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SPECIAL REPORT

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ABOUT THE REPORT

This report is based on primary and secondary research, consultation with experts in both extension and peacebuilding, and on presentations made and discussion held at a roundtable workshop on May 1, 2012. The Roundtable on Technology, Science and Peacebuilding, a partnership between the National Academy of Engineering and the United States Institute of Peace established in 2011, is designed to identify ways in which scientific and technological methods might be adopted by peacebuilders. The views expressed in this report are those of the author and should be ascribed neither to the United States Institute of Peace nor the National Academy of Engineering.

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Andrew Robertson

Enabling Agricultural Extension for Peacebuilding

Summary

- For many of the one and half billion people living in fragile states, violent conflict is the principal impediment to development, disrupting food production and destroying agricultural investments.
- Extension systems have improved agricultural productivity, profitability, and sustainability by providing technical and commercial information that changes farmer practice and could help farming communities struggling to deal with the consequences of war.
- Extension systems are, however, under substantial pressure, and most national budgets for extension are in long-term decline.
- Given such pressures, managers of extension systems will likely insist they are hard pressed to develop the competencies needed to support sustainable growth in agriculture, let alone accept additional responsibilities for peacebuilding.
- Decentralized, participatory market-driven extension systems have been successful in augmenting farmer capabilities with additional competencies, such as financial and market knowledge. Offering access to expertise (rather than expertise itself), agents in decentralized systems can respond quickly and effectively to varied farmer needs. Agents could use these same approaches to connect farmers to the experts and resources they need to manage conflict in their communities.
- Information technology can provide the capacity to match agricultural and conflict management expertise to farmer need. It can improve the reach and productivity of extension agents as it reduces the risk of inappropriate use of system resources. Training and technical support are necessary to improve transparency and accountability.

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- To select the appropriate experts, extension agents must be able to diagnose the problems farmers face. For extension to have a role in peacebuilding, extension agents should be able to analyze conflict, its causes, and potential solutions.
- The credibility of extension agents depends on their capacity to help farmers overcome agricultural problems. Technical knowledge, inclusivity, and access to resources are critical. Ideally, assistance should be neutral and unbiased. Training on how conflict affects extension and how bias might worsen conflict should enhance the credibility of extension agents in the communities they serve.

Introduction

Without doubt violent conflict devastates food production. It destroys crops, farm equipment, seed stock, and other farming capital. It reduces access to water, drives farmers from their land, and disrupts the transportation networks needed to access markets. Agricultural extension systems have helped improve agricultural productivity, profitability, and sustainability in the developing world by training rural people to use more effective agricultural technologies, to apply improved irrigation techniques, and to organize and manage their operations more efficiently. Potentially, they can be as effective helping farming communities struggling to deal with the consequences of war.

Over the past twenty years, agricultural extension programs in the developing world have shifted to a decentralized, market-focused approach capable of supporting the local institutions and knowledge necessary to help farmers be productive and profitable. Such approaches have emphasized training front-line extension officers able not only to communicate technical and product information regarding the latest agricultural advances, but also to provide guidance to local populations about accessing markets, brokering investment opportunities, and facilitating inclusive farmer organizations.

Because of extension's role in organizing such a wide range of agricultural activities, extension systems can help societies slipping into or emerging from conflict. Drawing on existing relationships to farming communities, extension agents could be an important component in a strategy to address both the causes and consequences of conflict. Where disagreement exists over how to use land—such as in land disputes or in conflicts between herders and farmers—extension agents can be trained and deployed to support more peaceful resolution. Likewise, when ex-combatants and IDPs return to their communities, extension agents can help retrain and reintegrate these people into farming communities.

This report investigates how extension systems might be organized, their agents trained, and their technical infrastructure updated to support a peacebuilding role. Briefly, it describes the current state of extension in the developing world, provides an overview of how conflict affects farming communities and consequently extension agents' ability to improve farmer productivity, and proposes a role for agents in helping manage conflict in rural communities. Recognizing that extension systems, though wide reaching, are under-resourced, this report argues that extension agents can materially affect conflict with only modest adjustments to what is currently considered best practice in the organization and management of extension systems.

