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Mobile Technologies in Agricultural Extension Services: A Scoping Review in Burkina Faso

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Abstract

Mobile technologies have emerged as a promising tool for enhancing agricultural extension services in developing countries, aiming to improve farmers' knowledge and practices. The review included a systematic search of English-language articles published between January and December , focusing on studies that utilised mobile technologies for agricultural extension activities in Burkina Faso. The analysis was guided by thematic synthesis. Mobile technology adoption varied among different regions, with a significant proportion (45%) of farmers utilising text message-based advisories to improve their crop yields and manage pest infestations effectively. The findings indicate that mobile technologies have the potential to significantly enhance agricultural productivity in Burkina Faso, although there is limited evidence on long-term sustainability and impact. Further research is needed to evaluate the long-term effectiveness of mobile technology interventions and explore strategies for ensuring widespread adoption and sustainable use. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African Agriculture, Extension Methods, Mobile Apps, Participatory Research, Geographic Information Systems, Digital Literacy, Precision Farming*