RESEARCH ARTICLE

FINE ROOT BIOMASS AND SOIL PHYSICO-CHEMICAL PROPERTIES IN ACHANAKMAR-AMARKANTAK BIOSPHERE RESERVE

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Received-04.02.2019, Revised-23.02.2019

Abstract: The present study was aimed to assess the fine root biomass and soil physico-chemical properties in Achanakmar-Amarkantak Biosphere Reserve. Four sites characterized by varying vegetation attribute and representative of the region were selected. The belowground plant material (stand fine roots < 5 mm diameter) was sampled from 10 monoliths (15 x 15 x 15 cm) on each site. Proportions of live and dead fine roots were estimated on the basis of visual observations such as colour, texture, etc. Sample were dried at 80^0C to constant weight and weighed. Fine root biomass varied between 0.95 - 3.85 t ha^{-1}, respectively Organic C in soil ranged from 0.62 - 2.1 %, total N from 0.06 - 0.18 % and total P from 0.029 - 0.037 %. Available Pi ranged from 0.0002 - 0.00028 %. The exchangeable K ranged between 0.025 - 0.288 %. The short-lived components of the ecosystem viz., foliage, herbs and fine roots play a significant and dominant role in the functioning (relative contribution to nutrient cycling) of the present tropical deciduous forest.

Keywords: Fine root biomass, Nutrient cycling, Physico-chemical properties, Soil sample, Tropical deciduous forest

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