Extension in the Developing World

At its most basic, extension is adult education. Extension systems provide information farmers can use to improve harvest productivity and quality. They direct information on the practice of farming from agricultural researchers in universities and government laboratories, input providers such as seed or fertilizer companies, nongovernment organizations

(NGOs), and even other farmers to the farming community. Generally speaking, extension systems communicate such information through a mix of four activities: technology transfer, advisory services, nonformal education, and facilitation.¹

The exact mix of these activities has changed over time. Under the World Bank's Training and Visit programs of the 1970s, technology transfer activities disseminated the seed and fertilizer technologies that enabled the Green Revolution across the developing world. However, the cost of maintaining the expertise necessary to support such programs and questions about the relevance of much of the transferred technology to farmer needs led the World Bank to end funding for the program. Driven by these twin concerns of cost and relevance, extension systems have more recently opted to scale through group outreach activities such as nonformal education or facilitation. To help farmers get the help they need, targeted methods such as advisory services and (again) facilitation have also become more common. Indeed, facilitated extension in which agents work locally with groups of farmers to identify common problems and develop shared solutions has now become the gold standard for extension work.²

A consequence of this trend has been a broadening of the kinds of knowledge that extension agents are expected to provide. A wider range of agricultural knowledge plus information that supports the farmer as a businessperson are now essential if the agent is to be effective. Agents can thus no longer be expert in all the material that should be communicated. Rather than knowing the answer as experts would, extension agents are shifting to a service model in which they work as knowledge brokers, providing access to information whether it be from a professor at a university, a development expert in an NGO, or a data set analyzed and reported online. In such a model, the cost of adding additional fields of knowledge is relatively low. For example, to provide advice on marketing, agents need have only a basic understanding of the issues, a potentially template-based ability to diagnose what clients' issues might be, and a network of trusted experts or information sources to which the agents and clients can turn for guidance.

Why are these two trends in extension important? In much of the developing world, extension systems are under pressure. Despite steep population growth and increasing environmental degradation, global budgets for many national agriculture agencies have shown long-term decline.³ Extension networks within most nations remain far-reaching, but agents are spread thin and have neither the time nor the operating budgets necessary to fully engage the clients they have on the agricultural issues those clients face. Under these circumstances, the question we need to ask is how extension agents can be expected to manage yet another aspect of rural life, no matter how important.

But conflict is important. It is the principal obstacle preventing many developing nations from emerging from poverty. If agriculture is to be the engine by which developing nations lead their people to greater prosperity,⁴ extension agents must understand how conflict and violence affect their communities and be provided resources and guidance for disrupting those dynamics. Offering services based on science and intended to help improve farm productivity and build rural well-being, extension agents are perhaps the most trusted of the government representatives in rural communities. This comparative credibility can be an important asset in stabilizing and managing conflict. First, though, we look at the kinds of problems confronting farming communities during conflict.

Conflict in Rural Communities

The 2011 World Development Report titled *Conflict, Security and Development* emphasizes two things. First, it points to conflict and violence as "a primary development challenge of our time."⁵ Describing a world in which fully one and half billion people face the social

Extension agents are perhaps the most trusted of the government representatives in rural communities. This comparative credibility can be an important asset in stabilizing and managing conflict.

fragility caused by war and violence, the report makes a powerful case that conflict exacts high social and economic costs that can last for generations. Where violence is endemic, people are more than twice as likely to be undernourished, and their children are both more than three times as likely to be unable to attend school and also twice as likely to die before age five than those in other developing countries.⁶

