

**Women Shell Fishers in Small
Island Communities:
Roles, Risks and
Recommendations**

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+ Introduction

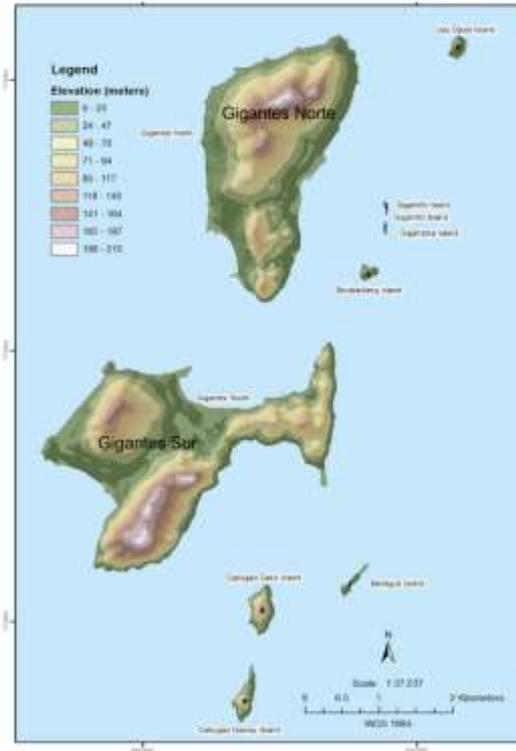
The Philippine archipelago has a thriving shellfish trade industry providing income, revenue and employment.

Women's roles in fisheries however remain unnoticed and undervalued

- Objectives of the study:
 - discuss the **role of women** in the shell trade industry Gigantes Islands
 - outline the **risks faced by women** in the shell trade industry in Isla Gigantes
 - To give **recommendations for women** in the shell trade industry in Isla Gigantes

+ Methodology

- Profiling of 84 *women shell fishers* using the Barangay Management Information System (BMIS) tool through hired enumerators from the barangays
- Key informant interviews (KII)
- Focus Group Discussion (FGD)
- Secondary data from 2014 Carles Municipal profile and municipal fisheries profiles were used.



+ Results and Discussions

Shell Biology (Scallops & Spiny Oysters)



Donaxpecten imbecilis (Philippine Quill Scallop)
Tubid-tubid, bakang



Donaxpecten radialis (Rafalo Nalang)
Tubid-tubid, bakang



Maculobornas striatula (Maculalar scallop)
Tubid-tubid, bakang



Minaxilamys latipinna (Jawed Scallop)
Tubid-tubid, bakang



Minaxilamys crassicauda (Noble Scallop)
Tubid-tubid, bakang



Spondylus saurodon (Horny Oyster)
Bakal-bakal



Spondylus barteri (Horny Oyster)
Bakal-bakal



Spondylus venosus (Gold Horny Oyster)
Bakal-bakal



Spondylus sinensis (Chinese Horny Oyster)
Bakal-bakal



Spondylus sp.
Bakal-bakal



Spondylus sp.
Bakal-bakal

Shell Trade History

- Started in 1980s in 1 barangay, harvested for shells only, meat are left to rotten
- Presently, the biggest livelihood in the area. Shell shucking alone contributes 51% to the average household income of Php 9,467.21 (175 USD)

+ Results and Discussions

Shell Fish Trade Dynamics in Gigantes Islands



Lineman

- Assists the diver by pulling collected shell fish into the boat
- Earns Php 150 to Php 200 per day



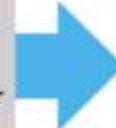
Compressor Diver "Busero"

- Dives for scallops and spiny oysters
- Sells meat to financier at Php 90 to Php 100 per kilo
- Income is usually subtracted from the capitalization debt



Shell Shucker "Manugtilang"

- Shucks scallops and spiny oysters shells
- Cuts meat from other parts of the shell
- Sells meat at Php 10 to Php 15 per kilo to diver
- Sells by-product *rambit* to fish traps and crab pot fishers at Php 10 to Php per pail
- Sells processed deep-fried "*rambit*" at Php 180 per kilo



Fish Trap/ Crab Pot Fishers

- Buys *rambit* from *manugtilang* for use as bait in fish traps and crab pots



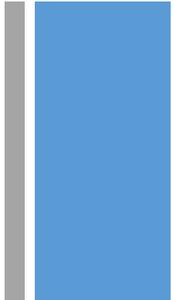
Financier

- Provides capital as loan for boat making and equipment for compressor diving (Php 40,000 to Php 80,000.00)
- Offers another loan to diver if needed
- Markets products to traders in Estancia, Iloilo Php 100 to Php 120 per kilo



