EFFECT OF BIOTIC DISTURBANCE ON SOIL CHARACTERISTICS OF A MIXED- OAK FOREST IN KUMAUN HIMALAYA

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Abstract : A study was conducted in mixed oak forest zone of Nainital catchment (Uttarakhand) in the Kumaun Himalaya for determining the impact of biotic disturbance on physical and chemical characteristics of soil. Three sites viz. undisturbed, moderately disturbed and highly disturbed were selected in a mixed oak forest and each site was further divided into three sub sites; Hill Base, Hill Slope and Hill Top. The findings indicated that there was more accumulation of nutrients in the undisturbed site as compared to moderately and highly disturbed sites. Sand particle was maximum in highly disturbed site and minimum in undisturbed site while, silt and clay showed a reverse trend. Maximum organic carbon (2.19%) was observed in surface soil (0-10 cm) at hill top of undisturbed forest and minimum (1.01%) in deep soil (20-30 cm) at hill base of highly disturbed site. Maximum nitrogen (0.36%) and organic matter content (3.78%) was observed in undisturbed forest as compared to moderately and highly disturbed sites. Results of present study indicated that there is an urgent need of value addition protection, forestation and environmental awareness programme for local people so that forests, particularly in degraded or disturbed forest area, can be saved.

Keywords : Disturbance, Oak forest, Kumaun Himalaya, Soil characteristics, Soil nutrients.

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