

REMOTE SENSING OF IMPERVIOUS SURFACES: A COMPARISON BETWEEN SUPERVISED MLC AND SUB PIXEL ANALYSIS

Chithra S V¹, Amarnath A², M V Harindranathan Nair³

- 1. Research Scholar, School of Environmental Studies, Cochin University of Science and Technology, chithu1010@gmail.com.*
- 2. Research Scholar, School of Environmental Studies, Cochin University of Science and Technology, amarenvis@gmail.com.*
- 3. Assistant Professor, School of Environmental Studies, Cochin University of Science and Technology, harinathses@gmail.com.*

Abstract: Impervious surfaces serve as an effective indicator of urbanization and its impacts. An Impervious surface refers to an man-modified surface that prevents water from infiltrating into the soil. Impervious surfaces are defined as surfaces that prohibit the movement of water from the land surface into the underlying soil and thereby increasing run off. Impervious surface mapping is important for the studies related to water cycling, water quality, soil erosion, flood water drainage, non point source pollution and urban subsurface hydrology. Mapping of impervious surfaces have been a challenge as the classification accuracies are considerably reduced by the mixed pixel problem. Even the high resolution images are not exempted from mixed pixel problem. The present study aims at comparing the accuracy of Impervious Surface mapping using supervised maximum likelihood classification and sub-pixel classification. IRS LISS IV image for the year 2012 was used for the study. Erdas Imagine 9.3 is used for Image processing. Sub pixel analysis yielded better classification results and reduced the mixed pixel problem to a considerable extent.