

Agro-advisory delivered by an automated hotline & asynchronous communication via voice messages

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Summary

- We created and tested a new **digital information service** together with extension services and farmers in South-Eastern Tanzania (→ Fig. 1).
- Through an **automated hotline** using interactive voice response (IVR), farmers have 24/7 access to a set of **pre-recorded audio messages** about Aflatoxin control in the groundnut value chain.
- Farmers can also **record further questions** through their phones.
- Farmers' questions are sent to an **online dashboard** (→ Fig. 2). There, agricultural advisors listen to them online, record and upload replies. They send the **replies as automated voice calls** back to farmers.
- Over time, the service, called "Ushauri", **generates insights into farmers' information needs**. This helps to iteratively improve the service (→ Table 1).

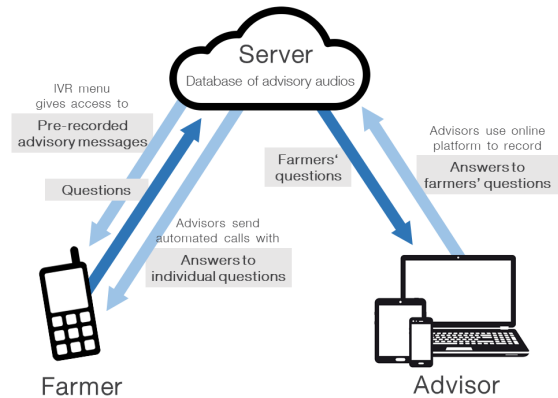


Fig. 1. "Ushauri" service for semi-automated communication in agricultural advisory

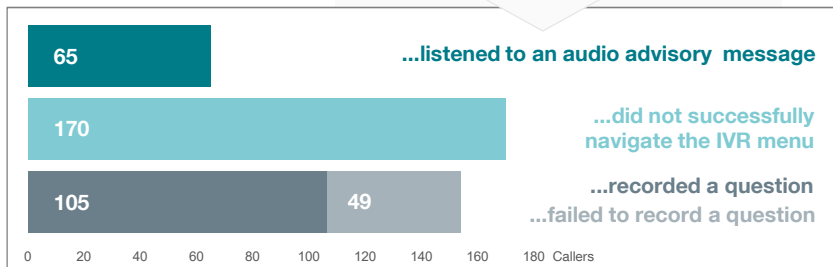
Results from a pilot in South-Eastern Tanzania

97 farmers / 28 days

86 %
called at least once

389 calls

More than 13 calls per day on average
Each farmer made 4.6 calls on average



18 hours Farmers' mean waiting time for an answer call

Once recorded, a reply can be sent to multiple farmers.
On average, advisors' replies were sent: **2.8 times**

Fig. 2. Screenshot of an advisor's online dashboard for managing farmers' questions and recording/sending replies. Names replaced by fake names.

① 'Omar Rashidi' has made a new question that has not been listened to yet (first line).

② When a farmer doesn't answer the call ('reply failed'), the advisor can send it again later.

③ The advisor attributes keywords to each question (→ Table 1).

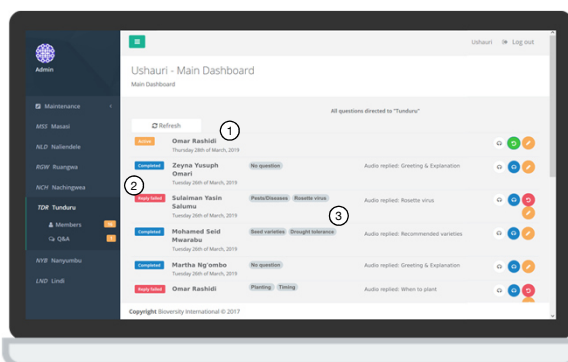


Table 1. Keywords assigned to farmers' questions highlight existing information needs

Topic	Frequency	Examples of keywords
Pests and diseases	29	rosette virus, rust
Inputs	9	seeds, fertilizer
Land preparation	34	spacing, soil type
Cultivation	4	weeding
Harvesting	7	when to harvest
Post-harvest	8	drying, storage
Market	3	market access
Consumption	8	effects of aflatoxin
Other	4	

Key insights

- Using an IVR service for providing agro-advisory is feasible. **Farmers quickly learn to navigate** the menu.
- For farmers, the **possibility to ask questions anytime** was more important than getting access to pre-recorded advice.
- Advisors appreciate the efficiency gains provided by **asynchronous communication** (handling new questions once per day) and **answering frequent questions using an answer recorded earlier**.
- User attrition due to lack of airtime was strong. **Business models around advertisement** (e.g. agro-vets, seed companies) could make the service toll-free.
- "Ushauri" generated useful **insights about further knowledge and information needs**, which can be used to improve the "Ushauri" service as well as general extension programming.