

## **ROLE OF SIMPLE GEOSPATIAL TECHNIQUES IN ASSESSING THE ANTHROPOGENIC IMPACT OF ENVIRONMENT ON LOWER THAMBRAPARANI BASIN**

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### **ABSTRACT**

Over the past few years, as a result of the rapid pace of economic development, environment is undergoing an irreversible change of degradation. River basins all over the world are under immense pressure due to various anthropogenic activities, as these activities threaten the very existence of river basin and its surrounding ecosystems. In this context, a study has been made on the impact assessment of environment on Kuzhithuraiar river sub-basin (Lower Thambraparani basin) using simple geospatial techniques. Indiscriminate mining of sand from the river bed and flood plain, encroachment of land on water bodies, stone quarrying and over dominance of monocrops such as that of plantations are causing severe damage to Kuzhithuraiar river sub basin region. This paper attempts to analyse the effectiveness of bringing GIS, GPS and ERDAS tools to find out the degree of damage undergone by the basin over the past 22 years.

The result has been brought out through maps prepared from toposheet and google earth imageries. The results that have been generated through geospatial techniques show that the sub basin is highly under the degree of degradation. There is an increase of 339.6 percent in over all area under quarrying. While in case of sand mining, more than 11.4 sq.km of area is under vulnerable site in 2012 as against 1.16 sq. km in 1990. Rubber plantation has also extended its area of dominance by acquiring 66.95 sq. km within the area under total sub basin. Finally, it has been assessed that geospatial tools proves to be the best scientific assessment for monitoring EIA of a river basin thereby formulating effective management strategies to reduce the impact of environmental degradation and looking forward for a sustainable development.

**KEYWORDS:** Anthropogenic, EIA, GIS, GPS, River Basin, Environmental Degradation