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IDENTIFICATION AND DOCUMENTATION OF ENCROACHMENTS IN COASTAL REGULATION ZONES USING REMOTE SENSING TECHNIQUES.

Abstract

The rapid spread of urbanization and tourism has resulted in significant encroachments.. Illegal constructions along coastal regulation zones (CRZs) have resulted in the loss of almost 87 percent of ecological hotspots throughout the world. Statistically, flood-prone areas have a higher likelihood of land degradation in these zones. Typical on-foot and traditional methods to detect these encroachments are difficult and time consuming. This was where satellite remote sensing methods were explored. This paper will demonstrate how to detect large-scale encroachments in the vicinity of these zones. Current research lacks an effective analysis in detecting illegal constructions along CRZs as well as a comprehensive database of this data in a concise portal. For our study, we chose Kerala, a southern state in India that is affected by natural calamities such as floods during the monsoon season. We used Landsat data and image sets from the EOS-04 ISRO satellite which maps Hydrology Flood patterns. Once the images were obtained, image analysis was done using GIS methods based on government guidelines and history of previous water level rise during monsoon. Accurate plots were to be made with a “no-construction zone” designation. A collection of these plots are made and a user-friendly directory is made. Later in practice, if an individual or organization comes forward for approval of a construction in a particular area, the survey number of the particular area has to be cross-checked along with the directory for a possible match. If such an event occurs, permission is not granted since it may lead to further demeaning of the area. Having a resource as such can help governments and environmental activists to crack down into places where such malpractices are carried out. This paper will provide data that may help not only in restoring the natural habitat for the long run but also lower the destruction caused by flooding during the monsoon season in Kerala.(NB: We have secured funds for attending this conference in Paris)