Case Study 9

The Need to Improve Agricultural Extension for Women Farmers: Kenya

As noted in Chapter 5, absolute poverty is disproportionately concentrated among women, in rural areas, and in the agricultural sector. Improvements in the productivity and incomes of women farmers are therefore key to a strategy for poverty reduction. The role of women in agriculture is particularly important in sub-Saharan Africa. But this is also the region that has benefited least from the Green Revolution of high-yielding crop varieties and other modern farming practices that have had such a large productivity impact in many parts of Asia over the past half-century.

The crucial importance of a solid agricultural extension program for successful rural development and increased yields has been appreciated by development specialists for decades. Support for agricultural extension has played a central role in the activities of most multilateral and bilateral development agencies. Historically, agricultural extension programs have played a vital development role in the United States, one of the world's great agricultural productivity success stories.

Traditionally, agricultural extension programs in developing countries were aimed almost exclusively at training men, even though women do most of the agricultural work. In sub-Saharan Africa, women are responsible for well over two-thirds of staple food production. They are also active in growing and marketing cash crops, in food processing, and in animal husbandry. But women's roles have expanded in recent years as men have increasingly migrated to urban areas and taken nonagricultural jobs. Where men and women both do agricultural work, there still tends to be a gender-based division of labor. As a result, techniques relevant to the work of men are often not relevant to the work of women. Where they are relevant, men in the region have, for various reasons, tended to pass on to their wives ("trickle across") surprisingly little of what they have learned.

The focus on training men has generally been more by default than by design. For example, training has been copied from developed countries like the United States, where men do the majority of agricultural work. There may be religious or cultural constraints on men training women, and male extension agents may simply be more comfortable talking to men. A World Bank study showed that most male African extension agents have perceived women as "wives of farmers" rather than as farmers in their own right. And almost all extension agents have been male. Female agents must be trained. A major problem is the segregation and exclusion of women in large parts of Africa and Asia.

The success of women in agriculture in sub-Saharan Africa is at the very core of prospects for genuine development and poverty reduction. But the agricultural extension program response to the problem has been slow. And in some countries, program design is said to reflect a bias against providing women with too much independence.

One important strategy of the past 30 years has been to make use of radio, audiotapes, television, videotapes, DVDs, and more recently SMS (texting). Women may listen to or watch the materials in groups in homes or village centers. Katrin Saito and her colleagues reported that female farmers question extension agents in Ghana about subjects they have heard discussed on the radio.

Agricultural extension programs for women are interconnected with a number of other important rural development and women in development issues. Five key issues are the following:

1. *Human capital.* Women have less education than men on average in most rural developing areas. The bias in agricultural extension programs may in some part be a bias to train the more educated spouse, but the practice has also exacerbated this relative deficiency.
2. *Appropriate technology.* Because women tend to be involved in different farm activities than men, they will often have different technology requirements. Most technology development has been focused on activities of men.
3. *Land reform and agrarian design.* On average, women farm on much smaller, more fragmented plots than men; are less likely to have secure ownership; and often cultivate less fertile soil. This distribution is likely to be inefficient as well as distributionally inequitable.
4. *Credit.* Women have little access, if any, to financial credit, a key input in efficient agriculture.
5. *Work requirements.* Many women who work as many or more hours per day as men in agricultural pursuits also have to perform several hours of domestic work that men do not do. The workday of a poor woman farmer in Africa has been estimated at 16 to 19 hours. The attention mothers can give to their children is limited by long agricultural working hours. The implication may be that women should receive an even higher priority for technical education and technology development and access.

As Rekha Mehra has noted, one intent of structural adjustment programs in many African countries has been to encourage the shift to exportable cash crops. But these are the crops over which men tend to exercise control. A woman's profit share after working with these crops may be as little as 5%. But she is still responsible for growing consumption crops and feeding her children. Mehra concludes that structural adjustment programs tend to place even more time requirements on women already burdened with 16-hour workdays. The irony is that as the husband controls the cash, his "say" in the family may actually *increase* as a result.

Removal of agricultural price controls in Africa, allowing the prices that farmers receive for their crops to move toward world market levels, has provided more accurate price signals to farmers and encouraged a switch to more economically productive crops. But an IFPRI study showed that after diversification to commercial crops, Kenyan women still try to grow the same amount of consumption crops. Thus, more is needed than price adjustments featured under structural adjustment programs; reform must address structural problems faced by women that will prevent them from responding to price signals efficiently. A good example is the larger profit share taken by the husband and often not shared with his wife or wives.

None of these problems is limited to Africa. For example, Carmen Diana Deere, in a review of 13 Latin American agrarian reform experiences, found that most have benefited only men. This was mostly because farmers were thought of as men and the reforms were designed to target only men as beneficiaries. Her review found that women benefit only in the rare instances when their well-being is a specific objective of the reform and rural women are made an explicit part of the design of programs from the outset.

Taken as a whole, these points show why women farmers need the help of extension programs. It is also efficient to do this because of an application of the law of diminishing returns to training for men. The evidence suggests that the trickle-across theory—that trained husbands will in turn train their wives—all too rarely occurs in practice, at least in sub-Saharan Africa.

