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## Empowering African farmers through digital knowledge exchange networks

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### Abstract

The rapid advancement of digital technologies has proven to be a transformative force in various sectors, including agriculture. This shift towards digitisation not only offers a cost-effective means to scale agricultural innovations but also enhances farmers' autonomy. By fostering bi-directional learning and sharing within digital platforms, farmers can access tailored advice that is targeted to their needs. This approach not only improves individual decision-making but also promotes social inclusion by broadening access to agricultural information. Despite the benefits, the integration of digital tools among smallholder farmers faces significant challenges. Issues such as limited access, insufficient digital literacy, and the absence of human-centered design are prevalent. Traditionally, farmers have depended on direct interactions with agricultural experts and community-based knowledge networks. While invaluable, these traditional methods lack the scalability and reach that digital platforms can provide. In regions where agriculture forms the backbone of the economy, conventional extension services are crucial for knowledge dissemination. However, these services, along with other traditional sources like agricultural shows and community plots, are often limited in their scope and impact. Digital channels, especially mobile technologies, offer a promising alternative. Features like digitally automated advisory services and speech-based interfaces provide accessible and practical solutions for farmers, bridging the gap between expert advice and on-ground application. We present findings from our pilots in Kenya and Zambia, where we implemented open digital channels to facilitate knowledge exchange between extension workers and farmers. These channels not only enabled efficient sharing of agricultural practices but also allowed for the collection of real-time feedback, enhancing the adaptability and effectiveness of the proposed solutions. Essential to the success of these initiatives is the ongoing capacity building for both agricultural advisors and farmers, ensuring they can fully leverage digital tools to optimise their agricultural practices. This research underscores the potential of digital networks to revolutionize agricultural knowledge dissemination and enhance farming practices across Africa.

**Keywords:** Digital, farming, knowledge, networks, tool