issued a Decree on 'Criteria and Indicator of Natural Production Forest Utilization' by letter no. 4795/kpts-II/2002. One of its criteria (criteria 2.3) has enforced the implementation of RIL.

There are several requirements to implement RIL successfully such as commitment of the unit management owner, intensive internal monitoring, training for planning staffs and field operator, and adjustment to the wage system which will improve the logging operator performance.

B. Even though RIL Guidelines has been conformed with TPTI regulations--the Indonesian silviculture system for dryland natural forest- however, the Ministry of Forestry now is trying to improve its regulations by integrating RIL procedures. There are some steps in TPTI has a bit different with RIL such as opening up land area which is set in one year before harvesting (Et -1) but in RIL this activity is done in Et-0.

C. RIL Training.

Up to now, the Ministry of Forestry (MOF) has undertaken 4 (four) times RIL training as follows :

- 1). Year 1999: MOF & USAID has trained 36 participants from MOF and Concession staffs.
- 2). Year 2000 : CIFOR and PT Inthutani II (state-owned company) has trained 20 participants from concessions.
- 3). Year 2000 : MOF & BFMP has trained 12 participants from MOF and Concessions.
- 4). Year 2002 : MOF & CIFOR has trained 20 international participants.

In 2003, MOF will train MOF staffs and Forestry district staff on the RIL implementation.

V. RIL AND SUSTAINABLE FOREST MANAGEMENT.

1. Indonesia has tried its best effort to enforce every concession holder to manage their forest area in sustainable way. Some efforts has been undertaken include :

- a. Setting up appropriate law and regulations
- b. Evaluation the performance of unit management

- c. Dissemination and Socialization of Sustainable Forest Management principles.
- d. Training of assessors for SFM, chain of custody, RIL.

RIL as component of SFM is expected could guarantee the achievement of SFM. If RIL implemented, progress towards sustainable forest management could be promoted. This policy is formulated in criteria 2.3 of Decree of MOF no. 4795 year 2002.

- 2. Up to now there has been 5 (five) unit management in Indonesia which have already received SFM certificate. These Unit Management should have implemented RIL in their operation.
- 3. In Criteria and Indicator of SFM which is established by Indonesian Eco label Institute, some indicators has indicated the requirement of RIL implementation such as :

Criteria 2 : Sustainability of Forest Products

- P.2.3 : Annual production in accordance with the capability of forest productivity.
- P.2.4 : Efficiency of forest utilization
- P.2.5 : Condition of residual stands
- P.2.6 : Validity of harvest tracking system in the forest
- P.2.7 : Infrastructure of forest management unit
- P.2.8 : Implementation of reduced impact logging

Sustainability of Ecological Functions

Criteria 1 : The Stability of Ecosystem

- E.1.5 : The damage intensity of forest structure and plant species composition
- E.1.6 : The damage intensity of production management activities on soil
- E.1.7 : The damage intensity of production management activities on water.
- E.1.8 : The effectiveness of damage management on stand/forest structure and compositions.
- E.1.9 : The effectiveness of controlling techniques on the impact of production management activities on soil.
- E.1.10 : The effectiveness of controlling techniques on the impact of production management activities on water.

Criteria 2 : Survival of Endangered/Endemic/Protected Species.

- E.2.5 : The impact intensity of production management activities towards endangered/endemic/protected plant species and their habitat.
- E.2.6 : The impact intensity of production management activities towards endangered/endemic/protected wildlife species and their habitat.

VI. PROBLEM AND CONSTRAINTS IN RIL IMPLEMENTATION

There are a number of reasons why RIL is not implemented yet by the whole unit management in Indonesia :

a. Perception

Unit management has its perception that the objective of their forest operation is to get maximum profit. In the top management perception, RIL implementation will be high cost especially in planning and harvesting activities. From the operator side, RIL technique is more difficult and this is need to change their existing practices.

b. Commitment

There is still lack of commitment from the top management of concessionaires. Without a firm commitment, it is unlikely that technical practices alone will ensure the successful adoption and implementation of the RIL strategy.

c. Pre-condition

The RIL system has long-term economic benefits. To ensure sustainable forest management, it is important that the forest resources are secured and protected. Long-term tenure and use rights to the land and forest resources should be clearly defined. The Government should provide incentive to the unit management who implement RIL.

VII. RIL AND ILLEGAL LOGGING

In fact, the illegal logging activities will hamper the implementation of RIL. However, by introducing internal discipline as a pre-condition of RIL implementation in a unit management and followed by intensive socialization to the community on the important of sound environment, it is expected that illegal logging could be reduced. In the other side, as the company has invested high cost in the planning, and harvest preparation, as consequences they will struggle to secure the forest area. They will control the area from encroachment or from illegal logging.