

## **5. USE LEARN-BY-DOING AND SKILLED FARMERS AS WELL AS AGRONOMISTS TO PROVIDE THE TECHNICAL ASSISTANCE**

The purpose of agricultural extension is to help poor farmers adopt better farming practices. Extension staff can either tell farmers what to do or they can actually help them perform the better practices on their farm plots. The latter is called "learn-by-doing", and it is a much more effective method of learning.

### **The Story**

The farmers in Xebacin gathered in Doña Filomena Sucuc's coffee plot during the rainy season. Cecilio Cuxil, the promoter for the community, and Rudy Cali, the agronomist, were there to help them dig fertilization ditches.

Rudy began by explaining that coffee trees take their food through the ends of their roots, which extended to nearly a meter from the trunk of the tree. Digging a shallow ditch above the root ends and putting the fertilization in the ditch was a much better way of feeding the trees than sprinkling it around the base of the tree.

Cecilio grabbed a pick-hoe and dug a shallow ditch about 5 or 6 inches deep in a two-meter box around the coffee tree. Gregorio Sanic asked, "Didn't the roots extend in a circle? So why the square box?" Rudy replied that they did, but digging a perfect circle for several hundred trees was a lot of work and the box was a lot easier to dig. Cecilio added that a box wasn't quite as effective as a circle, but the labor saving was worth the small loss in feeding because of using a box.

Doña Filomena picked up the pick-hoe and started digging a box around the next tree. She dug too deep on her fourth or fifth swing of the pick-hoe and cut the roots of the tree. She jumped back from the ditch and said, "Oh my goodness, I am killing the roots, I am killing my tree." Rudy consoled her by saying the coffee tree had many roots, and they would grow back quickly. And, if you cut the roots, you knew where they were, and you were getting the fertilizer as close to them as possible.

Anibal Us asked, "How often do you have to do this?" Diego Ruz, another farmer, replied that you only had to dig them once unless the tree grew. Hermalinda Cab, yet another farmer, replied that you had to clean them and dig them new.

Rudy said they needed to keep their coffee plots free of weeds, leaves, and debris, and that included the ditches, so all of the fertilizer went to the trees. Also, the weeds and leaves were nesting places for fungus and insects, and that was another reason to keep them clean. If you did that, all you had to do was freshen up the ditches with one or two swings of the pick-hoe at the start of the growing season.

Rudy then asked all the farmers in the group to start digging some ditches. Rudy and Cecilio walked around to all of them, observing their work, answering questions, and giving them guidance.

An hour later, the farmers had dug a lot of fertilizer ditches and Doña Filomena had gotten a lot of her work done.

Rudy confirmed that the next technical assistance visit would be in two weeks, and they would meet in Don Gregorio's coffee plot for the technical assistance in applying the fertilizer. Several farmers joked with Don Gregorio, telling him that he better get all of his ditches dug so that when they came they could actually start fertilizing. Cecilio said he would be in the community the following week to provide follow-up technical assistance in digging the ditches.

### **Using Learn-by-Doing Improves the Technical Assistance**

Agricultural extension typically consists of an agronomist or agricultural technician, trained in a technical university or school, telling farmers what to do to increase productivity, product quality, value-added processing, and, thereby, their income. Agriculture is a science, and productivity, quality, and processing are functions of specific agricultural practices. The technicians went to school to learn these relationships, the farmers did not, and the agronomists are "extending" this knowledge to the farmers.

However, demonstrating, discussing, and letting farmers perform these practices are a much better form of vocational education. The farmers can ask questions and get answers that they can immediately apply in performing the practice being demonstrated. And it is also a more effective way of ensuring that farmers adopt the practices, since they have begun performing them rather than only being told what to do.

Learn-by-doing requires that the technical assistance be provided in each community, which means that many more farmers can participate in the assistance. The farmers in each community select the farm plot, and the selection is an additional way of engaging them in the technical assistance. And rotating the site for the technical assistance ensures that every farmer gets a chance to get some of his or her work done during the technical assistance.

