

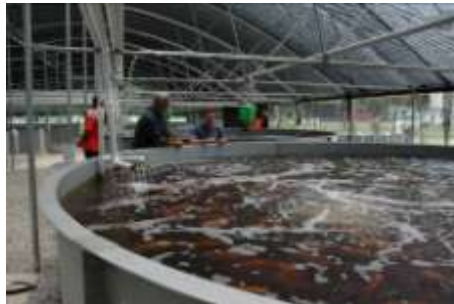
Farmer to Farmer Program and Aquaculture without Frontiers  
to  
Trinidad and Tobago

Jason D. Licamele PhD  
Aquaculture without Frontiers Volunteer

A trip was scheduled by Farmer to Farmer for July 22<sup>nd</sup> – Aug 1<sup>st</sup>, 2010 to Trinidad and Tobago to give seminars and workshops on aquaculture, integrated farming, and aquaponics. Meetings with tilapia farmers and people interested in developing integrated farming and aquaponics systems were also scheduled. Mr. Capiledo Barrath is president of the Trinidad and Tobago Aquaculture Association (TTAA) and was the primary host for the duration of the stay. Ryan S. Mohammed (1<sup>st</sup> Vice President of TTAA) and Darrell Celestine (2<sup>nd</sup> Vice President of TTAA) also assisted with hosting my stay. Trinidad and Tobago Agri Buisness Association (TTABA) provided housing through the duration of the stay.

7/23/2010  
Institute of Marine Affairs  
Seafood Industry Development Corporation

A site visit was made to Institute of Marine Affairs (IMA) Aquaculture Facility in Chaguramas. Capil Barrath (President, TTAA), Ryan S. Mohammed (Vice President, TTAA) and I met with Mr. Paul Gabbadon (Aquaculture Director, Institute of Marine Affairs) and Mr. Nigel de Frietas (Aquaculture Officer, Seafood Industry Development Company (SIDC)). The facility consisted of some small ponds and a recirculating aquaculture system. Tilapia (*O. niloticus spp.*) and various fresh water ornamental fish were being produced. The recirculating system was stocked completely with tilapia and consisted of four 30' diameter tanks stocked at a fish density ranging from 0.25 – 0.50 pounds per gallon. Computer monitoring systems were used to measure oxygen, temperature and pH. Integrating a hydroponic plant system with the existing tilapia recirculating aquaculture system was discussed and the feasibility evaluated.



Mr. Paul Gabbadon and Dr. Jason Licamele at the Institute of Marine Affairs  
Aquaculture Center

In the afternoon we made a visit to the Seafood Industry Development Company (SIDC) for a meeting to discuss direction of the current and future plans for aquaculture. Capil (President, TTAA), Ryan (Vice President, TTAA) I met with Dr. Doon Ramasaroop (CEO, SIDC), Mr. Nigel de Fritas (Aquaculture Officer, SIDC) and their financial officers to discuss potential aquaculture species, feed formulation, aquaponics, filtration systems and marketing potential of tilapia and other aquaculture species (such as snapper and snook). Currently the SIDC is growing tilapia in tanks at their demonstration site and are looking to develop an aquaponics system.



Mr. Nigel de Fritas from the Seafood Industry Development Corporation (SIDC) and Dr. Jason Licamele at the SIDC aquaculture demonstration center.

7/24/2010

Seminar: Practical Aquaculture at University of the West Indies  
Hosted by UWI and TTAA

A seminar was held at the University of the West Indies hosted by TTAA. The schedule of the seminar is below. In total there were approximately 90 people attending the seminar. Lunch was provided by SIDC. SIDC used tilapia from IMA which consisted of a fish paste sandwich, a fish wanton and a fish puff. The seminar had a good attendance of people from all backgrounds of aquaculture.



Ryan S. Mohammed, Ricky, Dr. Jason Licamele, Capil Barrath and Dr. Indar Ramnarine at the University of West Indies Aquaculture seminar.

Seminar on Practical Aquaculture  
Saturday 24th July, 2010.  
Sir Frank Stockdale Building  
The University of the West Indies, St. Augustine

Agenda:

- 8:00 am Registration Opens
- 9:00 am Opening of Seminar
- 9:15 am Opening Address- Capildeo Barrath- President of the Aquaculture Association of Trinidad and Tobago (aQuaTT)
- 9:20 am World Status of aquaculture, potential markets and limitations- Professor Indar Ramnarine, The University of the West Indies (UWI). 9:40am Local marketing- Nigel De Freitas, Aquaculture Development Officer, Seafood Industry Development Company (SIDC).
- 10:00 am Collaborative efforts within the aquaculture industry- Dr. Doon Ramsaroop (CEO SIDC.)
- 10:15 am Brief Intermission and refreshments.
- 10:25 am Practical aquaculture and economics- Dr. Jason D. Licamele (American Tilapia Association)
- 11:30 am Closing remarks- Capildeo Barrath (aQuaTT).

Participants:

- National Feed Mills (NFM), Agricultural Society of Trinidad and Tobago (ASTT) and IMA representatives present. Chaired by Mr. R.S. Mohammed. Opening remarks by Mr. Harnarrine Lalla (Fisheries Officer, Fisheries Division, Ministry of Food Production.)
- Dr. Ramsaroop (CEO, SIDC) discussed the need for collaboration within the industry. Professor Ramnarine discussed world and local status of aquaculture. Dr. Licamele discussed techniques and the importance of integrated aquaculture practices.
- There were a total of 90 people who attended the seminar (78 males, 12 females) of which approximately 40 were members of aQuaTT.



