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# THE BLUE SWIMMING CRAB PARTNERSHIP IN THE VISAYAN SEA



PATH Foundation  
Philippines, Inc.



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Frontier Market Solutions



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# ACKNOWLEDGEMENTS

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# I. INTRODUCTION

The USAID/Philippines Fish Right Program (FR) was established as a partnership between the Governments of the United States and the Philippines to promote sustainable fisheries. Over a five-year project timeframe (2018-2023), FR has implemented numerous activities to address biodiversity threats, improve marine ecosystem governance, advance sustainable fisheries management, and increase fish biomass in key marine areas in this region. Primary initiatives have been implemented through a robust and diverse consortium including University of Rhode Island in collaboration with Path Foundation Philippines Inc., Silliman University, Marine Environment and Resources Foundation, NGOs for Fisheries Reform, Resonance, and Sustainable Fisheries Partnership.

The Blue Swimming Crab (BSC) Partnership in the Visayan Sea with the Philippine Department of Agriculture - Bureau of Fisheries and Aquatic Resources (DA-BFAR), the Philippine Association of Crab Processors Inc., Chicken of the Sea (Thai Union North America), Saravia Blue Crab Inc., and the Monterey Bay Aquarium Seafood Watch Program is one of many of the activities of the Fish Right Program. This brief documents the complex challenge of improving BSC management at various scales, as part of an overall ecosystems approach to fisheries management (EAFM).



Through the lens of the BSC, the very real challenges of global market demand pressures on sustainable fisheries management locally, and the degree to which ambitious goals may need more realistic timeframes, in many ways, justifies the need and value of sustaining activities after FR concludes. Despite lingering challenges, the partners are prepared to support and implement BSC sustainability initiatives in the Visayan Sea region for the next 3-5 years which reinforces USAID's emphasis on building impact-driven partnerships with the public sector, private sector and communities that can endure beyond an initial project.



## II. BACKGROUND

### 1. Blue Swimming Crab

*Portunus pelagicus*, also known as the blue swimming crab, blue swimmer crab, flower crab, blue manna crab, or sand crab, is found in coastal waters deeper-water intertidal estuaries in the Indian and Pacific oceans, particularly throughout the Indo-Pacific Region. This species is easily recognizable by its shared attributes of bright color and distinctive shape, as well as its large front pincers.

BSC is a popular food and despite volatility in volumes and prices, tends to be an inexpensive alternative to many other crab products. It may be sold as traditional hard shells, or as “soft-shelled” crabs, which are considered a delicacy throughout Asia, or as canned or packaged picked crab and other pasteurized crab-based products.

### 2. The Importance of the BSC in the Philippines

With local names including “kasag”, “alimasag”, “lambay”, or “masag”, the blue swimming crab is among the more than 50 species of swimming crabs in the Philippines and is commercially important to local communities and the country. The Philippines is the fourth-largest producer of blue swimming crab (currently accounting for nine percent of global production). The country produced nearly 30,000 metric tons (MT) in 2019, down from almost 34,000 MT year-on-year according to the Philippine Statistics Authority (PSA).

Due to high consumer demand in the global market and the economic benefits derived

from this species, a significant part of the BSC production in the country goes to the export market as picked (manually separated) and pasteurized or canned crab meat. This has led to a dramatic increase in the average local price per kilogram of the BSC within a 15-year period, from PhP18.85/Kg in 2004 to PhP292.97/Kg in 2018 (PSA, 2019). The U.S. is the main export market and drives global demand for BSC. The Philippines is the second largest exporter of BSC to the U.S., with exports valued at \$78 million in 2019.

The Visayan Sea, which includes portions of Masbate, Capiz, Iloilo, Negros Occidental and Cebu provinces, is the most important BSC fishery in the Philippines, producing around 40% of the country’s BSC harvest and containing nearly half of the country’s crab picking stations. This activity supports the local livelihoods of an estimated 10,000 crabbers and processing workers.

### 3. Challenges Impacting BSC Species Management and Sustainability in the Visayan Sea

In 2018, BSC from the Visayan Sea fishery had been rated “red” or “avoid” by Monterey Bay Aquarium’s Seafood Watch program, which evaluates the sustainability of wild-caught and farmed seafood commonly found in the U.S. marketplace. Based on that assessment as well as the Root Cause Analysis undertaken as part of the development of the BSC-NMP (2020), there are several intertwined challenges that are impacting BSC management. The following are issues identified for the Visayan Sea and are framed for discussion under three interrelated pillars of EAFM: Ecological, Governance, and Socio-Economic.



