

POLICY ON ENVIRONMENT & STANDARD OPERATING PROCEDURES (SOP) FOR THE HANDLING OF FOREST WASTES AT CHERUL FOREST CONCESSION (CFC)

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General Environment Policy Statement

Pesama's Policy on Environment is one which we are very concerned with the sound protection and sustainable management of the natural ecosystem and the resource in it in conformity with established laws and procedures and certification standards such as FSC[®] and MV&I. Appropriate strategies are formulated and actions taken along with appropriate capacity building to follow through the policy for the long term benefit of the forest, environment and the various stakeholders.

Pesama's Policy On Forest Wastes:

Wastes can be broadly classified as:

- (1) scheduled or hazardous (toxic) wastes, and
- (2) solid wastes.

Forest wastes are a type of solid wastes which include felling debris, abandoned timbers and woody materials as well as biomass left in the residual stand after the completion of logging operation. The impact of forest wastes to the environment is mainly due to their large quantities, which can be both positive and negative at the same time.

Positive Impacts of Forest Wastes:

- ***Protection function:*** Forest wastes and woody debris resulting from the harvesting operation could be used to cover exposed soils to reduce invasion of weeds and prevent loosening of soil particles hence protect slopes and reduce soil erosion.
- ***Germination bed for seeds and shade for young seedlings:*** Downed woody debris, tops and branches of felled trees could serve their own function in forest recovery by providing shade to certain shade tolerant seedlings
- ***Soil fertility:*** When properly handled and managed forest wastes can serve as germination bed. Decomposing forest wastes can provide nutrients and repatriate soil fertility through the saprophytic activity of mushrooms and other primary decomposers.
- ***Animal habitat:*** Forest wastes can serve as burrowing place and habitats for certain insects, nematodes and other small wildlife, including fishes in rivers and streams, thereby help maintain forest species biodiversity.

Negative/ Hazardous Impacts of Forest Wastes:

- **Ignitable and fire hazard:** dry leaves and rotten wood can serve as fuel during extremely dry weather which may lead to forest fires.
- **Blocking of rivers:** In many cases, the clogging of rivers and streams by felling debris has been the main cause for flooding which subsequently leads to changes in river flow, water chemistry and river ecosystem.
- **Constraint to movement:** The presence of large volumes of felling debris and biomass on the forest floor can cause severe inconvenience to forest workers and surveyors and restraint their movement which may in turn slow down their forest development and enforcement work. In some cases, it was dangerous or even impossible to conduct such surveys when large volumes of forest wastes lie on steep slopes.
- **Unightly**
- **Unhygienic**

Under the circumstance, in order for Forest Wastes to serve their beneficial function, they should be present in the right quantity in the right place and of the right composition.

Forest Waste Policy Statement

At the *Pesama Timber Corporation Sdn Bhd* (Pesama), forest waste management is a key issue that needs to be addressed in a systematic way as the company moves forward and continues to operate and manages the natural tropical rain forest (TRF) resource in a sustainable manner. With the accession of Pesama as managers of FSC®-certified forest of Cherul Forest Concession (CFC), it is incumbent for all stakeholders concerned to appreciate and improve their perception concerning forest waste management (FWM) and behave accordingly. Under the circumstance, the role of Pesama can be summarized as follows:

(1) Objective	To provide visions, strategies, policies, institutional mechanisms and roles of stakeholders to minimize the amount of solid wastes disposed in Cherul Forest Concession FMU.
(2) Target Wastes	(i) Logging waste, abandoned timbers, branches and biomass which are generated from logging activities, construction of forest infrastructure, earth work, etc involving the cutting, bucking and removal of timbers and construction of forest road and forest infrastructure within CFC.
(3) Target Area	The whole of Cherul Forest Concession (CFC) Forest Management Unit.
(4) Target Year	2009 – 2038 (covering the entire 2 nd cutting cycle under the Selective Management System (SMS))

As a responsible forest management company, Pesama commits itself to manage the CFC Forest Management Unit based on the principles of SFM which comply with the certification standard to which Pesama subscribes. The forest area in which our activities take place will be maintained and cleaned and the forest wastes generated, if any will be handled and managed accordingly, following the specifications laid out under the

Malaysian Environmental Quality (Scheduled Wastes) Regulation 1989 and the Environmental Quality Act 1974.

Our aims, among others are to:

- reduce the generation of wastes through practical actions and education, Reduced Impact Logging (RIL), prevention of wastes at source, reuse, recycle and composting;
- reduce environmental damage from harvesting of forest produce;
- conservation of resources when materials are recovered;
- reduction of the amount of waste materials requiring collection and transport;
- the successful recovery and return to productive use of materials that would otherwise end up in streams and waterways;
- extension of the lifetime of capital investments such as environmentally appropriate sanitary landfills or composting facilities, through reduction of throughput;
- raise the level of awareness as to the complexity of solid and scheduled waste management

Our commitment is to avoid unnecessary dumping of forest wastes, and the disposal of forest wastes into the river and water resources. Forest wastes will be monitored so as to avoid contaminating the environment, which may bring adverse effects to human, forest and animal health and biodiversity.

Hence our immediate focus is to strengthen our institutional capacity through our adherence to the following provisions of the law:

- Environmental Quality Act (Scheduled Waste) Regulation 2005
- Environmental Quality Act (Prescribed Activities) Order 1989

Under the existing legislation on solid waste management, the principal process options available and being recognized as hierarchy for integrated waste management are listed as follows:

- (i) waste minimization,
- (ii) reuse,
- (iii) material recycling,
- (iv) energy recovery,
- (v) refilling and,
- (vi) where practicable, composting.

Standard Operating Procedures (SOPs)

Our ultimate goal in forest waste management is to achieve a sustainable forest waste management system which is stable over time, and which are beneficial to Pesama and the society, the economy and the environment. Sustainable forest waste management calls for the support and promotion of clean technology, together with the prevention or avoidance of unnecessary forest waste production.

Forest Waste management should be consistent with the concept of Sustainable Forest Management (SFM) with the following objectives:

1. To ensure that forest wastes (including woody debris) would not stand in the way of good recovery of the second-growth stand and sound BMP in SFM.
2. Forest wastes will be managed and distributed appropriately to areas where it is most needed and useful to the ecology of the residual forest and its speedy recovery, bearing in mind the need to maintain forest hygiene while at the same time taking advantage of the potential nutrient supplies from such debris.
3. Forest wastes should not be allowed to clog and impede rivers and streams.
4. Forest wastes should not be allowed to block access to sediment traps.
5. Forest wastes in the fringe of buffer zones may help enhance the function of the buffer zone in filtering sediments and water, slow down water flow down slope by forming barrier.
6. Forest wastes may serve as burrowing place for certain animals, including fishes. Under such circumstance care must be taken to balance silvicultural objective with the need to maintain and protect forest species biodiversity.
7. Forest wastes, when unavoidable should be in the right place and in the right amount so as to enable them to benefit the management and silviculture.
8. An effective management of forest wastes at CFC will be pursued consistently and in earnest through continuous education and training to Pesama's staff and contractors.