Boosting Aquaculture Livelihoods in Post-Disaster Aceh, Indonesia

By Richard Coutts, Sena De Silva, and C.V. Mohan

- The tsunami that struck Aceh Province in Indonesia in 2004 devastated coastal aquaculture livelihoods.
- The ADB-assisted Earthquake and Tsunami Emergency Support Project engaged fish farmers to build and operate four Aquaculture Livelihood Service Centers. The Aceh Aquaculture Communication Center was also set up.
- With improved aquaculture support services, fish farmers now produce high-value shrimps for export.

Challenges

After a tsunami devastated the coastal areas of Aceh Province in Indonesia in 2004, fish farmers faced numerous technical, economic, and social difficulties in rebuilding and improving their tenuous aquaculture livelihoods. About 20,000 hectares of small fish ponds were destroyed. Production and supply chains for the main aquaculture products (shrimp and milkfish) were disrupted. Before the disaster, aquaculture production and marketing had also been severely constrained by a prolonged civil conflict. Technical services had not been extended to fish farmers and no commercial capital had been made available. Inherently, and not just in Aceh, there are also profound logistical constraints to harvesting small quantities of geographically dispersed products from individuals operating through fragmented marketing channels. A vital potential source of livelihood for Aceh’s coastal poor was in a state of stagnation.

Approaches

Involving communities. From the outset, the ADB-assisted Earthquake and Tsunami Emergency Support Project approved in 2005, engaged fish farmers in the redesign, rebuilding, and restoration of their aquaculture production in some 3,000 hectares of ponds and 51 hatcheries. They were also involved with the establishment of Aquaculture Livelihood Service Centers (ALSCs) in four locations.

The Aquaculture Livelihood Service Centers. The project enabled the formation and clustering of producers, suppliers, processors, and trader groups through the ALSCs.

ALSCs are community-run business and technical centers that form the basis for investment in and expansion of fish farming. Steps are underway to make the ALSCs self-financing.

They now assist fish farmers in decision making for crop planning, harmonized stocking, disease control, and harvesting. They also permit and facilitate the traceability of aquaculture produce for export.

Another role of the ALSCs is to sustain practical information flows to and from producers, and to smooth supply chain connections through basic business development services. This networking promotes a “cluster approach” that benefits all actors through economies of scale and guaranteed market supply. It is envisaged that ALSCs can diversify as centers for information services, training, microfinance, collection, grading, processing, and trading. In sum, they serve to empower fish farmers economically and also increase social capital through local networking and knowledge generation and sharing.

The Aceh Aquaculture Communication Center. To compensate for the lack of extension services in aquaculture, a specialized Aceh Aquaculture Communication Center (AACC) was also set up in the government’s Brackish Water Aquaculture Center (BBAP).

The AACC currently provides four major services to fish farmer associations through the ALSC network. They are information dissemination, technical information and advice, disease diagnosis, and training.

Using both traditional extension methods and modern information and communication technologies, the AACC facilitates communication between fish farmers and other stakeholders; offers free technical information and advice to ALSCs and fish farmers through web pages, phone linkages, manuals, newsletters, and posters; and provides ALSCs and fish farmers information, technical, disease diagnostic, and training services through the BBAP.
Results

In the initial stages of the project, agro-inputs such as fertilizer, feed, and tools were supplied directly to communities to encourage dormant fish farmers to restart fish pond enterprises. Around 80 million Indonesian rupiahs in loans have since been made available to fund agro-inputs to around 1,000 farmers assisted by the four ALSCs.

As a measure of the popularity and demand for the support services developed under the project, in the first 2 months after opening the services, more than 200 technical inquiries were answered, more than 100 calls on laboratory services were made, some 200 farmer meetings were held, and 64 people received computer training.

So far, training in best management practices and technical assistance has been provided to 5,500 farmers in nine districts. And, a total of 35 publications reaching 25,000 farmers have been distributed through an integrated network in cooperation with other development partners.

Diversification into other livelihood products has been successfully introduced. Training has been given in crab fattening, grouper nursing, and giant freshwater prawn and tilapia farming.

Conclusion

Aquaculture group stocking and crop planning in fish pond areas are now practiced in the areas served by ALSCs. Productivity is rising due to the technical advice received. Producer groups are enthusiastic about harmonized harvesting and traceability to minimize their risks and maximize profits. ALSCs supported through the AACC are improving the level of coordination with traders and processors. ALSCs are also managing small loan schemes.

The restoration of Aceh’s shrimp and aquaculture industry has now begun, and sustainable livelihoods for coastal families are being established.

Lessons Learned

- After a disaster, it is not sufficient to merely replace lost or damaged physical assets. Lost knowledge, organization, and capacity also need to be restored and then improved.
- Close coordination between fish farmers and other actors are vital to create sustainable supply chains and support services.
- Regular fish farmer meetings improve crop planning and product quality, and help share experience and resources.
- Involving fish farmers upfront reduces the dependence of rural producers on the government.
- Information on disease outbreaks must be quickly transmitted, discussed openly, and shared with other fish farmers to limit outbreaks.
- Fish farmer-owned websites facilitate effective business communication between aquaculture communities and business partners.
- Communication gaps for effective dissemination of best management practices can be reduced through aquaculture communication centers.

For further information, contact

Pieter Smidt, Lead Professional (Water Resources), Indonesia Resident Mission (psmidt@adb.org); Richard Coutts, Team Leader, ETESP Consultants (Network of Aquaculture Centres in Asia-Pacific [NACA]) (rcoutts@iname.com); C.V. Mohan, R&D Manager, NACA (mohan@enaca.org); Nasimul Islam, Water Resources Management Specialist, Indonesia Resident Mission (nimislam@adb.org).

Earthquake and Tsunami Emergency Sector Project (ETESP) - Indonesia www.adb.org/Projects/ETESP/default.asp

The views expressed in this publication are those of the author(s) and do not necessarily reflect the views and policies of ADB or its Board of Governors or the governments they represent. By making any designation of or reference to a particular territory or geographic area, or by using the term “country” in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.