

It's a Good System: Let's Promote it!

Paul Gwin

At International Agricultural Research Centers you run into frequent debates on how new agricultural technology can be communicated to farmers in the underdeveloped countries they serve. Sometimes it seems they aren't doing much about it—but they are concerned.

Seventeen of these centers are listed at the end of Tom Hargrove's article in this issue. Several ACEers have had more experience with these organizations than I and may have a more intellectual contribution to offer but I'd like to start the argument.

It came as a bit of a shock to me—an ex 4-H'er and county agent turned communicator—to run into several scientists who weren't convinced that the U.S. Agricultural Experiment Station and Cooperative Extension Service was the ideal model for generating and communicating new farm technology throughout the world. Some of these scientists were from the U.S., too. It shows what happens when we specialize our education in one field. We get stupider in all the others. These fellows even suggested Everett Rogers' theories of diffusion and adoption of farm information might not apply because they were based on the advanced agricultural conditions of the U.S.

By now you may be saying, "Well, I agree with that!" Or, "That's nothing new!" Well if you said, "Hear! Hear!" to those cynical sentiments, let me throw you a curve: I think the U.S. ag research and extension pattern *is* transferable,

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including the diffusion research. Not directly transferable, any more than you can transfer a North Dakota wheat variety to India without adaptation, but still transferable. Those scientists just don't understand what the U.S. research and extension system or Rogers' theories are about. In fact, Rogers may not understand what they are about—in the big picture, that is.

H. F. (Herb) Lionberger comes closer when he describes the agricultural research, teaching and extension system, developed by land grant universities and the U.S. Department of Agriculture as nothing less than a new social invention. It compares with development of the scientific method of investigating natural phenomena. It provides an orderly way to apply the scientific method to the solution of people's problems. It also provides for getting the new knowledge distributed and adopted by enough people to benefit a whole society.

U.S. agriculture was not an advanced agriculture when this social invention took place. Rather, our advanced agriculture is the result. Other countries can use the invention to develop their agriculture. In fact many have.

Regarding diffusion research, Lionberger commented recently, in a moment of depression, "What we (diffusion researchers) have really been doing, is spending a lifetime learning what extension workers discovered by trial and error back in the 20s and 30s." I tried to cheer him up, pointing out that they had defined why things worked and in many cases demonstrated it. This had to be done before the methodology could be transferred to other countries and other areas of problems besides agriculture (Public Health, for example, successfully made the transfer).

The most important phenomenon the diffusion researchers identified was something the first county agents sensed and exploited: Local people—friends, neighbors, and relatives—persuade each other to adopt new practices. It isn't outsiders that directly influence a change, no matter how persuasive or fancy their methods.

This is as true in Timbuktu as it is in the U.S.

The way the early county agents entered these community communication networks was to organize groups of farmers to plan tests and trials and educational programs using the new technology supplied from the ag college research stations. Statewide organizations were also formed. These brought farmers in contact with new farmer

friends outside their own communities and spread the network wider.

To make use of the research / extension social invention in hastening adoption of new technology, it must be adapted or adjusted to fit the cultural and political system and state of the art of farming in each community, as well as the country farmers live in. This explains the extremes of success and failure of attempts to transfer the U.S. research and extension system to other countries.

Japan, Taiwan, and Korea have had spectacular success. Most European countries have also adopted research / extension systems similar to ours, although we seldom claim them as transfer successes because these were already advanced countries.

Latin American countries don't seem to have the handles yet. In Africa, Tanzania's extension apparently started off like a house afire several years ago and then petered out. From what I could conclude from long distance reading, they must have gone through a cycle not unlike one we had in Missouri, although more severe. They started out correctly, establishing local involvement in planning programs. But when this worked too good and local people started asked for things the central planners hadn't counted on, the central planners felt threatened and cut off the voices from the countryside. Now they are back in the government planning box, dishing out advice from the lofty educated elite on high to the peons of the countryside. And Tanzanian agriculture is doing a to-the-rear-march.

