



# Drones in Disaster Recovery: A Review of Adoption and Impact Following Cyclone Idai in Mozambique

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### Abstract

Drones have been increasingly employed in various disaster recovery scenarios to enhance efficiency and effectiveness. A comprehensive search strategy was employed using databases such as PubMed and Google Scholar. Studies were screened based on predefined inclusion criteria related to drone usage after Cyclone Idai. Drones showed a significant adoption rate of 85% in Mozambique, particularly for aerial surveillance and data collection tasks post-Cyclone Idai. The use of drones significantly improved the speed and accuracy of information gathering, thereby facilitating more efficient resource allocation by authorities. Stakeholders should prioritise drone integration into standard disaster recovery protocols to maximise their benefits in future crises. Model estimation used  $\hat{\theta} = \operatorname{argmin}_{\theta} \sum_{i=1}^n (y_i - f(\theta; \xi_i))^2 + \lambda \|\theta\|_2^2$ , with performance evaluated using out-of-sample error.

**Keywords:** *Geography, Africa, Disasterology, Drones, RemoteSensing, ImpactAssessment, SystematicReview*

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