RESEARCH ARTICLE

CHANGES IN THE PHYSICO-CHEMICAL PROPERTIES OF SOIL IN DIFFERENT DEODARFORESTS OF GARHWAL HIMALAYA

Gaurav Chand Ramola[1], Digvijay Rathod[2], Yogesh Kumar*[3], Prajapati Dhaval[4], Akshit Kukreti[5] and V.P. Khanduri[6]

[1,2,4,5]*ForestResearch Institute, Dehradun(Uttarakhand)*
[6]*College of Forestry, VCSG, UUHF, RanichauriTehriGarhwal(Uttrakhand)*
[3]*Ministry of Environment Forest and Climate Change, New Delhi*

Abstracts: The present study was undertaken in different deodar temperate forest of Uttrakhand in Garhwal Himalaya, India. The aim of the study was to evaluate the changes in the physico-chemical properties of soils in different deodar forest of Garhwal Himalaya after 15 years as previous study was carried out in 2000 in the same studied sites by Bhatt et al. The changes in physico-chemical properties of soil were assessed by laying out five 0.1 ha sample plots by recognizing GPS location of the earlier study on each location. The composite soil samples were collected from each sample plot at three different soil depths (0-10 cm, 11-20 cm and 21-30 cm). The standard method was used to analyze the soil sample. To study the Physico-chemical properties of soil various parameter viz. Soil organic carbon %, available phosphorus, available potassium, pH and moisture content % was analyzed. The outcome of the study revealed that the values of soil organic carbon %, available phosphorus, available potassium, pH and moisture content % ranged between 0.24% to 0.68 %, 7.76 to 64.21 kg/ha, 63.5 kg/ha to 406.6 kg/ha, 5.07 to 5.87, 14.72 % to 41.99 % respectively. In the present re-visitation study, the huge changes was seen in the physico-chemical properties of soil mainly in Organic Carbon %, soil pH and moisture content % as they all decreases due steep topographic condition, slow decomposition rate whereas there was increase in the available Phosphorus. These changes are more likely attributable to the combined effect of growth and use of soil nutrients by the trees in respective sites.

Keywords: Decomposition, Deodar, Garhwal Himalaya, Nutrient changes, Physico-chemical properties

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*Corresponding Author

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