THE EFFECT OF DEFORESTATION ON SOIL EROSION USING REVISED UNIVERSAL SOIL LOSS EQUATION (RUSLE) METHOD AT CAMERON HIGHLAND,PAHANG

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for PostGraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

One of the primary drivers of changes in land use and land cover is recognized as deforestation. The rate of soil erosion in the tropical highlands is enhanced by unsustainable land-use practices, natural factors such as the region's steep terrain, and abundant tropical rainfall. When a piece of land is left bare, the soil is exposed to soil erosion agents because the soil aggregates must have been destroyed. To assess soil erosion and its effects on the physical elements of the environment and changes in land use, the Revised Universal Soil Loss Equation (RUSLE) model was employed. The RUSLE model uses the dynamic differences in physical characteristics and surfaces such as the R-factor, P-factor, K-factor, LS-factor, and C-factor as criteria for calculating the yearly soil loss. Loss of the microclimate conditions associated with forests may arise from deforestation's effects on local temperature increases. This is because deforestation might have a negative impact on the climate. Using the RUSLE model, this study seeks to examine how deforestation affects soil erosion. To derive a soil erosion map using the RUSLE method and to calculate soil erosion area with deforestation is the goal of this study. The Normalized Differences Vegetation Index (NDVI) was used to identify the areas that are experiencing fast deforestation to achieve the goal. Additionally, ArcMap and Envi software were used to generate the results. There are more areas where trees are being lost due to deforestation in Cameron Highland, which can also lead to soil erosion.

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