Second, the report notes a global shift since the end of the Cold War in the nature of violence and conflict. Lacking the discipline imposed and the resources provided by the larger confrontation between the Soviet Union and the United States, regional disagreements are less and less often resolved using the formalized violence of armies contesting for national or regional power. Globally, fewer wars (whether interstate or intrastate) are occurring. In their place are emerging conflicts driven by increasingly well-organized nonstate actors—drug cartels, terrorist networks, or political parties—where the political goals of the actor may be no higher than destabilization for ongoing economic exploitation. In nations where conflict and violence break out, domestic (such as unemployment, inequality, or corruption) or international (invasion, conflict spillovers, or price shocks) stressors overwhelm the capability of legitimate institutions to cope. Where institutions are weak and cannot intervene to defuse these political, economic, and social stresses—as in Colombia in the late twentieth century and the Democratic Republic of the Congo of the present—conflict, violence, and war often erupt.⁷

When institutions are weak, the state may be as much the problem as the solution. In countries with track records of conflict and violence, the citizenry mistrust the motives and competence of government. In the worst cases, the security forces, judicial system, and military are simply other gangs intent on exploiting the people. More often, they are simply passive bystanders, either bought off or intimidated by better-armed, better-resourced organizations (often the case with drug cartels in Mexico). Building the institutional capacity to manage conflict requires a credible starting place that, if not fully trusted by the citizenry, is at least not completely dismissed, which many police, juridical, and military institutions can be.

As a source of education and training, extension has credibility as a positive (if not always effective) element of rural people's lives. As such, it can be an important asset in creating legitimate state mechanisms for managing conflict in rural communities. By delivering information that can materially affect people's lives, extension can be a basis for improving government legitimacy and credibility.

Extension systems should not be expected to address all conflict problems. In general, extension personnel have expertise and credibility in problems related to agriculture and agricultural resource use, principally land and water. Conflict arising from disagreements over land ownership, access, and use seem a natural focus for extension agents. Issues such as land disputes, the integration of IDPs, conflict between pastoralists and farmers, and the demobilization of soldiers have dimensions that lend themselves to the participation of extension agents. For example, in the wake of conflict, extension agents might manage a range of support services helping demobilized soldiers become productive members of the farming communities they left to go to war. They might also educate farmers in dispute on evidentiary standards within the legal system (see table 1).

The precise issues an extension system might address clearly depend on the particular conflict and its dynamics.

The problems described in table 1 are conflict problems. They exist within societies where violence is accepted as a reasonable means to an end. Consequently, asking extension agents to accept a role in peacebuilding could make them targets for violence. A critical question is therefore how activist extension agents should be in responding to conflict. Since broadcast media were used in the Rwandan and Bosnian crises of the early 1990s to

Conflict arising from disagreements over land ownership, access, and use seem a natural focus for extension agents.

Table 1. Opportunities to Use Extension for Peacebuilding in Rural Communities

| | Problem | Role for Extension | Potential Activity |
|-------------------------------|---|---|--|
| Land disputes | Breakdown of mechanisms for managing land disputes between farmers providing flash points for other types of grievances. | Act to support and hasten settlements both within and between the statutory and traditional judiciary systems. | Provide farmers guidance on how to package traditional evidence for use in statutory legal system. |
| Returning IDPs | Access to basic security, economic support, and social services tends to become haphazard, which can prevent successful reintegration. | Provide information for training, health-care, and other social services related to reintegration. | Ensure that IDPs and communities receive appropriate support services; access to training, start-up capital, and other services needed to return to farming. |
| Access disputes | Population shifts, land use change, and allegiances held during conflict can all contribute to increased confrontation along pastoral migration routes. | Help rebuild relationships and resolve land use and access issues between the farmer and pastoralist groups. | Provide training to community leaders in culturally relevant peacebuilding and conflict resolution techniques; organize summits between community leaders. |
| Reintegrating soldiers | Reintegration programs that provide farming skills and capital to demobilized soldiers often lack consistent follow-up. | Provide a consistent point of contact for demobilized soldiers; provide early intervention when reintegration and reconciliation falters. | Meet regularly with soldiers to monitor their progress and to advise them in using the agricultural tools, supplies, and farm land provided through the program. |

