



Building a Digital Future for Sri Lanka's Farmers: The AFACI-RATES Experience

Good Practice Notes

SUMMARY

Despite self-sufficiency in paddy production, there are shortfalls in other crops, leading to food imports in Sri Lanka. In response, the Department of Agriculture initiated a three-year project in early 2023 as part of the AFACI-RATES initiative, aimed at enhancing agricultural productivity through improved extension services and ICT facilities. Successful strategies included utilising WhatsApp for real-time communication, interactive multimedia learning, and establishing an E-Extension Training Centre that organised

virtual training sessions for farmers. Key challenges faced were low smartphone usage, insufficient mobile network coverage, and low digital literacy among older farmers. Nevertheless, the project increased access to expert knowledge and improved the adoption of agricultural techniques, highlighting the importance of sustained financial investment and training for the scalability of digital extension. Overall, the project has shown potential for enhancing farmers' productivity and self-sufficiency in Sri Lanka.

CONTEXT

Agriculture is a vital sector of Sri Lanka's economy, accounting for 7-8% of the country's GDP and employing 26.5% of its total workforce, predominantly in rural areas. While Sri Lanka is largely self-sufficient in paddy production, the output of other field crops, such as big onions, dry chillies, soybeans, mung beans, and cowpeas, remains below domestic requirements, necessitating significant food imports. Recognising the need to enhance agricultural productivity and the reach of extension services amidst scarce arable land and low adoption of new technologies, the Department of Agriculture in Sri Lanka initiated a three-year project in early 2023. This project, undertaken as part of the AFACI-RATES project, supported by the RDA of Korea, aimed to enhance the public extension system through strengthened Information and Communication Technology (ICT) facilities. A baseline survey conducted at the project site revealed very low physical contact between farmers and extension officers, as well as minimal use of smartphones (22%) by farmers.

APPROACH

The project implemented a multi-faceted approach to address the identified issues, yielding several positive outcomes:

Effective Use of Social Media for Knowledge Dissemination

WhatsApp Groups: The project successfully leveraged WhatsApp, a widely used platform, to enhance the reach of extension services in the Namalthalawa agriculture extension division. WhatsApp facilitated a quick and broader reach to a large number of farmers, overcoming geographical barriers and challenging climatic conditions like extreme rainfall and flooding. It also promoted cost-effective and two-way communication, enabling interactive dialogue, opportunities for questioning, and direct feedback. Five extension officers created and managed WhatsApp groups dedicated to specific subjects like vegetable cultivation, mushroom cultivation, Integrated Pest Management (IPM), and farmer women societies. These groups collectively engaged over 1100 participants, enabling the timely sharing of critical agricultural information, such as market conditions, weather updates, and pest and disease outbreaks, which significantly improved instant awareness among farmers and agents.

Multimedia and Interactive Learning:

WhatsApp's multimedia sharing capabilities allowed farmers to quickly report field conditions,

The image displays two digital communication channels used in the project. On the left is a WhatsApp chat interface. The contact is 'Paddy' (Ahm Wasantha, AI 10, D J G...). The chat shows two messages: one from 'Paddy' at 20:26 sharing a Facebook reel about agricultural techniques, and another from 'Phr Wikramarathne' at 20:44 sharing another reel. The WhatsApp interface also shows a 'Forwarded' message at the bottom. On the right is the Facebook page for 'Namalthalawa agri tips'. The page has 40 likes and 171 followers. It features a profile picture of a rural landscape, a cover photo, and a post from February 1st about IPM training. Below the post are several photos showing farmers in a field and a woman presenting a poster.

ask questions, and receive appropriate solutions through photos, videos, and voice messages. The groups also fostered peer-to-peer learning and knowledge sharing, creating a network where farmers could discuss challenges, learn from each other's practices, and improve awareness about government initiatives and market connections.

Facebook Page: The "Namalthalawa Agri Tips" Facebook page, launched in April 2024, shares ongoing agricultural practices and new technologies, particularly videos showcasing advanced machinery for higher yields. This platform expanded its reach beyond Namalthalawa, disseminating knowledge more quickly across the island.



Establishment of an E-Extension Training Centre

The District Agriculture Training Centre, Wawinna, was developed into an e-extension training centre with support from the RATES project, which provided equipment such as multimedia projectors, smartboards, and sound systems. This centre has organised 15 virtual training sessions, benefiting 1452 participants.

