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Comparative Assessment on Physico-chemical Properties of Coal Mining Affected and Non-Affected Forest Soil at Changki, Nagaland

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Abstract: Coal mining activities along the forested hills and plains of various districts in Northeast India has caused substantial environmental damages altering the landscape and soil properties as well. The present study aims to evaluate the soil physico-chemical parameters of the coal mining affected forest (CMAF) and non-affected forest (NAF) at Changki, Nagaland, India. Soil samples were collected at varying depths from September, 2018 to August, 2019 covering the four seasons *viz*., winter, spring, summer and autumn. The soil parameters such as soil organic carbon, pH, porosity, soil moisture, particle density, exchangeable potassium, available nitrogen, available phosphorus and cation exchange capacity were higher in NAF soil in all the seasons. Comparative analysis between the results of the two sites indicates deteriorated soil quality and altered soil properties in the affected forest as the rejuvenating process is hampered while the soil nutrient availability and organic carbon composition in the NAF indicates fertile soil status.

Keywords**:** Changki, Coal mines, Disturbed forest, Soil quality, Seasonal values