

BOOK OF ABSTRACTS

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Forest Adaptation and Restoration under Global Change - status and perspectives

S5.6 Transforming and restoring forests for more resilient landscapes and societies

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Abstract: Forests and forest landscapes fulfil multiple essential ecosystem services (ES). These include (i) provisioning services such as the provision of food, raw materials, freshwater and medicinal resources; (ii) regulating services such as carbon sequestration and storage for climate protection, regulation of the landscape water cycling and climate, moderation of extreme events and natural hazards; (iii) cultural services for recreation, mental and physical health, tourism, and aesthetic, cultural and spiritual experiences, as well as (iv) supporting services for preserving biodiversity. For rural populations, forests are often the basis for their social identity, livelihoods, and the local economy. Forest landscapes are social-ecological systems shaped by multiple influences and they play an outstanding role, contributing to all 17 Sustainable Development Goals (SDG). However, forest landscapes are under pressure with the loss of forest areas by conversion to other land uses and degradation of existing forests, and reduced biodiversity. An estimated 10 million hectares of forest area have been lost between 2015 and 2020 and an even larger amount is estimated to be degraded. Environmental and climate changes are rapidly altering the growth, survival, and regeneration conditions for forest ecosystems with direct and dramatic impacts on 3.2 billion people, in particular the most vulnerable. Tropical forests, for example, are home to over two-thirds of the Earth's terrestrial biodiversity and they are facing significant threats from human activities as well as climate change. With this, forests and forest landscapes may lose their characteristic structural and ecological features, and societies worldwide face diminishing levels of ecosystem services provided by forest landscapes. Thus, along with the preservation of intact forest landscapes, forest adaptation and restoration are needed to prevent the continued global loss of ecosystem services and biodiversity, so that forest landscapes can meet the ecological, economic, and societal challenges due to global change. In this presentation we provide an overview about the status of global activities on forest adaptation and restoration based on an online survey and other sources, and discuss the future perspectives of Forest Landscape Restoration (FLR) for various ES like climate protection, water cycling, biodiversity, and the provision of food and raw materials.