A primary objective of establishing these centres was to enhance trainers' ability to conduct virtual programs. The centre facilitated access to critical and expert knowledge often unavailable in rural areas, allowing farmers and officers to engage with experts online and discuss their doubts.

Importantly, these virtual classes had a positive impact on farmers who lacked smartphones, as they could attend sessions at the well-equipped training centre. The centre can accommodate more than 50 participants simultaneously, thereby improving the efficiency of training programs.

Improved Data Collection and Targeted Advisory

The WhatsApp groups significantly improved real-time data collection from farmers' fields regarding pests, diseases, flood damage, and input availability. This reduced the time and cost associated with physical visits, especially during challenging times.

By creating groups based on different target farmers and subjects, extension officers could disseminate targeted technical knowledge and timely information, simplifying complex information-sharing processes.

Overall Farmer Engagement and Self-Sufficiency

The project demonstrated success in enhancing

farmers' access to timely information. It updated information on market conditions, weather, pests, diseases, and modern farming techniques, thereby contributing to boosting agricultural productivity and self-sufficiency. The emphasis on two-way communication and enhanced data collection has created a more dynamic, cost-effective, and inclusive extension service.



IMPLEMENTATION CHALLENGES

Despite the successes, the project encountered a few challenges:

Low Initial Digital Adoption

The baseline survey highlighted a very low use of smart mobile phones (22%) among farmers, indicating a significant digital divide at the project's outset. While the project aimed to strengthen ICT facilities, the initial low adoption rate posed a foundational hurdle.

Insufficient Mobile Network Strength

A major barrier to digitalised agricultural extension was interrupted signal strength in some areas due to geographical reasons. This directly reduced farmers' interest in engaging with ICT-based activities, such as WhatsApp, Facebook, and virtual training sessions.

Low Digital Literacy and Technological Adoption Barriers

A significant portion of farmers are above 45 years old, resulting in lower digital literacy in operating

smartphones and tablets or using applications (e.g., installing, downloading, uploading). This demographic challenge makes it difficult for many to fully participate in digital initiatives.

Digital Adoption Resistance and Lack of Familiarity

Some farmers exhibited resistance to digital adoption and a lack of familiarity with new communication techniques. This was evident when farmers tended to leave WhatsApp groups, sometimes due to unfamiliarity or because children using the same account inadvertently removed them.

Persistent Low Physical Contact

Although the project aimed to enhance extension services, the baseline survey initially revealed very low physical contact between extension officers and farmers, with a mean of only two meetings, one telephone call, and 0.23 messages via social media per week over three months. While digital tools addressed reach, the initial low physical engagement remains a challenge.

OUTCOME

Social media groups have supported the dissemination of new agricultural techniques, which were previously unpopular among farmers. For example, the initial adoption of the paddy transplanter machine was very low, but now it has increased to 50 hectares. This has helped raise awareness and gain popularity among farmers. Additionally, farmers now send their field problems to technical staff via social media and receive responses within the same day. Increased access to expert knowledge, currently shared among 1325 farmers, can now be extended to even remote rural communities. This supports the development of their livelihoods by combining enhanced expert knowledge with their cultivating experiences.

SCALING

Firstly, to effectively expand the digital extension approach, sustained financial investment is

essential. Key funding priorities include maintaining and upgrading digital platforms, software, and secure data storage to ensure long-term sustainability. Additionally, subsidising smart devices, especially for smallholders, promotes fair participation.

Secondly, there is a need to concentrate on strengthening human resources. These include recruiting or training specialised digital extension officers skilled in managing social media platforms, organising virtual training sessions, establishing data collection systems, and setting up small technical teams within each division to develop and localise multimedia content (videos, infographics, podcasts) suited for different crop sectors and literacy levels.

Lastly, capacity building and training for both extension officers and farmers are vital. Conducting regular, practical sessions for farmers on smartphone use, app installation, joining WhatsApp groups, and engaging in virtual meetings is essential. It is also important to equip officers with skills to manage large online communities, moderate discussions, analyse digital data, and run virtual training efficiently. Additionally, establishing district-level online communities of practice where extension officers and farmer leaders can share experiences and solutions is key.

CONCLUSION

The AFACI project demonstrates a promising start in digital agriculture extension in Sri Lanka. Despite challenges such as weak signal strength and lower digital literacy, the strategic use of WhatsApp and Facebook platforms, coupled with the establishment of an e-agriculture training centre, has yielded substantial benefits. These efforts have significantly improved farmers' access to timely information and fostered two-way communication, laying the groundwork for increased agricultural productivity and self-sufficiency.

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