

2. Intensity can be adjusted to improve efficiency. Carried to its logical conclusion, every farm is a distinct system. No country can afford that degree of intensity. Don't strive for 100 percent effectiveness in technology adaptation. (See Perrin, Richard et al : "From Agronomy Data to Farmer Recommendations:" CIMMYT, Information Bulletin 27, 1976. and Hildebrand, Peter, Modified Stability Index.....)

3. In many countries there is no numerical shortage of extension personnel. Many on-farm testing activities normally associated with research can be done by extension. Shifting some responsibility from research to extension facilitates the technology innovation process and is consistent with traditional extension responsibility. This shift has great potential for increasing efficiency of the system.

4. Specific attention to minimum capacity can also be an efficiency measure. In cases it is likely to be more efficient to develop and manage a system for importing of technology than it is to attempt a quasi "go-it-alone" strategy.

5. There may be others. For example, some problems have more generalized solutions than others, some commodities or subject matters have a wider adaptation than others, some technologies are simpler to adapt to site than others, some technologies have far greater payoff than others and can pay for more intensity.

### Analysis

You can do two types of calculations that will help get some idea of the likely economic value of the project. These are calculations. They may be useful in analysis but cannot really be considered analytical since they have to assume, estimate, or project the future. The calculations will however, give you insights on the order of magnitude of investment and return you are dealing with.

1. One method is to estimate as carefully as you can the economic value of what could reasonably be expected from the project. These estimates, of course, are extremely tentative. Even if you can estimate future production, you still have the task of allocating cause to this project. Another problem you face is how to deal with "consumer surplus," if this and other efforts were to be effective in keeping food costs down or even lowering them from current levels. This is an important item and is a major justification of public investment in agricultural research and extension.

2. Another approach is to set an acceptable goal for an internal rate of return to estimated costs. This approach eliminates the need to do an a priori estimate of the benefits of a project. An example excerpted from the Caribbean Extension Project Paper is given on page 6.