Rural Advisory Services: What works?
A synthesis on innovative approaches for benefiting and empowering farmers
Cover photo: A volunteer farmer trainer in Wakiso district, Uganda, training farmers on establishing a tree nursery
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Farmers in developing countries need Rural Advisory Services (RAS) — activities that empower them with knowledge, strengthen their capacity, and promote innovation. This need is particularly acute for agroforestry practices, which are typically knowledge-intensive, often requiring specialized skills such as raising seedlings in a nursery and pruning trees. Helping farmers access the information and services they need is therefore a key priority in agroforestry and, more generally, programs aimed at improving rural livelihoods.

The World Agroforestry Centre (ICRAF) uses an action research approach to develop and apply frameworks and tools that assess the effectiveness of various RAS approaches. One of the main objectives of such assessments is to determine which practices work best in different socioeconomic and ecological contexts, for different enterprises and practices, and for different target groups. Improving women’s access to rural advisory services is a critical element of our goal. Another key objective is to improve the effectiveness of approaches. This brochure presents our assessment of four types of RAS: a) Farmer-to-farmer extension; b) Rural Resource Centres and rural institutions; c) Community nurseries and agroforestry farmer field schools; and d) Civil society campaigns, radio and social network analysis.

We provide two examples— from Africa and Southeast Asia—of successful agroforestry extension programs, and conclude with a list of partners, a selection of the projects profiled in this brief, and a selection of blogs and articles on this topic.
A. Farmer-to-farmer extension

1. Farmer-to-farmer dissemination

Few studies have been conducted of farmer-to-farmer dissemination to look at who in a community disseminates knowledge and new technologies and how they do it. An ICRAF study in central Kenya found that whereas most fodder shrub adopters pass on information and planting material to a few relatives and friends, only a small percentage (5%) are responsible for most (67%) farmer-to-farmer dissemination (Franzel & Wambugu, 2007). Another critical finding was that such disseminators do not fit easily into any specific socioeconomic category; they include young and old farmers, men and women, rich and poor. How such persons can be mobilized to increase the flow of information and technology is a critical issue that the next method, volunteer farmer trainers, addresses.

2. Volunteer farmer trainer programs

These programs involve farmer trainers who are selected by their communities to train others voluntarily. ICRAF is currently working with the East Africa Dairy Development Project, funded by the Bill & Melinda Gates Foundation, to implement and evaluate a system of around 2,000 volunteer farmer trainers in Kenya, Uganda and Rwanda. Assessments in Kenya and Uganda have found the program to be very effective, particularly for increasing women’s participation in extension. (Kiptot and Franzel, 2012; Kiptot, Franzel and Kirui, 2012; Karuhanga et al., 2013; Kiptot and Franzel, 2014). Lukuyu et al. (2012) showed that volunteer farmer trainers were still active in western Kenya several years after projects had stopped supporting them, demonstrating the sustainability of such approaches. Three studies have reviewed farmer-to-farmer extension programs in Cameroon, Malawi and Kenya (Kundhlande et al., 2014; Tsafack et al., 2014; and Franzel et al., 2014 respectively).

3. The ‘model’ farmer approach

Extension programs often choose ‘model farmers’, also called ‘master’ or ‘expert’ farmers, to host demonstrations on their farms and train fellow farmers on improved agricultural practices. Chosen on the basis of their expertise, model farmers are assumed to be effective disseminators and innovators, but are they? One study categorized 126 adopters of fodder shrubs in...
There was some overlap among the three categories, but 19 (40%) out of 48 expert farmers were not effective disseminators. This finding suggests that extension programs that choose farmer trainers on the basis of their farming expertise will not promote dissemination as effectively as those that choose them on the basis of their dissemination skills (Franzel et al., 2013).

### 4. Developing an analytical framework for assessing costs and returns of an extension program

A framework was developed to assess the costs and benefits of a volunteer farmer-trainer program developed by FARM Africa in Meru, Kenya for the promotion of dairy goats. Costs and benefits are assessed from the perspective of three types of stakeholders: farmer trainers, the farmers they were training, and the project itself. The analysis found that financial returns (and in the case of the trainers, social benefits) were high for all three types of stakeholders. Farmer trainers covered many of their costs by selling goods and services to the farmers they were training (Franzel, 2009).

