BACKGROUND

Super Typhoon Yolanda which hit almost all of the Visayas Region in November 2013 left the fishery sector vastly damaged. The fisherfolk lost their fishing boats and aquaculture facilities due to the storm surge. This Project aims to revive and improve the livelihood of the fisherfolk by introducing disaster-resilient high density polyethylene (HDPE) submersible fish cages developed with the technology of a Japanese company, Nitto Seimo Co., Ltd., but using locally-available materials. The Project also aims to explore business opportunities of the said company in the Philippines.

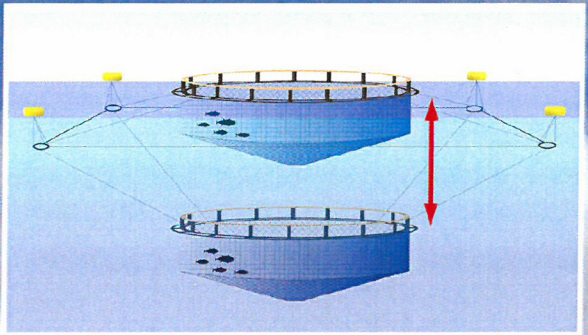
WHY SUBMERSIBLE FISH CAGES?

HDPE submersible fish cages are recommended to:

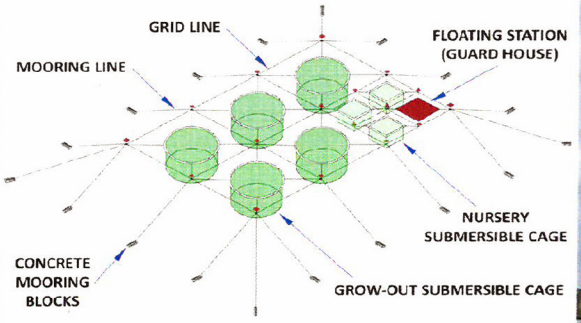
- assure durability for long term use;
- minimize damage caused by natural calamities such as typhoons, storm surges, and flash-floods;
- avoid red tide, turbid water, floating debris and litter, sunburn in fishes, theft; and
- practice fish farming in open seas.

The characteristic of a submersible cage is the "floating and submerging" function by replacement of air with water and vice versa in an HDPE pipe frame. The fish cage frame is ordinarily a 10-meter diameter plastic single pipe which is attached to the grid mooring system called *gawabari* in Japan.

In the Quick Impact Project of the JICA Urgent Development Study on Rehabilitation and Recovery from Typhoon Yolanda in Basey, Samar (2014-2016), the resiliency and potential of the submersible fish cages to be replicated and adopted was confirmed.



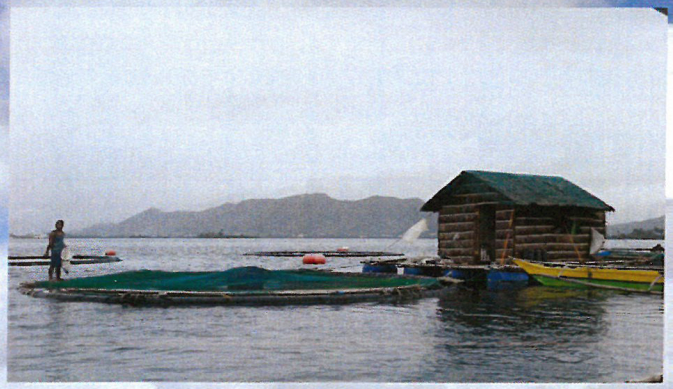
Submersible fish cage



Gawabari (Japanese Grid-Mooring System)

ACHIEVEMENTS & WHAT'S NEXT

The resiliency of the submersible cage was observed in December 2014 during Typhoon Ruby which was considered as the 2nd most intense tropical cyclone after Yolanda and in December 2016 during Typhoon Nina. No damage was recorded while other cages of a different kind in the vicinity suffered damages. Its versatility was demonstrated by using the cages in the culture of milkfish, snapper, pompano, and grouper. Three different schemes in disseminating the submersible cage will be compared: association-based in Guiuan, Eastern Samar; family-based in Basey, Western Samar; and investor-based (Rent-to-Own) in Tacloban City to know the factors for a successful extension.

