Regional e-Notes ~ September 2012 Vol 4, Issue 9

Letter from the Director

Aloha,

CTSA's FY2012 plan of work development process is in full swing. In response to our RFP's, the Center received six full proposals this month and promptly distributed them for external review. We are very appreciative and offer warm mahalos to the experts who have agreed to help CTSA in this critical aspect of our annual development process. Reviewer suggestions will help the project working groups improve the quality of their proposals and efficiently meet the most urgent needs of our regional industry.

In CTSA's region, our urgent industry needs are defined by our stakeholders. However, as federal spending is increasingly scrutinized, it is the duty of the Regional Aquaculture Center (RAC) program leaders to be conscientious of how each Center allocates its limited resources. This is especially important considering that our program is one of only a few that is still available to support aquaculture research. Recently, I met with my RAC counterparts to review and compare our regional processes. At our meeting, we discussed ways to ensure that RAC-funded projects earnestly improve profitability and sustainability of U.S. aquaculture, thereby contributing to economic development and food security.

On that note, I also recently had a chance to participate in an International Deep Ocean Water (DOW) conference organized by Taiwan. At the conference, I met experts from Taiwan, Japan and Korea. I was impressed with their DOW products, and became convinced that the possible applications of this resource might have been neglected thus far. Considering the environmental conditions in the Pacific Islands, DOW may have even greater potential in our region, and we should think about exploring this renewable yet unexploited natural resource to improve the quality of our lives.

As always, if you have any suggestions or concerns, please do not hesitate to let us know.

Mahalo,

Cheng-Sheng Lee
Executive Director, CTSA

In This Issue

Quick Links

www.ctsa.org
www.oceanicinstitute.org

Join our Mailing List!

2011-2012 CTSA Progress Reports to the Public

Each summer for several years, CTSA has held a Progress Report to the Public meeting on the

island of Oahu. At this annual event, Principle Investigators presented findings from their recently completed CTSA projects to other researchers, farmers, and industry stakeholders.

In an effort to increase accessibility to the valuable information contained in these presentations, we decided last year to post them on the CTSA website in lieu of an in-person meeting. We received positive results from this change in format, with over 600 collective views and downloads, and we are hopeful that this format will continue to allow us to reach more of our constituents across the Pacific.

Click here to visit the 'Videos' page of our website, where you can access the presentations for projects completed between June 2011 and May 2012. The narrated presentations have been converted to YouTube videos for your viewing pleasure.

We hope you find the information contained in these presentations useful. If you have any questions about a specific project, or comments and suggestions for our information dissemination efforts, please contact mbrooks@oceanicinstitute.org

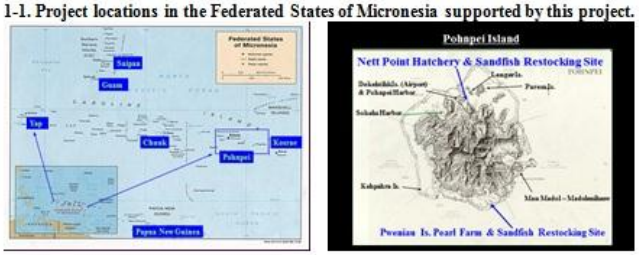
CTSA Project Report: Pacific Aquaculture Development and Extension Support for the U.S. Affiliated Pacific Islands of the Federated States of Micronesia, FY 2010

By Masahiro Ito*

*Director and Chief Scientist, Aquaculture Research and Extension, College of Micronesia Land Grant Program, P.O. Box 1179, Kolonia, Pohnpei, FM96941, Federated States of Micronesia.
hiroito@mail.fm

The goal of this project was to ensure that CTSA extension work achieves tangible results. Therefore, the PI chose to focus on expanding sea cucumber and pearl culture work in Pohnpei and Yap, FSM (Fig. 1-1). The project included conducting technology transfer, demonstrating research experiments, and implementing and completing training sessions in sea cucumber and pearl culture. The objectives of this project were:

1-1. Project locations in the Federated States of Micronesia supported by this project.



1-2. Tagging trials in Pohnpei.

1-3. Sandfish tagging demonstration and trial restocking.

Objective 1. Extension support and technical assistance.
Assist the development of an economically sustainable aquaculture industry in the U.S.-affiliated Pacific islands of FSM:
1-a; Provide technical advice on the pearl and sea cucumber hatchery operations in Pohnpei.
1-b; Coordinate and conduct research sea cucumber tagging/marking

experiments for restocking programs in Pohnpei and Yap.

