

**AwF Trip Report - Aquaculture Development in Myanmar
6-14 April 2017**

Volunteer: Menaga Meenakshisundaram

Ms. Menaga Meenakshisundaram recently travelled to Myanmar as an AWF volunteer to provide training to farmers, Department of Fisheries staff and faculty and students from two universities. Travel, lodging and meals were provided by a USAID grant for the Sustainable Development of the Seafood Industry in Myanmar (Burma).

A training program for “Diagnostic Tools Used in Fish and Shellfish Diseases” was conducted from 6th April 2017 to 8th April 2017 with the total of 20 participants focused on the molecular diagnostic techniques such as PCR and histopathological techniques in fish farming. Academic professionals, Fisheries Department officials, students and scholars from Myanmar participated in the training program at the Seafood Safety Laboratory of Aquatic Bioscience, University of Yangon, Myanmar.

The fact that 50 % of the participants came from the Fisheries Department shows the vital interest in aquaculture and substantiates the training program as a truly interesting event. The training programme featured the input of Dr. Kevin Fitzsimmons, Director of the USAID project “Developing Sustainable Seafood Industry in Myanmar”, which is being implemented by the College of Agriculture and Life Sciences, University of Arizona. Dr. Fitzsimmons developed and presented on basic aquaponics models and common diseases on fish aquaculture. The histopathological and molecular diagnostics were handled by Dr. Kay Lwin Tun, Associate Professor, Department of Zoology, Mandalay University of Distance Education. Knowledge on Soil and Water Quality Management in Aquaculture and Introduction to Aquatic Animal Health Management was presented to the participants by Dr. Menaga Meenakshisundaram.



Menaga, Ph.D. Scholar, Tamil Nadu Fisheries University.

Bringing together the resource persons from different countries proved an excellent opportunity for networking and sharing experiences in the application of technology for professional development. Projects and initiatives from all over Asia were presented, and the agenda featured valuable examples of how the latest developments in aquaculture are being put to work in the service of increasing the food security regardless of their location or level of technology.



Installation of small scale aquaponics model for Tilapia production

Another part of Ms. Menaga's volunteer effort was to assemble and install a small aquaponics unit at the wet lab at University of Yangon. The unit of the model system was composed of a fish rearing tank, an aquarium based biofilter, a deep water raft hydroponic tank, a sump and a ½-hp submersible water pump. The fish rearing tank was 2m long x 1 m wide, and constructed of fibre reinforced plastic. The hydroponic tank (2m x 3.7 m) contained an aquarium based biofilter tank of 40 litres capacity containing a mix of mussel and clam shells and steel wool scraping material. The shells and steel serve primarily as substrate for bacterial treatment of fish wastes. They also serve to as buffers and sources of trace nutrients for the plants in the aquaponic system. Water was pumped from the sump to the rearing tank, from which it flowed by gravity into the biofilter tank eventually overflowing into the hydroponic tank. It then returned to the sump. The fish rearing tank was stocked with 20 tilapia fingerlings (8-12 g). Two varieties (red leaf and green leaf) of lettuce seedlings were for germinated to transplant into the raft on the hydroponic tank.



Farm Facilities Visits

Ms. Menaga was also able to spend time visiting the eel nursery rearing facility at the University of Yangon. The goal of the nursery is to revive and expand the market outlets for eels in Myanmar. The wild caught glass eels and elvers have a low survival rate currently as farmers directly stock these vulnerable young fish into growout ponds. The role of the nursery, which was constructed at the Aquatic Bioscience Lab of University of Yangon, is to receive young eels and nurse them in a highly controlled recirculating aquaculture system so that the rate of survival is increased and high health fingerlings can then be provided to farmer with a vastly higher survival rate.

A Freshwater Prawn (*Macrobrachium*) hatchery and farm was visited in the town of Twantay where two indigenous RAS (recirculating Aquaculture Systems) using mussel and clam shells as bio media are supporting the broodstock and larvae. The prawn breeders of 65-80 grams were conditioned for their breeding in one of the systems. While the spawning and larval rearing occur in the second system.



Yangon Visit

Ms. Menaga was able to visit some of the most eccentric historic places in Yangon such as The Shwedagon Pagoda, one of the most famous pagodas in the world. It is certainly the main attraction of Yangon, Myanmar's capital city. She also had a golden time in celebrating Thingyan, the Buddhist Water Festival.



Group Discussions

Ms. Menaga also participated in project discussions with Mr. Travis Guymon and Mr. Khun Thein Soe from the Economic Growth Office of USAID Burma, along with Dr. Kevin, Director of the project. She also met with major industrial stakeholders of Myanmar. One meeting was with the Director and senior staff of a major mining company which provides minerals and clays for aquaculture projects. This paved the way for her to better understand the present status of aquaculture in Myanmar.



Acknowledgement

Many thanks to Dr. Kevin Fitzsimmons, Director, Developing Sustainable Seafood industry in Myanmar, College of Agriculture and Life Sciences, University of Arizona for providing an opportunity to contribute to the Training Program and travel and accommodation at Yangon. Also I accord my sincere gratitude to Dr. Kay Lwin Tun and the other participants of the training programme for their unconditional love and hospitality.