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Impact of Climate Change on Forest Ecosystem Services: In situ Biodiversity Conservation and Sustainable Management of Forest Resources in Tropical Forests

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Abstract : Forest genetic resources not only represent regional biodiversity but also have immense value as the wealth for securing livelihood of poor people. These are vulnerable to ecological due to depletion/deforestation and /or impact of climate change. These resources of various plant categories are vulnerable on the floor of natural tropical forests, and leading to the threat on the growth and development of future forests. More than 170 species, including NTFPs, are in critical condition for their survival in natural tropical forests of Central India. Forest degradation, commensurate with biodiversity loss, is now pervasive, disproportionately affecting the rural poor who directly depend on forests for their subsistence. Looking ahead the interaction between forest and water, soil, precipitation, climate change, etc. and its impact on biodiversity of tropical forests, it is inevitable to develop co-operation policies and programmes to address new emerging realities. Forests ecosystem also known as the 'wealth of poor' providing goods and ecosystem services on a sustainable basis, are now recognized as a stepping stone to move poor people beyond subsistence. Poverty alleviation is the prime objective of the Millennium Development Goals (MDGs). However, environmental sustainability including other MDGs, is essential to ensure successful elimination of poverty and well being of human society. Loss and degradation of ecosystem are the most serious threats to achieving development goals worldwide. Millennium Ecosystem Assessment (MEA, 2005) was an attempt to identify provisioning and regulating cultural and supporting ecosystem services to provide livelihood security of human beings. Climate change may have a substantial impact on ecological structure and function of forests, provisioning, regulations and management of resources which can affect sustainable flow of ecosystem services. To overcome these limitations, policy guidelines with respect to planning and consistent research strategy need to be framed for conservation and sustainable development of forest genetic resources.

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