Objective 2. Technology transfer.
Transfer hatchery-based aquaculture technologies and specialized pearl culture skills:
2-a;Coordinate and supervise technology transfer of pearl oyster and sea cucumber grow-out operations.
2-b;Coordinate and provide training to local people on pearl seeding skill and related farm management (half-pearls), pearl culture (round-and half-pearls) and value-added products making (half-pearls and pearl-shell accessories).

Objective 3. Information dissemination
Coordinate and administrate active CTSA projects in the proposed region:
3-a; Coordinate and advise communities and stakeholders on the pearls and value-added products in Pohnpei and the sea cucumber resource enhancement programs in Pohnpei and Yap.
3-b; Coordinate and conduct marketing development by promotional sales and displays of pearls and value-added products made during this project period.

Accomplishments
At the end of this project in Pohnpei, approximately 15% of 3,000 juvenile sandfish that had settled in the tank in early 2011 reached 1.5-years-old in a 2,500 liter raceway tank 'Habitat Simulator." Among them, approximately 100 juveniles were used for tagging experiments (Fig. 1-2). Broodstock survey of the black teatfish also commenced in September, 2011, and was conducted intermittently during this project. A sandfish hatchery training workshop was held at COM Aquaculture Research and Extension at Kolonia and Nett in Pohnpei in February, 2012 (Fig. 2). The participants were from Pohnpei State Division of Fisheries and Aquaculture (PNIDFA), Japan International Cooperative Agency (JICA-Micronesia), COM-Yap CRE and COM-FSM CRE. Another training workshop was also held at Marine Resources Management Development (MRMD) in Yap in April, 2012 for the Yap State Government and private sea cucumber operators (Fig. 3). During the second trip to Yap in November 2011, a pilot holding tank system "habitat simulator"was also set up at MRMD and the broodstock were kept for the workshop and demonstration of spawning induction techniques during the third trip in April 2012.

Figure 2. Sandfish hatchery training workshop in Pohnpei.

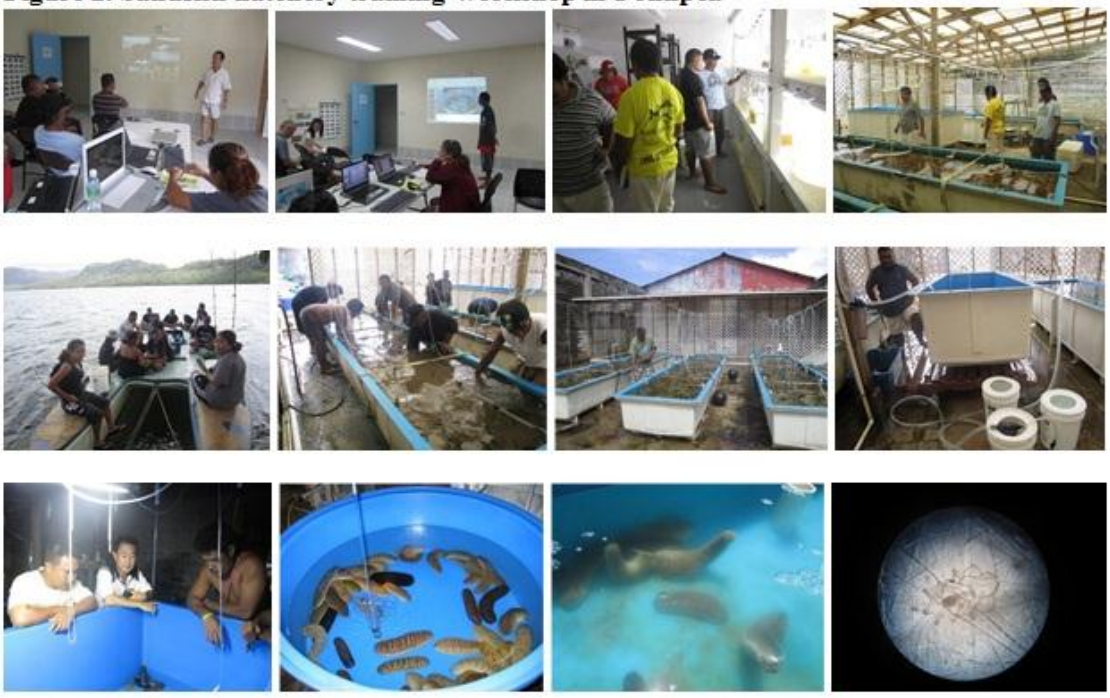


Figure 3. Hatchery skill demonstration and workshop in Yap.

