

NOTE 18: Using Radio in Agricultural Extension

Compiled by: Sheila Rao, August 2015

There is plenty of information available in the public domain that covers various aspects of extension and know-how about new methodologies for implementation. However this information is often scattered and presented in complex academic language. Hence practitioners, who often have very limited time and/or may only have basic formal education, find it difficult to make use of this information.

The Global Good Practices Initiative aims to bridge this gap by providing information about extension approaches and methods in easy-to-understand formats. As part of this effort, it makes "Good Practice Notes" available to all at www.betterextension.org. This Note contains one of the extension methods included in this series.

Philosophy and principles

Radio is considered one of the oldest information technologies, and is one of the most popular in the developing world, partly due to its accessibility and affordability. While many rural people own a radio, those who do not may access programming through family, friends, or neighbours. Traditionally, radio has been seen as a one-way communication tool, providing information, news, and entertainment to listeners. However, when integrated with other communication tools (such as mobile phones) it can serve as a two-way platform for dialogue, to further discussions about topics that interest listeners, and to create entertaining and interactive programmes. For farmers, radio has the potential to help connect them to technical specialists, policy-makers, other farmers, suppliers, or buyers. Radio, and particularly participatory, demand-driven radio programming as a tool for extension, complements existing agricultural information systems that emphasise interaction among stakeholders (farmers, public and private knowledge brokers, market actors, researchers, policy-makers, the financial sector, etc.) where no single actor is the expert.¹ More so, radio programmes in vernacular languages provide new communication channels and space for dialogue for communities in more remote areas, or of varying literacy levels.²

Radio programmes for farmers have a long history in several regions, including Latin America, West Africa, as well as parts of Europe, and North America. Most recently,

the Food and Agriculture Organization of the United Nations developed guidelines for communication for development that directly pertain to current agricultural information system gaps and needs.³ The guide mentions the role of radio as a complementary tool to existing approaches in reaching and interacting with farmers. Traditional applications of radio relied on a 'top-down' approach where extension services or research institutions develop the materials and content for the programmes and pay for airtime for radio stations to broadcast. More recently, broadcasters have begun to play a more active role in creating content and conducting on-farm interviews with farmers. In participatory radio, broadcasters work in collaboration with extension services, researchers, government representatives, and farmers.⁴ Findings from the African Farm Radio Research Initiative (AFRRI) and other evaluation studies showed that farmers' listening frequency is directly correlated with an increase in knowledge of a particular agricultural practice that was discussed in a participatory radio programme.⁵

Radio programmes can cover a range of topics and integrate scientific information (appropriately repackaged in various formats) with consideration of, and reference to, the social and cultural context, knowledge, and interests of the intended audience. Radio programmes can serve a number of communication functions including: enabling active listening (to find out farmers' preferences, needs, opinions, etc.); raising awareness of services, events, or

¹ GFRAS. 2012. *Investments in agricultural extension and information systems*. Available at: <http://www.g-fras.org/fileadmin/UserFiles/Documents/Frames-and-guidelines/Financing-RAS/Investments-in-Agricultural-Extension-and-IS.pdf>.

² Chapman, R., Blench, R., Kranjac-Berisavljevic, G. and Zakariah, A.B.T. 2003. *Rural radio in agricultural extension: The example of vernacular radio programmes on soil and water conservation in N. Ghana*. Network Paper No. 127. Agricultural Research & Extension Network. Available at: www.odi.org/resources/docs/5200.pdf

³ Acunco, M., Pafumi, M., Torres, C. and Stella Tirol, M. 2012. *Communication for rural development sourcebook*. Rome, Italy: Food and Agricultural Organization. Available at: <http://www.fao.org/3/a-i3492e.pdf>

⁴ Chapman, 2003. Op. cit.

⁵ Farm Radio International. 2010. *Agricultural radio that works*. Available at: <http://www.farmradio.org/wp-content/uploads/Farm-Radio-Agriculture-Radio-That-Works.pdf>.



programmes; disseminating information and facilitating discussion about the information; hosting campaigns on behaviour change topics (disease prevention or adoption of a new variety); and initiating networking between farmers.

