Reconstruction of the quaternary landscape development of the Serayu River Basin, Central Java Indonesia

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Abstrak

Investigations underlying this study were carried out within the framework of the Nuffic Serayu Valley Project. To survey the disturbances of the natural balance due to environmental changes, many soil profiles have been studied; some inconsiderably detail. One of these will be discussed thoroughly. The results enabled a reconstruction of the Quaternary landscape development of the Serayu Valley to be made. The Quaternary history of Serayu River basin is characterized by a succession of stable and unstable phases in landscape development, each leaving its specific effects in soil Alternation of the landscape forming processes as well as changes in climate and vegetation types can be deduced from the soil profile investigated. During the last two centuries erosive processes prevailed as deforestation increased enormously, induced by the growing demand for arable land. Consequently, the erosion rate has multiplied and soils developed under previous environments have been largely eroded. This accelerated soil erosion has already resulted in a decrease of the available agricultural land and the rural population is forced to bring marginal areas into use.