The pearl component included hatchery production, ocean nursery culture, and grow-out for pearl culture. Demonstrations and skill training for the round and half-pearl nucleus implantation (Fig 4) were also conducted, as well as half-pearl accessory making at four sites (Fig. 5); Nett Point, Pakin Atoll, Pingelap Atoll and Pweniau Island. The round-pearl grafting skill was taught for the first time by the retired master grafting technician to four Micronesian apprentices, including two teenage girls from outer islands. Two COM technicians continued transferring the half-pearl seeding skills to 13 trainees in total. In August, half-pearl products including pendants and earrings produced from the skill training were also sold for the first time in Pohnpei as a part of the Micronesian pearl products

display-sale in Kolonia.

Figure 4. Half-pearl production in Pohnpei.

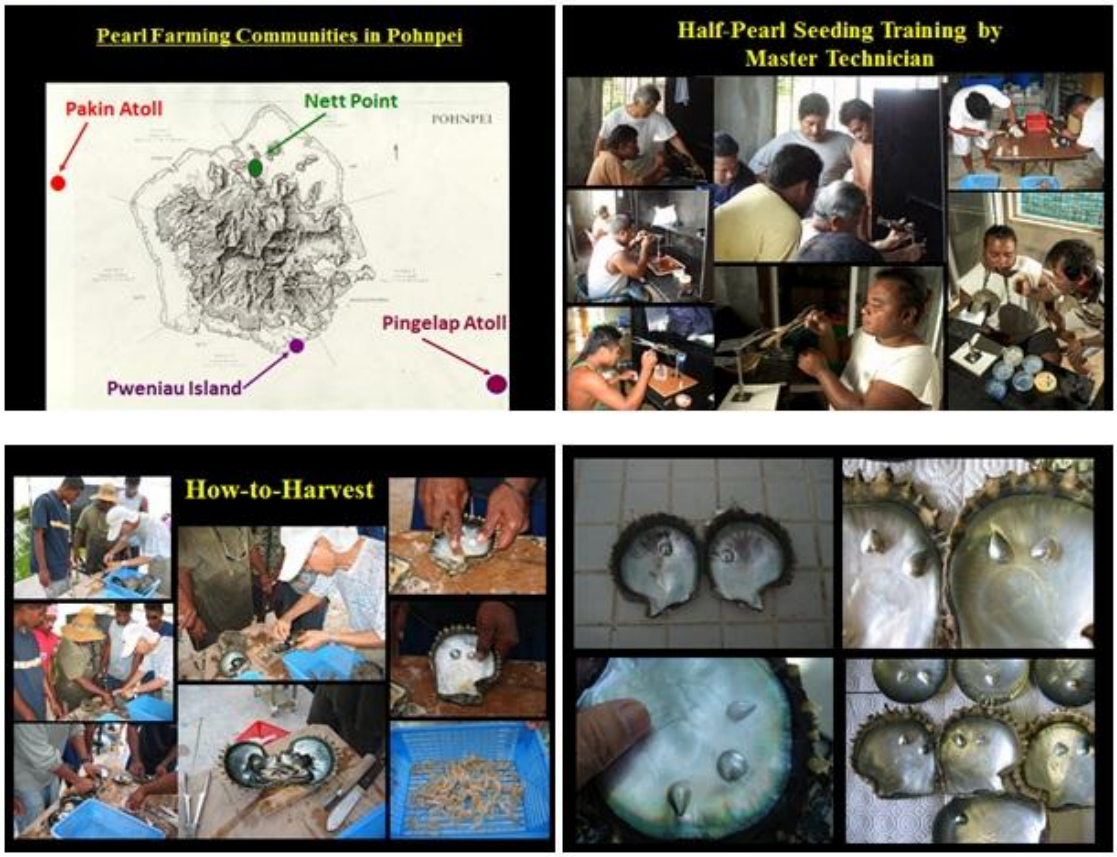


Figure 5. Half-pearl grading and accessory making in Pohnpei.

5-1. Round- and half-pearl grading training and graded shells with half-pearls.

Impacts

(Sea cucumber): During the first visit to Yap, the PI coordinated a meeting with all stakeholders who expressed their interest, concerns and support of sea cucumber aquaculture as an important potential export business opportunity. Traditional leaders and elders were concerned about a lack of aquaculture skill training for youths in their communities, thus the hatchery training could be a good opportunity for them. The Yap State Government R & D showed its interest in support of building the hatchery at MRMD site, and the PI hopes such a facility can be established in the

foreseeable future. In Pohnpei, there is no commercial sea cucumber operator because of a total export ban of all sea cucumber species. Recently, the Pohnpei State Government has modified the law allowing export of sea cucumbers if they are aquacultured. Thus, hatchery-based sea cucumber farming is a way to develop this industry, and the Micronesian hatchery technicians can be the core of this new industry once it is developed.

