

Remote Sensing and GIS Based Hydrogeomorphological Mapping for Sustainable Development :

A case of Coastal Tamil Nadu, India

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The present study concerns itself with sustainable development of Northern Coastal Tamil Nadu. Geologically, the coastal land forms of Tamil Nadu are made up of diverse rock type, ranging from old Archaean metamorphites through sub recent to recent alluvium and aeolian sand. The coastal land forms rest on folded, faulted, jointed fractured and disturbed beds of sedimentary and / or hard rocks. The geomorphological features shaped by the geological agencies of wind, water and slope is controlled by the local geology of the area. Wide stretches of sandy beaches are found in the Chennai coast formed by prolonged periods of accretion. The deposition of huge amounts of sand on the southern part of break water at Chennai port and the coastal erosion along North Chennai are due to disturbing the natural equilibrium beach forming processes, by human interference. Tidal rise falls within the limit of 2 metre height from the sea level. The planning, design and Construction and management of Coastal area needs geomorphological knowledge. The hydro geomorphological mapping is essential for regional developmental activities, waste land management, hazard management and integrated development.

Thus, using aerial photographs and IRS-1C, remotely sensed data, a detailed hydrogeomorphological map has been prepared and used for sustainable development planning.