

c. Subject Matter Research

This responsibility can be assigned to teams, if there are enough personnel to provide teams. If there is a severe resource constraint, there may be just one unit that is charged with keeping contact with international sources of technology. It would be constituted by specialists.

The subject matter research personnel are responsible for a country-wide program of research. Members of a commodity team could be stationed in several places. There needs to be communication so that there is a single, national program.

d. Relating subject matter and area-specific research.

It is just as important to link these two elements together within research as it is to link research with extension, and sometimes it is almost as difficult. There is ample experience of the two elements working together very effectively. The key has been the recognition of the service the "other" group could provide. Area-specific research, for example, can give subject matter technology a far greater test than subject matter research can. It can also identify problems of much more significance and help evaluate them and plan research. On the other hand, subject matter research is the first recourse of the area-specific teams and is area specific research's link with the world. Area-specific research has limited potential without this source of technology.

Under severe resource constraints, personnel in subject matter research can be reduced with less harmful impact than in area-specific research. The country can rely on the world as a source of technology, but not for area-specific research. However, subject matter research has to be organized, planned, and managed to achieve this end. It doesn't happen simply by reducing personnel.

The matrix form of research organization has worked well in some experiences. It is depicted in Figure IV-2. This shows that the subject matter people have to maintain the integrity of the subject matter program, countrywide, while accomodating the needs of area-specific research. Area-specific research is responsible that the research program serves the farmers of the area while accomodating the needs and resources of the subject matter programs. These accomodations are more fruitful and effective if there is joint effort in reviewing research results and in planning annual research programs. These joint research review and planning meetings are effective self-teaching activities.

In the experience with the matrix, all teams answered to a technical director. It should serve as well if there were a deputy to the director for subject matter research and for area specific research.