### B. Rural Resource Centres and rural institutions

#### 1. Rural Resource Centres (RRCs)

These are community-managed centres that offer farmers access to knowledge, interactive learning, and links to networks – among farmers and with private sector firms, NGOs, and government. The centres provide farmers with training, link them with input suppliers and produce markets, and help them acquire knowledge and technologies (Takoutsing et al., 2014). Capacity-strengthening activities supported by the centres include training in group dynamics, entrepreneurship, nursery development, seed and seedling production, tree propagation, post-harvest processing, storage and marketing. In Cameroon, ICRAF and local partners have helped communities establish 10 RRCs, hosting 150 nurseries and serving over 10,000 households. One of these RRCs won the prestigious UNDP Equator Prize in 2010. We are currently conducting studies to assess the effectiveness of the RRCs.
2. Relay organizations

International organizations, NGOs, and government extension services often depend on ‘relay organizations’, also called community-based organizations, to disseminate agroforestry innovations and bridge the gap between research and farmers. Degrande et al. (2012, 2014) assessed factors that affect the performance of relay organizations in successfully diffusing agroforestry innovations in Cameroon. Their results suggest that external conditions (e.g., good road and communication networks) have greater effects on performance than do internal conditions (e.g., human, material and financial resources).

3. Rural grassroots institutions

Strong and vibrant grassroots institutions are seen as vital for successful natural resource management and achieving improved livelihoods among the rural poor. A model has been developed through action research at six sites across East Africa. It outlines the key considerations and processes needed to analyze and strengthen grassroots institutions. It also includes a tool for measuring and monitoring institutional maturity and a framework for assessing capacity needs (Muller et al., 2013). The model has four main sections: design; capacity needs analysis and strengthening; enterprise development and platform development; and evaluation and feedback.
C. Community nurseries and agroforestry farmer field schools

1. Community nurseries

Poor access to quality tree seedlings, professional technical assistance, and markets are common problems. To address these conditions in Aceh, Indonesia, the “Nurseries of excellence (NOEL)” program carries out a range of activities including nursery training, bi-weekly follow-up, vegetative propagation training, technical consultations, cross-visits, market studies and demonstration plot establishment. Within 18 months, farmer capacity was greatly enhanced and a network of 50 “nurseries of excellence” (community nurseries) were established in response to local demand for species and seedlings. The approach is effective, replicable and applicable to sites in Southeast Asia where land rehabilitation and community livelihood enhancement initiatives are taking place (Roshetko et al., 2013a).

2. Agroforestry Farmer Field Schools (AFFS)

Farmer field schools have been found to be effective for enhancing farmers’ analytical skills and helping them to determine and implement ‘best-fit’ management options to improve the productivity of their farming systems. AFFSs were implemented in the Agroforestry and Forestry (AgFor) project in Sulawesi, Indonesia focusing on five major commodities: clove, pepper, coffee, cacao and durian. Researcher-to-farmer and farmer-to-farmer learning approaches were used, as were cross-visits and demonstration plots (Martini, 2013). In the first seven months, a total of 1,138 participants (25% were women) enhanced their knowledge and skills (Roshetko et al., 2013b).
D. Civil society campaigns, radio and social network analysis

1. Civil society campaigns
The System-wide Collaborative Action for Livelihoods and the Environment (SCALE) methodology brings value chain actors and civil society stakeholders together to plan and implement campaigns to promote new practices (USAID, 2008). By engaging with a wide range of stakeholders representing all aspects of a given system, SCALE generates change across many levels and sectors of society, using a combination of social change methodologies such as advocacy, mass communication and social mobilization.

We tested the SCALE approach for promoting fodder shrubs in Kenya and found it to be very effective. The approach draws various actors together into a unitary planning process, enhancing the synergy of their individual efforts and aligning systems for awareness creation, training and seed access. Acharya et al. (2010) used social network analysis to show that SCALE significantly increased the number of actions of and between key stakeholders involved in the dairy feed sector, including those providing training and seed.

2. Radio for mass agroforestry extension
Radio is a powerful communication medium for promoting agriculture and development in rural areas. Farmers in South and Southeast Sulawesi in Indonesia report that television, cell phones and radio are the top three communication media for receiving information (Paramita et al., 2013). To test the importance of radio in mass agroforestry extension, a radio program was run under the AgFor project, with the main objective of spreading knowledge to wider audiences, including villages where the project is not operating. (Paramita et al., 2014). An evaluation of the effectiveness of the radio program is currently underway.

3. Social network analysis
We are using social network analysis in East Africa to assess and display information flows, social capital and the structure and functionality of connections between people and organizations. The analysis will also map social capital in farmer groups within different extension approaches, key resource people in a network, and changes in social capital over time.
Social network analysis showing the increase in collaborative activities among organizations in the dairy feed sector, Central Kenya, before and after SCALE project.
1. Adoption of fodder shrubs in East Africa

Over the period 1995-2005, the number of farmers planting fodder shrubs in East Africa grew from a few thousand to over 200,000 and has increased substantially since then. Franzel & Wambugu (2007) and Place et al. (2009) document the contributions of five extension approaches that played an important role in facilitating this expansion, namely:

i. ‘Innovation facilitators’ recruited by projects to work with government, NGO, and private extension services;
ii. Large NGOs with considerable technical backup;
iii. Community-based seed systems;
iv. Farmer-to-farmer extension and
v. A civil society campaign, known as SCALE

