



RESEARCH ARTICLE

DOI: 10.15740/HAS/IJFCI/8.2/130-140

Study of association of soil parameters with various site quality classes of forests of Mukundpur, Satna, Forest Division, Madhya Pradesh, India

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ABSTRACT : Mukundpur forest range is situated in Amarpatan Tahsil of Satna district of Madhya Pradesh India. The range has geographical area of 589.71 km² with forest area 111.55 km². This area is under high disturbances and ecological stress due to manmade activities, the associations of soil parameters like pH, electrical conductivity, availability of major nutrients (Nitrogen, phosphorus and potassium) and micro nutrients like (Copper, manganese, iron and zinc) with site quality are analyzed. Individual effects of pH, EC and Organic Carbon play the significant role in site quality classes of study area *i.e.* these soil parameters affect the productivity of the forest individually. The combined impact of pH, EC and organic carbon does have significant association within various site quality classes of study area. Except encroachment category class, individually nitrogen and P₂O₅ does not make significant impact on various site quality classes, though individually K₂O does have significant impact on site quality class of IVA and VA. The combined impact of Nitrogen, P₂O₅ and K₂O (macro nutrients) do have significant association within various site quality classes of study area. Thus combined effects of macro nutrient of soil have significant bearing on forest productivity of study area. Except encroachment, individual Zn do not have significant impact on various site quality classes, though results of Fe shows significant role in site quality IVA individually. Individually the manganese does not play the significant role in site quality IVB and VA but this has strong influence on other site quality classes. Individually Cu does have significant in encroachment and site quality IVA but it does not have significant role in other site quality classes. The overall impact of Zn, Fe, Mn and Cu do not have significant association within various site quality classes of study area. Thus overall impact of micro nutrient does not have significant association in productivity of forests.

KEY WORDS : Site quality, pH, Electrical conductivity, Organic carbon content, Macro nutrients, Micro nutrients

HOW TO CITE THIS ARTICLE : Singh, Prachi (2017). Study of association of soil parameters with various site quality classes of forests of Mukundpur, Satna, Forest Division, Madhya Pradesh, India. *Internat. J. Forestry & Crop Improv.*, 8 (2) : 130-140, DOI: 10.15740/HAS/IJFCI/8.2/130-140.

ARTICLE CHRONICAL : Received : 13.10.2017; Revised : 10.11.2017; Accepted : 26.11.2017

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