



The Philippines

A Case Study on the Tenure Rights of Small-scale Fishers
Within Municipal Waters and Coastal Resources

Written by
Mario Maderazo
Eusebio Jacinto
Dinna Umengan

International
Collective
in Support of
Fishworkers



Gleaning in the reef flats of
Danajon Bank, the Philippines,
by Danika Kleiber



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August 2025

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Contents

List of acronyms

Introduction	11
Chapter I — Objectives	15
Chapter II — Methodologies.	16
Chapter III — Review of related literature	17
Chapter IV — Theoretical Framework.	21
Chapter V — Operational Framework.	22
A. Coastal tenure instruments	22
B. Support mechanisms to tenure rights	24
Chapter VI — Case study analysis.	27
A. Research areas profiles	27
B. Existing tenure instruments at sites	33
C. Formal and informal institutions of tenure.	43
D. Opportunities and Challenges to strengthen tenure rights.	47
Chapter VII — Conclusion	49
Chapter VIII — Recommendations	51
Chapter IX — References.	53
Chapter X — Annexure	57
Annex 1. Survey Results	57
Annex 2. List of Respondents	74
Annex 3. Summary of Focus Group Discussions (FGD)	76
Annex 4. Key Informant Interview (KII) with Emelyn Custodio.	81
Annex 5. Summary of FGD and KII in Agdangan, Quezon.	85

List of acronyms

3Rs	Rights, Responsibilities and Remedies
BD	Bantay Dagat (Sea Guardian/Sea Watch/Sea Warden)
BFAR	Bureau Of Fisheries and Aquatic Resources
BoatR	Boat Registration
CALABARZON	Cavite, Laguna, Batangas, Rizal, Quezon (provinces)
CBCRM	Community-Based Coastal Resources Management
CBFMA	Community-Based Forest Management Agreement
CDP	Comprehensive Development Plan
CFLC	Community Fish Landing Centre
CLUP	Comprehensive Land Use Plan
CNFIDP	Comprehensive National Fisheries Industry Development Plan
CRM	Coastal Resource Management
DENR	Department of Environment and Natural Resources
DOLE	Department of Labour and Employment
EEZ	Exclusive Economic Zone
FADs	Fish Aggregating Devices
FAO	Food and Agriculture Organization of the United Nations
FARMC	Fisheries and Aquatic Resource Management Council
FDP	Fishery Development Plan
FishR	Fisherfolk Registration
FLA	Fishery Lease Agreement
FMA	Fisheries Management Area
GPS	Global Positioning Systems
IEC	Information, Education and Communication
ICM	Integrated Coastal Management
IPRA	Indigenous People's Rights Act Of 1997
IUU Fishing	Illegal, Unregulated and Unreported Fishing
LGUs	Local Government Units
MA	Municipal Agriculturist
MAFC	Municipal Agriculture and Fisheries Council
MAO	Municipal Agriculture Office
MARINA	Maritime Industry Authority
MCS	Monitoring, Control and Surveillance
MFARMC	Municipal Fisheries and Aquatic Resource Management Council
MPA	Marine Protected Areas

MSY	Maximum Sustainable Yield
MT	Metric Tonnes
NGOs	Non-Governmental Organizations
NGP	National Greening Program
NIPAS	National Integrated Protected Areas System
OECS	Other Effective Area-Based Conservation Measures
PANTHER principles	Participation, Accountability, Non-Discrimination, Transparency, Human Dignity, Empowerment and Rule of Law
PNP	Philippine National Police
PSA	Philippine Statistics Authority
SA	Stewardship Agreement
SFP/SBFP	Supplementary and School-Based Feeding Programmes
SLAPP	Strategic Legal Action Against Public Participation
SSF	Small-scale fishers/fisheries
TAC	Total Allowable Catch
UNCLOS	United Nations Convention on the Law of the Sea, 1982
USAID ECOFish	United States Agency for International Development Ecosystems Improved for Sustainable Fisheries Project

Introduction

Although fisheries in the Philippines are state-owned, the municipal fishers are given exclusive access rights to municipal waters—in that commercial fishers are not permitted to operate up to ten kilometres in these areas, subject to certain limitations, and small and medium commercial operations are permitted only if the local government unit (LGU) concerned so allows. They are also granted preferential use rights over certain fisheries in accordance with the constitution. Within the 15-km range of the municipal waters as measured from the shoreline under the jurisdiction of the local government, small-scale fishers (SSF) organized into associations and cooperatives are given priority and exclusive use rights in managing critical habitats such as mangroves, corals, and seagrasses.

In consonance with this exclusive use of municipal waters for municipal fishers—using boats of three gross tonnage (GT) capacity or less—the Bureau of Fisheries and Aquatic Resources (BFAR) has instituted, in partnership with local governments, the National Program for Municipal Fisherfolk Registration (FishR) and the National Program for Municipal Fishing Vessel and Gear Registration (BoatR) to ensure that exclusive access, or tenure, of SSF is formalised. While there is no official definition of subsistence fishing in the Philippines Fisheries Code of 1998, it is mentioned as part the definition of commercial fishing, which states: “Commercial Fishing—the taking of fish species by passive or active gear for trade, business or profit beyond subsistence or sports fishing”. It is thus proffered as the opposite of commercial fishing. What is explicitly defined in the code is municipal fishing, which “refers to fishing within municipal waters using fishing vessels of three gross tons or less, or fishing not requiring the use of fishing vessels.” Municipal fishers engage in this type of fishing, which makes them analogous to SSF and subsistence fishers as these are defined, understood and practiced in the Philippines.

Apart from these, SSF and their organizations can avail of Community-Based Forest Management Agreements (CBFMA) as a form of tenure over mangrove stands, and take part in the enforcement of no-take rules over coral reefs, commonly referred to as marine protected areas (MPA), sanctuaries or reserves, as ‘Bantay Dagat’ (Sea Watch) auxiliaries in collaboration with the Philippine National Police (PNP) Maritime Command. Other laws are also relevant. The National Integrated Protected Areas System (NIPAS) Act of 1992 provides for tenured migrants (long-standing residents including fisherfolk) who can still engage in artisanal fisheries in protected areas. The Indigenous People’s Rights Act of 1997 provides for ancestral domain claims and titles over municipal waters.

Tenure rights may also be relevant over Other Effective Area-Based Conservation Measures (OECMs) outside protected areas, where SSF exercise equitable governance and management in partnership with other actors such as indigenous peoples, government

agencies, and private organizations and individuals. As one of the poorest sectors according to national government surveys, SSF can also claim and access poverty reduction programmes and benefits through the Magna Carta of the Poor Act of 2019, which mandates government agencies to collaborate and integrate their efforts to ensure that the rights to food, jobs, housing, education and health are realised for individuals and families below the official poverty threshold.

Regarding the legal framework for responding to disaster risk and climate change, the country has enacted and implemented the Disaster Risk Reduction and Management Act of 2010 and the Climate Change Act of 2009. Both provide mechanisms for disaster risk reduction and climate change adaptation, including participation of, and resources for, fisherfolk and coastal communities. Particularly relevant to fisherfolk tenure in municipal waters is their lack of land tenure in the coastal areas where they reside, where they land their catch and dock their boats. The aggressive development of tourism, which manifests in the creation of beach resort areas, threatens to displace them from their homes and livelihoods.

From the above, there appears to be no lack of legal and institutional bases for the realisation of SSF' tenure, rights and welfare. However, there is a need for research and documentation on how this policy framework is translated into actual practices at the community level. Therefore, framing this case study of the tenure rights of municipal fishers in terms of their rights, responsibilities and remedies (3Rs) and its limitations in concrete application, will require an inquiry into the following:

- 1. Context analysis:** Context at the local level in terms of how formal and informal institutions influence or affect the exercise of SSF tenure rights; how they comply with their responsibilities; and their capacity to access remedies for rights violations.
- 2. Role of non-state actors:** Identify non-state actors that affect or influence the access and exercise of rights, including their responsibilities and access to remedies. These non-state actors, such as commercial fishers, also have specific rights, responsibilities and remedies.
- 3. Conservation, management and protection of fishery resources:** View the management, protection and conservation of coastal and fishery resources as the responsibility of the municipal fisherfolk and an obligation of the State. Given the precarious conditions of the fishery resources and the competition among their users, various management interventions are conducted by both state and non-state actors. These interventions play a role in how tenure arrangements, and the benefit streams, are produced and institutionalised.
- 4. Institutional analysis:** Disaggregating the duty bearers in terms of the regulation and enforcement duties of government agencies, both at the national and local level, will reveal their accountability and role in regulating tenure arrangements.
- 5. Assessment of state support:** Assess the duty of the government to protect SSF tenure rights in terms of how its policies, plans or programmes conform to HR-based development planning rooted in the PANTHER principles: Participation, Accountability, Non-discrimination, Transparency, Human dignity, Empowerment and Rule of law.
- 6. Enforcement mechanism:** The efficacy of tenure rights is dependent on the successful enforcement of rules and regulation by the State. The rule of law is therefore an indispensable element since it determines the extents to which the municipal fishers can assert their rights, perform their responsibilities and seek effective remedies.