Trader

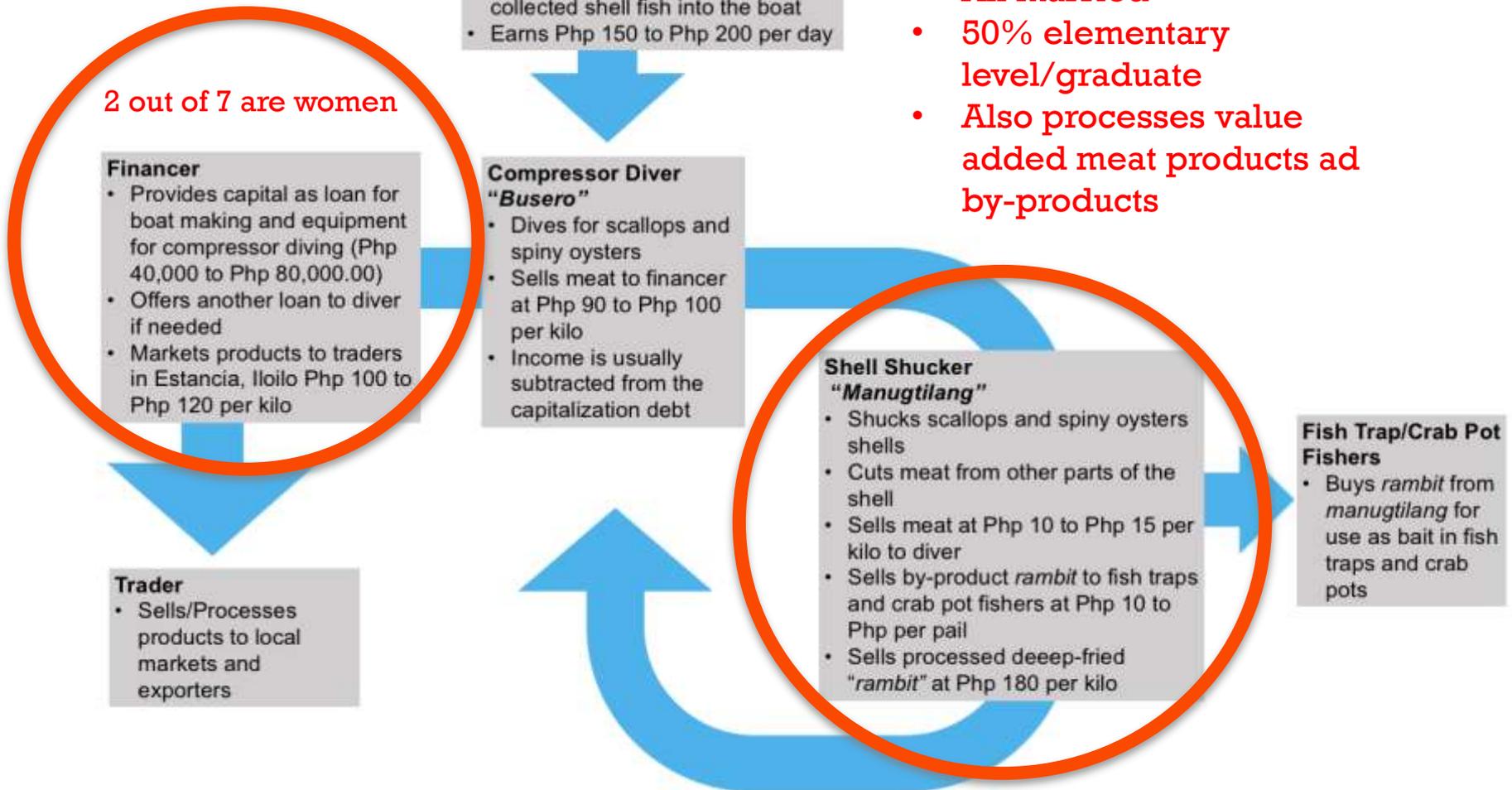
- Sells/Processes products to local markets and exporters



+ Shell Trade Dynamics in Isla Gigantes

Women's Role

- 77 out of 84 are women
- Age range 23 – 72 years old
- All married
- 50% elementary level/graduate
- Also processes value added meat products and by-products



+ Results and Discussions

Risks

- **Health Risks** (injuries and irritation, sickness, unsanitary shucking spaces)
- **Economic Risks** (death of compressor divers, unsustainable livelihood, lack of alternative livelihood, lack of access to credit and undercapitalization, perishable goods, variable market price)
- **Geographical and Ecological Risks** (limited access to health services, Diminishing supply of wild scallop stocks, mismanagement of solid wastes; increased fishing pressure,

Recommendations

- Social protection support for women (insurance, alternative livelihood)
- Support system (training, sanitized shucking space)
- Solid waste management in the island
- Financers should invest in SCUBA diving gears in shell collection.
- Strengthening of the bivalve sustainable fishing management in the Visayan (policy regulation and scientific studies on exploited species for maximum sustainable yield determination)

+ Implication/Conclusions

- The research is a pioneering study on the Gigantes Island shellfish trade dynamics.
- Women play a vital role in the shellfish trade with their multiple roles taken alongside reproductive and productive roles in the household.
- Duty bearers such as the *barangay* local government units, municipal government units, national government agencies and non-government organizations can help push for policies and programs to lessen the risks face by women shell fishers.
- The recommendations can be achieved when community organizing and community education are institutionalized as core strategies.