Implementation

With the right support, including an enabling governing structure, thoughtful and inclusive design processes, and relevant and appropriate use of technology, radio has the potential to enhance existing extension services, and to integrate both public and private sector partners in an effective response to the communication needs of farming families.

Despite these opportunities, radio is still, in practice, often considered part of the dissemination plan rather than an integral component of the extension service. The challenge is packaging information into good quality radio programmes. With more training, broadcasters can help other agricultural development actors to communicate effectively and accurately with farmers.

There are several factors to consider when implementing radio as part of an extension service.

Radio broadcasters and their affiliated stations are partners in extension services: It is critical to identify effective criteria for selecting radio stations to partner with, to ensure that the radio programmes are well received and trusted by the listeners. Community, private, or public stations can all be considered, depending on the targeted reach, scale, and resource availability of the particular extension service. Community stations offer local, contextualised programming, while private stations are often better resourced and could offer more interactive, technologically driven programmes. Stations that broadcast nationally offer broader topics of discussion such as agricultural policy, and local and international market information.

Design of radio programmes: The participatory design process is inclusive and involves multi-stakeholder engagement. It can also be directive, where communication specialists, together with extension and agricultural scientists work together to develop the content before testing it with the targeted audience. Conducting initial audience assessment on preferred formats, timing, and information needs will help to shape the programme around farmer needs. The design process should also consider the involvement of appropriate 'knowledge brokers' (researchers, extension staff, private sector agents, farmers, etc.). Researchers provide new findings or proven technologies that support greater productivity and gains for farmers. Private sector agents provide avenues for farmers to connect with certain markets (local, regional, international). Extension staff often connect with government agencies and non-government organisations (NGOs).

The interactive component will need to consider both the listeners and the station to ensure that there is a consistent and timely feedback system in place. In some cases, it

might be useful to facilitate the creation of listenership strategies; through programme sharing (recording and sharing copies of programmes), group listening (sourced from existing farmer organisations), or training on use of smart phones to help with connecting to radio programmes directly.

Broadcasting programmes: Timing, duration, and schedules of the programmes require careful consideration when planning with extension. Certain time slots are better for farmers, such as evenings or weekends, when they are home and have finished all other work. Women may prefer pre-recorded programmes or opportunities to listen as a group if they have no access to a radio at home. Monitoring and evaluation of radio requires ongoing qualitative and quantitative data collection and analysis in order to capture both the intended and unintended consequences of participatory, demand-driven radio extension services.

Capacities required

There are several areas of capacity that require support for radio to be used to its full potential. First, radio stations vary in their infrastructure, and the kinds of equipment, training, and support available that will enable them to work with farmers or through other advisory services. Assessments of needs and procurement of the right equipment might be necessary. Broadcasters may appreciate low-cost recorders such as mp3 players to help them produce programmes in the field. Second, radio station staff will need to develop particular skills to work directly with extension services and address the needs of farmers. These skills include the technical use of phones to call listeners or receive calls from listeners, using voice-based systems; gaining knowledge about agricultural practices; and having the people skills necessary to bridge the gap between specialist-level knowledge and the grassroots rural vocabularies of their listening publics. Rural communities may also need training on how to use phones to call and receive calls, or record messages for the radio stations. Farm Radio International used its experience over the last 10 years to develop a tool called VOICE, which enables radio stations to consider key factors, such as consistency, relevance, and convenience that can help them to develop high quality programmes for farmers (Figure 1). With training, and in collaboration with other agricultural actors, radio broadcasters can play an active role in extension, beyond simply facilitating information sharing.⁶

Costs

The costs vary of involving radio programmes and radio stations as partners in agricultural extension programmes. Many programmes try to include radio primarily as a dissemination tool, and pay for airtime. This can be expensive if the broadcasting coverage is nationwide. Community stations, with localised coverage, may not charge as much for airtime. Training, technical capacity, and knowledge sharing also have cost considerations. These activities can be conducted through face-to-face meetings, facilitated remotely, or as blended face-to-face and technologically facilitated activities, each method having its

⁶ Gilberds, H. and Myers, M. 2012. Radio, ICT convergence and knowledge brokerage: lessons from sub-Saharan Africa. *IDS Bulletin*, 43(5): 76–83.



