

SOIL EROSION

The whole USM SFMP areas are classified as Class I Protected Areas and no harvesting to be executed in this project area. However, soil erosion stills the main concern due to past unsustainable logging and land development takes place as it can affect the land quality and its surrounding. It can pose major problems when occurrences are accelerated by human activities. Under undisturbed forest condition, the rate remains low but disturbances by human, both planned and unplanned, would amplify the natural occurrences of soil erosion. The movement of sediments into water courses would lead to sedimentation in the rivers and also the disruption of the ecosystem. The major issues of soil erosion in USM SFMP are as follows:

Building Development

All existing structures within USM SFMP, such as buildings, nursery, sewage, fuel tank, and generator house, were constructed on flat or gentle slope area and located more than 30m from any existing watercourses. Any cleared and opened area were re-vegetated with crops, such as grasses and ornamental plants within the vicinity of the forestry complex, and planting of trees on exposed slope area. In large complexes, proper drainage system with sediment trap pits was installed to reduce surface run-off and sedimentation. All infrastructures within USM SFMP are located 30m away from any existing watercourse. In 2020, no soil erosion was recorded, and no cost involved.

Road Development

In USM SFMP, the constructions of new roads are minimal as the existing roads are still usable although some roads need for upgrading or maintenance. The use of existing roads would reduce the creation of exposed areas. However, in any plan to develop new road, the

construction will take into consideration the slope steepness to minimize cutting and filling with no pushing of soil towards river banks.

Table 1: Soil erosion impact on road development within USM SFMP in 2020

No.	Institution/ Company	Location	Soil Erosion Impacts				Mitigation
			Q1	Q2	Q3	Q4	
1.	Sabah Forestry Dept.	Main Line North (Taliwas-Kawag-North Segama Bridge) -40km	No	No	No	Yes	No construction during rainy days
2.	Sri Gembleng Jaya Sdn. Bhd. (Contractor appointed by YS)	Main Line West (Silam-Malua) – 95km	Yes	No	No	Yes	No construction during rainy days
3.		Bukit Piton (Cpt. 121-112) – 20km	No	No	No	No	No construction during rainy days
4.		Bukit Piton (Cpt. 109-101) – 20km	No	No	No	No	No construction during rainy days

Most roads within USM SFMP are existing roads that are regularly used to implement forest activities. Two main roads were experiencing soil erosion such as Main Line West (Silam-Malua) and Main Line North (Taliwas-Kawag-North Segama Bridge) in 1st and 4th quarters. No road maintenance was done in Bukit Piton from Cpt.109 to Cpt.101 due to budget constraints. To reduce soil erosion, road maintenance was done during hot/dry and no construction was carried out during the rainy days. In 2020, a total distance of 105 km forest roads was maintained at two main roads whereby most maintenance was carried out in Main Line West road from Silam up to Borneo Rainforest Lodge with accumulated distances about 75km.