- 7. Obligation to UNCLOS and SSF:** As a party to the United Nations Convention on the Law of the Sea, 1982, the Philippines assumes specific obligations in relation to other countries in the use and conservation of marine resources. However, meeting such obligations, the same should equally ensure the protection of the rights of SSF.

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I. Objectives

This case study investigates the various tenure instruments available for small-scale fishers, and the benefits derived from their access and control over municipal waters and coastal resources. Two coastal areas were selected as sites wherein to identify and examine the existing tenure arrangements favouring SSF, the benefits they derive from the access rights, as well as the challenges they face in the process. The case study was conducted with the following objectives:

1. Describe the various tenure rights of municipal fishers within municipal waters along with the formal and informal rules that regulate them
2. Determine how such tenure rights influence or affect the use, management, protection and conservation of coastal and fishery resources and the social development agenda
3. Identify the barriers (both practical and legal) to the exercise of rights by the municipal fishers
4. Propose policy recommendations to improve and enhance the tenure rights of municipal fishers

As well, it outlines: a baseline of rights and privileges granted to municipal fishers within the policy framework of preferential treatment provided under the Philippines Fisheries Code; the description of the various tenure rights of municipal fishers and the corresponding rules for the enjoyment of such rights; the correlation of the secured tenure rights of municipal fishers with the conservation of fisheries and coastal resources and social development of the sector; and policy recommendations to improve and enhance the tenure rights of municipal fishers over the fisheries and coastal resources.

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II. Methodologies

The case study focuses on municipal waters and coastal resources, where most of the SSF in the Philippines live and fish as a source of livelihood. It focuses on two coastal municipalities: Agdangan in Quezon province, and Calatagan in Batangas province. Three participatory research methodologies were employed: (i) case study; (ii) survey; and (iii) focus-group discussions (FGD) with fisher organizations, the respective Fisheries and Aquatic Resource Management Council (FARMC), and the local governments. In-person visits to notable coastal areas were undertaken to verify the information gathered.

This case study is characterised by the following:

- Research team formation and preparatory activities
- Research framework and tools development
- Literature review and desk research
- Coordination work with local government and fisherfolk community partners
- Orientation of field survey enumerators
- Field data gathering
- Team discussions to generate initial analysis

Surveys in Calatagan were conducted in seven barangays (the smallest administrative unit in the Philippines): Bagong Silang, Poblacion Uno, Sta. Ana, Encarnacion, Gulod, Quilitisan and Tanagan. Interviews with 29 people from coastal villages were conducted to provide a better understanding on the state of fisheries in Calatagan. Of the 29 respondents, 55.2 per cent were female and 44.8 per cent were male; 58.6 per cent of the respondents considered themselves the head of their household. Meanwhile, three barangays were covered in Agdangan: Kanlurang Calutan, Silangan Calutan and Salvacion. In all, 59 respondents were covered by the surveys: 36 were male and 23 were female. The youngest respondent was 24 years old, while the oldest was 74; the average age was 48 years. Table 1 provides a breakdown of survey respondents.

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Table 1. Matrix of study respondents

Data gathering activities	Agdangan Respondents	Calatagan Respondents
Surveys	30 individuals	29 individuals
Key informants' interviews	Three: Bantay Dagat leader; municipal agriculturist; MFARMC chairperson	Bantay Dagat Leader
Focus group discussions	Three local groups <ul style="list-style-type: none"> • Bisig ng Mangingisda ng Sildora (BMS) • Samahan ng Nagkakaisang Mangingisda ng Silangan Calutan (SNMSC) • Samahan ng Mangingisda ng Kanlurang Calutan (SMKC) 	Municipal FARMC
In-person visits	<ul style="list-style-type: none"> • Inspection of notable fishpond • Community fish landing centre 	Mangrove protected areas in Barangays Palobandera and Sta. Ana.

III. Review of related literature

De facto open access: a unique characteristic of the fisheries sector

Philippine fisheries, particularly municipal fisheries, have long been commonly characterised as a de facto open access regime. “In open-access fisheries, the resource is open for everyone to use, with each fisher deciding on where to fish, when to fish, how many hours to fish, what fish to take and what gear to apply,” observed five fisheries researchers in a 2003 paper. This open access regime suggests the persistent difficulty in effectively managing fisheries resources, most notably fishing activities that occur with limited effective control and enforcement by government authorities. Illegal, Unregulated and Unreported (IUU) fishing activities are widespread due to the “inability of government institutions to implement regulatory measures”, contributing further to the de facto open access regime of the sector, according to a 2006 research paper. Nearly two decades later, the most recent Comprehensive National Fisheries Industry Development Plan (CNFIDP) for the 2021-2025 period still lists open access as one of the critical issues affecting the fisheries sector.

The CNFIDP, brought out by the BFAR, pointed out that open access is the primary contributing factor to the core problem of “inequitable distribution of benefits from fisheries and coastal resource use”. Over-fishing and the decline of capture fisheries are also attributed to various causes that are all rooted in the de facto open access regime, stated the 2003 paper. Several factors influence this open access regime in fisheries, some of which were listed in a 2008 Oxfam case study: unregulated fishing practices; weak regulatory environment; lack of local government policies; and unsustainable fishing practices by fishers.

Tenure rights in open access fisheries

In an open access regime, there is always the risk of over-exploitation of coastal resources by an ever-increasing number of resource users; a scenario described as the “tragedy of the commons” phenomenon. Recognising tenure rights allows for the allocation of specific coastal resources—fishing areas, for example—to individuals or communities, helping to prevent over-fishing and ensuring sustainable resource use. Tenure rights provide the legal framework for sustainable resource use and management. The granting of specific rights to utilise resources in certain coastal areas enables the government to enforce regulations and management systems designed to ensure the long-term health and productivity of fisheries resources. Among the social issues associated with insecure tenure in fisheries are “increased conflicts among stakeholders, loss of livelihoods, lower incomes, food insecurity, reduced nutrition, and the fundamental economic and biological problems of overcapitalisation and overfishing,” according to a 2018 study.

Property rights governing the coasts

- **Fisheries as public domain**

The large majority of the Philippines’ coastal areas and its diverse ecosystems and

resources are under public domain. The State maintains full control of how coastal resources are utilised and how the benefits from this usage are distributed. This property rights framework governing Philippine fisheries is defined by the Regalian Doctrine, which is enshrined in the 1987 constitution. The doctrine defines the sovereign rights (regalia in Latin) or ownership of the State. Article XII in Section 2 of the constitution states that “all lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State.” The constitution leaves the “exploration, development, and utilization of natural resources” under the “full control and supervision of the State”, which may “enter co-production, joint venture, or production-sharing agreements with Filipino citizens, or corporations or associations at least sixty per centum of whose capital is owned by such citizens.” In addition, it tasks the State with the protection of the “nation’s marine wealth in its archipelagic waters, territorial sea, and exclusive economic zone, and reserve its use and enjoyment exclusively to Filipino citizens.” It permits “Congress... (to) allow small-scale utilization of natural resources by Filipino citizens, as well as cooperative fish farming, with priority to subsistence fishermen and fishworkers in rivers, lakes, bays, and lagoons.”

Under this framework, the ultimate ownership or the legal right to possess, use, and dispose of these resources is provided to the Philippine government as the sovereign authority, or the State. This legal framework provides the principle that natural resources should be utilised for the benefit of the entire nation and future generations. The government’s control over these resources is intended to prevent their depletion and promote sustainable development. Defining coastal areas as public domains and mandating the protection of marine wealth articulates the government’s constitutional commitment to sustainable development, environmental protection, and public welfare. It also recognises the great importance of managing and preserving the country’s vast and diverse coastal resources due to its archipelagic nature.

- **Ownership and utilisation rights of coastal resources**

Private ownership of certain areas in the coastal landscape is usually confined to land-based areas that fall under the category of ‘alienable and disposable’. Property ownership is typically documented through titles (the Torrens land registration system) and usually confined to inland areas. These areas are normally agricultural regions and are of smaller percentage in terms of area coverage vis-à-vis the coastal areas that spans both land (for example, mangroves, estuaries, riverine, among others) and seascapes (municipal waters, seagrasses, coral areas, high seas within the exclusive economic zones). While most coastal resources cannot be owned, there are legal remedies available for groups or individuals to gain exclusive use over them—mostly through the awarding of tenure rights. The legal framework for tenure rights in coastal areas is governed by several laws and regulations that aim to balance economic development, environmental conservation, and public welfare.

