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MAPPING CHEMICAL PROPERTIES OF SOIL AT VILLAGE LEVEL: A CASE STUDY OF RINCHENPONG, SIKKIM

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ABSTRACT

Digital Soil Mapping at farmland scale or even at village scale is rare. With the initiative of government of India to implement soil health card at farm scale it becomes imperative to map soil properties at village level and suggest sustainable management practices. Rinchenpong village, in West Sikkim. was surveyed and randomly 20 soil samples were collected for their chemical analysis to estimate pH, Electrical Conductivity (EC), Soil Organic Carbon (SOC), Nitrogen (N), Phosphate (P), Potash (K) and micronutrients like Sulfur (S), Manganese (Mn), Copper (Cu), Zinc (Zn) and Iron (Fe) using state-of -the art laboratory facilities and norms. The values of different soil parameters were then interpolated using ordinary kriging technique and mapped in ArcGIS 10.4.1.The data were validated with the Soil Series of Sikkim data which is a National Bureau of Soil Survey and Land use planning (NBSSLUP) publication. The various chemical parameters show good correlation, except for the micronutrient concentrations in soil, but match perfectly with the test results of Soil Health Card scheme.

KEYWORDS: *Digital soil mapping, soil health card, Rinchenpong, Eastern Himalayas.*

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