

## Component 7 (Stock enhancement)

### Community-based shrimp stock enhancement in the New Washington Estuary

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The shrimp stock enhancement component of the RIHN Area Capability Project is being conducted at the New Washington Estuary (NWE) in New Washington, Aklan, central Philippines. The area was known to be very productive for shrimps in 1970s and 80s. The highly-priced tiger shrimp *Penaeus monodon* composed more than 80% of catch until the early 90s. Currently, however, actual catch of tiger shrimps have been considered very rare. Daily shrimp catch only averages half a kilo of small fish and shrimps per gear, selling for less than 100 pesos. To increase daily income of fishers and to re-establish the once abundant tiger shrimps in the area, the community-based shrimp stock enhancement activity is being implemented.

At the start of the project, the local government units (LGU) of the communities or barangays around the NWE were informed about the stock enhancement project. Then, information education and communication (IEC) activities were focused on the project's primary stakeholders in Barangay Pinamucan, an island community most proximate to the project site. A socioeconomics survey was conducted in November 2012 to March 2013 to gather baseline profile of the fisherfolks, their households and their awareness and willingness to participate in the shrimp stock enhancement project. The survey showed their low income from fishing and low volume of catch. In spite of the low level of awareness of stock enhancement, there is high level of interest and willingness to participate in the project. A follow-up survey was also conducted in May 2014 to keep tract of the effects of a major typhoon, Yolanda, on the socioeconomic condition of the project stakeholders.

Being a community-based initiative, the stock enhancement activities are being participated in by fishers, who are members of an existing local organization called Pinamucan Small Fisherfolks Association (PSFA). Active members were successful in the construction and preparation of the culture site within an abandoned pond in a mangrove area in the middle of NWE. Fishers are also involved in monitoring of stocks, as well as maintenance of the culture site. Additionally, other fishers and local traders are engaged in recording actual catch to aid in the assessment of impacts of the project. While the active members of the PSFA participate in the intermediate culture and other shrimp stocking activities, IEC activities are being done in Barangay Pinamucan to improve understanding

about stock enhancement. Organizational enhancement activities are also being done to improve leadership skills among officers and encourage cooperation among members. Strategies for sustaining stock enhancement have been initiated and will be the focus of succeeding IEC activities with all project stakeholders.

So far, three intermediate culture runs were conducted in the New Washington Estuary. The first run was started in June 2013 with 129,000 tiger shrimp fry, purchased from a nearby hatchery. However, various problems like unpredictable weather changes, typhoons, and unstable conditions in the culture site caused very high mortality during the acclimation rearing phase. Learning from the experiences of the first culture trial, modifications were made in the 1200 sq.m. nursery culture site, resulting in a more successful second run. A total of 390,000 shrimp fry were stocked for intermediate culture in February 2014. Typhoons were again experienced during this time, but eventually, a total of 15,000 shrimps were released in April 2014. A total of 100 of the released shrimps were tagged. The third run was conducted in June 2014 using 270,000 shrimp fry cultured in a wider nursery area of 6,000 sq.m. In July 2014, we were successful in releasing an estimated 120,000 shrimps and 240 were tagged.

Catch monitoring with the help of local fishers and the participation of the local university - Aklan State University - is still being conducted to evaluate impacts of release. So far, anecdotal reports from fishers are positive. Many have already noticed some increase in tiger shrimp population in the New Washington Estuary.

### **Interim report of the baseline survey for stock enhancement of tiger shrimp in Batan Bay**

Hisashi Kurokura

Baseline survey of stock condition of tiger shrimp in project area has been performed from September 2013 to July 2014. Gill net, push net and set net fishing were performed separately and catch amounts of each species were recorded. Totally, 89, 77 and 156 operations were performed before second stock release, and 29, 20 and 12 individuals of tiger shrimp were caught by gill net, push net and set net, respectively. Size distribution showed bimodal shape representing evidence of size selection of each fishing gear. Gill net could only catch shrimps larger than 110mm in total length and push net can catch shrimps smaller than 100mm. Appearance of tiger shrimp cannot be explained in the relation with species composition of the catch. Twelve out of 13 individuals of which locality