In Kenya, the ministry of agriculture operates a national extension system (NES) in concert with its agricultural research efforts. Before 1983, the NES worked almost exclusively with male farmers, while a separate "home economics branch" advised women on household and cottage industry management and domestic hygiene, but only peripherally on farming matters. Research by the Institute of Development Studies in Nairobi and other agencies confirmed that extension programs were much more likely to have reached men than women farmers. In 1983, Kenya's training and visit (T&V) system was established with the express purpose of training women as well as men in efficient agricultural practices. The case provides an example of the necessary ingredients of progress and also of how very much remains to be accomplished.

The design of the T&V system is based on providing "technical messages" to selected "contact farmers," who are regularly visited on their farms.

Unfortunately, resources are insufficient to reach all farmers, and even if the T&V system did try to reach all farmers, the quality of training would be poor. As a result, only 10% of all farmers are chosen to adopt advice brought to them in these messages and then to help spread this new technical knowledge by persuading other farmers in the villages to adopt them as well. A number of "follower farmers" are expected to attend meetings with T&V officials on the contact farmer's land. In this way, it is hoped that technical "diffusion" is maximized in a cost-effective manner. The selection process is vital. Farmers must be selected who are capable, likely to diligently follow through on new information, and locally respected so as to encourage emulation. In choosing contact farmers, T&V officials meet with farmers and consult with local communities and their leaders. In recent years, T&V outreach has focused more on working with traditional community farmer self-help groups, which can provide greater flexibility, better diffusion, and group reinforcement.

At first, messages focused on procedures offering the prospect of significant productivity gains but not requiring cash expenditure, such as ground preparation, spacing, seed varieties, and pruning. The messages being diffused in any one month are linked to farm activities under way in the annual crop cycle, such as planting or harvesting the crops being cultivated at any given point in the course of the year. The training process builds step by step: Simpler messages are imparted in early stages, and more complex messages, later in the program. Moreover, only after farmers see results from this initial advice and so come to trust the T&V messages, are measures requiring modest cash outlays introduced, such as fertilizer use and crop spraying. In a later stage, measures requiring purchase of capital goods may be introduced. Increasing numbers of women function officially as contact farmers. Even more serve unofficially in this role, as their husbands farm only part time or not at all.

The messages of the T&V program, ideally, are supposed to be transmitted in both directions. T&V agents are supposed to gather information about how well previous advice has worked in practice and about continued problems in order to guide research efforts. This is in the spirit of the often touted but seldom fulfilled development participation ideal.

T&V-type programs received substantial encouragement and financial support from the World Bank from the mid-1970s through the 1990s. But in most countries, performance was disappointing.

In 1997, Vishva Bindlish and Robert Evenson reported that T&V-type extension programs operated in more than 30 countries in sub-Saharan Africa. They concluded from their statistical evidence that the experience of "Kenya and Burkina Faso shows that T&V management enhances the effectiveness of extension and that such programs support agricultural growth and produce high returns on investments." They found that "areas served by extension have higher yields and that within these areas the highest yields are achieved by farmers who participate directly in extension activities. As a result, extension helps to close the gap between the yields attainable with existing technologies and those actually realized by farmers." But they found that while this makes improvements in the short run, there are limits to what the program can achieve without "the development of improved technologies that are relevant to local conditions."

A study by Robert Evenson and Germano Mwabu found that the impact of T&V in Kenya on productivity was positive but, interestingly, strongest among farmers of highest and lowest ability (measured by the portion of productivity unexplained by the use of farm inputs). They hypothesized that high ability overcame diminishing returns to inputs. Perhaps extension is complementary with high (unobserved) management ability. But the relatively high impact on the lower-ability farmers is noteworthy, even if data drawing conclusions about possible impacts such as on poverty are not available.

Economic advancement of women farmers is also important for promoting environmentally sustainable development. In addition to their responsibility for agriculture, especially on more marginal and often ecologically fragile lands, women have a customary role in traditional societies as the guardians of natural resources such as the water supply. This is also an important domain for agricultural extension work with women. In Kenya, the T&V system is not yet strongly involved in environmental problems.

Christina Gladwin and Della McMillan argue that much more must be done; for example, women should be consulted at the design stage of technology development, extension specialists should receive training on how to approach a male farmer about training his wife or wives, and governments should target funds to women's organizations and clubs.

Another shortcoming of the T&V system is that it has made too little progress in the field of women's credit. A study by Kathleen Staudt found that of 84 female farm managers interviewed in the Kakamega District in Kenya's Western Province, only one knew about the credit program, and no female manager had received any credit. Informal indications are that this is the area that has improved least over the subsequent years. But rural credit, often run by local NGOs, has recently been expanding in Kenya at a rapid rate that has surprised many long-term observers.

The strategy of involving women in public agriculture initiatives has shown some results in environment and credit as well as agricultural productivity. For example, the United Nations Population Fund reports that "women are now the principal participants in Kenya's National Soil Conservation Program. Since the mid-1980s, women have terraced more than 360,000 small farms, or 40 per cent of the country's total. Rural collectives, run by women, are now getting bank loans and agricultural extension services tailored to their specific needs and interests."