## Ecological Situation

- **Extent and Harmonization of Data Collection and Reporting.**

Although there have been some efforts to improve the expansion, regularity, and harmonization of data collection and reporting on the BSC in this region as part of specific projects implemented by organizations and partnerships, there is still a deficit of implementation manpower, and no coordination to date among stakeholders towards establishing a common central database.

- **Overfishing**

Given the BSC is considered as one of the most commercially important and well-traded seafood commodities from this region, there is a higher risk of overharvesting or overexploitation. Recent studies (e.g., Mesa et al. (2018)) reporting on decreasing Catch Per Unit Effort (CPUE) with intensity of fishing pressure of year-round crab harvesting underscores increasing concern over management of the BSC resource.



- **Illegal, Unreported, and Unregulated (IUU) Fishing.**

Long-term BSC sustainability in the Visayan Sea region is also threatened by IUU fishing practices, including the harvest of juvenile crabs and gravid (egg-bearing) females. This is due to use of crab entangling nets with mesh size smaller than the regulation or with mesh size smaller than 3cm; crab lift nets operated in more shallow areas, generally catching undersized crabs; fishers detangling harvest from their nets upon landing rather than at sea, which removes the option of returning gravid females; and persistent trade of juvenile, undersized, and gravid crabs in the local wet markets and with non-selective picking stations.



- **Endangered/Threatened/Protected (ETP) Species Bycatch**

The risk of bycatch and interactions from the traditional gear used to catch BSC, including entangling nets to marine mammals such as Irrawaddy dolphins, sea turtles, juvenile shark and rays species, and protected mollusks, is not yet well understood. The use of crab pots in the same areas has potential to interact with mammals, corals and other biogenic habitats.

## Governance Situation

### Existing Governance Scaffolding.

Generally, the legal framework for the management of the BSC industry in the Philippines has already been established.

The national governing agency for fisheries is the Bureau of Fisheries and Aquatic Resources (BFAR), while management and protection of all fisheries resources and habitat in these municipal waters (<15 km. from shore) are under the jurisdiction of the Local Government Units (LGUs). Specific provincial and municipal ordinances have been enacted in several areas in the country. A Comprehensive National Fisheries Industry Development Plan (CNFIDP) also defines the conservation and development agenda (Yap et al. 2020).

### BSC National Management Plan (BSC-NMP).

The updated Philippine BSC-NMP was approved in 2021 with the goal of improving effectiveness through a number of actions for implementation in 2021-2025. These include determination, implementation, and monitoring of reference points and harvest control rules; review of Municipal Fisheries Ordinances and formulation of amendments; and law enforcement; as well as stock enhancement; information, education and communication campaigns; alternative or supplemental livelihood programs; capacity development for key players in the value chain; and inventory and registration and licensure of boats, gears, fishers, and processing plants.

The BSC-NMP identifies and aligns with globally respected indicators such as those specified by the Marine Stewardship Council (MSC) and Seafood Watch (SFW), as well as the US Marine Mammal Protection Act [MMPA] Imports Provision Rules related to List of Foreign Fisheries (LOFF). As such, the local BSC industry players are empowered to leverage their fulfillment to committed actions in the BSC-NMP

while generating further support (e.g., technical and financial) from global buyer networks and organizations. The potential benefits of these standards are important in enhancing the competitiveness of the BSC products in the international market.



### Implementation and Enforcement.

The most significant overarching governance challenge regarding sustainable BSC fisheries management is historically weak implementation and enforcement by government and stakeholders of regulations related to BSC to combat overfishing and IUU fishing. This is attributed to lack of resources, weak information dissemination, lack of coordination for action, the absence of a long-term BSC roadmap until just recently, and limited assistance from enablers of the industry, among other factors.

There are disparities across LGUs (municipalities and provinces) within the fishery regarding the development of BSC regulations and plans, and implementation capacity. In addition, despite the ability of stakeholders to establish catch documentation and traceability (CDT) systems, there is a lack of concerted effort to implement this as there is no clear driver yet (i.e. mandate from the Philippine government; export restriction to the US; incentive within the supply chain).

## Socio-Economic Situation

### ■ Inequitable trade relations.

Debt 'traps' are a common occurrence between fishers and traders which are created when the latter provide the former with financing or resources for fishing operations (such as fuel, nets, boat repair), or for fishers' other day-to-day or emergency needs. Fishers are then obliged to sell their catch to the financier-trader, whether by verbal agreement or as a customary 'debt of gratitude.' This, coupled with the limited access of fishers to other buyers and other interpersonal dynamics (such as buyers being in positions of power in the community), means that financier-traders dictate the buying price. BSC fishers often enter into cyclical debt, and may resort to increasing their fishing effort or using illegal fishing methods if no alternatives are available.