State obligations in view of open access regime

- **De jure state ownership of coasts**

Excluding the alienable and disposable areas inland, most of the Philippines’ coasts are considered de jure (by law) State-owned. This means the ownership and management of resources in these areas are vested in the State. The legal framework for fisheries management in the Philippines emphasises the State’s control over these

resources to ensure their sustainable utilisation and conservation. It is defined in the constitution as well as in the Fisheries Code of 1998, which declares that the State shall “ensure the rational and sustainable development, management and conservation of the fishery and aquatic resources in Philippine waters including the Exclusive Economic Zone (EEZ) and in the adjacent high seas, consistent with the primordial objective of maintaining a sound ecological balance, protecting and enhancing the quality of the environment” and that it shall “protect the rights of fisherfolk, specially of the local communities with priority to municipal fishers, in the preferential use of the municipal waters. Such preferential use shall be based on, but not limited to, Maximum Sustainable Yield (MSY) or Total Allowable Catch (TAC) on the basis of resources and ecological conditions”, although it must be said that this approach has its limitations.

The constitution and the Fisheries Code provide the mandate for the State’s control over coastal resources on the following: regulation of how actors/stakeholders utilise coastal resources; direct management of activities conducted within coastal areas; and protection of the environmental integrity of coastal resources. The key principle in maintaining state ownership over much of the coast highlights its foremost responsibility/obligation to strike a balance in providing the needs of its people (livelihood and development) and ensuring that the coastal resources are made available for use of future generations (sustainability). From a human rights lens, the State is the duty bearer with the obligation to protect, respect and fulfil the rights of its citizens, the rights holders. When it comes to fisheries, the State is both the duty bearer and owner of the fisheries and aquatic resources. This is operationalised through government instrumentalities, both at the national and local level, mandated to regulate and enforce the rights of various resource users.

- **Obligations to prioritise municipal fishers**

In terms of coastal resource utilisation, the State is also mandated to protect the rights of small-scale fishers. The constitution, in Section 7 of Article XIII, charges the State with the protection of the “rights of subsistence fishermen, especially of local communities, to the preferential use of local marine and fishing resources, both inland and offshore”. In addition, it tasks the State with the “provision of appropriate technology and research, adequate financial, production, and marketing assistance, and other services to these communities”. The State has international commitments, as well, under the United Nations Convention on the Law of the Sea (UNCLOS) in relation to the protection and conservation of marine resources, among others. This, however, must not diminish the government’s ability to meet its human rights obligation to protect, respect and fulfil the rights of SSF.

These rights and entitlements of the municipal fishers effectively translate to a tenure arrangement as the preferred user of fishery resources within the municipal waters. Though it is not ownership, tenure rights here consist of access rights and beneficial use of specific spaces or resources within municipal waters; these are institutionalised and protected through the police power (enforcement authority) of the local government units (LGUs), such as the municipal government, via local legislation through fisheries ordinance. For instance, the establishment of MPAs over coral, mangrove or seagrass ecosystems and installation of fish aggregating devices. The role of Fisheries and Aquatic Resource Management Councils (FARMC) is notable in terms of protecting the rights of the municipal fishers and eliciting their participation in policymaking, both at the local and national level.

Fishers are required to comply with the various fishery regulations, like compliance to registration as municipal fishers and their fishing gear; use of fishing craft up to 3 GT; use of passive gear within municipal waters; and compliance to the prohibition of IUU fishing. These are their responsibilities towards State-owned resources. Should those rights be violated, either by the state through its action or inaction or by other non-state actors in the form of IUU fishing, municipal fishers can seek judicial remedies by filing cases, or non-judicial recourse through the informal institutions or practices at the community level. Resource-use conflict is commonplace in fisheries. Its resolution through informal mechanisms can also be viewed as a form of remedy.

- **Public trust doctrine**

The supreme court laid out the public trust doctrine in relation to the duty of the State and the exercise of its regulatory power over private entities in a widely cited case. The State holds such resources in public trust for the current and future generations under the doctrine of *parens patriae*, the default duty of the State is to protect the defenseless. The public trust doctrine has evolved from a mere principle to a resource management tool flexible enough to adapt to changing social priorities. The public is regarded as the beneficial owner of trust resources. The courts can enforce the public trust doctrine, even against the government itself.

- **Small-scale fishers' role**

SSF play a crucial role in the sustainable management of coastal resources; their involvement contributes to the establishment, recognition, and effective implementation of property rights along coastal areas. Many coastal property rights systems are community-based, involving the active participation of local fisher communities. SSF are essential stakeholders in decision-making processes related to resource use and conservation. Their engagement ensures that property rights are understood, respected, and effectively enforced within the community.

- **Tenure in fisheries**

The FAO states that “tenure and user rights in fisheries deal with how marine and inland capture fisheries are accessed, used, and managed using various types of rights-based approaches.” The elements of tenure in relation to SSF include “gear usage, craft and gear combinations, species landed, fishing grounds and the patterns of these elements’ interactions with each other across seasons.”

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IV. Theoretical framework

The core of the discourse on tenure rights in the Philippines' coasts and seas, particularly inside the municipal waters, revolves around the sustainability of the fisheries sector. Small-scale fishers and coastal communities are fully engaged and capacitated to carry out their responsibilities as rights holders in sustainably managing coastal and marine resources when provided with sufficient support from key state actors. This support is provided to fisherfolk by formal and informal rules and policies. The partnership between fishers as rights holders and the government is formalised through tenure instruments, featuring co-management approaches.

These tenure instruments provide fishers with preferential rights over coastal and marine resources in the 15-km municipal waters. They are manifested in five forms:

(i) fisheries registration; (ii) municipal waters zoning; (iii) community-based law enforcement; (iv) marine protected areas; and (v) special permits, licenses and grants. State actors are obliged, by the public trust doctrine, to concretise and contextualise each of these tenure instruments at local levels in collaboration with coastal communities. These

rights are strengthened with support mechanisms that enhance the fishers' capacities to carry out their responsibilities as rights holders. This can take the form of institutionalisation and strengthening of municipal FARMCs, implementation of CBCRM, co-management of fisheries management areas (FMA), carrying out environmental conservation advocacies, and engagement of fisheries NGOs and other like-minded groups.



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Figure 1. Tenure rights, remedies and responsibilities towards sustainable fisheries

V. Operational framework

A. Coastal tenure instruments

The State recognises the importance of providing municipal fishers with legal remedies to strengthen their tenure rights over coastal resources. This translates to several tenure instruments that provide the legal framework:

i. Fisherfolk registration

The use of municipal waters is restricted to fisherfolk from that particular municipality using vessels no bigger than 3-GT. Resident fishers are required to register their craft and gear (which should be passive). Non-compliance is punishable under national and municipal fisheries codes. The registration system covers the entire value chain in local fisheries: capture fishing, seaweed farming, and post-harvest activities like fish processing and selling. The registration operationalises their access to the municipal waters. Restriction of access to resident fishers, although not specifically provided under the national Fisheries Code, is justified by the local autonomy of LGUs, based on their delegated policing power.

ii. Municipal waters zoning

Waters in a 15-km area from the coast are vital for SSF activities. Their governance involves a combination of national and local initiatives that aim to balance resource utilisation with conservation efforts. These waters provide a broad canvas on which rights, responsibilities and remedies of the municipal fishers are enacted and mediated by the State through LGUs. The Fisheries Code of 1998 identifies as municipal waters the “streams, lakes, inland bodies of water and tidal waters within the municipality which are not included within the protected areas as defined under the NIPAS Act of 1992.” Besides forest or fishery reserves, the code also extends to marine waters “between two lines drawn perpendicular to the general coastline from points where the boundary lines of the municipality touch the sea at low tide and a third line parallel with the general coastline including offshore islands and fifteen kilometres from such coastline.” As well, it states that “where two municipalities are so situated on opposite shores that there is less than thirty kilometres of marine waters between them, the third line shall be equally distant from the opposite shore of the respective municipalities.”