The Women in Development Service of the FAO reports that "in Kenya, following a national information campaign targeted at women under a National Extension Project, yields of corn increased by 28 percent, beans by 80 percent and potatoes by 84 percent." The way forward also includes a greater emphasis on more general knowledge. The FAO also reports on a study in Kenya that showed that farm "yields among rural women could be increased by 24 percent if all women farmers completed primary school."

Nevertheless, the agricultural extension program in Kenya has remained weak by international standards. The World Bank audited its programs in this field in 1999 and found it severely wanting in many respects, including low cost-effectiveness. The audit called for more efficient targeting of extension services where the impact is likely to be greatest, using improved information systems, and empowering farmer clients by giving them a greater voice in the design of the services. The World Bank also called for more cost recovery, but this is likely to prove controversial. Kenya eliminated user fees on primary education in 2002, making it at least nominally free for all, despite 1980s-era encouragement by the World Bank and other agencies to seek "cost recovery" from impoverished parents of primary pupils. As a vital part of poverty alleviation, cost recovery from impoverished women farmers is a dubious strategy. It may also be noted that structural adjustment in Kenya is cited by other critics as a cause of declining T&V budgets in the late 1980s and 1990s, severely crippling the capacities of this program.

In Kenya and elsewhere in sub-Saharan Africa, public extension programs have also been supplemented in recent years by a growing presence of nongovernmental organizations (see Chapter 11). For example, in western Kenya, the NGO Africa Now is actively recruiting and training farmers to participate in beekeeping as an alternative means of income generation. Broad participation of many civil society actors with diverse knowledge bases and connections with various ethnic and other social groupings is essential to success in an ecologically and socially diverse region such as sub-Saharan Africa.

Regarding government extension, a World Bank evaluation concluded that "progress on gender issues has been mixed. The earlier bias against women farmers has been rectified, but some bias persists in the selection of contact farmers. The proportion of female field-extension agents has remained largely unchanged since 1982." Though a better performance than many African and Asian countries and than Kenya exhibited in the past, it leaves much to be desired. Real progress has been made, but there is a pressing need for systematic follow-up and expansion.

A hopeful sign is that in decentralizing extension to more local levels, opportunities for active participation are increasing. Kenya's National Agricultural and Livestock Program has established stakeholder forums to decide on extension service priorities at the district and subdistrict levels, in which farmers are to be given a substantial say. But it is too early

to determine how much more responsive the new system will be to the needs of women farmers or whether the long-run impact will be greater than past efforts.

In another development, Esther Duflo, Michael Kremer, and Jonathan Robinson presented intriguing evidence, from the Busia district in Kenya, that farmers also have a "commitment problem" in using returns from produce sales to purchase fertilizer for next season. Although still at an early stage, this pioneering research may open up new avenues for more effective agricultural program design.

But the role of women is strengthening throughout Kenya. Thousands of women are taking part in the Green Belt Movement (GBM), established in 1977 by the National Council of Women in Kenya at the behest of the visionary leader Wangari Maathai. Its simple objective, in Maathai's words, is to "halt desertification by encouraging tree planting and soil and water conservation in rural communities." The GBM also works to promote sustainable development and poverty alleviation in parallel projects. Although the program is run through the NGO or citizen sector, seedlings are provided by the government at low prices, and GBM volunteers receive advice and support from government forestry officials. For her work in supporting sustainable agriculture and forestry that benefits women and children, Maathai was awarded the 2004 Nobel Prize for Peace.

The GBM emphasizes grassroots participation and self-help and strives to educate people on the link between deforestation, erosion, poor soil quality, and subsequent low crop yields. With the help of outside funding, women are paid to work at about 1,000 nurseries. Seedlings grown at these nurseries are given to small farmers, schools, and churches, which have planted tens of millions of trees. The estimated survival rate is 70 to 80%. The GBM has had striking success in scalability, that is, bringing the model throughout Kenya and then disseminating it widely in Africa. This success was noted by the Nobel committee when awarding the prize to Maathai. ■

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Concepts for Review

Agrarian system
Cash crops
Diversified farming
Diversified (mixed) farming
Family farm
Green revolution
Integrated rural development
Interlocking factor markets
Landlord
Land reform
Latifundio
Medium-size farm
Minifundio
Moneylender
Scale-neutral
Sharecropper
Shifting cultivation
Specialized farming
Staple food
Subsistence farming
Tenant farmer
Transaction costs

Questions for Discussion

1. Why should any analysis of development problems place heavy emphasis on the study of agricultural systems, especially peasant agriculture, and the rural sector?
2. What are the principal reasons for the relative stagnation of developing-country agriculture in Africa? How can this disappointing performance be improved on in the future? Explain your answer.
3. Discuss three main systems of agriculture found in the developing world. To what extent are these systems concentrated in three major developing regions?
4. Compare and contrast the nature of peasant or small-scale traditional agriculture in Asia, Africa, and Latin America. How do overall agricultural systems differ among these regions? What are the common characteristics?