Sources: Jon Unruh, “Land Rights in Postwar Liberia: The Volatile Part of the Peace Process,” *Land Use Policy* 26 (2009): 431–32; Mike Jacobs and Catherine A. Schloeder, “Empowering Afghanistan’s Extensive Livestock Producers” (unpublished paper), 4–6; Patricia Weiss Fagen, “Refugees and IDPs after Conflict” (Washington, DC: USIP, 2011), 1; Christopher Blattman and Jeannie Annan, “Reintegrating and Employing High Risk Youth in Liberia: Lessons from a Randomized Evaluation of a Landmine Action Agricultural Training Program for Ex-Combatants” (Cambridge, MA: IPA, 2012), 2–4.

accelerate genocide, media practitioners and scholars have wrestled with a similar question: what the role of journalists in peacebuilding should be, and how activist media professionals should be in working to end conflict. Their conclusions are instructive. Broadly speaking, media scholars and practitioners have adopted a range positions across a continuum ranging from a standard of do no harm to one of do positive good. What is at stake in their arguments is how much journalists should adjust their commitment to journalistic objectivity and neutrality when working in conflict zones. Advocates of the do-no-harm standard argue that media in conflict zones must be aware of how their work as journalists might affect the conflict. If a story would exacerbate violence, it should not be published. Proponents of a more activist position argue that journalists’ laying out options for peaceable resolution of a conflict is nothing more than investigative reporting with a positive public good as a goal. As such—as long as journalists do not take sides in providing such information—journalistic neutrality (and the journalists’ ability to interact with both sides in the conflict) is preserved.⁸

Extension agents sit in a similar situation: ideally they want to preserve neutrality in terms of who they serve and how. As purveyors of scientific knowledge, they aspire to neutrality in providing rural communities with practical farming information. In practice, however, they often lack resources and may not be able to provide services equally to all stakeholders in a community. This can exacerbate political, social, and economic tensions that can lead to grievance and conflict. Providing valuable services to the community, extension agents must at a minimum recognize the impact their presence has on rural politics and conflict. Likewise, by consciously working to share information and resources with both sides, they can also develop a neutral course of action that, while advancing peace, does not compromise their ability to work with both sides in a dispute.

It is reasonable for donors sponsoring extension activities or trainers teaching agricultural skills in fragile states to consider the consequences of asking extension agents to participate in peacebuilding. In practice, however, some extension agents in fragile societies are already involved in managing and mitigating sources of conflict. In Kenya, for example, extension agents are assisting communities in reintegrating the IDPs created during the postelection crisis of 2007 and 2008. In South Sudan, extension agents are working with land registry specialists to help register holdings and manage land disputes.⁹ From this perspective, the problem is less whether extension agents can or should work to ameliorate

conflict. In places in the midst of or emerging from conflict, such considerations are self-evident and already the basis for action. The question instead is from the perspective of the donor and NGO community that supports and builds the capacity of these systems: how can we formalize these peacebuilding capabilities in extension systems when we move to help strengthen extension in these environments?

Finally, in a conflict, the problems farming communities face vary with time and geography. Before a conflict, the problem may be land disputes that inflame ethnic tensions. During conflict, however, the problem may present as managing the volume of IDPs created by the threat of violence, and afterward as reintegration of demobilized soldiers. Furthermore, in different regions within a conflict, these problems may occur at different times, in a different order, or even not at all. An extension system adapted to conflict must be able to accommodate such variability effectively.

Characteristics of an Extension System for Peacebuilding

Like farming, conflict is a local phenomenon. The specific knowledge, skills, or capabilities necessary for an extension system to assist in peacebuilding will depend on the particulars of the conflict. Such a system, however, has certain general characteristics.