### ■ Limited Investment in Sustainable Livelihoods and Safety Nets.

The push to achieve more sustainable BSC management may require reducing BSC fishing effort or gear that is more expensive. However, limited investments have been made to date by the public or private sector in helping fishermen transition to sustainable practices or supplement their livelihoods, such as by providing non-fisheries income generating activities.

### ■ Natural Disruptions.

Fishers of BSC in the Visayan Seas region have a high degree of vulnerability to seasonal disruptions that are climate related and weather specific. The effects of El Nino / Southern Oscillation (ENSO) on the BSC fisheries appear to be the most significant, with weather patterns affecting the abundance of the BSC in the area, contributing to periods of low catch and income deficits.

### ■ Market Fluctuations.

The unpredictability of BSC harvest is further magnified by the fluctuations of a volatile global market, and importing firms adopt measures to mitigate the volatility by diversifying sources. According to the Root Cause Analysis undertaken as part of the development of the BSC-NMP (2020), one of the direct results of weak implementation of regulations and rules on BSC is diminished competitiveness of BSC products which can mean increased competition among BSC producers within this region like Indonesia, China and Vietnam, among others.



### ■ Lingering Impacts of COVID-19.

The challenges in the economic activities brought about by the most recent COVID-19 health pandemic are daunting, impacting the entire value chain from fishers in coastal communities to exporters who are engaged in global trade. Against this backdrop of uncertainty, efforts should continue to focus on addressing challenges short-term, with the anticipation that future pandemics, perhaps also exacerbated by climate change, pose a threat to the supply chain and local harvesting, production, and livelihoods.

# III. PARTNERSHIP APPROACH AND IMPACTS ON BLUE SWIMMING CRAB



Monterey Bay Aquarium Seafood Watch



In October 2019, BFAR, Monterey Bay Aquarium, Thai Union, the Philippine Association of Crab Processors Inc., Saravia Blue Crab Inc. and USAID Fish Right formalized a partnership until 2022 to support the goals of the BSC National Management Plan in the Visayan Sea and the ongoing Fisheries Improvement Projects (FIPs) of the industry partners, and to improve the fishery’s Seafood Watch rating to a minimum Yellow ‘Good Alternative’. Activities were focused in four key municipalities, namely Ajuy and Concepcion in Iloilo province, and E.B. Magalona and Manapla in Negros Occidental province, selected for the level of fishing and supply chain activity, and other enabling conditions.

Summary of USAID Fish Right’s activities and accomplishments contributing to the BSC partnership:

## ECOLOGICAL



### Clearer and faster stock assessment results

The National Stock Assessment Program (NSAP) and Philippine Association of Crab Processors Inc. (PACPI) jointly conducted stock assessments at 36 major BSC landing sites in the Visayan Sea.

To support this, Fish Right trained NSAP field staff to use an open-source app (ODK Collect) to streamline the submission of data to analysts, who were also trained on database management and geostatistics.

Fish Right also provided a platform for data consolidation and scientific advice in crafting BSC reference points (RPs) and harvest control rules (HCRs).







## Fishers sharing their own data for management

Trained 50 BSC fishers to pilot the use of Vessel Tracking Devices (VTDs) to record fishing locations, intensity and catch information, and integrated this with ODK data collection to help inform their local harvest control measures.



## Marine Protected Areas for BSC

Initiated expansion and establishment of MPAs and sanctuaries in Iloilo province, and supported the MPA Network design in Northern Iloilo integrating BSC habitats throughout the species' lifecycle.



## Understanding impacts on Endangered, Threatened, and Protected (ETP) Species

Engaged University of the Philippines - Visayas and local experts to harness fishers' local ecological knowledge and apply the Bycatch Risk Assessment (ByRA) Toolbox developed by San Francisco State University in the Visayan Sea.



## Building awareness

Started 'Kasag Patrol' Information and Education Campaign (IEC) at the pilot sites on BSC life cycle, industry and policy with local authorities encouraging stakeholders on sustainable crab fishing and trading practices, as well as sharing information across the Visayan Sea through posters, tri-media partnerships and online.