Women Shell Fishers in Small Island Communities: Roles, Risks, Recommendations

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Introduction

The Philippines has a thriving shell fish trade industry providing employment, income and revenue for the country. Philippine export of shellfish and their by-products were recorded at 4,041 metric tons in 2016 valued at Pp 920,369,000 (PSA 2017).

Gender roles in fisheries usually vary with geographical location, ethnical background, religion, social structure and policies (Prieto-Carolino et al. 2016). In many Asian countries, women are actively engaged in the different phases of fisheries production (Sison et al. 2002). However, most phases of fisheries production requiring much physical labor are undergone by men thus women's participation are limited only to near shore activities like shell and fry gathering. Post-harvest processing like fish drying and fish smoking is also done by women. These roles however remain unnoticed and undervalued (Sison et al. 2002).

Gigantes Islands is the farthest cluster of inhabited islands in Carles, a second-class municipality in the 5th Congressional District of the province of Iloilo, Philippines. It is composed of two main islands and 11 islets. There are four *barangays* in Gigantes: Asluman, Granada, Gabi and Lantangan. Gigantes Islands is approximately 25 kilometers or about 1.5 to 2 hours away from the town proper of Carles accessible mainly by small passenger boats. About 70% of the households are dependent on both commercial and municipal fishing, shell diving and other fisheries related trade (Carles Municipal Profile 2014). Other sources of income include carpentry, motorcycle driving, charcoal production, farm cultivation, retail store operation, food vending, cosmetology, and general labor, including domestic labor.

	2015 Total Population	2015 Male Population	2015 Female Population	2014 Poverty Incidence
Brgy. Asluman	3,458	1,767	1,691	45.7%
Brgy. Gabi	2,737	1,426	1,311	64.7%

Table 1: Population of Asluman and Gabi in Gigantes Islands

Gigantes Islands is also situated in the Visayan sea which is one of the most productive fishing grounds in the country (see Figure 1). Visayan Sea is one of the major sources of shell fish collection. The Estancia-Carles fringing reef system is one of the largest reef systems in Iloilo (Laureta 2008). The municipality of Carles, Iloilo has designated 8,646 hectares of Gigantes Islands for the United Marine Protected Area (MPA). 1,568 hectares of this MPA area is designated as scallop reserve. The topography of Gigantes is dominated mainly by steep sloped karst limestone forestlands and sloping barren shrub/grasslands.



Figure 1. Map of Gigantes Islands. Source: RISE Bangon Gigantes Project

This study has the following objectives:

- 1.) discuss the **role of women** in the shell fish trade industry in Gigantes Islands,
- 2.) outline the **risks faced by women** in the shell fish trade industry in Gigantes Islands, and
- 3.) provide **recommendations for women** in the shell fish trade industry in Gigantes Islands.

Methodology

Locale of the Study

Barangay Asluman & Barangay, Gabi, Carles, Iloilo, Philippines

Data Gathering Methods and Types of Data Gathered

- Profiling of 84 shell fishers using the Barangay Management Information System (BMIS) tool by 2 hired local enumerators
- Key informant interviews (KII) with 7 Financers
- Focus Group Discussion with 8 women shell fishers



- Secondary data from 2014 Carles Municipal profile and municipal fisheries profiles were used.

Discussion

Shell Fish Biology

The bivalves of the Family Pectinidae (scallops) and Spondylidae (spiny oysters) are among the commercially exploited shells in Isla Gigantes (see Figure 2). Spiny or thorny oyster is known locally as "bukol-bukol" and scallops is known locally as "lakad". These bivalves are commonly found in shallow to deep tropical waters.



Fig. 2. Shell fish species commercially traded in Gigantes Islands

Shell Fish Trade History

Scallop trade in Gigantes Islands started in the early 1980s in barangay Asluman. In the 1980s, only the colorful species were collected for their shells which are high in demand as raw materials for the shell handicraft industry in Cebu. It was until former Brgy. Captain Felix Barera of Brgy. Asluman brought scallop meat samples (white adductor muscles) to Iloilo and looked for buyers. From 1980s until 1990s, scallops were harvested for their meat and colorful shells. In 2002, scallop collection stopped due to declining stocks in the wild. Spiny oysters were collected and served as substitute to scallop meat. Around 2010, wild scallop stocks increased and scallop collection began after. Trading for colorful shells however stopped in the year 2015 due to decline of the handicraft demand. Presently, products from this industry are scallop and spiny oyster meat and value added meat products such as pickled meat, lumpia and tocino.