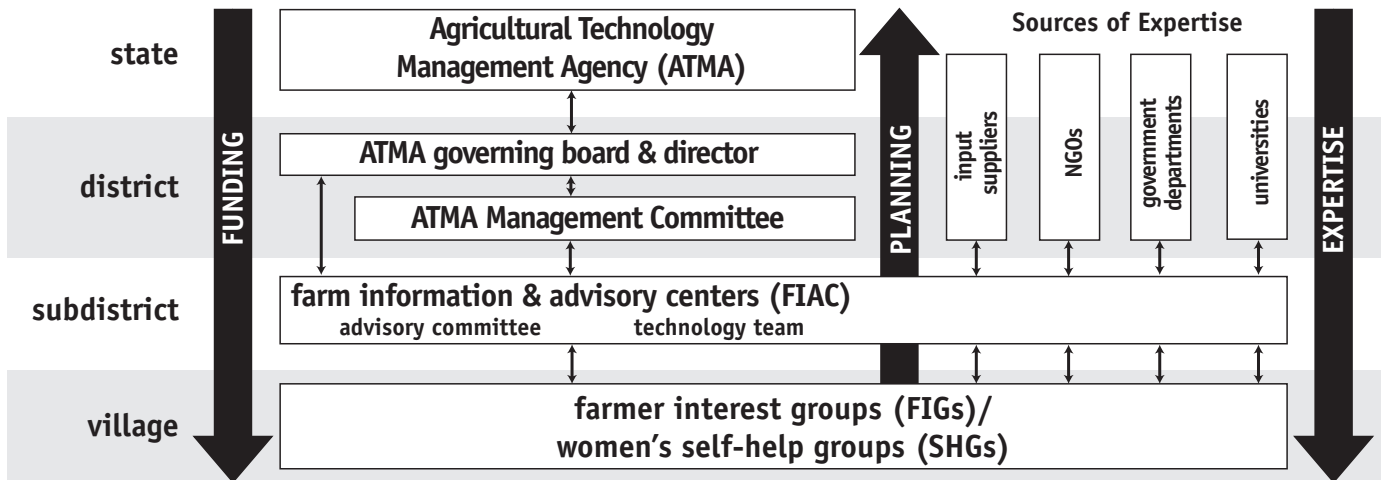
Organizational Structure

In managing wide variation in farmers' needs for agricultural advice, extension systems have had some success using decentralized service models. Such models have much to teach in managing the delivery of highly varied technical information. In the late 1990s, the government of India and the World Bank funded the Agricultural Technology Management Agency (ATMA), a reorganization of India's top-down extension system into a decentralized system designed to deliver extension based on farmers' needs. The goal was to shift farm production from subsistence grains to market-oriented high value crops—such as vegetables, spices, or oil seeds. This required much broader agricultural information to support production of these new crops but also access to new forms of nonagricultural information—price information, logistics, and financing, for example—to help farmers take these new products to market.

To serve this level of variability, ATMA agents were trained to act as brokers between the farming communities and various departments in the Indian government, NGOs, input suppliers, and international organizations. The system provided means for flexibly and continuously passing information (needs) from village farmers up to government and passing funding, expert services, and information (solutions) to farming communities (see figure 1). Contrary to the top-down planning processes used more generally by India's Department of Agriculture, ATMA pushed management, planning, and budget decisions for extension down to the district and subdistrict levels. Assisted by extension agents, farmers organized into interest groups (FIGs) and women into self-help groups (SHGs) that focused on particular agricultural products at the village level. Over time, as these interest groups identified what problems they faced in producing and marketing these new high value crops, extension agents provided access to the training and funding necessary to address those needs. At the subdistrict level, Farm Information and Advisory Centers (FIACs) integrated queries from village interest groups and self-help groups to determine the information, training, and technology requirements for the subdistrict. Technology specialists within the FIAC helped source information and technology to address these requirements.¹⁰

Providing information that answered farmer needs, the ATMA project materially improved farming practice in the communities it served. Both the variety of problems addressed and breadth of solutions offered were substantial. For example, in the Patna district of Bihar state, ATMA supported more than seven hundred farmer interest and self-help groups organized

Figure 1. Decentralized Organization of India's Agricultural Technology Management Agency (ATMA)



Source: Author's compilation based on Burton Swanson, K. M. Singh, and R. N. Reddy, "A Decentralized, Farmer-Led, Market-Driven Extension System: The ATMA Model in India" (presentation, International Food Policy Research Institute, April 8, 2008), 8.

