

## GAPS BETWEEN RESEARCH AND EXTENSION/ MISSIONS

By  
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Most countries have units of agricultural research and agricultural extension in their ministries of agriculture. Most countries have a functional gap between the two also, despite the appropriate knowledge and technology for rural development.

Research and extension actually operate in many countries, both developed and developing, with more independence than complementarity. This is illustrated in the following conceptualization\* by Dr. J.K. McDermott, Associate Director of the Farming Systems Support Project, headquartered at the University of Florida:

World Stock of Knowledge	Research	Technology Development.	Technology Testing
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Technology Adaption	(Policy/market/ farm systems) Integration	Technology Diffusion	Common Practice
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The problem is that research (left) and extension (right) too often work toward the poles of this continuum, with a great gap in between. Without on-farm trials, research stops after "Technology Development" or sometimes slightly into "Technology Testing." Without appropriate extension specialists and on-farm trials, extension starts with "Diffusion," thus leaving neglected the important in-between, linking areas of technological testing, adaptation, and integration. Research units may not accept the priority nor be geared to testing and packaging results for extension or farmer use. Extension units may think of diffusion only--the peddling of handed-down

technology on the assumption that farmer-ready technology exists somewhere. It often does not exist because that readying process falls in the no-man's land between self-contained research and self-contained extension.

Completing the cycle of the technology innovation process, without such fatal breaks, is the objective of Farming Systems Research/Extension, the latest of many historical efforts to preserve and smooth out the continuum. The "/Extension" part of this systematic approach (what follows after the slash mark) offers challenges, too. Often there is no cooperation with researchers to adopt technology and integrate it into packages because subject-matter specialists are not available, as so often in Africa and Asia. There is no reaching-back mechanism for effective linkage with research or for gaining the confidence of researchers. And as stated above, there is often the erroneous assumption that extension is only the diffusion of technology, simplistically ignoring the human agents, the institutional structures and the resource components. Extension, then, needs to be defined in each country so that it completes the continuum and interlocks some-where with research. It must be more, much more, than a mere distribution system that sits and waits for someone else "to turn on the water."

If farming Systems Research/Extension is to succeed where other attempts have failed, both sides of the equation (or of the slash mark) will have to reach out into the current void, grasp hands, and cooperate. Therefore, on-farm trials become of crucial importance. They may be tests for the researchers, as they will also be tests for the farmers; and if the innovation passes the farmer test, dissemination will have also begun. Such demonstrations are an ideal means of linking research and extension.

Therefore, each extension agency dedicated to improving agricultural production and rural welfare has a dual task ahead; making the right linkages with research and putting and keeping its own house in order through staff development, proper structure, and improved use of specialist staff. Developing

countries might well reexamine their separate missions for research and extension to see whether the overriding objective of helping the farmer is being attained, whatever the jargon or self-interests that lie between inert knowledge and its farm application. This may lead to a better understanding among research and extension directors of their most productive roles, which may become more difficult in the sense of requiring cooperation but also more effective in the sense of serving farmers. How to fill the current gap - to get the interlocking mechanism - becomes the bottom line. In all cases, it will take understanding, goodwill, and cooperation. In some cases, it may take something more: the use of appropriate specialist staff. What works will be the answer.

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\* This conceptualization is derived from a manuscript entitled. "Issues in Farming Systems Research Strategy."