D22 A PRELIMINARY STUDY OF SOME RECENT, MAJOR LANDSLIDES OF SRI LANKA

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Major landslides at Ratnapura, Pitakanda, Pansaltenna, Agalawatte, Dedigama, Norton Bridge, Ketayapathana and Mulhalkele that occurred during the past four years were studied. The landslides took place during periods of high intensity rainfall within the Northeast and Southwest monsoons. They were not restricted to any one of the country's three main morphological regions - the lowlands, uplands and highlands.

All the landslides were initiated within the bedrock, irrespective of rock-type, disturbing the overburden. Failure planes were found across all rock units. The rocks of the affected sites are Precambrian crystalline hard rocks such as quartzites, charnockites, charnockitic gneisses, garnet biotite gneisses, garnet quartzo-feldspathic gneisses and granulitic gneisses. The rocks were found to be highly fractured and jointed and exhibited signs of complete, high and moderate weathering, indicating their low shear strengths. Two or more sets of fractures and joints, with intensities ranging from 4/m to 10/m were found at all sites.

The examined landslides may have been triggered by very high pore water pressures developed within the fractures and voids in the rocks caused by rainfall of very high intensity (over 20 mm per hour). Major factors that could have contributed to the occurrence of these landslides are : (i) very high intensity of fractures and joints (over 4/m); (ii) the presence of completely, highly and moderately weathered rocks, and (iii) very high intensity of rainfall (over 20 mm per hour).