around fourteen crops that included beans, rice, flowers, honey, and even mushrooms. Forty-five self-help groups focused on using microcredit to develop small businesses. Both the scope of information and its impact were impressive. After five years, in 2003, farming households targeted by the program reported a 24 percent increase in annual income from larger harvests of high value crops and reduced emphasis on the production of staples. Control groups reported only a 5 percent increase in household income over the same period.¹¹ The ATMA model provided the means not only to organize and communicate new knowledge and attitudes regarding the marketing of high value crops to farming communities, but also to engage those communities in ways that led to substantive change in farming behavior. Similarly organized, such a system could provide the information, expertise, and resources necessary to help farmers address the causes and consequences of conflict in their communities.

The ATMA project built credibility by improving the quality and effectiveness of extension's services. This required extension agents to design and fund programs to help farmers adopt the science-based agricultural knowledge provided to them. Building credibility also required giving some control of the program's direction to the farmers, however. Although extension agents undertook much of the early planning, over time the farmers took over management of the interest groups. At higher levels in the ATMA hierarchy, farmers could be elected by their peers to membership on both the district governing boards and FIAC. By providing practical, science-based knowledge, designing and operating relevant extension programming, and including farmers in governing the program and its activities, the ATMA program delivered effective extension. By providing competent advice that addressed farmers' problems, ATMA built trust and enhanced the credibility of the extension system.¹²

Such decentralized and participatory approaches are well suited to efficiently delivering the types of information required for conflict management and peacebuilding support in farming communities. First, the system is responsive. If conflict is reducing agricultural productivity, farmers can get the assistance they need to address the problem. Second, it is efficient. It links only expertise that the community requires. Third, it does not place a heavy burden on the agent to master new knowledge related to peacebuilding. Fourth, credit for success accrues to the extension system and thus to the government. Success creates a virtuous cycle that emphasizes the government as a positive factor in farmers' lives.

By providing competent advice that addressed farmers' problems, ATMA built trust and enhanced the credibility of the extension system.

Decentralization opens the door to being more responsive to communities but at the same time places additional demands on extension agents both in their interactions with farmers and in the range of knowledge and partners necessary to deliver the needed support. To manage decentralization and facilitate the creation of producer organizations, such as ATMA's farmer interest groups or self-help groups, needs assessment, facilitation, and trust-building skills are critical. Likewise, decentralized decision making requires extension agents to better understand planning and accounting best practice. Information technology also has a role. It can create transparency in agent activities and can guide agents to the knowledge necessary to advise farmers.

Enabling Technology

To help farmers innovate in producing, storing, and distributing food, extension systems disseminate agricultural technology and information. Technology has a role in making this process more efficient and effective. Extension administrators have aggressively investigated ways of using information technology to enable broader and deeper engagement with farmers. In peacebuilding as well, technology is also being adopted to collect, analyze, and distribute information. Drawing on the experience of these two domains in information technology, what technical capabilities are necessary to support a decentralized, participatory extension system engaged in peacebuilding?

Extension administrators have aggressively investigated ways of using information technology to enable broader and deeper engagement with farmers.

Technology affects two aspects of extension agents' work. First, it provides information and support that improves the capacity of farmers to act. Second, it does the same for the agents. With appropriate technology, both farmers and extension agents can improve the performance and reduce the risks related to their work (see table 2). Improved performance either reduces the amount or quality of an input needed for an activity, or increases the amount or quality of an output produced; risk reduction activities broadly defined reduce variation in outcomes. For farmers, this could mean activities that inhibit the effects of drought, pests, or potentially war. For extension agents, risk reduction could include work to limit the misappropriation of public resources or enhance transparency and accountability.

