



TICmbay: ICT-enabled agricultural extension in Senegal

Our objective:

To improve food security and reduce poverty among smallholder farmers in Senegal through impact on improved agricultural productivity in selected food crops by :

- Improving the capacity of smallholder farmers to use quality seeds and improved technologies correctly through the use of ICT enabled services
- Providing financially sustainable ICT enabled services to complement other extension services using a mix of ICT media

LESSONS LEARNED 2015 – 2019

The project was relevant

It is aligned with government agricultural and extension policies; crops selected are major crops throughout the country and were prioritised through discussion with agricultural researchers; the Government is interested in using ICT services to promote rural development; and there are promising signs of future investment from the meteorological agency ANACIM working in partnership with Jokalante.

ICT services may not be appropriate for all technologies or until the technology is ready to go to scale

Challenges within the market system for certified seed, including problems related to seed quality and availability, had a limiting effect on uptake. In general, farmers appreciated the varieties and demand was strong but certified seeds were not always available, as and when required. As a result some extension messages were met with scepticism and distrust. In contrast, the promotion of the Apronstar seed treatment met with huge success as it was simple to promote and describe over radio broadcasts and IVR messages and good results enabled farmers to see the results for themselves or to hear about it on local radio from one of their peers. In 2018 the use of Apronstar fell because stocks were insufficient to meet the demand.

The potential for a combined effect of exposure to ICT services and on-farm trials deserves further research

By comparing farmers' stated reasons for not taking up promoted technologies over three consecutive years, we can see that knowledge about new technologies and their availability improved. While actual availability of the promoted technologies is clearly an issue, a growing number of farmers, and particularly women, did not perceive enough benefit from the technologies to purchase and try them. This indicates a challenge to ICT services if farmers are unable to observe potential gains with their own eyes

Farmer profiles are the heart of ICT services

Profiles need to be flexible and adaptable to meet the different and evolving requirements of each client and must include a powerful but flexible search and filtering engine. Data privacy, update and validation of the profile information require specific features on smartphone applications and it is essential to put in place processes, contractual arrangements, and data use and sharing agreements to comply with legislation.

Local radio is key to delivery of ICT services at scale but requires investment in capacity building capacity and support.

Communication plans should be adapted to the skills and resources of each radio station and a local presence is essential to coordinate, support and monitor production of broadcasts. Jokalante, cooperatives and radios worked well together to localise campaigns to make content more relevant, but need to put more effort into ensuring it is delivered in a timely manner to farmers. Positive aspects of the approach include using local trusted voices to increase the reach of farmer-to-farmer knowledge transfer.



Engaging women with ICT services requires concerted effort

Ownership and control of mobile phones and radios are gendered with men more likely to own a radio or mobile phone and to report having “a lot” of control over what they listen to and when. Women seemed to have more difficulty than men in accessing message services. The crops targeted in Senegal were, with a few exceptions, of more relevance for men. Feedback indicates that technology adoption by women can be facilitated by: women-specific radio programs, woman- to woman messaging and linking technologies more explicitly to women’s crops, household nutrition concerns and the activities of local women’s groups

Clients with little IT experience benefit from low risk, practical experience of services.

It was only towards the end of the project that farmer cooperatives began to appreciate how the database and radio programmes could help them to communicate with members and raise their profiles. Client organizations in Senegal in general appear to be willing to harness the power of ICT to achieve their objectives but more reluctant to integrate them into their own functions, preferring to contract service delivery to Jokalante. This trend will likely evolve in the future but may remain dominant in the near future.

Partnership with a mobile operator is ideal but challenging

This applies particularly at start-up when the number of users is small. It was cheaper and quicker for us to deploy a dedicated infrastructure. Other start-ups, in similar situation, should consider this option

Using free and open source modules requires rigorous analysis

Using free and/or open source modules can reduce development costs but before making a choice it is essential to conduct a rigorous analysis to assess for example whether the community of users and developers is active and what the usual behaviour of the organisation is with regards to its free products plus their plans for long term support. Develop a contingency plan, in case the service or the software is withdrawn or no longer maintained, and evaluate it regularly

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