The code provides jurisdictional powers over municipal waters to the respective municipal/city government, which, in consultation with the FARMC, is “responsible for the management, conservation, development, protection, utilization, and disposition of all fish and fishery/aquatic resources within their respective municipal waters.” To this end, the municipal/city government can, in consultation with the FARMC, “enact appropriate ordinances... in accordance with the National Fisheries Policy.” Policing authority is provided to LGUs to “enforce all fishery laws, rules and regulations as well as valid fishery ordinances enacted by the municipal/city council.” The national fishery law am-

plifies the protection to municipal fishers. The government offers other provisions for appropriate technology and research, adequate financial, production, construction of post-harvest facilities, marketing assistance, and other services. State protection to municipal fishers against foreign intrusion extends to offshore fishing grounds. Zoning regulations allocate specific areas within municipal waters for particular purposes, such as municipal fishing, conservation, and commercial fishing. This helps manage conflicts and ensures the various user groups coexist sustainably.

iii. Marine protected areas

A 1999 study defined MPAs as “any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical, and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.” In 2020, the Department of Energy and Natural Resources (DENR) stated that MPAs have a “defined area set aside by law, administrative regulation, or any other effective means in order to conserve and protect a part of or the entire enclosed environment through the establishment of managed guidelines.” MPAs empower municipal fishers to actively participate in the conservation process, promoting community-led initiatives for sustainability.

iv. Community-based law enforcement

The Bantay Dagat (BD), which translates to Sea Guardian, is a community-based institution of coastal law enforcement that indirectly contributes to the establishment and reinforcement of the community’s coastal property rights. A 2016 study states that “...BD draws on the participation of communities in the management and protection of coastal and marine ecosystems, and it supplements the capacity—in terms of limited personnel and resources to patrol vast coastlines—of LGUs in conducting law enforcement activities.” The BD engages local communities in the monitoring and protection of coastal areas, capacitates them in fisheries regulation and empowers them to take ownership of coastal resources. This fosters responsibility among communities and reinforces communal rights. Its primary role is to serve as a deterrent to illegal fishing activities, including over-fishing and destructive fishing methods. Being highly effective, the BD programme has been formally institutionalised in coastal and fishery law enforcement—both in existing national laws and local ordinances. The programme is currently (during the period of study) voluntary; efforts are on to institutionalise it as a force multiplier to civilian law enforcement agencies. This will authorise them to apprehend and arrest individuals engaged in illegal activities, as well as provide applicable benefits and incentives to BD personnel.

v. Special permits, licenses, grants

Fish Aggregating Devices (FADs): As traditional fishing techniques, FADs attract pelagic fish species, creating localised hotspots for fishing activities. The strategic deployment of FADs is often subject to local regulations, balancing fishing efficiency and resource conservation. Payao is an example of this; a traditional gear, it comprises floating bamboo rafts weighted down to the seafloor.

Fishpond Lease Agreement (FLA): This provides a legal framework for SSF to access specific areas. Such agreements delineate the terms and conditions under which fishers can operate within designated zones, contributing to sustainable resource utilisation and community-based management. Fish cages and fish pens are good examples of this instrument.

Community-Based Forest Management Agreement (CBFMA): Coastal areas are sometimes subject to CBFMA that extend beyond terrestrial ecosystems into coastal and marine waters. Such agreements empower local communities to manage both forested and aquatic environments, promoting holistic conservation and sustainable livelihoods. Utilisation of mangrove areas, even cutting or harvesting, is provided for in the agreement guidelines subject to certain conditions. These include the requirement that harvesting operations be closely monitored and are in accordance with site management regimes like the Community Resource Management Framework, Ancestral Domain Management Plan or Protected Area Management Plan.

Seaweed farms: This is allowed for commercial purposes, provided an individual or group secures the necessary permits or licenses pursuant to the existing regulations on seaweed gathering or farming.

vi. Special Laws and policies

The national fisheries code has a provision for SSF welfare, wherein “the Department [of Agriculture] shall establish and create fisherfolk settlement areas in coordination with concerned agencies of the government, where certain areas of the public domain, specifically near the fishing grounds, shall be reserved for the settlement of the municipal fishers...”

As mentioned earlier, the NIPAS Act of 1992 provides for tenured migrants (long-standing residents including fisherfolk) who can still engage in artisanal fisheries in protected areas; the Indigenous People’s Rights Act of 1997 provides for ancestral domain claims and titles over municipal waters. OECMs as well as programmes for poverty reduction and disaster management also speak to SSF tenure rights.

vii. Local Autonomy

Enshrined in the Local Government Code (Republic Act No. 7160), local autonomy plays a crucial role in the management of coastal property rights. The code decentralises governance, granting a significant degree of autonomy to LGUs, including provinces, cities, municipalities, and barangays. It provides LGUs with the authority and flexibility to manage coastal property rights in alignment with local needs and priorities, such as coastal environmental management, pollution control, sustainable economic development, education and tourism. This decentralised approach recognises the diversity of coastal areas and allows for tailored solutions. Local autonomy allows LGUs to formulate land use plans and zoning ordinances. In coastal areas, this means LGUs have the authority to designate zones for specific purposes, such as residential, commercial, industrial, or conservation. The power to regulate land use enables them to influence the allocation and protection of coastal property rights.

B. Support mechanisms to tenure rights

- i. **Municipal Fisheries and Aquatic Resources Management Councils (MFARMCs):** These are integral to the implementation of fisheries management initiatives and overall coastal resources management at the municipal level. Their foremost function is to serve as local platforms for community engagement in fisheries management. Their composition ensures that the various interests of coastal stakeholders are represented, and the diverse perspectives of coastal constituents are given meaningful con-

sideration in all decisions related to coastal property instruments. MFARMCs usually comprise fisherfolk groups, local government units, non-profits, business and private sector representatives, and other community members. Notable roles of these councils include the following:

- i. The formulation of Municipal Fisheries Development Plans that outline strategies for the sustainable development of fisheries
 - ii. The implementation and enforcement of Fisheries Ordinances and Regulations. This includes regulation of access permits, utilisation rights, zoning, monitoring of fishing activities, ensuring compliance to rules, and enforcement against violations
 - iii. Collaboration with LGUs and national agencies in translating policies and programmes into action at the local level. In this process, the council ensures that the interests of fishers and their property rights are carefully considered
 - iv. Provide a platform for conflict resolution and management of disputes over property rights
 - v. Developing the capacity-building of coastal stakeholders to participate in fisheries management, including property rights and tenure instruments
- ii. Community-based coastal resources management (CBCRM):** This is an approach that involves local communities in the protection, conservation, and sustainable use of coastal and marine resources. Recognising that they depend directly on these resources, it seeks their participation in decision-making. CBCRM entails a participatory process characterised by providing communities assistance to enable them to get organized, trained and capacitated in ecosystems restoration. It empowers them to seek entry points into management tasks through fisher-based patrolling and monitoring. A meta-analysis of several CBCRM projects, published in a 2009 study, shows its positive impact. The study authors, however, state that there is still limited evidence of the approach's contribution towards the improvement of coastal natural resources, thus "highlighting the importance of incorporating ecological and socio-economic considerations in setting fisheries management regimes."
- iii. Fisheries Management Areas (FMAs):** The Bureau of Fisheries and Aquatic Resources (BFAR) defined these as: "A bay, gulf, lake, or any other fishery area which may be delineated for fishery resource management purposes." The 2019 Fisheries Order 263 explains that FMAs are established following the Ecosystems Approach to Fisheries Management (EAFM), which moves away from management systems focused on sustainable harvest of species, towards "systems and decision-making processes that balance ecological well-being with human and societal well-being, within an improved governance framework." FMAs emphasise the need for LGUs and key fisheries stakeholders to collaborate in managing fisheries resources. The government has identified 12 FMAs based on specific ecosystems.
- iv. The civil society:** It plays a significant role in influencing, advocating, and contributing to the management of coastal property rights, including land tenure, access to resources, livelihood sustainability, environmental protection, sustainable development, and management of climate change impacts in coastal areas. On all these counts, civil society organizations have partnered with LGUs and national agencies for development work, ranging from grassroots empowerment, CBCRM, sustainable livelihood, community-led business development, to national and international advocacy. Their

engagement contributes to the development of more inclusive and sustainable approaches to managing coastal resources and protecting the rights and well-being of coastal communities.



Figure 2. Map of Calatagan, Batangas, the Philippines

VI. Case Study Analysis

A. Research area profiles

The information presented in this section has been gathered through surveys, key informant interviews, focus group discussions, and in-depth review of documents. These have been supplemented by data and details based on available secondary information.

(i) Calatagan, Batangas

Geographic profile

Calatagan is a class two municipality located in Batangas province, about 130 km from Manila. It is located south of Lian and Balayan municipalities, and is surrounded by the Verde Island Passage in the west, and the bays of Pagaspas and Balayan to the east.

