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Soil loss from agricultural lands in Eastern Ghat of Odisha - a case study of Koraput district

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ABSTRACT

Soil loss was estimated from agricultural lands of Koraput district in **Eastern Ghats of Odisha** applying Universal Soil Loss Equation (USLE). Annual soil loss to the tune of 13333.35 thousand tonnes was observed from the crop fields of the district covering 3.04 lakh ha area at the rate of $43.86 \text{ t ha}^{-1} \text{ yr}^{-1}$. Single cropped, double cropped and fallow lands contributed 68.8%, 20.7% and 10.5% of total soil loss, respectively. Maximum rate of soil loss ($98.38 \text{ t ha}^{-1} \text{ yr}^{-1}$) was found in case of fallow land. Under single cropped lands, maximum ($68.53 \text{ t ha}^{-1} \text{ yr}^{-1}$) and minimum ($26.85 \text{ t ha}^{-1} \text{ yr}^{-1}$) soil loss were obtained in case of *mung*-fallow-fallow and *jowar*-fallow-fallow, respectively. Under double cropped lands, maximum ($53.71 \text{ t ha}^{-1} \text{ yr}^{-1}$) soil loss was obtained in case of both *maize*-fallow-*kulthi* and *maize*-fallow-*maize*, and minimum ($24.76 \text{ t ha}^{-1} \text{ yr}^{-1}$) soil loss in case of small millets-fallow-other pulses. From double cropped lands, 70% less soil loss was observed when compared to single cropped lands of the district. Higher soil loss under single cropped lands may be due to upland situations and longer fallow period. Lower soil loss under double cropped lands may be attributed to mild slopping conditions, thick crop canopy due to better soil moisture and shorter fallow period. Restricting fallow period with good crop coverage and adoption of suitable soil and water conservation measures may help largely to curb soil loss and land degradation in Koraput district.