

Silviculture for Climate Change: Future Scenarios for Nigeria Forests

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Abstract : Climate change is expected to lead to substantial changes in rainfall patterns in southwest Nigeria, and this may have substantial consequence for forest management and for conservation outcomes throughout the region. We examine three different forest types across an environmental spectrum from semi-arid to humid subtropical and consider their response to water shortages and other environmental stresses; we also explore the potential consequence for conservation and timber production by considering impacts on forest structure and limiting stand density. Analysis of a series of scenarios provides the basis for a critique of existing management practices and suggests practical alternatives to develop resilient forests with minimal diminution of production and environmental services. We specifically discuss practical silviculture interventions that are feasible at the landscape-scale, that are economically viable, and that have the potential to enhance resilience of forest stands. We also discuss incentives to encourage adoption of these approaches by private forest owners. We draw on these case studies in southwestern Nigeria to offer generic principle to assist forest researchers and managers faced with similar challenges elsewhere.

Keywords : climate change, forest, future, silviculture, Nigeria

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