



Precision Agriculture in Southern Madagascar: A Theoretical Framework for Economic and Environmental Impact Analysis

Antoine Randriamiharisoa¹, Rafraichy Rakotoarivony^{2,3}

¹ Department of Research, University of Toamasina

² Department of Advanced Studies, University of Antananarivo

³ University of Toamasina

Published: 04 December 2009 | **Received:** 06 August 2009 | **Accepted:** 18 October 2009

Correspondence: arandriamiharisoa@gmail.com

DOI: [10.5281/zenodo.18900750](https://doi.org/10.5281/zenodo.18900750)

Author notes

Antoine Randriamiharisoa is affiliated with Department of Research, University of Toamasina and focuses on African Studies research in Africa.

Raфраichy Rakotoarivony is affiliated with Department of Advanced Studies, University of Antananarivo and focuses on African Studies research in Africa.

Abstract

Precision agriculture involves the use of advanced technologies to optimise crop yields while minimising environmental impact. In Madagascar, particularly in southern regions known for rice cultivation, precision farming techniques have shown promise in enhancing productivity and sustainability. A literature review will be conducted to identify existing research on precision agriculture and its applications in agricultural settings. Theoretical models will then be developed to analyse potential outcomes, focusing on cost-benefit analyses and ecological footprints. This theoretical model provides a robust foundation for policymakers and agricultural practitioners considering the adoption of precision farming techniques in Madagascar's southern rice-growing regions. Policymakers should consider funding pilot projects to test the feasibility of precision agriculture, while farmers are encouraged to adopt these practices through training programmes.

Keywords: *Madagascar, GIS, Agroecology, Sustainability, Innovation, Participatory Research, Rural Development*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge