African Water Security Studies (Environmental/Cross-disciplinary)

Mobile Catalysts in Agricultural Information Dissemination: A Senegalese Case Study

Kamissoko Sambou[1,2], **Diop Ndiaye**[3], **Mamadou Diallo**[2,4], **Toure Niang**[4,5]

[1] Department of Software Engineering, Université Gaston Berger (UGB), Saint-Louis

[2] Cheikh Anta Diop University (UCAD), Dakar

[3] Council for the Development of Social Science Research in Africa (CODESRIA), Dakar

[4] Université Gaston Berger (UGB), Saint-Louis

[5] African Institute for Mathematical Sciences (AIMS) Senegal

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Correspondence: ksambou@aol.com

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Author notes

Kamissoko Sambou is affiliated with Department of Software Engineering, Université Gaston Berger (UGB), Saint-Louis and focuses on Computer Science research in Africa.

Diop Ndiaye is affiliated with Council for the Development of Social Science Research in Africa (CODESRIA), Dakar and focuses on Computer Science research in Africa.

Mamadou Diallo is affiliated with Université Gaston Berger (UGB), Saint-Louis and focuses on Computer Science research in Africa.

Toure Niang is affiliated with African Institute for Mathematical Sciences (AIMS) Senegal and focuses on Computer Science research in Africa.

Abstract

Mobile technology has emerged as a critical tool for enhancing agricultural productivity in developing countries by disseminating information to farmers more efficiently and effectively. A mixed-methods approach combining quantitative data from a survey and qualitative insights through interviews was employed. The survey utilised a Likert scale to assess farmer satisfaction with mobile services, while interviews explored detailed usage patterns and perceived benefits. The analysis revealed that approximately 65% of surveyed farmers reported improved crop yields following the introduction of mobile information dissemination tools, indicating significant positive outcomes in terms of productivity enhancement. Mobile catalysts have shown promising potential for augmenting agricultural information dissemination in Senegal, with notable benefits observed in increased yield and farmer engagement. Further research should explore scalability and cost-effectiveness of mobile solutions to ensure their widespread adoption by smallholder farmers across diverse regions in Africa. Agricultural Information Dissemination, Mobile Catalysts, Senegal, Smallholder Farmers Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *African Geography, Mobile Applications, Information Systems, Telecommunications, Participatory Action Research, Geographic Information Systems, Community Development*

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