

Suitability assessment of Mulshi, Varasgaon and Panshet watershed area for construction activities

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Abstract

Man being an active force of nature is continuously altering the face of the earth in the name of development. Such developments are being done injudiciously without giving careful consideration to the environment and hence have adverse impact on both environment and human beings. Therefore, any encroachment and construction should be carried out only after the careful study of the area in a sustainable manner. Present work is an attempt to study an area which is hilly, rich in biodiversity, an important source of water supply to the Pune city and experiencing rapid development in construction. In this study weighted overlay analysis has been done for suitability modeling (to locate suitable areas for any construction and development activities and to compare it with the ongoing developmental projects). For this purpose, two raster layers i.e. slope map (derived from ASTER image) and vegetation density map (derived using Normalized Difference Vegetation Index) have been overlaid by using ArcGIS 9.3. The result shows that out of 511 km² only 107.95 km² of area is suitable for development activities. But area occupied by the private developers is much more than the recommended area. Around 100 km² is already under Lavasa corporation ltd., more than 30 km² is under Amby valley and 62 km² areas in Mulshi has been officially given to the private developers. Moreover, some parts of the development projects have been/are being built over unsuitable areas. Therefore, such construction activities should be restricted. If the current scenario of land acquisition and development goes as it is, the area will soon face many environmental problems.