Shell Fish Trade Dynamics

Shell fish trade in Gigantes Islands has evolved into a dynamic interplay between many characters (see Figure 3). The financer provides the initial start-up capital for scallop and spiny oyster collection. Large scale collection is done with compressor diving. The compressor diver (*busero*), dives and collects shells in large net bags.



Figure 3. Gigantes Islands Shell fish Trade Dynamics

Collected scallops and spiny oysters are cleaned by submersing the net bags in basin of clean seawater. Removal of shell meat is done through shucking locally known as "pagitilang". A tool made up of stainless steel flattened on one side of the tip is used to remove the meat. Hard to open shells are hit in the umbo with a tone. Once the meat is removed the adductor muscle is cut from the meat with scissors locally known as "paggunging". Shell shucking and meat cutting are usually done by women who are called "manugitlang". The adductor muscle is marketed as scallop or spiny oyster meat.



The by-products (digestive glands, foot, gills, mantle, reproductive glands) are collectively called "rambit". The "rambit" is sold to fish traps (bobo sa isda) and crab pot fishers (bobo sa kaseg) and is used as bait. The *manugitlang* of Brgy. Gabi also processes the rambit into a fried product.

Women's Role

Women contribute to the shell fishery but their role is under estimated in all types of fisheries in the Philippines and in many other Asian countries (Sison et al. 2002). Women's role in Gigantes Islands shell industry is taken alongside reproductive and community roles. Their reproductive work include doing the laundry, cooking, taking care of little children, charcoal production. Most women in fisheries undertake their responsibilities in the phases of fishery industry alongside household responsibilities (Sison et al. 2002).

Women as shell shuckers "manugitlang". 77 out of the 84 profiled respondents are women ranging from 23 to 72 years of age. All respondents are married. In terms of educational attainment, 50% reached/ finished elementary level, 42% have reached /graduated from high school and 8% have reached college but did not graduate. Shell shucking alone also contributes 51% to the average monthly household income of Pp 9,467.21. However, during the lean season when there are no diving operations, *manugitlang* women opt for other sources of income such as food vending, cosmetology, charcoal production and domestic labor.

Women as food processors. Processing and value addition of shell meat is also done by women. Food processing is always associated with household chores thus women are more involved with it.

Women as financers. Two (2) out of seven (7) financers interviewed were women. Generally, most men are more recognized by institutional credit borrowers while women mostly tap informal credit (Sison et al. 2002).



Health Risks

- Tiredness due to laborious work that requires much physical strain. An average of five (5) hours per day is spent by women when shucking.
- Injuries and irritation due to sharp pointed spines, barnacles or other attached organisms.
- Sickness due to long working hours despite weather conditions.
- Unsanitary shucking spaces and handling that can result in low quality products.

Economic Risks

- Death of compressor diver husbands of *manugitlang* women. Dangers of compressor diving include drowning and decompression sickness "piking" which can lead to death and paralysis.
- Unsustainable livelihood with only four (4) months of peak fishing season from February to May.
- Lack of alternative livelihood during lean season.
- Lack of access to credit and undercapitalization.
- Market risks of perishable goods. Price also changes depending on market demand and available supply.

Geographical and Ecological Risks

- Limited access to health services.
- Diminishing supply of wild scallops.
- Solid waste management remains a problem in the island.
- Increased fishing pressure and capture of shells under minimum size standards due to market demands of Gigantes Island Tourism.

Recommendations

- Social protection support for women shell collectors in terms of social security, insurance and provision of alternative livelihood during lean season
- Provision of sanitized shucking facilities with appropriate tools and training for women on general management practices (GMP). This is to assure good handling of products, lessen post-harvest loss and improve product quality.
- Strict implementation of RA 9003 and establishment of residual containment area in the island before collection by LGU for proper disposal in the mainland to lessen the shell by-products.
- Financers should invest in SCUBA diving gears in shell collection. All divers must undergo underwater safety training for compressor divers to prevent deaths and paralysis due to decompression sickness.
- Strengthening of the bivalve sustainable fishing management in the Visayan Sea through size regulation of shell collection, reduction in the fishing pressure, enforcement of open and closed season.
- Scientific study on exploited species to determine maximum sustainable yield to ensure that sufficient spawning stock is available in the water to ensure future yield (Allison 2011).

Conclusions/ Implications

The research is a pioneering study on the Gigantes Island shellfish trade dynamics.

Women play a vital role in the shellfish trade with their multiple roles taken alongside reproductive and productive roles in the household.

Duty bearers such as the *barangay* local government units, municipal government units, national government agencies and non-government organizations can help push for policies and programs to lessen the risks face by women shell fishers.

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Acknowledgments



Authors



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