Successful information technology projects in fragile environments share a number of important characteristics. First, they are never showcases only for technology but always solutions to a pressing problem facing a community. Second, they tend to be based on improving user access to a service or an asset rather than providing ownership. Third, they tend to be managed to ensure availability of services to all stakeholders in a community. By providing equitable access to information resources, such projects avoid exacerbating social, political, and economic inequalities in the community. Fourth, they tend to be designed with a view to sustainability, either as public services or as private enterprises. Last, they operate in comparatively well-regulated environments. This is especially true of communications technologies running on shared or public infrastructure.¹³

Sustained success in adopting technology, financing development, and continuously refreshing core datasets by stakeholders depends entirely on whether users benefit from the technology. In the private sector, this is the principal question investors ask before they put their money on the table. In the public sector, the question is often overlooked. Even if donors cover the cost of developing and operating a system, stakeholders must still derive greater value from the system than their cost to use it. These costs may not be monetary. For example, data-sharing systems—even when free—burden the user with various activities related to data collection and reformatting and may even undermine the reputation and status of a user in their community. That some of the costs—such as how sharing data and the implicit relationship created affects the reputation of users—are difficult to measure and may hinder adoption even more.

Table 2. Using Technology to Build Capacity

| | For Farmers | For Agents |
|----------------------------|--|---|
| Improve Performance | | |
| Problem | Improve the returns to smallholder farmer by eliminating the information asymmetries between farmers and traders. | Reduce the cost of finding and sharing agricultural information between farmers, ministries, and NGOs in Malaysia. |
| Solution | Provide smallholder farmers in West Africa with weekly advisories listing changes in relevant local commodity prices, weather predictions, and other market information via SMS, website, or phone services. | Develop a web portal for sharing a wide array of services including technical information on Malaysian agriculture, registered agriculture service providers, pricing information for producers, and information about permit applications. |
| Result | Subscription can increase farmer income substantially, sometimes by as much as 30 percent. | Both farmers and extension agents have access to information resources that can enhance farmer knowledge and direct farmers to the appropriate third party experts. |
| Reduce risk | | |
| Problem | Encourage adoption of more expensive, high productivity seeds. | Improve attendance and productivity of ministry staff. |
| Solution | Offer seed insurance indexed to rainfall and other climate information from a network of weather stations. If rainfall in a given region of Kenya falls below historical benchmarks for farming, insured farmers are reimbursed their costs for seed through a mobile money service. | Provide headquarters staff in Afghanistan with identification cards and require scanning of cards upon entry to facilities. |
| Result | Following drought during first year of operation, 12,000 entered program in second year, a sixty-fold increase. | Card scans enabled management to track and improve attendance. An unintended consequence was long lines at security to enter the headquarters building each morning. |

Source: E-Sourcebook, "ICT in Agriculture: Connecting Smallholders to Knowledge, Networks, and Institutions" (Washington, DC: World Bank), 59–60, 274–75, 323–24; Mike Deal, executive director & CEO, Volunteers for Economic Growth Alliance, personal communication, March 30, 2012.

It is important to recognize that the technical competence required to run even a website may be difficult to acquire and keep in a developing society. A high-technology approach may not always be appropriate to manage the lists of profiles and contact information and undertake the matching process that introduces farmers to experts. The cheapest way to publish and disseminate such information may be a hand-cranked printing press and the postal system. Which is most appropriate comes down to understanding what approach will most inexpensively support development and maintenance of the needed capability.

Extension Personnel Skills

As extension has shifted from a technology transfer model toward one intended to build social capital, the skills required of extension agents have changed. Likewise, at least in the developed world, the increasing use of information technology to support knowledge transfer has required extension agents to become correspondingly more skilled in applying communications technology in their teaching and training. Finally, decentralization itself places certain demands on extension agents in managing their relationships with farmers and subject matter experts.

A decentralized system shifts many managerial functions—even if only at a very basic level of competence—down to the agent level. Table 3 is an amalgam of skills and suggests the skill requirements for agents and managers within a decentralized extension system.

