SAFE-World Project/Initiative Summary

Country: Malawi

Project / Initiative Title: Farmer-Scientist Research Partnerships for Smallscale Aquaculture Development ICLARM
1987

Scale: individual farm / regional scale | Nos. farmers: 200 | Hectares: 10

Agro-Ecological Zone: V

Improvement types

1	2	3x	4	5x	6x	7	8	9

Success and Limits to spread

Success	Limits
3a	3c

A. Key Impacts

A1 – Productivity

	Before / Without	After / With	% change
Mixed vegetables	2700kg / ha	4000kg / ha	48%
Fish	0	1500kg / ha	New fish

A2 – Impacts on natural capital

Increased tree cover, increased biodiversity, increased stability through drought years, changes in soil moisture regime.

A3 – Impacts on local community (social capital)

Initially there was some work with community groups, but this was not the most efficacious approach. Working with individual farmers who then transfer information around the community works better. This builds social capital, at least for the lead farmers

A4 – Impacts on households and individuals (human capital)

Farmer innovation up dramatically, household economic status improved by 2 – 6 times.

A5 – Key changes in farm / regional system

Changes in input use: Increased efficiency of input use as determined by output from a fixed resource base. This was effected through integrated resource management.

Change in local/ regional food security: Food production up as shown above, but overall impact on a percentage basis small due to large numbers of poor/starving people in the region. Virtually no pesticides or fertilizers used either before or after integration.

B. Types of Sustainable Agriculture Improvements

Type 1: Better use of available renewable natural capital
Type 2: Intensification of single sub-component of farm system
Type 3: Diversify by adding new productive natural capital and regenerative components
Type 4: Better use of non-renewable inputs and technologies
Type 5: Social and participatory processes leading to group action for making better use of natural capital
Type 6: Human capital building through training-learning programmes
Type 7: Access to Finance
Type 8: Add value by processing to reduce losses and increase returns
Type 9: Add value by direct or organised marketing of produce to consumers

	Yes/No	Narrative
Type 1		
Type 2		
Type 3 Type 4	x	Rice-Fish, vegetable fish, general integrated agriculture-aquaculture.
Type 5	x	Farmer-led R&D has been the main engine for progress. This builds primarily human capitol in farming communities. A new relationship between research and extension has renewed enthusiasm in government agencies responsible for aquaculture development.
Type 6		
Type 7		
Type 8		
Type 9		

C. Key Lessons: Success, Spread and Constraints

C1 – Key Lessons Learned

That farmers are capable of leading the change process on their own farms given the proper sort of support from technology and extension personnel. Farmers can share information (up to a point) with other farmers and actually build their own social capital in the process. We already know integrated agriculture-aquaculture was technologically sound

C2 – Aspects of local/national context contributing to success
A willingness on the part of government to engage in new approaches.

C3 – Limitations preventing spread
The presence of many donor-driven projects which encourage the use of ineffective, "magic bullet" type of approaches. These distract the government and farmers from the serious and long-term work required to affect sustainable change.
Private donor agendas and lack of understanding of realities on the ground.

C4 – Policy issues
Private donor agendas and lack of understanding of realities on the ground.

C5 – Scaling-up

More time. Money for training and reorientation of more R,D&E personnel from more regions and countries would help speed things up.

D. Contact Point for Project/Initiative

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E. Project Narrative

Malawi: small scale aquaculture

The International Center for Living Aquatic Resources Management (ICLARM) works to integrate pond fish culture into low input farm systems in Malawi. The programme uses a participatory process for farmers and scientists jointly to map resource flows on farms, and then identify the potential for adjustments that would bring synergistic effects. It has worked with some 2000 individual farmers on both vegetable improvements in home gardens and fish-pond aquaculture. This integrated agriculture-aquaculture component of farmers often comprises only 500 m² within an average farm size of 1.5 hectares. Yet intensification of just this core component has led to significant improvements in food security – vegetable yields have grown to 2700 to 4000 kg / ha, and fish ponds produce the equivalent of 1500 kg / ha of fish – a new source of food for households. These integrated farms also produce six times more cash than conventional farms - with the vegetable-fish element contributing up to 70% of annual cash income.

ICLARM has documented the steady improvement of productivity in these systems amongst collaborating farmers – with pond productivity increasing steadily from 800 to 1500 kg / ha. Amongst those farmers trained only through the conventional Training and Visit system in southern Malawi, yields by contrast fall steadily, as the over-designed systems unravelled as farmers lost control. An asset-building approach, building both on natural capital on the farm and farmers own human capital (skills and knowledge) allows for continuous readjustments over time.

Source: Randall Brummet, Daniel Jama; Brummet, 2000

This approach is now the official aquaculture development paradigm for the Malawi Department of Fisheries. The core of farmers with whom we have worked (less than 50 overall) continue to spread technology to other farmers. New relationships between research and extension personnel have generated a new vitality in the aquaculture development community in Malawi