Table 2. Calatagan population profile

Age	Both sexes	Male	Female
Total	58,637	29,756	28,881
0 - 4	5,735	2,952	2,783
5 - 9	6,033	3,129	2,904
10 - 14	6,056	3,212	2,844
15 - 19	5,800	2,981	2,819
20 - 24	4,996	2,551	2,445
25 - 29	4,322	2,239	2,083
30 - 34	3,889	2,027	1,862
35 - 39	3,844	1,951	1,893
40 - 44	3,745	1,874	1,871
45 - 49	3,390	1,732	1,658
50 - 54	2,935	1,498	1,437
55 - 59	2,311	1,140	1,171
60 - 64	1,954	956	998
65 - 69	1,429	673	756
70 - 74	1,016	425	591
75 - 79	594	230	364
80 years and over	588	186	402

Source: Philippine Statistics Authority, Age and Sex Distribution in the Philippine Population (2020 Census of Population and Housing)

Calatagan measures 10,758 hectares, comprising, comprising four urban barangays and 21 rural barangays. The municipality's rural barangays are: Bagong Silang, Baha, Balibago, Balitoc, Biga, Bucal, Carlosa, Carretunan, Encarnacion, Gulod, Hukay, Lucsuhin, Luya, Paraiso, Quilitisan, Real, Sambungan, Sta. Ana, Talibayog, Talisay, and Tanagan. Its urban barangays are called Barangay 1, 2, 3, and 4 located in the Poblacion (downtown area).

Socio-demographic profile

Calatagan is primarily an agricultural municipality, with the sector covering 6,802 hectares. Farming is the main source of livelihood, together with fishing. Crops, livestock, and poultry production add to the economic profile. Major crops produced are rice, vegetables, sugarcane and fruits. The municipality's population in 2020 was 58,637, with 29,756 males and 28,881 females. The coastal population is estimated at

68 per cent of the total population, with about 3,000 fishing households in coastal barangays. As of 8 June 2020, there were 5,259 registered fisherfolk in the municipality, and 99 registered fishing craft. A total of 108 fishing craft were registered in 2018. The number of craft registered came down in the following year to only 53, increasing to 99 in 2020.

Overview of coastal and marine resources

The municipality's coastal waters are spread across 75,846.26 hectares, with the coastline covering 48 km. Marine protected areas are also present. A total of 30.37 hectares is under 30 species of mangroves. Coral reefs cover a total of 2,110.97 hectares. Calatagan's topography is studded with a dynamic landscape of flat plains and hills. Most of its land area is 10-50 metres above the mean sea level. Calatagan is also a prime tourist destination. Tourists can enjoy water activities in areas specifically devoted to tourism, comprising 3,276.96 hectares.

The municipality produced 4,537.75 metric tonnes (MT) of fish in 2019. Of this, commercial operations produced 4,195.96 MT and municipal operations 341.79 MT. Among the gears used by commercial fishers

are ring nets and bag nets, while municipal fishing operations include: multiple hook and line, drift gillnet, bottom set long line, surface gillnet, troll line, handline, bottom gillnet, spear gun, scoop net, beach seine, squid trap, lift net, and portable lift net. Of the 229 species of fish caught in Calatagan's municipal waters, the major ones are: *Sardinella lemuru*, *Decapterus macrostoma*, *Auxis rochei*, *Katsuwonus pelamis*, *Selar crumenophthalmus*, *Decapterus tabl*, *Rastrelliger faughni*, *Auxis thazard*, *Decapterus macarellus*, and *Rastrelliger kanagurta*.

Survey findings: Socio-economic profile of coastal fishers

The market was the primary food source of the 29 surveyed respondents, followed by their own harvest. Most had not experienced any shortage in food supply in the past six months (prior to the case study period). Only 14.3 per cent of the respondents in Calatagan reported such a shortage and even then they rarely suffered from hunger. The causes reported for the shortage were: loss or lack of finances; loss of livelihood due to the COVID-19 lockdown; destruction of their harvest; death or loss of livestock; lack of fish to be caught; and the inability to take to the seas due to storms. Capture fishing was the source of livelihood for 79 per cent of the respondents, while other sources of livelihood included aquaculture (for 6.9 per cent).

Up to 86.2 per cent of the respondents lived in single detached houses made of strong materials and 92.9 per cent owned their residential property. Access to water was vari-

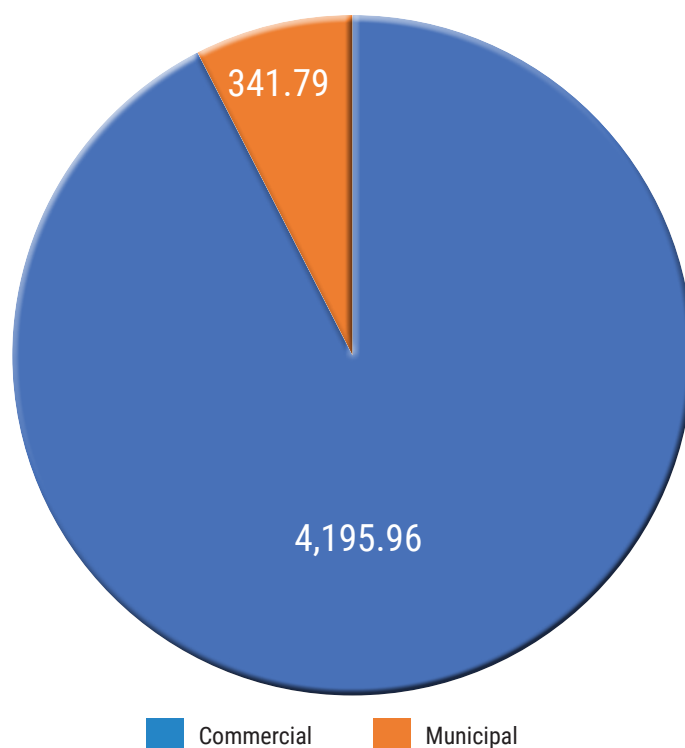


Figure 3. Calatagan Fisheries Production in 2019 (measured in MT)

able; some had direct water supply while others relied on community sources located up to two kilometres away. All respondents had access to electricity with 96.6 per cent getting it from the electric company and the remaining using generators; 20.7 per cent also reported using a solar battery.

Basic services

Access to a local health service provider was reported by 89.7 per cent of the respondents. The most accessible to 92.3 per cent was the barangay health centre; 76.9 per cent could access the local public hospital; 65.4 per cent could reach the medical missions; 46.2 per cent had access to community clinics; and 42.3 per cent could reach a rural health unit. The children of 65.2 per cent of the respondents were mostly vaccinated, and only 8.3 per cent of the respondents had an underweight child in their household. Half the respondents participated in family planning programmes in the barangay health centre.

Natural calamities and risks

Respondents had experienced typhoons (91.7 per cent), earthquakes (66.7 per cent), floods (37.5 per cent) and volcanic eruptions (25 per cent). Yet only 25 per cent had been evacuated due to disasters. Although 82.1 per cent of the respondents were aware of the LGU's evacuation alerts, only 28.6 per cent had received disaster management training and 51.9 per cent did not have any disaster preparedness kit in their households.

Fishing efforts

The survey identified pelagic fish, molluscs, demersal fish, shellfish and crustaceans as the most commonly caught species. The respondents spent more than four hours catching fish, including the time spent getting to and returning from the fishing area. The kind of craft used was mostly a 'bangka', which has a wooden support on each side and is powered by a small engine. The reported catch volume ranged from as little as one kg a month to 300 kg a month. Only 11.5 per cent of the respondents had insurance for their catch. The respondents said the main reason for engaging in fishing was to feed themselves and their family. The secondary reason was to sell their catch for income.

