

Soil Erosion Processes in the Hill Areas of Bangladesh

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The total area of Bangladesh is about 148,000 km² of which 12% is covered by hill. Hill sediments comprise mainly unconsolidated and little consolidated beds of sandstone, siltstones, shales and some conglomerates. The highest ranges of hill areas are underlain by rocks of the Surma & Tipam formations regarded as late Oligocene to mid-Miocene in age. Lower hill ranges are mainly underlain by little-consolidated sandstone and shales of Dupi Tila formation, probably of mid-Miocene to Pliocene age. The alteration of rocks and minerals occur, as they are not in equilibrium with the ever-changeable temperature, pressure and moisture condition of their environment. From the early days of the history of earth, substantial changes at its surface have taken place due to different envi-

ronmental processes and conditions whose resulting product is our present day soil. Mineralogical data of some soils of these areas comprises mainly kaolinite with a trace of other minerals. Major land uses of these areas are shifting cultivation (Jhum cultivation), horticulture, rubber and tea. Due to deforestation and unplanned shifting cultivation, soils are rapidly eroded by sheet and gully erosion caused by heavy rainfall. It was found that soil loss from shifting cultivation was about 43 t/ha/yr, whereas soil loss from systematic cultivation was about 13.4 t/ha/yr. It is most essential to create awareness among the public in these areas to discourage shifting cultivation and encourage afforestation to minimize soil erosion.