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Effect of geojute technique on density, diversity and carbon stock of plant species in landslide site of North West Himalaya

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Abstract: Mountainous regions of the globe experience landslides due to heavy rainfall and unplanned construction on slopes. Geojute is adopted globally as a landslide rehabilitation measure, but its impact on natural vegetation development is poorly understood. The present study was conducted to examine the impact of geojute application on vegetation restoration, ecology and carbon stock in a recently occurred landslide, during 2012. The results revealed that the geojute application improved the richness, diversity, density and basal area of plant species at the landslide site. Likewise, biomass production, carbon stock and carbon sequestration of plant species was observed significantly higher in geojute treatments compared to control (without geojute treatment). Moreover, significant improvement in soil moisture was recorded beneath the geojute treatments. Further, results showed that the geojute is highly effective in controlling soil erosion at the landslide site. The findings of this study revealed ecological and environmental benefits of geojute application in term of improvement in vegetation recovery processes, species diversity and

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carbon sequestration at the landslide site. The scientific outcome of this study can be helpful for planning the rehabilitation measures in landslide affected regions of the globe.

Keywords: Carbon sequestration; Erosion control; Geojute; Landslide rehabilitation; Vegetation restoration

Introduction