Impact of Soil pH on Vegetation Distribution in New Delhi City Based on Remote Sensing

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A B S T R A C T

The research analyzes how plants and soil pH relate within New Delhi City (India). The researcher employed remote sensing (RS), ArcGIS, and literature review to systematically analyze the effects of soil pH on the different types of plant life there. Overall, the researcher found that most of the soil within New Delhi City is either acidic or neutral. Where there are acidic soils occur primarily in a hill region that has a lot of evergreen broadleaf trees and coniferous trees. Areas with very strong (highly) acid soil contain primarily plants that are tolerant of acidic conditions, such as rhododendrons and tea. Neutral and somewhat alkaline soils support a wider range of trees and crops than acidic soils. In addition, the study describes the adaptability of various types of plant species to a particular kind of soil pH, and therefore serves as an important scientific resource for preserving the environment and land use planning in New Delhi City. The researcher indicates that developing and implementing good soil management and improvement practices can positively influence the selection process for plants, assist in the restoration of degraded ecological areas, as well as promote sustainable development within the newly developed regions of India.

Keywords: Soil pH, ArcGIS; Vegetation distribution, Sustainable development