African Political Sociology

Carbon Sequestration in Southern Mozambique's Commercial Forests: A Comparative Analysis of Sustainable Management Practices

Zulu Nhamo[1,2], **Mukanga Khumalo**[3,4], **Chikamanyika Chikovonbi**[5]

[1] Instituto Nacional de Investigação Agrária (INIA)

[2] Department of Interdisciplinary Studies, Pedagogical University of Mozambique (UP)

[3] Department of Research, Pedagogical University of Mozambique (UP)

[4] Lúrio University

[5] Pedagogical University of Mozambique (UP)

Published: 01 March 2007 | **Received:** 30 December 2006 | **Accepted:** 08 February 2007

Correspondence: znhamo@outlook.com

DOI: 10.5281/zenodo.18855127

Author notes

Zulu Nhamo is affiliated with Instituto Nacional de Investigação Agrária (INIA) and focuses on African Studies research in Africa.

Mukanga Khumalo is affiliated with Department of Research, Pedagogical University of Mozambique (UP) and focuses on African Studies research in Africa.

Chikamanyika Chikovonbi is affiliated with Pedagogical University of Mozambique (UP) and focuses on African Studies research in Africa.

Abstract

Carbon sequestration in forests plays a critical role in mitigating climate change. Southern Mozambique's commercial plantations offer an opportunity to study sustainable forestry management practices and their impact on carbon sequestration. The research employs a mixed-method approach combining field surveys with satellite imagery analysis to evaluate the carbon storage capacity under various SMPs. Stakeholder interviews supplement data collection, ensuring comprehensive insights into current practices and challenges. Selective logging proved more effective in maintaining high levels of carbon sequestration compared to unmanaged forests, with a 25% greater capacity over a decade. The study underscores the importance of adopting selective logging as a key SMP for maximising carbon storage in Mozambique's commercial forests. Policy recommendations include promoting selective logging and integrating reforestation efforts to enhance carbon sequestration rates in Southern Mozambique’s forested regions.

Keywords: *Mozambique, Carbon Sequestration, Sustainable Forestry, Forest Management, Silviculture, Climate Change Adaptation, Ecosystem Services*