## GOVERNANCE

### ✓ Local policy and resource allocation

Worked with partners POs to draft and submit BSC management ordinances to the local governments and management councils, including harvest controls based on the results of data collection and the updated BSC National Management Plan, and allocating funds for implementation of enforcement, trainings and livelihoods.

### ✓ Supply chain-driven sustainability

Initiated round table discussions among influential BSC value-chain stakeholders (picking plants, consolidators, etc) in the four pilot sites to adopt self-regulation measures to enhance the BSC stock.



## SOCIO-ECONOMIC

### ✓ Strength in numbers

Established and strengthened people's associations (POs) comprised of BSC fishers, pickers, buyers, mobile vendors, fishers' wives and others to improve compliance through group cohesion, training, lobbying for local policy, and proposing innovative solutions to address the challenges in the fishery.

### ✓ Safety nets via partnerships

Engaged government agencies, microfinance institutions, universities and other partners to provide financial literacy, access to financial services, and livelihood opportunities to increase incomes and enable BSC harvest controls.



## IV. LEARNINGS THAT NECESSITATE LONG-TERM PARTNERSHIP TO ADDRESS

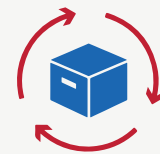
The achievements of the BSC partners through a platform for multi-sectoral cooperation, scientific knowledge, and participation of fishers and supply chain actors has laid the foundation and rationale for major improvements in the BSC fishery in the Visayan Sea. However, while progress has been made in the right direction, the work is far from over, and plans and policies need to be translated into action on the ground. Critically, the socio-economic situation of BSC fishers needs to improve to sustain compliance to harvest controls that lead to improvements on the water.



Achieving higher sustainability rating or certification is a **long-term process**, not only for the implementation but the time before better management becomes noticeable and measurable (i.e. BSC stock condition based on catch data and wild population studies).



**Social interventions** enable ecological and governance interventions. There is a need for more investment and action with a special focus on improving incomes of artisanal crab fishers and equitable distribution of benefits if a higher level of sustainability is to be achieved, recognized and maintained.



**Involving the supply chain** is critical. There is an opportunity to explore involvement not only of the BSC exporters and importers, but even US end-buyers, and the contributions or business process changes they are willing to make to support sustainability initiatives.



# V. THE TRANSFORMATIONAL CAPACITY OF USAID INITIATIVES IN GALVANIZING LONG-TERM PARTNERSHIPS

Recognizing that no one organization or sector alone can solve the world's most intractable development and natural resource management challenges, USAID is building dynamic, mutually beneficial, and impact-driven alliances that leverage the combined skills, assets, technologies, and resources of private, public, and nonprofit partners. USAID's Center for Transformational Partnerships is pursuing new models and financing mechanisms for development.

With connections to global challenges and ambitious long-term goals, multi-sector