Figure 1. VOICE standards for effective farmer radio programming

own cost implications. Overall, the cost per farmer for using radio as part of an extension service (where one community radio station can reach as many as 200,000 households) is significantly lower than other strategies such as regular site visits, use of printed media, and facilitating regular and ongoing engagement with many communities. For example, in Ethiopia, a four-month radio programme on *teff* (a staple crop in Ethiopia), which reached four regions cost just US\$0.38/farmer.⁷ Community stations can be established for as little as US\$20,000 (including costs of equipment, permits, and other essentials).

Strengths and weaknesses

Radio provides an open, two-way dialogue that is inclusive, accessible, and affordable. It has the potential to reach

vulnerable and resource-poor communities, while also establishing a feedback and monitoring system through the use of other technologies. It provides an opportunity for information and resource provision at a large scale; yet can also be available in local languages.

There may be considerable variability in the capacities of radio stations to work closely with extension and other agricultural development actors. Many community stations may not have the means to sustain the programme beyond initial project duration or funding cycle. Commercial stations may not be trained in using the appropriate language for a farming audience. It certainly does not replace face-to-face interaction and is almost always more effective when it is a component of a larger extension and communications strategy.

Best-fit considerations

Radio works as an effective extension tool when it is part of a broader communication strategy for farmers, and when radio broadcasters participate in the design and production of the content, together with specialists and extension staff. In particular the following are key considerations:

- **Target group (e.g women, young people):** For women farmers, radio on demand approaches may be effective, in that they can choose when to listen to the programmes each week through pre-recorded mp3 versions delivered to women's groups. Some groups may be able to purchase radio sets. Young listeners may be motivated by interactivity and integration of smartphone use. For instance using text messages, voice messaging, or beep-to-vote messages (see www.farmradio.org) may facilitate their participation. Other disadvantaged groups could be given certain listening and interactive tools, such as solar powered radios or mobile phone airtime in exchange for their input into the programmes and dialogue.
- **Type of agricultural innovation:** Different radio formats cater to different innovations. Targeted radio campaigns that aim to better inform farmers' decision-making processes can support the adoption of new crop varieties, biofortified crops, or new labour techniques. Broader, more complex issues such as climate-related impacts, marketing, linking different actors in the value chain (such as buyers, sellers, processors, and transporters), nutrition, and maternal health related challenges require further discussion and a variety of formats that will facilitate key actors in each area to connect through radio and extension dialogue. Radio can help with a more integrated approach to assisting rural, agricultural-based communities, and where face-to-face extension is limited.
- **Ecological setting:** Some mountainous landscapes block certain radio signals and could therefore be difficult to reach using national radio stations. However, this is becoming less of a problem due to continued installation of radio towers in rural and remote areas. Some countries offer internet-based radio stations that do not rely on the radio tower infrastructure to broadcast.
- **Institutional setting:** Commercial, public, or community radio stations all provide various benefits to existing and

⁷ Farm Radio International. 2014. *Radio for Ethiopian smallholder staples development*. Outcome Evaluation Report submitted to the Bill and Melinda Gates Foundation, Ottawa.



emerging extension services depending on the region being targeted. Programmes can be highly localised using community stations for locally available information, or can be presented at a regional or national scale, to expand certain technologies across the country and increase the accessibility of a certain crop.

Governance

The financial, political, and social capital available to radio stations directly impacts the kinds of programmes and messages that are directed towards farmers. For example, community managed and funded stations may emphasise local context and resource availability. Commercial and private stations may be more inclined to enlist agro-dealers or businesses as sponsors of programmes, which may lead to bias in the preparation of programmes. Public stations, funded through government agencies, may reinforce national policies and may not accommodate the locally specific needs of rural communities.

