

The Nexus of Climate Change and Land-use Global Scenario with Reference to Nepal

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The interplay between land use and climate change is a crucial aspect of sustainable development, especially in Nepal. This book delves into the intricate connections between land use and climate change in Nepal, shedding light on significant challenges and potential opportunities. Nepal, with its diverse topography and ecosystems, is exceptionally susceptible to the impacts of climate change. The distinctive land-use patterns, encompassing agriculture, forest cover, and urbanization, significantly influence the country's climate resilience and carbon balance. However, rapid population growth, urban expansion, and changing land-use practices have led to environmental degradation and a surge in greenhouse gas emissions. The alarming deforestation, driven by agricultural expansion, infrastructure development, and unsustainable logging, has contributed to carbon emissions and the depletion of vital ecosystem services. Consequently, the conversion of forested land into agricultural fields has negatively affected biodiversity, soil erosion, and water resources, intensifying the vulnerability of communities to climate change. Nevertheless, embracing sustainable land use practices like afforestation, reforestation, and agroforestry holds promise for mitigating the impacts of climate change and enhancing resilience. The promotion of climate-smart agriculture, watershed management, and community-based forestry can aid in conserving ecosystems, sequestering carbon, and improving livelihoods. This study illustrates the intricate relationship between land use and climate change, emphasizing the importance of striking a balance in land use practices, conserving forests, and biodiversity, and promoting sustainable agriculture. These efforts are indispensable for achieving climate resilience and sustainable development in Nepal. By addressing the nexus between land use and climate change, Nepal can pave the way towards a more sustainable and climate-resilient future. The purpose of this book is to present the core concepts of this issue, inspire further research, and propose solutions to mitigate the problems caused by human disturbances in the Earth's ecosystem.

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