CHAPTER 10
RESIDUAL IMPACTS

10.1 INTRODUCTION

Residual impacts can be considered as those that remain significant following the application of mitigation measures, although they are likely to have been reduced in magnitude because of the mitigation measures implemented. In fact, this proposed project is identified to bring positive residual impacts as well as negative impacts. The residual impacts are depicted as such.

10.2 NEGATIVE RESIDUAL IMPACTS

10.2.1 Loss of Biodiversity

Biodiversity is the degree of variation of life forms such as flora and fauna within a given ecosystem. Destruction or reduction of existing biodiversity is foreseen as the aftermath of logging activity.

Removing of existing vegetation and logging activities will reduce the initial number of existing flora. The magnitude of loss is depending on the working area of logging activity. Besides, on site and nearby short flora that are not used to bright sunlight will be destroyed as well since its protection layer, forest canopy is ruined during the logging operation. In fact, forest canopy helps to prevent direct penetration of sunlight into undergrowth. During the commissioning of proposed project, movement of truck and machineries will scare the existing fauna away. In addition, shortage of food due to loss of plant shall cause fauna to migrate or dying of starve.

However, this residual impact is insignificant and localized as mitigation measures were proposed. The logged area will slowly recover back to its quo state; perhaps with slightly changes in future established biodiversity system.

10.2.2 Loss of Habitat

Since deforestation occurred due to logging operation, flora and fauna lost its habitat. A habitat is a place where flora and fauna take as protection shelter and searching for food. Flora definitely has been cut off in their habitat within proposed project area. Colonization of surrounding flora will cease as well since the habitat was disturbed.

Despite scaring away by human activities, fauna can't survive at the proposed project since their food was destroyed. Fauna forced to migrate to a new habitat or their territory of living was limited. Along these years, scientists found that fauna has set its territory of living in particular habitat. Fauna tends to look for good only within their territory. Thus, it is foreseeable that it will make confusion and complexity in the surrounding food web and food chain, which eventually changes the whole ecosystem and biodiversity. Since loss of habitat, fauna will invade into other fauna territory to get new habitat. Biodiversity at new habitat shall enhance or reduce as it is unpredictable as migrating fauna might survive or die because of starving or eaten up by predators.

However, this impact is unavoidable as logging operation is given priority to boost growth of micro and macro economy. Project proponent shall act wisely to replant cut tree species and other disturbed valuable plants as to recover the disturbed habitat back to its quo state, though the effect only will be noticed after a long duration.

10.2.3 Noise

Noise associated with logging process cannot be totally eliminated though mitigation measures are proposed. However, its nuisance toward public is minimal, insignificant and localized since the proposed project is sited in moderately deep isolated forest. Prolonged noise impact will occur as a result of the operation of the ancillary logging facilities such as storage yards, workers camp and the waste disposal sites.

10.2.4 Dust

Dust is inevitably to be generated during the operation of proposed project, though mitigation measures were suggested. Movement of truck and felling operation contribute the most to the generation of unwanted dust. However, its impact is localized and insignificant as surrounding forest acts as filter to prevent spreading of dust to nearby interest.

10.2.5 Water Quality Degradation

It is no doubt that pre-logging and logging operation shall enhance of river siltation and sedimentation. Though mitigation measures were provided, unexpected event might happen which causes exposed soil (silt) flushed into nearby receiving stream or river. It definitely will increase the total suspended solid (TSS) content in river, thus causing turbidity and cloudiness in river. However, its impact is localized and minimal as sediment and silt shall settle down after some time. Therefore, project proponent shall take immediate action such as de-silting and removing of sediment in river to ensure river back to its quo state especially the depth of river bed.

10.2.6 Accident Involving Community Members

It is possible that accident involving local community members will occur at some stages in the proposed project activities. The most likely accidents would be traffic related, however other potential risk include accidents the fire. Any accident that harms a person will have a medium significance residual impact in term of diminishing quality of life for that person, negatively impacting them or their household livelihood, and potentially creating hostility towards the project. The risk of accidents happening will depend on the quality of implementation of the safety training and traffic strategy, particularly in relation to traffic management. However, the focus placed by the project proponent on traffic safety suggests that serious accidents can be avoided and are very unlikely.

10.3 POSITIVE RESIDUAL IMPACTS

10.3.1 Socio-Economic Benefit

Residual socio-economic benefits at the local level are predicted to be as follows:

- **Limited direct and indirect employment creation**

  Employees will directly benefit from secure, although short term, income and will gain skills and experience that may help them in seeking other employment. Local settlement will further benefit from the money spent by work force.

- **Enhanced local experience and employability**

  There will be benefits in terms of additional experience and skill gained by operational workers, resulting in an enhancement of future employment prospects. This will apply to all workers, being of greatest significance for those participating in skill development program and for those skilled workers who will be employed for longer periods. The potential to benefit from these enhanced skills depends to some extent on the ability of workers to find other logging jobs where their experience is valued.