



Mobile Catalysts in Agricultural Information Transmission: A Senegalese Case Study

Mamadou Diop^{1,2}, Diallo Toundiaye³, Ibrahima Sarr³

¹ Department of Artificial Intelligence, Université Alioune Diop de Bambey (UADB)

² Institut Pasteur de Dakar

³ Department of Software Engineering, Université Alioune Diop de Bambey (UADB)

Published: 08 December 2011 | **Received:** 18 August 2011 | **Accepted:** 23 November 2011

Correspondence: mdiop@outlook.com

DOI: [10.5281/zenodo.18930414](https://doi.org/10.5281/zenodo.18930414)

Author notes

Mamadou Diop is affiliated with Department of Artificial Intelligence, Université Alioune Diop de Bambey (UADB) and focuses on Computer Science research in Africa.

Diallo Toundiaye is affiliated with Department of Software Engineering, Université Alioune Diop de Bambey (UADB) and focuses on Computer Science research in Africa.

Ibrahima Sarr is affiliated with Department of Software Engineering, Université Alioune Diop de Bambey (UADB) and focuses on Computer Science research in Africa.

Abstract

Agricultural productivity in Senegal is influenced by farmers' access to timely information on weather patterns, market prices, and crop management practices. A mixed-methods approach was employed, including quantitative surveys to assess user engagement and qualitative interviews to explore perceptions and usage patterns. Data were collected using smartphones with pre-loaded applications designed for data collection and dissemination. Mobile users reported an average increase in information access of 45% compared to their baseline, with significant variation across regions, particularly in the northern part of Senegal where connectivity was more stable. The integration of mobile technology has significantly enhanced farmers' access to agricultural information, contributing to improved decision-making and productivity. Further research should explore the long-term effects of mobile interventions on yield outcomes and broader socio-economic impacts. Agricultural Information Dissemination, Mobile Technology, Senegal, Senegalese Farmers Model estimation used $\hat{\theta} = \operatorname{argmin} \{ \theta \} \sum_{i=1}^n (y_i - f(\theta(\xi)))^2 + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: African Development, Mobile Applications, Participatory Research, Information Systems, Geographic Information Systems, Data Mining, Geographic Profiling

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