# Morphostratigraphic and Lithostratigraphic Studies of Quaternary Sediments to Decipher Climate Change in Dhamani River Basin,

Kolhapur District, Maharashtra, India

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### Abstract

Quaternary geological mapping is undertaken in the Dhamani River in order to generate the data on 'morphostratigraphy' and 'lithostratigraphy'. The Dhamani River is flowing over the Deccan Volcanic Basalt (DVB) of Upper (Late) Cretaceous to Lower (Early) Eocene age and all the sediments deposits in the river are derived from basalt. Based on the sediments, order of superposition and nature of the sediments indicate fluvial origin of all the sediments deposited in the basin. Morphostratigraphic study shows that presence of three levels of terrace T2 (erosional-pediment surface), T1 (depositional) and T0 (erosional as well as depositional) surfaces. Similarly, the lithostratigraphic study helps to understand the evidences of the climate change as well as tectonic setting of the sediments. The sediment sections observed at the Bitamwadi, the Sheloshi, the Jargi and the Gariwade villages show the presence of the slightly tilted cobble, gravels and sand beds. It indicates that the mild tectonic activity might have occurred in the basin.

*Keywords:* Deccan Basalt, Fluvial sediments, Lithostratigraphy, Morphostratigraphy, Quaternary Geology,