Sectoral issues and concerns

Most of the respondents had experienced a decline in catch in the current year (as of the case study period) as compared to three years ago. Among the reasons they cited were:

- Decrease in fish stocks
- Decrease in area for fishing due to competition
- Coral bleaching
- Fishkill
- Pollution
- Typhoons
- Climate change

LGU programmes

The municipality has received numerous awards related to fisheries management:

- Outstanding MFARMC at the regional level in 2019
- First place among Outstanding Bantay Dagat (BRAVO 2018) in 2018
- First place in provincial level Outstanding MFARMC by the Gawad Saka in 2018

- National level finalist in the 2017 Malinis at Masaganang Karagatan awarded in 2018
- First place in the regional level Malinis at Masaganang Karagatan of 2017, awarded in 2018
- Outstanding MFARMC in 2017
- USAID ECOFish Project Recognition in 2017
- Second runner-up at the national level of the 2016 Malinis at Masaganang Karagatan, awarded in 2017
- First place at the regional level of the 2016 Malinis at Masaganang Karagatan
- Gawad Parangal at Pagkilala, 100 Municipalities of FishR Program, in 2015

For the implementation of resource conservation and protection measures, the municipality has recognised at least 26 people's organizations, organized councils, local NGOs and youth organizations. They are:

- MFARMC
- Municipal Agriculture and Fisheries Council (MAFC)
- Bantay Dagat
- Calatagan Protected Areas Network
- Calatagan Sea Farmers (CASEFA)
- Batangas Seaweed Farmers (BASEFA)
- Samahan ng Artisanang Mangingisda at Magsasaka ng Calatagan (SAMMACA)
- Calatagan Mangrove Development Alliance (CALMADA)
- Pro-Mangrove Alliance and Implementing Team and Arm as Kilitisan's Advocates of Nature (PALITAKAN)
- Samahang ang Adhikain ay Pangalagaan sa Sta Ana ang Pangisdaan (SAPSAP)
- Protected Artificial Reef Organization for Local Marine Water Conservation Advocacy (PAROLA)
- Bataha for Nature and Conservation Association (BNCA)
- Samahan ng Mangingisdang Magproprotekta sa Bakawanan ng Bagong Silang (SAMMMABABA)
- Samahan ng Mangingisda at Magsasaka sa Sitio Palobandera (SMP)
- Boatmen Association for Natural Aquatic Conservation (BANAC)
- Kapisanan ng mga Mangingisda at Magsasaka sa Carretunan (KMMC)
- Gulod Fisherfolk Association
- Samahan ng mga Maliliit na Mangingisda sa Carretonan
- Calatagan Mangrove Development Alliance
- Kapisanan ng mga Magsasaka at Mangingisda sa Carretonan
- Calatagan Environmental School Association (CECOSA)
- Balibago Youth, Environment and Society (Balibago YES)
- Conserve and Protect Ocean Foundation (CAP Ocean)
- Pren-Li Farmers Association
- Balibago Irrigators Association
- Zobel Foundation

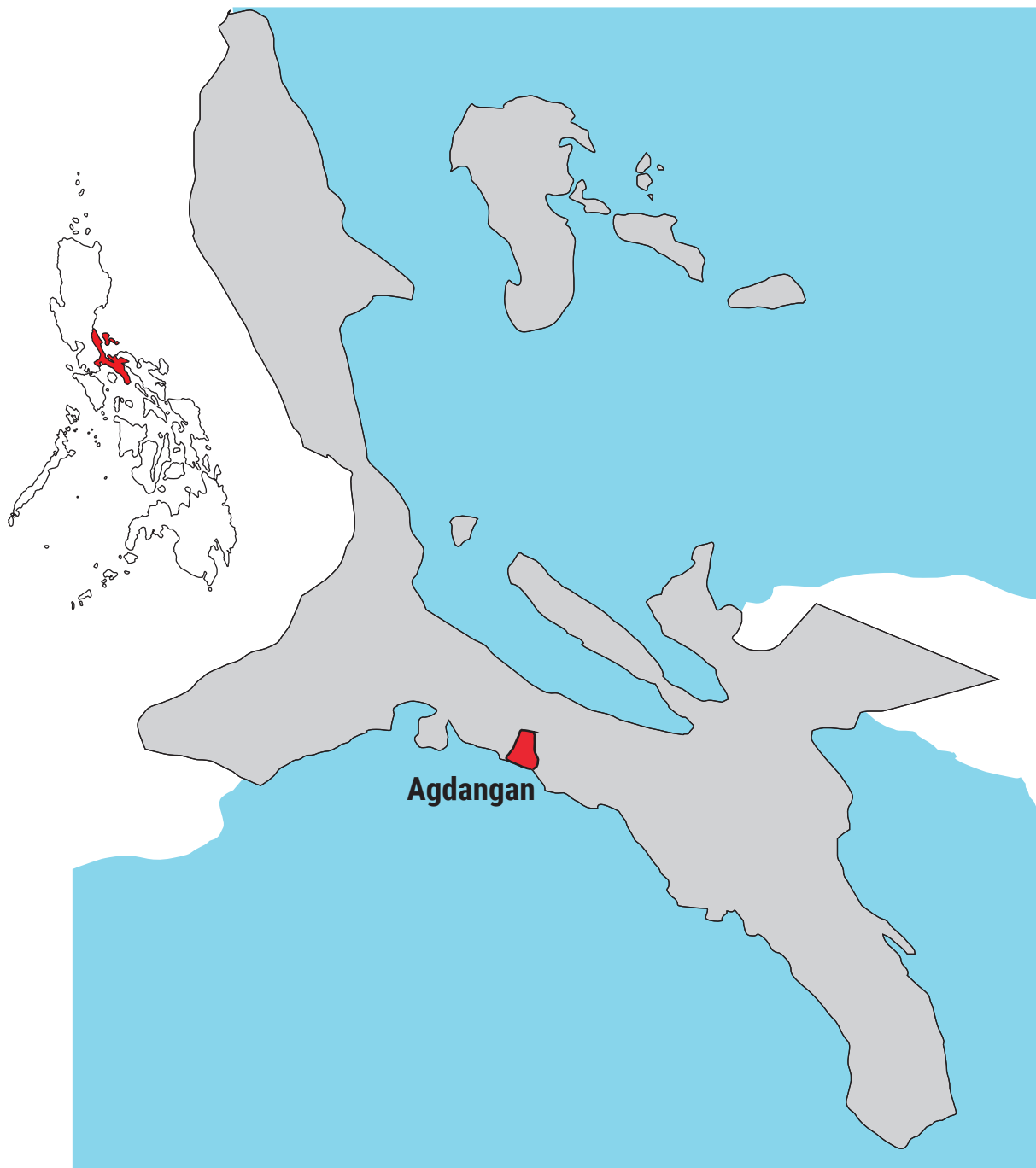


Figure 4. Map of Agdangan, Quezon, Philippines
Source: <https://agdanganquezon.gov.ph/municipal-profile/>

(ii) Agdangan, Quezon

Geographic profile

The Agdangan municipality is in an isthmus connecting the Bondoc peninsula to the biggest part of Luzon Islands. To its north lies Atimonan; to its southwest is the bay of Tayabas; and to the east is the municipality of Unisan. It is 164 km southeast of Manila and 54 km from Lucena City. Its total land area is 3,154 hectares. Of the municipality's 12 barangays, five lie along the coast, namely: Binagbag, Sildora, Salvacion, Silangang Calutan and Kanlurang Calutan. The remaining seven are: Dayap, Binagbag, Ibabang Kinagunan, Kanlurang Maligaya, Silangang Maligaya, Poblacion 1 and Poblacion 2.

Socio-demographic profile

The most common sources of income in Agdangan are coconut planting, rice farming, charcoal making and fishing. There is no data of labour and employment available for the municipality. Commercial activities are limited compared to other municipalities and opportunities from business and commerce are not abundant. The municipality has nine registered fishermen associations with more than 20 members each.

Overview of coastal and marine resources

Through the combined efforts of the LGU and organized fisherfolk, Agdangan became a three-time regional awardee under the MMK programme (Malinis at Masaganang Karagatan, meaning Clean and Bountiful Ocean). It fulfilled the following criteria:

- No illegal fishing
- Observance of closed fishing season
- Declared Marine Protected Areas
- Clean coastal waters without any garbage or industrial effluents flowing to the sea
- Effective mangrove protection and rehabilitation programme

Fishing efforts

Fishing in Agdangan may be classified into municipal and inland. The former is within the territorial waters along the Tayabas Bay. Most fishing along the bay is for sustenance and is not commercial in nature. Inland fishing is conducted in the brackish waters by 13 fishpond operators. The municipality has 113 hectares of developed productive fishponds with an estimated annual production of 406 metric tonnes. Brackish water species produced are milk fish, shrimps, prawn and crabs.

There are 318 fishers involved in municipal fishing, utilising a total of 183 bangka, 84 of which are motorised and 99 are non-motorised. The estimated annual production from the municipal fisheries is 384.1 metric tonnes using fish coral, nets, long line, jigger, hook and line bottom net, gill net and spear method. Marine fishing is adversely affected by the rough seas during the southeast and southwest monsoons, which occur from June to September each year.