2. Strengthening smallholder tree-growing skills in Indonesia

On Java Island in Indonesia 1.5 million smallholder farmers manage 444,000 ha of teak agroforestry systems but productivity is low. The establishment of farmer demonstration trials (Roshetko et al., 2005) showed that thinning and pruning could dramatically increase tree growth over two years. Those trials, combined with training and relevant extension materials, helped farmers gain an understanding of effective silvicultural management. Impact surveys found that 70% of the farmers in the project area increased their knowledge of silvicultural practices, with 50% adopting them on their own farms and 30% disseminating them to other farmers (Roshetko et al., 2013c).

Fodder shrubs such as Calliandra calothyrsus, are grown along plot boundaries in hedges and provide low-cost protein for dairy cows

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Partners

Between 2012 and 2014, the World Agroforestry Centre (ICRAF)’s Rural Advisory Services program prepared proposals or implemented projects with the following partners:

- Agence National d’Appui au Developpement Rurale, Cote d’Ivoire
- African Forum for Agricultural Advisory Services
- CABI
- CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)
- CGIAR Research Program on Forest Trees and Agroforestry (FTA)
- CGIAR Research Program on Policies, Institutions and Markets (PIM)
- Food and Agricultural Organization of the United Nations (FAO)
- Global Forum for Rural Advisory Services
- HAMK University, Finland
- Heifer International
- International Fund for Agricultural Development (IFAD)
- International Livestock Research Institute (ILRI)
- Makerere University, Uganda
- Mars, Inc
- Mediae Ltd., Kenya
- Michigan State University
- Ministry of Foreign Affairs, Finland
- National Association of Small Farmers, Malawi
- Paris School of Economics
- TechnoServe, Inc.
- United States Agency for International Development (USAID)
- University of Ghent, Belgium

Blogs

1. Volunteer farmer trainers change the way we think about extension
   http://www.pim.cgiar.org/2014/05/19/vft-impact-story/
2. Milking it: dairy farmers in East Africa are earning more by learning more
3. Volunteer farmers transforming East Africa’s dairy sector
   http://worldagroforestry.org/newsroom/highlights/volunteer-farmers-transforming-east-africas-dairy-sector
4. Volunteer farmer trainers: Go or no go?
   http://blog.worldagroforestry.org/index.php/2012/10/30/volunteer-farmer-trainers-go-or-no-go/

5. What motivates volunteer farmer trainers?
   http://blog.worldagroforestry.org/index.php/2013/10/19/what-motivates-volunteer-farmer-trainers/

6. It is not about best practice but best fit!

Selected projects


East Africa Dairy Development Program, funded by the Bill & Melinda Gates Foundation, 2008-2019

Increasing small-scale farmers’ benefits from agroforestry tree product value chains in West and Central Africa, funded by the Belgian Development Cooperation 2009-2014

Sustainable Suluwesi, linking agroforestry knowledge with action to secure sustainable livelihoods, funded by the Canadian International Development Agency (CIDA), 2012-2016


Vision for Change, Cocoa Sustainability in Cote d’Ivoire, funded by Mars, Inc. 2011-2017

References

A. Farmer-to-farmer extension


   http://www.worldagroforestry.org/downloads/publications/PDFs/WP14380.PDF


Kiptot, E. and Franzel S. (2013). Voluntarism as an investment in human, social and financial capital: evidence from a farmer-to-farmer extension program in Kenya, Agriculture and Human Values. Published on line:


B. Rural Resource Centres and rural institutions


http://www.uco.es/zootecniaygestion/img/pictorex/29_16_16_Agroforestry.pdf#page=153


C. Community nurseries and agroforestry farmer field schools


D. Civil society campaigns, radio and social network analysis


http://www.worldagroforestry.org/downloads/publications/PDFs/WP16774.PDF


E. Successful agroforestry extension programs


http://ir-library.ku.ac.ke/bitstream/handle/123456789/6106/The%20impact%20of%20fodder%20trees%20on%20milk%20production.pdf?sequence=1


This brief analyses four models of Rural Advisory Services (RAS) used in many developing countries: farmer-to-farmer extension; rural resource centres (RRCs)/rural institutions; community nurseries/agroforestry farmer field schools (FFSs); and civil society campaigns/radio/social network analysis. It includes examples of successful initiatives from Africa and Southeast Asia, and relevant references.

The World Agroforestry Centre (ICRAF) uses an action-research approach to assess how effective various RAS approaches are in empowering farmers to uplift their livelihoods through agroforestry and other innovations.

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