



Status of Forest Cover Density in the Shivaliks of Haryana

Dr. Sandeep Gupta

**Institute of Environmental Studies, Kurukshetra University
Kurukshetra - 136119 (INDIA)**

Abstract

In India, Shivalik hills are one of the youngest mountain range running parallel to the Himalayan range. In the State of Haryana where the study has been conducted, the Shivalik is spread over its north and north-eastern districts of Panchkula, Yamunanagar and Ambala (30°18'40.4466" to 30°54'44.4478N, 76°46'33.9113" to 77°34'38.2049E) constituting 10.04% (42574.86 ha) of the total geographical area of three districts (424000 ha). In this study, forest canopy density (FCD) model have been used to quantify existing canopy covered forest in the Shivaliks of Haryana using satellite data from OLI-2 and TIRS-2 sensors of Landsat 9 acquired on 15 December 2022. The result is presented in three canopy density classes: moderately dense, dense and very dense having density 10-40%, 40-70% and more than 70%, respectively. The obtained area distribution of FCD shows that in the Shivaliks of Haryana around 89.06% (37919.7 ha) of existing forest area is covered with canopy, out of which: i) 2.64% area is having moderately dense canopy (1002.24 ha), ii) 93.55% area is having dense canopy (35472.51 ha) and iii) 3.81% area is having very dense canopy (1444.95 ha). The ground truthing of the study area shows that the forest is rich in Sal (*Shorea robusta*), Khair (*Acacia catechu*), Papri (*Holoptelea integrifolia*), Shisham (*Dalbergia sissoo*), Arjun (*Terminalia Arjun*), Tendu (*Diospyros Melanoxylon*), Amaltas (*Cassia fistula*), Chamrod (*Ehretia Laevis*) and other tree species off commercial and medicinal importance. The outcome of this study shows that forest restoration, afforestation and prevention of illegal encroachment in forest will yield an increase in forest density as well as diversity in the Shivalik mountains of the Haryana State of India.

Biography: Dr. Sandeep Gupta is an Assistant Professor in the Institute and has specialization in Remote Sensing. He has more than 11 years of teaching and research and 5 years of industrial experience. He has obtained his Doctorate from Albert-Ludwigs University, Germany. He has published 11 full papers in SCI/peer-review journals and international conference proceedings and presented work in many more conferences. He is an active member of IEEE, IEEE-GRSS, ISPRS, ISRS and PGRSC.