NEWLY INTRODUCED CREEPER LEGUME *Vigna marina* AS A SOLUTION FOR ROAD CUTS PROTECTION IN SRI LANKA

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Accelerated soil erosion and landslides is a destructive consequence of road development and intensive agriculture in the central highlands. Therefore, cost-effective and sustainable slope stabilization techniques have become an urgent need to solve the problem. Properly designed vegetative covers play a significant role in slope stabilization and erosion control. However, average plants cannot thrive on extremely degraded soils in the affected area. Therefore, the introduction of an extremely low-demanding alien legume, *Vigna marina*, as a vegetation cover was tested as an appropriate option. Protection of bare road-cuts against soil erosion was the main focus of the study. The growth of *Vigna marina* under ideal to the lowest soil fertility status was tested using five treatments - i.e. control (T1), subsoil (T2), decomposing parent material (T3), 20% Pinus wood biochar + subsoil (T4), 20% Pinus wood biochar + decomposing parent material (T5). Control was the ideal soil fertility status as recommended by the department of agriculture for a similar plant (*Phaseolus vulgaris L.*). The highest growth in general was in T1 followed by T4 and T5. The poorest growth was recorded in T2 and T3. Nitrogen content of the soil has been significantly increased in T2, T3, T5, T4 respectively whereas, a significant decline in soil N was recorded in T1. A significant decline in phosphorous and potassium content in the soil was common to all. The highest Nitrogen content of root nodules was in T5 and the lowest was in T1. The largest number and the dry weight of root nodules were observed in T4 and T5 compared to the rest. The poorest nodule activity was recorded in T1. *Vigna marina* has a potential to thrive in heavily eroded land treated with Pinus wood biochar. Therefore, *Vigna marina* appears to be a cost-effective sustainable slope stabilization technique for the central highlands in Sri Lanka.

Keywords: *Biochar, Decomposing parent material, Soil erosion, Subsoil, Vigna marina*