

## **Hydrological Responses at Regional Scale to Landscape Dynamics**

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**ABSTRACT** Western Ghats is the primary catchment for most of the rivers in peninsular India. Pristine forests in this region are rich in biodiversity and are being cleared due to unsound developmental activities. Rapid land-use changes have undermined the hydrological conditions, there by affecting all the components in the hydrological regime. The development programs based on ad-hoc decisions, is posing serious challenges in conserving fragile ecosystems. These changes have adversely affected the hydrological regime of river basins resulting in diminished river / stream flows. This necessitates conservation of ecosystems in order to sustain the biodiversity, hydrology and ecology. In this situation, in order to resolve present problems and to avoid a future crisis, a comprehensive assessment of land use changes, its spatial distribution and its impact on hydrological regime was carried out to explore appropriate remedial methods for the sustainable utilization management of natural resources.