Responsible Global Integrated Forest Management Strategies

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Abstract: Forests are essential to our life, supporting wild species and providing countless goods and vital ecosystem services like clean water, fresh air, protection from natural hazards and carbon storage. However, globally, forests are endangered by a threatening combination of the negative effects of climate change, land-use change effects and non-sustainable management. Responsible forest management can contribute to climate change mitigation by three general pathways: conservation (forests are currently the largest terrestrial C storage, i.e., prevent emissions from currently high forest carbon pools), sequestration (increase stocks in existing pools in and ex situ) and substitution (substitute energy-intensive products or products on fossil fuel basis with biological, regrowing products e.g., bioenergy).

In our study we aim at offering a consistent overview of an integrated responsible forest management on a global scale and try to show potential pathways in order to significantly reduce deforestation. Successful and sustainable global forest management means primarily avoiding deforestation in order to maintain the countless ecosystem services for the future, while providing support to supplying 9 billion people with food, fiber, fuel and fresh water. Only an integrated view combined with an integrated scientific- methodological approach helps to identify the key questions and solutions for this major challenge.

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