

VISIT TO BANDA ACEH, INDONESIA FOR SUSTAINABLE COASTAL AQUACULTURE RESTORATION IN THE TSUNAMI ZONE

In March 2006, AwF volunteer Kevin Fitzsimmons departed Tucson, Arizona bound for Banda Aceh. The overall goal of the project was to contribute to the restoration of aquaculture in Aceh Province by capacity building and directing the restoration efforts toward a sustainable coastal aquaculture methodology rather than a return to monoculture of shrimp in mangrove estuaries.

Support for the project was provided by Aquaculture without Frontiers and the Aquaculture Collaborative Research Support Program. The A-CRSP project includes a wide ranging tsunami restoration project in Thailand and Indonesia, while the AwF participation utilized support provided by the YSI – World Aquaculture Society Tsunami Relief Fund to expand the project to include workshops in Banda Aceh and site visits to active restoration projects.

The specific objectives of the trip were to:

- 1) Conduct two workshops in the tsunami impacted zone of Aceh province directly with artisanal aquaculture farmers**
- 2) Conduct a third workshop for representatives from NGOs, FAO, Indonesian Department of Fisheries staff, and faculty and students from Ladong Fisheries College**
- 3) Visit three hatchery restoration projects partially supported by Aquaculture without Frontiers to observe and consult on progress and future efforts.**
- 4) To deliver donated textbooks, reference materials, laboratory materials and field equipment to the Ladong Fisheries College and the Ujong Battee Aquaculture Research and Extension Center.**
- 5) Visit the Tibang village restoration site supported by Mercy Corps and discuss future options for aquaculture pond restoration with Mercy Corps representatives.**

The workshops were held on March 12, 13 and 14 as scheduled, with attendance between 50 and 60 each day. The workshops each included a presentation reviewing the pre-tsunami status of shrimp farming including disease problems, effluent discharge issues, removal of mangroves and declining yields and prices for shrimp.

Participants in first workshop at Ladong Fisheries School

We then provided information on more sustainable methods of coastal aquaculture including diversification of products to include seaweeds, tilapia, milkfish, grouper, sea cucumbers, and bivalves. We discussed the ecology of coastal production systems and the need to improve pond dynamics. We discussed the current market conditions for shrimp and the other products we were promoting for consideration. Discussion ensued regarding the supplies to existing markets and how to reach or develop new markets for proposed crops.

Discussions with farmers regarding the prices of aquaculture products

We provided an illustrated seaweed culture book by Glenn et al. to each participant to assist the training efforts. Another important discussion was the role of government, NGOs, and personal initiative in restoration efforts. Much of our presentation dealt with the capacity of small farmers to incorporate seaweed, fish and bivalve culture with minimal resource inputs. Greater investment is required for shrimp culture, and many of the farmers told us that they would start with the polyculture concept as they could not continue to wait for government or NGO support to restart shrimp farming. Finally we discussed the need for mangrove restoration and shared the contact points for obtaining juvenile mangroves from nurseries operated by several NGOs in the region.

Second workshop in mosque in Samalanga

In the afternoons we visited the hatchery restoration projects supported by AwF with donations from Yellow Springs Instruments (YSI and its employees). The hatcheries had been supplied with new roofs, water and air pumps and restoration of electrical supply. One of the hatcheries had post-larvae almost ready for sale to local farms. Another had water flowing, new broodstock on site and *Artemia* in hatch tanks preparing spawning events. The third hatchery had roof and equipment installed, but did not have any animals on site and was still some days from operational capacity.

Ladong hatchery rebuilding project. Amrit Bart, Kevin Fitzsimmons, Hasanuddin and Sugeng

Hatchery in Samalanga being rebuilt

Second hatchery in Samalanga, with team members and hatchery staff

Post-larval shrimp produced in rebuilt hatchery in Samalanga

Hatchery manager and new pump provided by AwF and partners

Farmers and NGO reported that they were anxious to implement various aspects that

were presented and appreciated the supporting documentation provided directly to them as well as the volumes of technical documentation left with the research center and the school. Most of those attending shared with us that they felt this was the path they would take in hopes of developing sustainable aquaculture operations in Aceh and avoid the downward spiral that had impacted them prior to the tsunami.

The project received support from the Aquaculture CRSP, Aquaculture without Frontiers, and logistical support (housing, transportation) from the Ujong Batee Aquaculture Research Center, and organizational support for workshops from Professionals International.

The list of NGOs attending included:

Mercy Corps

Professionals International

World Wildlife Fund

French Red Cross

Kevin Fitzsimmons, Ph.D.

Professor and Extension Specialist, University of Arizona

Volunteer with Aquaculture without Frontiers

Principal Investigator for Aquaculture CRSP

Immediate Past President of the World Aquaculture Society