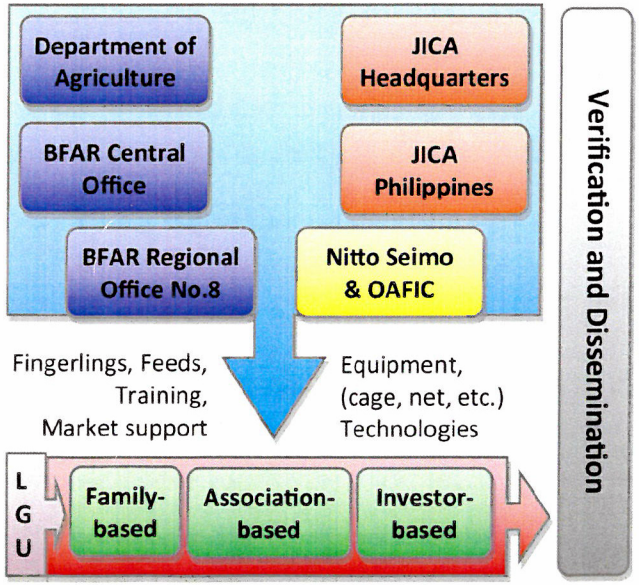


Harvesting of pompano

PROJECT PERIOD & TARGETS

Project Period	**Three years (May 2015—May 2018)**
Target areas	• Guiuan, Eastern Samar • Basey, Western Samar • Tacloban City
Target species	• Red snapper (Mangagat) • Pompano (Langugan) • Grouper (Lapu-lapu) • Milkfish (Bangus)

IMPLEMENTATION STRUCTURE



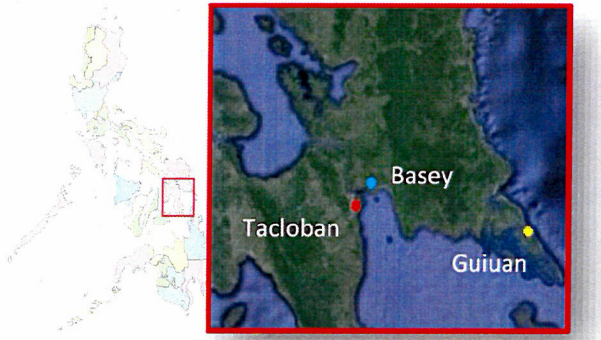
ACTIVITIES

Building sustainable model of submersible fish farming technology that adapts to local conditions and demonstrating it in the typhoon-stricken areas.

Transferring the Japanese submersible fish farming technology and capacity building activities for fisherfolk.

Holding seminars in the typhoon-stricken areas to disseminate the technology.

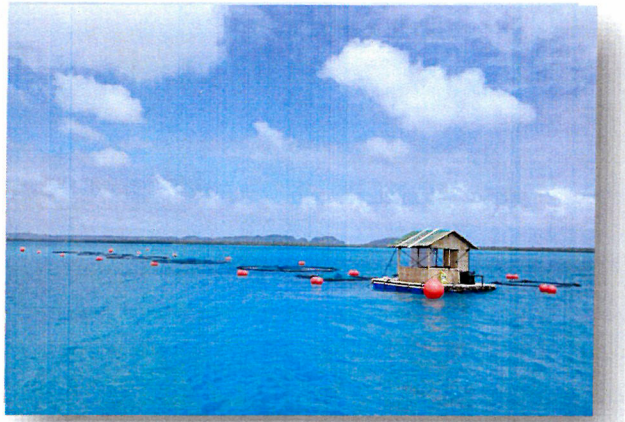
PROJECT LOCATIONS



JICA / BFAR / NITTO SEIMO

Bureau of Fisheries and Aquatic Resources
Regional Office VIII (Eastern Visayas)
SDC Bldg. 1 Barangay 77, Marasbaras,
Tacloban City, 6500
Leyte Province, Philippines
Tel. No. (053) 3211732
E-mail: fpd8bfar@gmail.com
http://www.facebook.com/submersiblefishcage

Submersible Fish Cage Technology with Nitto Seimo 2015-2018



Bureau of Fisheries and Aquatic Resources (Region VIII)

Japan International Cooperation Agency

Version 2 — 8/2017