"Ushauri" Semi-automatized agro-hotline for smallholder farmers

Voice audio service rapidly gives farmers the information they need through their mobile phones

Farmers need continuous access to information that is relevant to their specific needs. Nowadays, many farmers can just use the mobile phone to call the local extension officer. But in some places, there are no extension services available. In other places, farm advisors receive too many requests to answer. Different farmers often ask very similar questions, for example, about recommended seed varieties. Therefore, information delivery can be partly automatized. Through pre-recorded voice messages, farmers get answers to the most common questions more quickly, and advisors receive less calls.

Asynchronous farmer-advisor communication through voice messages

"Ushauri" (advice in Swahili) is a mobile information service for smallholder farming. Through an automated 24/7 telephone hotline, farmers access a set of pre-recorded advisory messages (3-5 minutes each). Using regular phone calls with basic phones, farmers can select the topics they want to learn about, and listen to the available audio messages.

In addition, farmers can ask further questions by recording them within the hotline. Agricultural advisors can then immediately listen to these farmer questions at a ready-made online platform. To respond to a farmer, the advisors use the platform. Through their computers, the agents record answers, which the platform then sends to the farmers through automated push-calls.

Ushauri.info online platform for extension services

Better work scheduling. Answering all new farmer questions at one time of the day, instead of receiving calls continuously

Time saving. An answer to a common question is recorded only once, then sent to each farmer who asks the same question.

Learning and improving over time. Advisors attribute keywords to farmers’ questions. Analysis of keywords indicates which new topics should be added to the standard set of audio messages.
Experiences from Kenya and Tanzania:

Farmers express strong interest in using the service and quickly learn to navigate the IVR menu.

Farmers overall use the possibility to ask questions more than they access the ready-made audios.

Advisors gain time by sending the same reply, once recorded, to all farmers asking that question.

Advisors answer all farmer questions within 48 hours after they are asked.

Requirements for implementation

The “Ushauri” system can be used by any public or private organization. It can be adapted and customized to different use contexts. These are the essential needs for creating and running a new Ushauri-style information service:

- The agricultural advisory service or local project partner creates about 10 starter audio messages in local language about topics relevant to the target population.
- The advisory service or local partners design the IVR menu and record the voice prompts.
- To respond to farmers’ questions, advisors should allocate roughly 1h/day/100 active farmer-users. A reliable internet connection is needed, as advisors upload answers to farmers at the Ushauri.info platform.
- Bioversity International trains a minimum of two local advisors to use Ushauri.info for answering farmers’ questions.
- Through initial dissemination activities, the advisory service or local partners make the service known among the target population.

Costs

“Ushauri” is public good software created by Bioversity International and hosted on a server (hosting fee: 20 USD/month). The local hotline number must be rented from a private company that offers “SIP Trunking” services—that is, connecting farmers' phone calls to the online system.

As a point of reference, the table below shows pricing conditions offered by company “twilio” for SIP Trunking in three sample countries:

<table>
<thead>
<tr>
<th></th>
<th>Kenya</th>
<th>Tanzania</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent of hotline number</td>
<td>16 USD/month</td>
<td>27 USD/month</td>
<td>28 USD/month</td>
</tr>
<tr>
<td>Incoming calls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers listen to audios and ask questions</td>
<td>0.006 USD/minute</td>
<td>0.24 USD/minute</td>
<td>0.12 USD/minute</td>
</tr>
<tr>
<td>Incoming call / toll-free number</td>
<td>Not available in Kenya</td>
<td>Not available in Tanzania</td>
<td>0.24 USD/minute</td>
</tr>
<tr>
<td>Free for the farmers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outgoing calls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sending push-calls to farmers</td>
<td>0.28 USD/minute</td>
<td>0.45 USD/minute</td>
<td>0.48 USD/minute</td>
</tr>
<tr>
<td>Simultaneous calls by farmers</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
</tbody>
</table>

Setting up a new Ushauri-style information service

Bioversity International offers support for all steps of creating and maintaining new information services based on the “Ushauri” system. For more information on how “Ushauri” can supply farmers in your region with the information you want them to know, please get in touch.

Jacob van Etten
Senior researcher
j.vanetten@cgiar.org