Seminar at the University of the West Indies hosted by the Trinidad and Tobago  
Aquaculture Association

7/25/2010

Field trip to Maracas Beach on the North coast

On Sunday Capil brought me to Maracas Beach for some Bake and Shark. We visited a fishing village east of Caracas Beach.



Maracas Beach, Trinidad



Richard's Bake and Shark at Maracas Beach., Trinidad



A mackerel at the fishing village East of Caracas Beach

7/26/2010

Field trip and training session at Point Coco Co-operative Society

A trip was made to the Point Coco Co-operative Society in Chatham, Trinidad. The semi-intensive tank aquaculture system was assessed and evaluated for conversion into an aquaponics system. There was a low turnout attributed to the National Local Government Elections held on the same day. A small greenhouse frame was designed for growing crops using the tilapia aquaculture effluent. I was accompanied by Capil, Ryan and Mr. Ricardo Salazar (a trustee of AquaTT). In the afternoon a trip was made to the fishing village of Cedros and La Brea Pitch Lake.



Tilapia at the Point Coco aquaculture operation.



Greenhouse frame at Point Coco

7/27/2010

Field Trip to Las Lomas Hatchery  
Field trip to Agua Viva at Lopinot Village

I was accompanied on this trip by Capil and Ryan from AquaTT. We met with the owner of the Las Lomas Fish Hatchery, Gerard Weeks, and his manager, Mr. Winky. Gerard is producing tilapia fingerlings using supermale technology as well as ornamental

fresh water fish. Agua Viva was a free fishing site and organic farm. It was suggested to use the fish water to irrigate the existing organic crops that are in raised beds.



Gerard Weeks and Dr. Jason Licamele at the Las Lomas Fish Hatchery



Gerard Weeks showing off one of his supermales at his hatchery.



Tilapia fishing pond at Agua Viva in Lopinot



Organic crops at Agua Viva grown in raised beds

7/28/2010

Training session to training staff at SIDC aquaculture facility  
Interview with Ms. Renuka Singh from the Trinidad Express Newspaper

A training session on aquaculture, aquaponics and integrated farming was held for the SIDC staff. In the afternoon an interview for the Trinidad Express Newspaper by Ms. Renuka Singh, Gerard Week, Capil and myself. The journal was in the Trinidad Express newspaper. The article can be found at:

<http://www.trinidadexpress.com/news/99707494.html>

7/29/2010

Field trip to Mayaro for a training session with local farmers  
A field trip to Fish Mongers Stall in Mayaro

A training session was held at the Mayaro Civic Center for local farmers that were interested in aquaculture, aquaponics and integrated farming. A Powerpoint presentation was followed by a question and answer session. After the training session we went to Fish Mongers Stall in Mayaro to observe the local fish catch.



Training session at Mayaro Civic Center



A red snapper which is a popular local fish

The visit was successful. A large number of interested aquaculture farmers received information on aquaculture, aquaponics and integrated farming. A meeting took place on August first with Vassel Stewart from the Trinidad and Tobago Agri Business Association (TTABA) to discuss the integration of an aquaculture system with an existing hydroponic facility. Dr. Kevin Fitzsimmons conducted a follow up meeting with the AquaTT and Indar Ramnarine from the University of the West Indies.

August 10, 2010

Fitzsimmons contributions

On his arrival, Kevin Fitzsimmons was met at Port of Spain airport by Gerard Weeks and Capil Barrath. After short discussion at airport, Fitzsimmons and Barrath continued review of Dr. Licamele's visit and plans for future advancement of the industry in the lobby of the nearby Bel Aire. That same evening, Fitzsimmons had dinner with Dr. Indar Ramnarine, Dean of the Agriculture College at University of the West Indies to get a further review of the industry and activities of the farmers.

August 11, 2010

The TTAA organized a follow-up meeting on August 11 with the largest producers, several government officials, a bank official who is responsible for agricultural loans, and representatives from the seafood industry. The meeting was held at the Seafood Industry Development Corporation (SIDC). Fitzsimmons provided an overview of the global and regional tilapia industry with a specific discussion of projects developed and in operation in neighboring Guyana. A debate developed regarding how best to assist the small aquaculture farmers in Trinidad and Tobago from the perspectives of the government, the banks, the academic and extension professionals and the farmers themselves. The banking loan office pledged to gain additional knowledge and experience with the aquaculture sector to be able to better and more quickly evaluate investment proposals and loan requests. The group also concluded that government sponsored demonstration projects were much needed.



A short lunch followed. The next effort on the agenda was a visit to the Sugar Cane Feeds Center (SFC). Aquaculture was a strong component of the SFC. With projects including sugar cane bagasse as a feed ingredient in aquaculture diets, spawning of the local catfish, cascadu, and tilapia farming.



Entrance sign at the SFC



Cascadu from pond at SFC

Upon departing from the SFC, we traveled to the Institute of Marine Affairs Aquaculture Center. The group toured the facilities and discussed options for improving the operation and outreach to the wider aquaculture community and the public. Public acceptance of locally produced aquaculture products in the market will be an important aspect to compete with Chinese products now on the market. The tour ended with a short visit to the Seafood Industry Development Corporation aquaculture facility. Fitzsimmons returned to the hotel and departed the following morning on Aug 12.