African Heritage and Conservation

Early Warning Technology's Impact on Forest Fire Risk Mitigation in Mozambique Drylands: A Methodological Approach

Zavala Gombeira[1], **Shirley Machanguco**[2,3], **Ngoni Chipinhe**[4,5]

[1] Department of Advanced Studies, Instituto Nacional de Investigação Agrária (INIA)

[2] Department of Interdisciplinary Studies, Catholic University of Mozambique

[3] Department of Research, Instituto Nacional de Investigação Agrária (INIA)

[4] Catholic University of Mozambique

[5] Eduardo Mondlane University (UEM), Maputo

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Correspondence: zgombeira@gmail.com

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Author notes

Zavala Gombeira is affiliated with Department of Advanced Studies, Instituto Nacional de Investigação Agrária (INIA) and focuses on Environmental Science research in Africa.

Shirley Machanguco is affiliated with Department of Interdisciplinary Studies, Catholic University of Mozambique and focuses on Environmental Science research in Africa.

Ngoni Chipinhe is affiliated with Catholic University of Mozambique and focuses on Environmental Science research in Africa.

Abstract

Forest fires pose a significant threat to biodiversity and human settlements in Mozambique's drylands. Early warning technology has emerged as a promising strategy for mitigating these risks. The research utilizes machine learning algorithms to analyse historical fire data and environmental variables. A mixed-method approach combines statistical modelling with field surveys for comprehensive analysis. Early warning systems have shown a reduction of approximately 20% in burned area coverage compared to non-early warning areas, highlighting the potential impact on reducing forest fires. The early warning technology significantly contributes to mitigating forest fire risks in Mozambique's drylands by decreasing the extent of affected areas. Further deployment and optimization of early warning systems should be considered for broader application across Mozambique’s dryland forests. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Geographical Information Systems, Remote Sensing, Geographic Information System, Monitoring Framework, Predictive Models*

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