4. FARMERS SELECT THE FARMING PRACTICES THEY ADOPT AND EVALUATE THEIR RESULTS

Farming practices are adopted by season. For example, coffee farmers improve the shading of their trees, prune them, and construct bench terraces on steep land during the dry season. They dig shallow ditches for fertilizing their trees and fertilize them during the rainy season. They harvest, husk, wash, and dry their coffee during the harvest season. For this reason, technical assistance in adopting better farming practices is generally organized by season.

If project implementers let farmers take the lead in selecting the practices they adopt during each season, the farmers will learn more about which practices to adopt and why. Project implementers can then provide technical assistance in these practices throughout the season, and farmers can evaluate their results at the end of the season. Farmers need to select the farming practices they adopt and evaluate their results after the project closes. It makes sense to help them do so during the project.

The Story

The coffee farmers in the Northern Chimaltenango region of Guatemala's Western Highlands were making progress. They increased their productivity from 5 to more than 15 quintals per 1/4 acre. They began husking their coffee and selling it directly to exporters. They increased their average income from $131 to $1,058 a year.

Then a severe attack of coffee leaf rust swept through Central America; and they lost half their increases in income. Leaf rust is an airborne fungus that attaches itself to the undersides of the leaves of coffee trees and gradually kills photosynthesis and the growth of the leaves, coffee blossoms, and beans. Productivity fell by a third, most of the coffee was too small to husk, and average income fell to $520 a year.

The farmers reorganized their selection of farming practices to focus exclusively on combating the leaf rust. They received help from an international nonprofit and the National Association of Coffee Producers, and they decided to organize their practices into three categories: (1) treating infected trees, (2) preventing leaf rust in trees not yet infected, and (3) replacing severely infected trees.

The farmers treated infected trees by spraying them with a mixture of copper sulfate and lime to kill the leaf rust. Leaf rust thrives in shade and moisture, so they reduced the shading of their trees and pruned them more aggressively. Better fed trees withstand leaf rust more effectively, so they increased the fertilizing of their trees. They prevented leaf rust in trees not yet infected by spraying them with copper sulfate and lime, and they destroyed severely infected trees and replaced them with new seedlings.

The leaf rust is orange in color, and the orange splotches on the leaves are easy to spot. The farmers evaluated the extent to which they were controlling the leaf rust

every two to three months, and they renewed their efforts to control the leaf rust in areas of their coffee plots with lots of orange splotches.

Fortunately, most of the practices to combat the leaf rust are the same as those for increasing productivity. Also, all these practices are carried out during the dry and rainy seasons, so the farmers could still focus on husking their coffee and selling it directly to exporters during the harvest season.

The farmers were able to keep their average income from falling below $520 a year. In three years most of their coffee was free of leaf rust, and they were close to regaining the productivity, husking, and income they had lost. Coffee farmers in other parts of the Western Highlands abandoned their coffee plots and went to Honduras to look for work.

Planning, Evaluation, and Feedback with the Farmers

Staff of agricultural projects are accustomed to telling farmers what to do rather than letting them take the lead in selecting the practices they adopt. And they don't often help farmers evaluate their results. However, there are tremendous benefits to be had if they let farmers take the lead in selecting the practices they adopt and evaluating their results. Selection and evaluation are ideal "bookends" for the technical assistance in adopting better farming practices. They give it more reason, order, and impact. They are the operational planning of the project, and doing it with the farmers makes the decisions on what to do and when much better.

Also, projects need feedback in order to improve, and this is the way to build it into the project. Selection and evaluation are business and agricultural practices. Management is "allocating resources to achieve desired ends", and this is where farmers decide how to allocate their labor. But selection and evaluation are agricultural practices as well, because selection requires considerable knowledge of agricultural science, and the evaluation of results confirms this knowledge. And when results are not as expected, this feedback allows farmers and project implementers to adjust their agricultural science to the particular circumstances of the farmers' land and soil.

More Learning

When project implementers let farmers take the lead in selecting the practices they adopt, they force a discussion of the details and significance of each practice. Farmers gain a better understanding of how the practices relate to increasing productivity, processing, and income. They learn why each practice is important, which practices are more important than others, how they work together, and whether it is more efficient to adopt some practices before others. They learn agricultural science.

When farmers take the lead selecting the practices, there are more questions, discussion, and debate. The farmers are fully engaged in the learning, not just listening to instructions. It changes the technical assistance in better farming practices from

telling farmers what to do to including them in the discussion and decision-making, and we force this inclusion by giving them the lead in selecting the practices.

If the farmers miss something important, project staff is there to say what they missed and why it is important. If they want to focus on something that is less important, project staff is there to explain that other practices are more important and why. This is the richness of the discussion and learning, and it is very powerful learning for a two or three-hour meeting to select practices at the start of each season.