Sectoral issues and concerns

Three concerns are foremost among the organized fishers of Agdangan:

- a. Displacement by conventional tourism development like the establishment of resorts that deprive fisherfolk households of both residential space and docking areas for their boats
- b. Institutionalisation of support for fisherfolk, locally called 'Ayuda sa Cullada', during the lean season (southwest monsoon) that has already been implemented in the past, but is currently (during the period of study) subject to local government review
- c. Applications for seabed quarrying are threatening the fishers' resources and livelihoods; this has been seemingly turned back through active campaigning by the fishing communities of Tayabas, but vigilance is needed to ensure that these plans are not realised

B. Existing tenure instruments at sites

The rights, responsibilities, and remedies related to municipal fisheries are determined by the local fisheries code. These are formulated through a series of consultations with local stakeholders, taking into consideration their actual experiences and concerns. The result is a comprehensive legislation that can address the specific needs of both the LGU and the municipal fishers. The rights and entitlements, benefits, and responsibilities related to the different tenures are summarised below (See Table 3).

Table 3. Tenure instruments and related rights and responsibilities

Tenure	Rights and Entitlements	Benefit (monetary and non-monetary)	Responsibilities (individual & collective)
1) Registration (fisherfolk, fishing gear)	Engage in capture fisheries within the municipal waters Access to government support like financial aid and social services	Livelihood Social protection	Compliance with terms and requirements of registration Report on fish caught. Observe the closed season
2) Municipal waters zoning	Exclusive access to specific zones within municipal waters	Livelihood	Implementation of zone-specific management initiatives Coordination with the Bantay Dagat and PNP for law enforcement
3) MPA	Beneficial use of a specific portion of the sustainable use zone Technical support from the LGU	Additional income and livelihood derived from eco-tourism Environmental services, such as protection from extreme weather events	Enter into a stewardship agreement with the LGU Monitor the implementation of the management plan Coordination with the Bantay Dagat and PNP for law enforcement Compliance with requirements under fisheries code
4) MFARMC	Representation of the interest of fisherfolk in various local bodies of the LGU	Participation in community-based planning Policy influencing	Implementation of policies and programmes for protection of marine resources
5) Bantay Dagat	Deputised fish wardens with authority to enforce fishery laws and conduct arrest of violators Legal protection against SLAPP (strategic legal action against public participation)	Logistical and technical support from the office of the municipal mayor through the municipal agriculture officer Minimal honorarium and share in administrative fines collected by the LGU	Enforce the Fisheries Code of Calatagan, and other fishery laws, rules and regulations Conduct regular patrolling Coordination with MFARMC and law enforcement IEC on fishery laws Lead the coastal clean-up under the supervision of MAO
6) Special permits, licenses, grants (like seaweed farmers, payao, fish cages and fish pens)	Engage in fishing activities	Additional income and livelihood	Compliance with registration requirements and terms Observation of zoning limitations

Access to municipal waters and fisherfolk and gear registration

Calatagan site

The tenure instrument perceived as the most accessible is the registration of the municipal fishers, their fishing vessels and gears. This may be attributed to the regulatory requirement to access the municipal waters, especially those who are involved in capture fishery. Likewise, the criminal liability for fishing by unregistered fishers, or the use of unregistered gear or vessels, makes registration a standard norm. Registration of fisherfolk and their fishing gear is free of charge, although fishers have to cover the costs of photocopying documents like the BFARMC clearance.

Registration is done on site by the staff of the Municipal Agriculture Office (MAO), who schedule a time and venue for the annual registration of municipal fishers usually at the barangay hall of the coastal barangays. This improves the registration process by reducing the travel time and expenses for resident fisherfolk. Each registered fisher is issued an identification card, which must be renewed annually for a minimal fee. During the research period, there were about 6,031 registered fishers in Calatagan, the municipal agriculturalist said the MAO still needs additional funds to meet their target objective of increasing registration, as provided in the ten-year Calatagan Fishery Development Plan (CFDP). Programmes extended by their office to support the municipal fishers include gear distribution and training for building capacity.

Agdangan site

As of the case study period, the LGU, in partnership with BFAR and the Maritime Industry Authority (MARINA), had overseen the registration of 1,009 fishers and other users. These included capture fishers, aquaculture operators and fishworkers, fish vendors and fish processors; just under two-thirds of whom own their fishing vessels. However, key informant interviews revealed that the actual number of fishers was higher than the official number recorded. Registered fishers are supposedly active participants in this process that serves to legitimise their exclusive access to fisheries and coastal resources in municipal waters and the coastal zone. About 309 craft were registered as of the research period.

Municipal waters zoning

Calatagan site

According to the municipal agriculturalist, the entry of non-resident fishers in the municipal waters is restricted to ensure that the resident fishers reap the benefits of their management efforts. She also noted that Calatagan is the first municipality within the province of Batangas to adopt such a policy, having done so in 2006, when the local legislative council passed the Fisheries Code of Calatagan as per the recommendation of MFARMC.

According to a 2018 amendment of the national fisheries code, medium scale commercial fishing vessels are classified as having a capacity between 20.1 GT and 150 GT, while large scale commercial fishing vessels have more than 150 GT. Special permits are only available to small-scale commercial fishing vessels, of 3.1 GT capacity up to 20 GT, that intend to fish using passive gear within 10.1 to 15 km of the municipal waters of Calatagan. They are subject to the following conditions:

- No commercial fishing in municipal waters with depth less than seven fathoms, as certified by the appropriate agency
- Fishing methods and gears must comply with national policies set by the Department of Agriculture
- Prior consultation, through public hearing, must be conducted with the MFARMC
- The applicant vessel and its owner, employer, captain and crew must be certified by the relevant agency as not having violated the Fisheries Code, environmental laws and related laws

Community-based law enforcement

Fishers are engaged in law enforcement at both research sites, mainly through the MFARMC and the Bantay Dagat.

MFARMC

The council is the interface with the LGU on policy and implementation. Leaders from the barangay-based organizations are members of this council. They can influence resource management through the implementation of the mandated fishery development plan. This is beneficial to the community because effective management leads to improved resource status and increased catch. The functions of MFARMC are as follows:

1. Harmonise the Municipal Fisheries and Aquatic Resources Development Plan (MFARDP) with the barangay's existing development planning and submit the plan to the municipal development council
2. Monitor and evaluate the implementation of the MFARDP
3. Assist law enforcement agencies and support BFARMC task forces and committees in the enforcement of fisheries and environmental laws, rules, regulations and ordinances
4. Assist and support BFARMCs in the filing of complaints with administrative and juridical bodies, in collaboration with the designated prosecutor, against those who violate fisheries and environmental laws, rules and regulations
5. Recommend and submit resolutions to the Sangguniang Bayan concerning fisheries and aquatic resources management and conservation measures (for adoption into municipal ordinances)
6. Endorse applications for fishing and licenses to the appropriate offices of the municipal and special agencies
7. Arbitrate disputes between, and among, barangays over fishery rights
8. Source funds for their requirements and assist in sourcing of funds for the needs of the BFARMCs
9. Promote ancillary economic activities, including a number of marketing and socio-economic services
10. Assist and support BFARMCs in establishing fishing zones, demarcated areas and in delineating navigational lanes
11. Monitor and gather data from fish landing points as basis for the formulation of management plans and policies

12. Assist and support BFARMCs in regulating fishing effort in designated fishing groups and agencies
13. Maintain a registry of municipal fishers and their organizations

The MFARMC is composed of: the municipal agriculture and fishery officer; a representative from the municipal or fishery committee of the Sangguniang Bayan (municipal council, the local legislative branch); a representative from the municipal development council; a representative from the accredited non-government organization; a representative from the private sector; and at least ten representatives of the fisherfolk, inclusive of the chairpersons of every barangay FARMC, and including the representatives of the youth and women.

Calatagan site

The MFARMC was instrumental to the adoption of the Fisheries Code of Calatagan in 2006, and recently crafted an amendment to the code. The MAO has provided the necessary technical and financial support to the council for its establishment and continued participation in local policymaking and development planning. Since its organization in 2000, the MFARMC has been an active partner of the MAO in reaching coastal communities for the enforcement of fishery laws, addressing community problems related to fisheries, and in drawing in the fishers' participation. The MFARMC has close coordination with the Bantay Dagat in conducting information, education and communication (IEC) activities. However, it faces challenges due to limited funding from the LGU; this restricts it from providing a minimal honorarium to the officers who work on a voluntary basis. MFARMC officers are also concerned with the need to have second liners (junior functionaries) to ensure the continuity of their operations in the future.

Agdangan site

Leaders from barangay-based fisherfolk organizations are members of the Agdangan MFARMC. They can influence resource management through the implementation of the mandated fishery development plan. This is beneficial to the community because effective management leads to improved resource status and increased catch. The council's chair had held the position for the last six years and had been a member for the past 15 years. The council being tasked with making policy recommendations to the LGU, it has regularly come out with resolutions on specific concerns. These include: the coastal resource management plan; amendments to the existing municipal fishery ordinance; designation of mariculture areas; and the translation of relevant national fishery laws and regulations into local ordinances. This is based on their analysis of local conditions, problems and issues.

