Evaluating the Results of Problem-solving Activities

Complicated, hidden situations in third-world countries often interfere with the success of programs designed to implement applied research findings. Recently we conducted a study to review and analyze Farming Systems Research and Extension (FSR/E) programs on a worldwide basis. We wanted to discover major hindrances and suggest changes that would improve our ability to implement programs on a sustained basis.

From field case studies in Indonesia, Guatemala, Botswana, and Costa Rica, we learned that incentives must be provided to retain trained personnel in the field, and that career advancement must be possible outside of centralized research organizations.

We need improved research and extension linkages, more testing of technologies, and greater reliance on feedback from farmers in the design of research projects. Cost sharing would be beneficial, as would other forms of cooperation with other research institutions. U.S. AID has played a significant role in establishing research organizations in numerous countries around the world; it would be beneficial if it would continue providing support in the form of training and networking for the FSR/E programs.

The biggest barrier to national sustainability may be the project’s scale when it is funded externally. And without immediately available technologies to adapt agro-ecological solutions to problems, programs will only have limited successes—a situation that is especially true in marginal areas under harsh conditions.

Information must be packaged appropriately to address policy issues and must be presented succinctly.

Eric Arnould

Social science input, especially the characterization of an area, its socio-cultural problems, and the anticipated impact of our programs and projects, would greatly increase the effectiveness of programs.

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Biodiversity in West Africa

The U.S. Congress in 1982 passed two new sections to the Foreign Assistance Act (Sections 118/119). They required U.S. foreign aid to take into account the possible destruction of both the tropical forests and general biological diversity resulting from its aid programs.

In October 1987, the Office of Arid Lands Studies became involved in a preliminary review of biodiversity in three West African nations—Senegal, Mali, and The Gambia. We put together a Natural Resource Management Systems team to look at development projects such as pest control, vector control, protected areas, expanding agriculture, wild meat as a fall-back food during drought, the importance of wild foods in the diet of rural residents, poaching, and biological diversity. Our report was completed in December 1988. It specifically satisfied the Congressional requirements and attempted to integrate biodiversity into existing U.S. AID programs.

Biological diversity occurs on three levels: the genetic level, seen for example in crop varieties that may have future value to agriculture (option value); the species level, demonstrated in plants and animals that may have important global value (existence value) or value for production systems (e.g., browse species that help livestock through the dry season); and the ecosystem level, which may provide educational and tourism-related value for nations with unique ecosystems.

Biological diversity and tropical forest protection is new to West Africa. Very few foreign aid projects have included a biodiversity component. For example, only the Swiss have attempted to institute sustained-yield practices in natural forest settings, and non-native species such as eucalyptus still dominate the nurseries. West African wildlife also requires increased preservation efforts by aid programs, as it has been devastated not only by the sixteen-year drought but also by growing human encroachment into its habitats. Vectors of onchocerciasis (the simulid fly) and sleeping sickness (the tse-tse fly) had protected much of West African wildlife from human intrusion. However, with new control measures, the last forests of West Africa have been opened to settlement. Only expensive restoration and protection programs will maintain any of Mali’s large mammal populations, which include the one remaining herd of elephants that visits the Sahel. We have documented these concerns in two U.S. AID reports.

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