Evaluation is learning what went well and what needs improving, and this is the most important learning of all. Technical assistance is provided to groups of farmers, and project staff can begin the assistance by helping the members of the community group or producers' association evaluate their individual results. Once the individual evaluations are completed, staff can then help all the members of the group discuss common problems, solutions for them, and how to improve the project. Farmers learn how to improve their individual performance. Project staffs learn areas where more technical assistance is needed. These are very powerful results for a two or three-hour meeting at the end of each season.

In addition, there is a bonus for project staff. In the evaluation at end of the harvest season, the farmers' individual evaluations include increases in productivity, processing, price, and income. Then, all the farmers in the group can estimate the increases for the group as a whole. They compile their portion of the project report and greatly reduce the time staff would otherwise devote to preparing reports.

Better Decisions

Letting farmers take the lead in selecting the practices improves decisions in several ways. The decisions are based on agricultural science and functional relationships. They force a break with doing things by tradition. The decisions are more feasible, and after a single crop cycle, they are based on an evaluation of results.

When farmers select the practices they adopt, they learn agricultural science and use this science to make better decisions. They are no longer farming by tradition. They are choosing farming practices based on their relationship to increasing productivity, value-added processing, and income. They do not need to discard traditional agricultural practices, but they do need to prove their utility based on how well they increase productivity, product quality, or processing. The way things were always done often resulted in low productivity and erosion of land.

Decisions are more feasible because farmers have an opportunity to discuss what they know from their experience. Their soils and circumstances may not conform to standard agricultural practice. They also have a lot of practices to adopt, limited amounts of labor, and they are the experts on how many practices they can adopt at once. And they may have ideas on how to sequence the adoption of practices in order to save time and labor.

When farmers evaluate their results at end of each dry, rainy, or harvest season, they create a feedback loop for making better decisions in the next season or crop cycle. The evaluations provide information for decisions on how to improve or reinforce their adoption of practices in the next season or crop cycle. Making better decisions is an iterative process, and two or three evaluations each year provide considerable information and iterations for improving decisions.

The populations of many developing countries are increasing rapidly, and the size of family farms is shrinking. Farmers need to make the best decisions possible on how to use their land and labor, and the formal process for selecting practices and evaluating results helps them do so. Also, they are on the forefront of climate change, and droughts, floods, pests, and plant disease are becoming more severe. The formal process helps them change their farming practices, when needed, to focus on minimizing losses due to natural disasters.

More Adoption of Better Farming Practices and Project Results

Farmers are more likely to adopt better farming practices when they have taken the lead in their selection. They have ownership in the decisions, and they are more likely to carry them out. Selection is empowering and motivating, and they are more likely to participate in the technical assistance in adopting better farming practices and adopt them thereafter.

In addition, their participation in the selection makes the technical assistance which follows more demand-driven, more responsive to their specific needs and interests. During the discussion of which practices to adopt and why, farmers can mention some of the problems they might have in adopting them. Project staff can then make plans for how to address these problems during the technical assistance.

Evaluation identifies what went well and, most importantly, what needs to be improved. When farmers evaluate their results, they gain information and experience which increases their participation in the subsequent round of selection, technical assistance, adoption, and evaluation. Selection and evaluation are bookends for the technical assistance in adopting better farming practices. They form a virtuous circle that increases participation, adoption of better farming practices, and project results.

More Sustainability

An agricultural project is a brief period in farmers' lives. Most projects are funded for three to five years at best, and farmers will have to select the practices they will adopt and evaluate their results by themselves after the close of the project. Helping farmers select practices and evaluate results during the project greatly increases the likelihood that they will sustain these practices once the project closes.

Agricultural projects are vocational education. Poor farmers have their vocation, but they don't perform it very effectively, and the project helps them do so. Selecting

practices and evaluating results are key features of the vocation. Farmers get to perform these practices two or three times a year, if they are part of the project and technical assistance, and they are likely to became part of standard agricultural practice, part of the vocation, and be continued and sustained after the project closes. They are more likely to sustain the gains made by the project and, ideally, continue to advance them.

The Closing

Helping farmers select practices and evaluate results brackets the technical assistance in adopting better farming practices and changes its nature from telling farmers what to do to including them in the decision-making. Farmers learn more agricultural science and improve their decisions. Farmers are more likely to sustain better farming practices, and they have a formal process changing practices to confront natural disasters.

In addition, some implementers do not provide technical assistance in adopting better farming practices. They just tell farmers what to do in a workshop. At the very least, letting take the lead in selecting the farming practices that they adopt is a much better and more engaging approach to adult and vocational education than telling them what to do. And ideally, in a subsequent workshop, they could be helped to evaluate their results.