For technical skill areas—such as agriculture or business management in table 3—agents must have enough knowledge to assist their clients. In agriculture, this is especially important. There, agents must have demonstrable agricultural knowledge to be credible. For technical skill areas outside agriculture, however, agents need only be able to diagnose the farmers’ needs. For agent training purposes, issues could be presented as a frame to guide the agent’s diagnosis of what the farmer needs and where the agent can find the solution. Because these frames are comparatively simple, they can be learned quickly as conditions and needs change. A core capacity to diagnose the causes of conflict is essential. This can be augmented with additional frames as needed. For example, during a drought an agent could learn additional frames in water management techniques and subsequently even

Table 3. Proposed Competencies for Decentralized Extension Systems in Peacebuilding

| | Agents | Managers |
|----------------------------|---|--|
| Agriculture | knowledge needs analysis | knowledge needs analysis strategy |
| Business management | frames needs analysis | frames needs analysis strategy |
| Conflict management | frames needs analysis intercultural communication | frames needs analysis strategy |
| Enabling skills | planning and budgeting project management facilitation/mediation presentation training computer and IT skills expert management | planning and budgeting project management facilitation/mediation presentation training IT strategy knowledge management leadership organizational change |

Source: Anita Cooper and Donna Graham; “Competencies Needed to Be Successful County Agents and County Supervisors,” *Journal of Extension* 39, no. 1 (2001), www.joe.org/joe/2001february/rb3.php; Steven Olson and Andrew Robertson; “Adapting Agricultural Extension to Peacebuilding” (Washington, DC: National Academies Press, 2012), 30–32; American Library Association, “ALA’s Core Competences of Librarianship,” January 27, 2009, 1–5, www.ala.org/educationcareers/sites/ala.org.educationcareers/files/content/careers/corecomp/corecompetences/finalcorecompstat09.pdf; Susan M. Thompson, ed., “Core Technology Competencies for Librarians and Library Staff—a LITE Guide” (New York: Neal-Schuman, 2009), 86–89.

develop expertise in managing disputes with pastoralists as migration patterns change in response to the drought.

Many of the skills required by extension agents to operate in a decentralized system—such as project management, facilitation, planning, and budgeting—are also required for successful community-based peacebuilding. The responsiveness, reliability, and transparency generated by good project management are important basic components in building trust independent of whether the immediate goal is adoption of a new agricultural technique or resolution of a disagreement between two communities in conflict. Ensuring that all stakeholders are engaged, providing them the same baseline information, and ensuring that all parties agree to next steps and timing are some of the basic project management actions that can build trust and facilitate group action no matter the goal.

Finally, extension managers working in such a system are responsible for developing long-term strategies related to what knowledge should be delivered through the system. Thus they must be capable of identifying emerging issues, determining the corresponding knowledge area, and developing plans for staffing, implementing support technologies, engaging experts, and training to support delivery of that knowledge. For example, if gender violence emerged as a widespread problem in farming communities facing large influxes of IDPs, managers would have to respond with a strategy for engaging and supporting experts knowledgeable in preventing further outbreaks and helping victims recover.

Conclusion

Independent of peacebuilding, extension systems are under pressure to provide a wide range of information and to manage the delivery of that information in addressing the specific needs of particular groups of farmers. The solution is a decentralized extension system in which agents are trained to facilitate discussion with groups of farmers to identify their

common needs and find subject matter experts to address those needs. This approach minimizes the expert knowledge required by extension agents, who need only enough to make correct diagnoses of farmers' needs and requirements. Training and enabling technologies can further lighten the burden on the individual agent.

Within such a system, peacebuilding and conflict management become another valuable network of experts and information that an extension agent can access on behalf of farmers to improve productivity. Core training in conflict analysis would enable agents to understand the conflict and better determine what sort of solution might be necessary. Based on this, they would provide access to experts and organizations with the capacity to mitigating the conflict. Training in conflict analysis also helps agents understand the possible consequences of their actions in providing agricultural, business management, or peacebuilding support and helps them make choices that avoid compromising their credibility or exacerbating the conflict.

Decentralized, bottom-up organization of extension systems has demonstrated potential in enhancing the productivity of farming communities. Likewise, community-based methods are essential elements in successful peacebuilding. Providing the appropriate training and enabling technology to support decentralized delivery of agricultural and peacebuilding services to farmers should enable rural communities to reap harvests of both food security and social stability.

An online edition of this and related reports can be found on our Web site (www.usip.org), together with additional information on the subject.

Notes

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