The rule of thumb for learn-by-doing is 20% theory and 80% practice. The technical assistance begins with a description of the scientific rationale for the practice. For example, the coffee trees take food and nutrients through the ends of their roots, and getting the fertilizer as close as possible to the root-ends helps the trees make best use of the fertilizer. However, the scientific rationale (the "why") doesn't take too long to explain. It's the actual practice (the "how") that takes the time, and this is where most of the learning takes place.

Project staff may begin the demonstration, but there are lots of coffee trees in a small coffee plot, and all the farmers can demonstrate the practice for themselves and make sure they get it right. They can also ask all the questions that occur to them, other farmers can answer, and everyone can practice the answers. Learn-by-doing is simply a descriptive name for good vocational education, and the aim is get as many of the farmers correctly performing each practice of the vocation as possible. The questions, answers, and immediate application are powerful methods for learning better farming practices. And, as mentioned above, the farmers actually start adopting them.

Farmers get bored sitting in a classroom, being lectured on how to do something. Learn-by-doing is a field trip, both figuratively and literally. Farmers can move around and actually practice what they are learning. And learning better farming practices requires more time on the practice than on the theory. Also, if they get it wrong, they can immediately be corrected by the agronomist, the promoter, or the other farmers.

### **Hiring Skilled Farmers as well as Agronomists Improves the Technical Assistance**

Hiring skilled farmers to work with agronomists also improves the technical assistance in adopting better farming practices. The skilled farmers receive a small salary, and they work part-time so they can still attend to their own farms. The skilled farmers, often called promoters, like Cecilio Cuxil in the story, understand how farmers best receive and respond to technical assistance. They make sure that farmers understand the rationale for and performance of each practice. They help provide the assistance, but they also ask for more information from the agronomists when needed.

The promoters extend the reach of the agronomist and reduce staff costs. Two or three promoters working with each agronomist can double or triple his or her reach. The agronomist only needs to visit each community twice a month, accompanied by one of the promoters. The promoter then follows up the adoption of the practices while the agronomist goes on to another community, accompanied by another promoter. The promoters also perform administrative tasks such as collecting data for reports.

The skilled farmers who serve as staff members will still live in their communities and work as farmers after the close of the project. They will continue to promote the practices in which technical assistance was provided, and they will be available to help their neighbors for years to come.

### **Using Community Leaders as Staff Also Improves the Technical Assistance**

Project implementers need community leaders to organize and schedule the technical assistance in their community. These leaders can also help provide the technical assistance. At a minimum, they can make sure all the questions and doubts of community members are answered. They can also call upon the agronomist or promoter when follow-up assistance is needed. And if they are skilled farmers, they can provide technical assistance and act as promoters for their community. In addition, they

may be elected to represent the community in meetings with exporters and other matters as well.

The community leaders serve as volunteers, and they are an important part of the community's counterpart costs for the technical assistance. At least two are needed in order to reduce the labor for just one and have backup when only one is available. Project implementer should require at least one to be a woman in order to demonstrate equality. Also, more than half of poor farmers are women, and women are more likely to come to the technical assistance if a woman is organizing and scheduling it for them.

The farmers who serve as community leaders will continue to live in their communities and work as farmers after the project ends. They will continue to promote the practices and be available to help their neighbors.

### **The Closing**

Agricultural extension is vocational education. Knowledge comes from doing, not just by being told what to do. Plus, farmers get bored in workshops, and they are constantly, being told what to do by health and nutrition promoters. With learn-by-doing, they are in the farm plots, learning and getting some of their farm work done at the same time. In addition, learn-by-doing provides more opportunities to engage farmers in their learning, to take advantage of their knowledge, and to build on their experience. Finally, there is always a gap between being told what to do and actually doing it. Using learn-by-doing to provide the technical assistance cuts that gap.