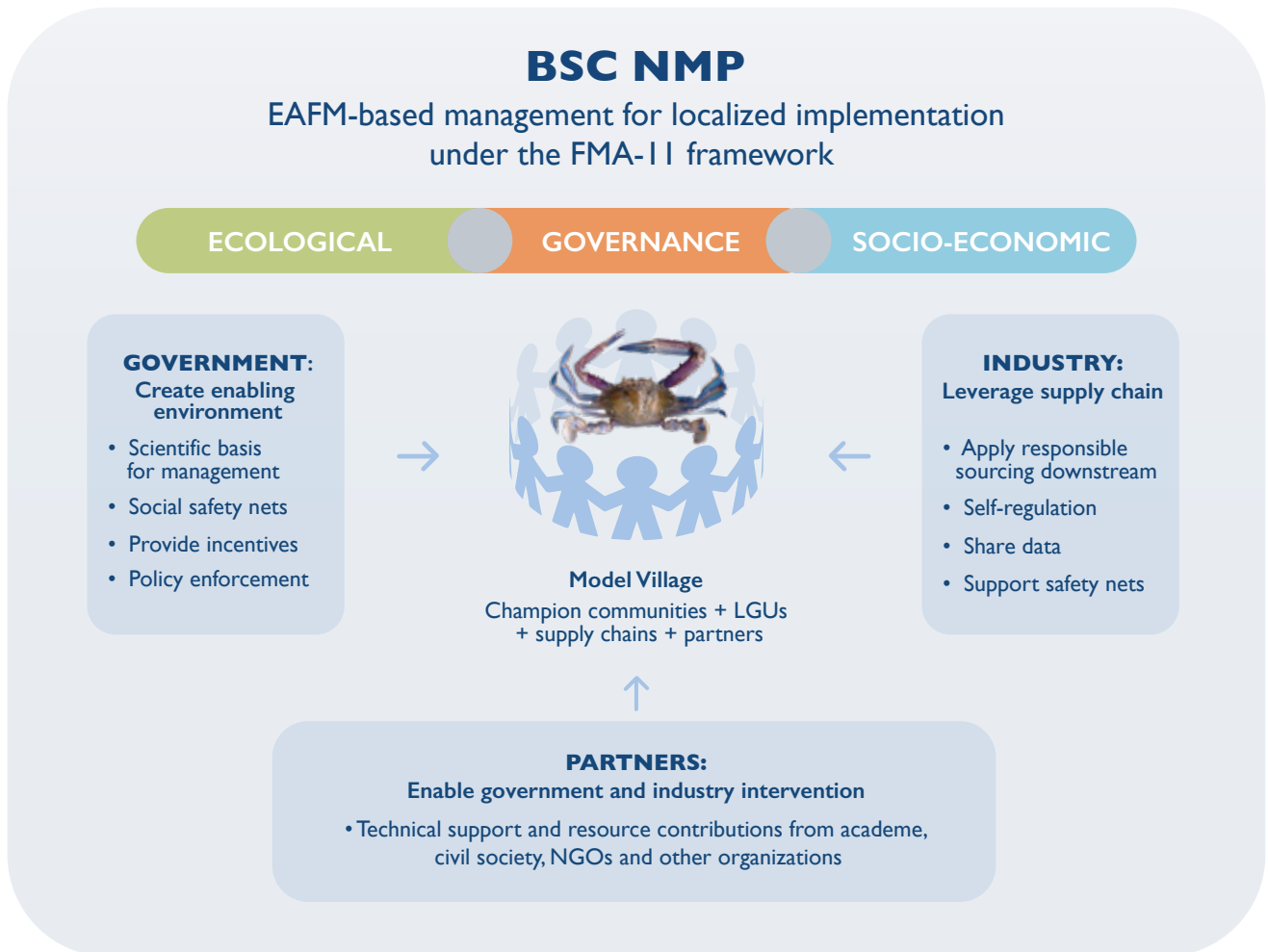
partnerships often require sustained engagement, beyond the lifespan of the project through which they were established, to realize lasting impact. While Fish Right comes to a close, USAID continues to invest in other sustainable fisheries and coastal resilience activities in the Philippines, and in the Southeast Asia region. These stakeholders could leverage the momentum of this BSC Partnership to integrate with their own activities, building upon tested relationships and approaches to achieve greater scale in the years ahead.



# VI. VISION AND GOALS OF ENDURING PARTNERSHIP IN THE NEXT 3-5 YEARS

With the updated BSC National Management Plan and building on the progress made to date in FMA-II and the Visayan Sea, the partners have expressed interest in moving forward with a Public-Private-Community Partnership for BSC Model Villages in the Visayan Sea. The Model Village approach puts the fishers' well-being at the center of the intervention, taking into account the need to provide equitable benefits to the fishers in order for the fishery to be sustainably managed.

## BSC MODEL VILLAGE : Public-Private-Community Partnership



Through a partnership approach, BSC fishing communities, government, industry, and other partners will identify coordinated and mutually supportive strategies to effectively fulfill their respective roles.

# PRIORITIES FOR THE NEXT PHASE OF PARTNERSHIP

ECOLOGICAL	GOVERNANCE	SOCIO-ECONOMIC
<ul style="list-style-type: none"> <li>• Improvement of data collection and reporting protocols and establishment of harmonized BSC database</li> <li>• Inventory of BSC R&amp;D and innovations</li> <li>• Improvement of facilities and technologies for BSC</li> <li>• Assessment of eco-friendly gears and next steps of ETP bycatch risk study</li> <li>• Harvest control rules and measures' adoption and approval for FMA II</li> <li>• Continuation of stock assessment and community-based data collection</li> <li>• Habitat protection for BSC</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate the BSC NMP in the local executive agenda via collaboration among LGUs, FARMCs, and concerned agencies</li> <li>• Institutionalization or organization of inter-LGU alliances</li> <li>• Conduct of IEC drive at the municipal and barangay levels using all media platforms</li> <li>• Enhancing traceability</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of Model Villages (barangay LGU, supply chain, partners)</li> <li>• Organization of fisherfolk associations or cooperatives for self-regulation and social safety nets</li> <li>• Provision of livelihoods and conservation enterprises via sustainable financing mechanisms</li> <li>• Increase in access to financial services</li> </ul>



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