

## **Depositional Environment of Quaternary Sediments of Upper Godavari River in Maharashtra, India**

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### **Abstract**

The predominance of coarse sediment in semi arid rivers is responsible for less stability and more mobility of sediments. Such channels are unstable and dynamic and are characterized by constant channel migration. The deposits of sediments in the upper reaches of Godavari river (i.e. in Nasik and Aurangabad districts) comprises rounded to sub rounded pebbles and cobbles of basalt, chalcedony, agate, chert, zeolites and quartz set in a matrix of granular sand and silt, whereas in lower reaches (i.e. in Jalna, Parbhani and Nanded districts) the sediments are medium to fine grained sandy silt and silty clay. The deposits are complex in nature and might have resulted from vertical stacking and amalgamation of number of low sinuosity (nonmeandering) channels. A comparison of the present channel deposits and older sediments of Upper Pleistocene reveals that the former are sandy pebbly in nature and thus are coarser than the later ones. This fact indicates that the rivers during the closing phase of Pleistocene had relatively low competence. The climatic control is quite evident in the basin. The phases of erosion are linked to warm and wet periods while the episodes of deposition are associated with cold and dry phases. Besides this, several factors such as sediment supply, nature of transporting sediments, tectonic stability etc also play an important role in the formation of pedofacies.

Keyword: Godavari river, Semi-arid rivers, mobility of sediments, pebbles, climate control, formation of pedofacies Maharashtra.