Radio-based extension activities, particularly interactive programmes, can provide the following governance roles and services:

- **Provision of feedback on government initiatives:** Assistance in monitoring the uptake and impacts of government policies on land use, crop specialisation, etc. (including potential unintended consequences).
- **Feedback on land grabbing and land disputes:** Radio can offer an inclusive and safe venue for discussing sensitive issues around land and land use changes between various stakeholders, particularly if listeners can contact the station anonymously.
- **Rapid information on natural disasters, food security, climate-related issues:** In Liberia and Sierra Leone, local radio stations played a key role in delivering information to remote villages about Ebola prevention, while also tracking the rate and locations of infection, and advising where to seek treatment.

Evidence of impact and potential scalability

Purdue University, USA, showed that the use of radio increased the level of interest in, and adoption of, triple bagging of cowpeas by farmers in Nigeria.⁸ Farm Radio International's participatory radio campaign strategy continues to show positive results in both increase of knowledge and uptake of particular agricultural practices presented through radio with support from existing NGO and government interventions.^{9,10} In Ethiopia, over 50 percent of farmers who listened regularly to the programmes increased their knowledge of *teff* cultivation.

Farm Radio International's ongoing work demonstrates the value of engaging radio stations as active partners in extension. They have shown that radio has helped to increase demand for planting materials, and has led to an increase in farmers testing new innovations. Scalability

is evidenced through the ongoing work of Farm Radio International,¹¹ as well as previous radio work through Mediae (mediae.org) and BBC Media Action (<http://www.bbc.co.uk/mediaaction>), and through their strategies for working with existing national extension services and training radio stations on producing quality radio programmes. Increasing the use of translation tools and strengthening networks among radio station staff, ministries working in the agricultural sector, researchers, donor agencies, and other key actors could help to build a more sustainable model for radio communication, integrated with extension services.

Training materials

Radio journalism and technical skills

<http://onmedia.dw-akademie.de/english/?p=687>

Interactive radio for agricultural development projects: a toolkit for practitioners

<http://ictforag.org/toolkits/video/index.html>

Mass media in extension

<http://www.fao.org/docrep/t0060e/T0060E05.htm>

Farm Radio International (2015) Using VOICE standards to improve farmer radio

<http://www.farmradio.org/radio-resource-packs/101-getting-and-using-audience-feedback-and-evaluating-radio-programs/use-voice-standards-to-improve-your-farmer-program/>

This paper was produced with financial support from GIZ (Gesellschaft für Internationale Zusammenarbeit), and PIM (the CGIAR Research Programme on Policies, Institutions, and Markets).

This work was undertaken as part of the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by the International Food Policy Research Institute (IFPRI). Funding support for this study was provided by the agencies with logos on the front page. This paper has not gone through IFPRI's standard peer-review procedure. The opinions expressed here belong to the authors, and do not necessarily reflect those of PIM, IFPRI, or CGIAR.

Author information: Sheila Rao is a manager of impact programmes with Farm Radio International and a PhD candidate in Social Anthropology studying the impact of promotional campaigns of nutritious crops on women's labour investments in sub-Saharan Africa.

Correct citation: Rao, S. 2015. Using Radio in Agricultural Extension. Note 18. GFRAS Good Practice Notes for Extension and Advisory Services. GFRAS: Lindau, Switzerland.

⁸ Moussa, B., Otoo, M., Fulton, J. and Lowenberg-DeBoer, J. 2011. Effectiveness of alternative extension methods through radio broadcasting in West Africa. *The Journal of Agricultural Education and Extension*, 17(4): 355–369.

⁹ Farm Radio International, 2010. Op. cit.

¹⁰ Farm Radio International, 2014. Op. cit.

¹¹ Farm Radio International, 2010. Op. cit.