(Pearl): The half-pearls are value-added products to the pearl farming business, and operational costs are far less than those of the round-pearls due to their shorter cultivation period and relatively easy nucleus implantation techniques. Jewelry-cut half-pearls are the most frequently enquired items by potential buyers overseas. This project has clearly shown that high quality half-pearls with unique color and luster can be produced by the local labor force to develop a new export market. In conclusion, the local technicians can build their own expertise by transferring technology to their fellow Micronesians, laying a foundation for pearl industry development and revival of existing international half-pearl productions.

Upcoming CTAHR Workshop for Aquaponics in the Classroom

Join us at the upcoming CTAHR workshop "Aquaponics in the Classroom: K-12"! CTSA will have a table at the event, where we will be handing out information to educators and students about our recent A.Q.U.A. project (www.pacificaqua.org) and its accompanying curriculum.

Event details are as follows:

What: Aquaponics in the Classroom: K-12
When: Saturday, October 13, 2012. 9am - 5:30pm
Where: Windward Community College - Hale Akoakoa
Online Registration: Adults - $20, Students - FREE

Aquaponics - an emerging technology that integrates aquaculture with hydroponics -has the potential to stimulate economic growth and diversity in Hawai'i. A high demand for aquaculture/aquaponic products necessitates the collaboration between the University of Hawaii scientists and researchers, farmers and other key stakeholders in the community. Concurrently, K-12 educators have embraced aquaponic technologies as an effective holistic approach to education. This culture-, place- and problem-based learning tool provides a relevant, engaging, rigorous opportunity for K-12 students to explore science, mathematics and other subjects while building essential 21st century skills such as critical thinking, problem-solving, teamwork, communication and leadership.

Please join CTAHR in this statewide collaborative initiative to help strengthen the Aquaponics in the Classroom network. Click here to register
(or visit the following link: http://ctahr_k-12aquaponics.eventbrite.com/)

The K-12 Aquaponics in the Classroom activity is presented and hosted by: The University of Hawai'i at Mānoa College of Tropical Agriculture and Human Resources in collaboration with isisHawaii. If you have any questions about the workshop, please contact info@isishawaii.org or Clyde Tamaru at ctamaru@hawaii.edu.

AquaClip: Marshall Islands embarks on feed production and aquaculture

By S.C. from www.teatronaturale.com. September 19, 2012 issue.

A team of experts from Honolulu was recently in Majuro, Republic of Marshall Islands (RMI), to assess the requirements for producing locally made feeds for chicken, ducks, pigs, fish and shrimp

as a first step toward ramping up aquaculture and livestock production in RMI. Dr. Warren Dominy, Director Feed and Nutrition, Oceanic Institute, Hawai'i, said that while chicken and fish farming ventures had been tried in RMI before, they had not been sustainable because of the cost of feed.

"Feed represents the single largest cost to the farmer - and for island communities prices are particularly high because of shipping", he explained. "Feed is the foundation of all animal production, both on land and in the water", Dr. Dominy said. "The cost of feed is what puts farmers out of business".

The visit was organized and co-ordinated by Mr. Lanny Kabua, Ministry of Resources and Development and Honorable James Matayoshi, Mayor of Rongelap from the Marshall Islands. Mike Kauhane from Pacific Financial Solutions in Honolulu provided project development services in Hawai'i. Dr. Dominy and the team met with local and national government agencies and private businesses and are encouraged by the level of support for the project. "Everyone recognizes the need for RMI to produce more of its own food, to cut imports and to create long term jobs", he said.

"Ambassador George Li of the Embassy of the Republic of China (Taiwan) has been a long time supporter of livestock production in RMI and was enthusiastic about the possibility of feed availability".

The team has been looking at local crops as potential feed ingredient sources, as well as equipment and potential sites to locate a feedmill. Another member of the team, aquaculture feed consultant and proprietor of Aquafeed.com, Suzi Dominy, said the RMI was better placed than many Pacific island communities in having the major feed components available. "Copra and fishmeal are right here", she said, "and there are several options for providing starch, which is the other major ingredient".

Click here to read the full article.

P.S. Keep an eye out for the upcoming CTSA video profiling Feeds Development in the Pacific Islands!

The Center for Tropical and Subtropical Aquaculture (CTSA) is one of five regional aquaculture centers in the United States established and funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA) under grants 2007-38500-18471, 2008-38500-19435, and 2010-38500-20948. The regional aquaculture centers integrate individual and institutional expertise and resources in support of commercial aquaculture development. CTSA was established in 1986 and is jointly administered by the Oceanic Institute and the University of Hawaii.