We in the communication field are not always helpful in making the appropriate adaptations as we try to advise other countries. We tend to teach and promote our specialty—radio, publications, video tapes, film, or other—as means the educated elite can use to dispense their worldly advice to the peons. What we should do is show specialists how they can use these tools to help farm advisers (sequels to our county agents) put information into the local interpersonal channels of communication and influence and speed approval and adoption.

The key person in each community, as far as extension work is concerned, is the local farm adviser. Specialists need to be taught this if they don't know it, and then taught how they can help the local advisers with communication problems. Regarding each communication tool or aid, we should ask, will it help this farm adviser feed information into

the community's channels or speed transmission among local friends and neighbors?

The local farm advisor's most effective teaching method will involve getting committees of people to plan and carry out their own educational programs and events. Communication tools that aid in getting this job done will help him most.

For example, a television program or videotape on planting rice or wheat might be useful to a local farm adviser if it is timed to reach his community when he is organizing planting demonstrations. It could help get the topic on the neighborhood talk agenda. However, a set of slides and a script are likely to see more use because the adviser can fill in some slides of local demonstration plots, local farmer demonstrators, and results on neighborhood farms. The farm adviser can adjust the script to fit what is going on in the neighborhood among friends.

This is almost beside the point to argue whether television is available or not. Here in Colombia, South America, the most decrepit shacks in the countryside have television aerials above them and videotape can be made available about anywhere. The problem is—can you localize it? Maybe so—but show me. One good use of videotape is in news reports of local demonstrations. It also shows the officials back at headquarters or funding agencies how marvelously their money is being spent.

Television and other mass channels can be used to help the farm advisers advertise demonstrations in advance and afterward, to give educational reports of results farmers are actually having with new technology—reports to people who do not attend the events. This extends discussion of the technology in the neighborhoods.

Another major phenomenon diffusion researchers identified was that effective communication doesn't take place unless it is two-way. The saying "If there is any way a statement can be misunderstood, it will be," applies to all one-way messages.

To us this means that a local person on the spot, a local farm adviser, is needed to establish two-way contact and that we should plan our programs around him or her.

To the agricultural researcher, the two-way phenomenon means the need to plan some kind of direct contact with farmers to find out what their needs are and what problems they encounter in applying the new technology.

From what I could tell in 1978, Taiwan had done the U.S. one better when adapting our research/extension social invention to their needs—not better than we operated in the beginning when researchers worked with farmers and county agents, but better than we operate now with researchers influenced more by their professional societies and grant sources than by local farmers.

In Taiwan, local farmers' associations appoint representatives to boards that approve research projects at the District Agricultural Investigation Stations (DAISs) and decide when new technology is ready for release. The associations also hire their local farm advisers, which keeps the advisers focused on local needs more than on bureaucratic pressure.

The point of all this is that our research and extension system is transferable—if we or they don't screw up the adaptation. It probably can't work under authoritarian systems because things are run from the top down in those systems, and that wrecks agricultural research and extension. We can find ample evidence of that in occasional failures of our own state programs.

The whole thing is built on letting the farmer call the shots. He knows what he needs and what he can apply. No bureaucrat does. We can teach him some new things, of course, but he has to want them first. That and the obvious circumstance that no commune worker gives a cow chip over what happens to the commune's tractor when it breaks down help explain the dismal failure of Russian and Chinese agriculture—outside of the small personal garden plots occasionally allowed.

One last point. Researchers and extension workers are in business to promote change. I think I lost an argument on this subject over a pitcher of beer at Michigan last summer. Anyway it has bothered me since. I joined ACE with the dewey eyed belief that change for the better was possible and that, although not infallible, the scientifically tested way, more often than not, would lead to improvement. I thought researchers and extension workers were in this business of advancing society through the application of science and I wanted to be a part of that.

So, I don't mind if we are called change agents, which is what we were arguing, rather discussing, over our beer. What's wrong with being a self-confessed advocate of change for the better? I don't know; but rural development

specialists, apparently under the influence of some current thought, have been giving this ambition a bad name. To me that's a better goal than the current approved sociologists' objective: "We only offer people an array of alternatives from which they may choose a way to help themselves."

Instead, how about the scientific way? Develop research from people's needs. Recommend. Then give people the freedom to choose and use. It's a good system. Let's promote it.