Farmer-Scientist Research Partnerships for Integrated Aquaculture

Malawi

International Center for Living Aquatic Resources Management

Summary

A realistic alternative to traditional technology development has been utilized by the International Center for Living Aquatic Resources Management (ICLARM) to integrate pond fish culture into low-input farming systems in Malawi. Resource flow diagramming and informal interviews were used to assess farm resources and constraints and introduce the concept of integrated resource management (IRM), the synergistic movement of resources between and among farm and household enterprises. Farmer-led IRM research projects are conducted on-farm and monitored by researchers through direct observation and on-station simulation of constraints and management practices. As a result of this approach, 65-100% of farmers involved in various pilot activities adopted IRM-based fish culture and expanded their ponds continuously over three years despite drought conditions which dramatically lowered pond productivity.

For the success of this initiative, certain needs were identified and addressed:

- Both extension and research were frustrated by a lack of progress.
- Government was interested in increasing fish supply.
- Farmers made increasingly desperate by structural adjustment policies were seeking ways to diversity their production systems.

As a result of the activities of this initiative, an important lesson was learned - namely, that incremental, farmer-participatory approaches which are adaptive to local socio-economic conditions work better than transfer of complete technology modules.

Objectives

The initial objective of this initiative was to overcome local constraints to integrated aquaculture through the use of locally-developed technology. Low adoption rates encouraged investigation into technology transfer mechanisms, and eventually, to a unified approach to technology development and transfer (which included farmer’s participation as well as the fusion of extension and research capabilities).

Most Significant Contributions

The most significant contributions of this initiative to sustainable agriculture and land use management include:

- Improved productivity, stability and income generative capacity of smallholdings.
- Improved methods for technology development and transfer.
- Integration of aquaculture into a farming system improves overall farm function and crop diversity.

Most Outstanding Results Achieved

The two most outstanding results achieved were a completely overhauled approach to the development and dissemination of integrated aquaculture technology, and a core group of farmers with a better understanding of how integrated systems (and especially pond aquaculture systems) function.