The MFARMC derives its mandate through the membership of the heads of the six fisherfolk organizations from Agdangan's five coastal barangays. The council chair is also the chair of the Integrated FARMC of Tayabas Bay that covers 20 municipalities from three provinces adjoining the bay. The council has an established management system with regular monthly meetings (every Thursday of the month) with the chair preparing the agenda; various committees reporting to the plenary; the secretary drafting resolutions for discussion and approval; and communications among members through social media. The LGU has also provided them with several sets of uniforms.

This support, however, is not available for the Integrated FARMC; they must secure logistical support from the LGU concerned and national agencies before conducting meet-

ings and other activities. Therefore, MFARMC leaders from the province of Marinduque are often unable to attend IFARMC meetings because they lack the means for travelling the greater distances. The MFARMC chair said that its principal limitation is the lack of a regular budget. While they can obtain resources for out-of-town travel and some local activities, they have no funds for local logistical needs or an honorarium for members.

Bantay Dagat

The use of municipal waters is restricted to municipal fishers. Although there are violations, mostly by commercial fishing vessels, the rule is effectively enforced by the Bantay Dagat. Consequently, the municipal fishers benefit from increased catch.

Calatagan site

Calatagan's BD are organized based on the provisions of the Philippine Fisheries Code, which is supplemented by the Calatagan Fisheries Code. The municipal mayor, through the MAO, issues the necessary guidelines and procedures for the deputisation, organization, management and monitoring of the BD, including the qualifications of its members. Level of educational attainment and political affiliation cannot be grounds for disqualification from the BD.

The BD in Calatagan was organized in 2000 with support from national and local NGOs. Over time, they have assumed a dominant role in fishery law enforcement in Calatagan. Their functions are:

- a. Enforcement of the provisions of the fishery ordinance and other fishery laws, rules and regulations issued by the LGU and national agencies
- b. Conduct regular patrolling and apprehend violators in their respective area of operations in coordination with, and the assistance of, the local PNP and other law enforcement agencies
- c. Coordinate with MFARMC and BFARMC for the effective enforcement of the Fisheries Code and other rules and regulations
- d. Assist and coordinate with MFARMC, local PNP and designated prosecutor in the filing and prosecution of cases involving violations
- e. Perform such other functions as may be appropriate for effective enforcement

During the case study period, Calatagan LGU had 47 deputised BD members. They provide the law enforcement component of MPA management, employing the soft approach to fishery rules policing through information and education campaigns. They conduct quarterly meetings facilitated by the MAO. The municipal communities turn to them in the face of sea-related incidents like drowning and rescue operations. The BD also lead the MAO's coastal clean-up drives.

The MAO provides a minimal honorarium, gasoline for their seaborne patrol, budget for their operations, a rice subsidy and gifts during Christmas. The BD members are ageing and there are difficulties in recruiting younger members. The municipal agriculturist said her office was organizing and recruiting new members to address the leadership succession issue. The BD's community-based law enforcement reasserts the preferential right of municipal fishers within municipal waters. This, in effect, secures their proprietary rights

even in the MPAs. These rights are enforced with penalties and imprisonment of violators. The MAO said violations are mostly committed by non-residents of Calatagan.

Agdangan site

During the case study period, Agdangan had a total of eight BD members, divided into two teams of four members each. They patrol on alternate days, starting with a visit to the two MPAs (Silag and Lawis) and then proceed to other areas. They typically begin operations at 7am and, if there are no illegal fishing incidents, end their patrol at 11am. If illegal fishers are sighted, however, there is a chase that can sometimes last until night-time. As deputised fish wardens, they can apprehend illegal fishers without the presence of the police maritime patrol. They then turn over the apprehended fishers, craft and gears to the local police for the filing of criminal and administrative charges. Both the BD and the MOA complain that many of these cases do not result in convictions or confiscations in the absence of evidence.

They also dismantle ‘baklad na lubog’ (lambaklad), a type of bottom-set fish corral that ensnares marine turtles and that has been declared illegal in Agdangan. Most of these illegal fishers, including those using banned Danish seines (buli-buli) and explosives, are non-residents. They often conduct incursions into Agdangan’s municipal waters during the lean season of the southwest monsoon, when the BD cannot patrol because of dangerous sea conditions. They also respond to reports of illegal activities in the protected area of the Camp Multuhan mangrove boardwalk project. Apart from participating in regular coastal clean-up activities, the BD are often called upon by the local disaster risk reduction office for relief, and for search and rescue operations in the waters. They were even assigned to man checkpoints during the COVID-19 pandemic.

In terms of capacity, BD members are ‘veterans’ in that they have undergone intensive training to back up their extensive practical experience. Logistically, supplies and equipment are currently (during the period of study) sufficient with the World Bank-funded Philippine Rural Development Program (PRDP) providing them with two 20-horsepower patrol boats and fuel allowance. The team also has licensed divers; diving equipment from the LGU enables them to perform resource monitoring in coordination with national agencies such as BFAR and DENR.

The BD’s reputation—as steadfast enforcers of fisheries laws—is its main strength. It has gained the trust and confidence of not only the LGU, but also BFAR. It has installed a working system that ensures regular patrols and documentation of operations. There is agreement among the team members, MFARMC and LGU that the role of the Bantay Dagat is essentially monitoring, control and surveillance (MCS) in municipal waters.

However, the BD team leader cited the following weaknesses and areas for improvement: a lack of funds for the maintenance of patrol boats; the problems of procuring fuel when the subsidy from the PRDP runs out; the succession planning to replace members who are nearing retirement; the need for capacity-building in current technologies such as global positioning systems (GPS); the lack of a community reporting system for illegal fishing incidents; and the need to provide life insurance for BD members.

Table 4. Marine Protected Areas in Calatagan

Marine Protected Area	Location	Legislation	Area (in Hectares)	Manager
Calatagan Pyramid Artificial Reef Marine Protected Area	Brgy. Bagong Silang, Calatagan, Batangas	Municipal Ordinance 108, series of 2009. SGP Executive Order No. 13-2014	60	Protected Artificial Reef Organization for Local Marine Water Conservation Advocacy (PAROLA)
Bagong Silang Mangrove Protected Area	Brgy. Bagong Silang, Calatagan, Batangas	Municipal Ordinance 108, series of 2009. Executive Order No. 10-2017	2	Samahan ng Mangingisdang Magprotektka sa Bakawanan ng Brgy. Bagong Silang (SAMMABABA)
Sta. Ana Marine Protected Area	Brgy. Sta. Ana, Calatagan, Batangas	Municipal Ordinance 108, series of 2009. SGP Executive Order No. 13-2014	11	Samahan ng Mangingisdang Magprotektka sa Bakawanan ng Brgy. Bagong Silang (SAMMABABA)
Sta. Ana Mangrove Protected Area	Brgy. Sta. Ana, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; Executive Order No. 10-2017	2	Samahan ang Adhikain ay Pangalagaan sa Sta Ana ang Pangisdaan (SAPSAP)
Palobandera Mangrove Protected Area	Brgy. Sta. Ana, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; Executive Order No. 11-2017	2	Samahan ng Mangingisda at Magsasaka sa Sitio Palobandera (SMP)
Tanagan Marine Protected Area	Brgy. Tanagan, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; Executive Order No. 13-2014	9	Bataha for Nature Conservation Association (BNCA)
Calatagan Mangrove Forest Conservation Park Ang Pulo	Brgy. Quilitisan, Calatagan, Batangas	Municipal Ordinance 108, series of 2009	7.5	Pro-Mangrove Alliance and Implementing Team and Arm as Kilitisan's Advocates of Nature (PALITAKAN)
Carretonan-Quilitisan Marine Protected Area	Brgy. Carretonan & Quilitisan, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; SGP Executive Order No. 13-2014	71	Kapisanan ng Mangingisda at Magsasaka ng Carretunan (KMMC)
Quilitisan Seagrass Protected Area	Brgy. Quilitisan, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; Executive Order No. 10-2017	1	Pro-Mangrove Alliance and Implementing Team and Arm as Kilitisan's Advocates of Nature (PALITAKAN)
Calatagan Mangrove Rehabilitation and Nursery Project	Barangay Balibago, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; SGP Executive Order No. 13-2014	20	Calatagan Mangrove Development Alliance (CALMADA)
Palobandera Marine Protected Area	Brgy. Sta. Ana, Calatagan, Batangas	Municipal Ordinance 108, series of 2009; Executive Order No. 19-2019	20	Boatmen Association for Natural Aquatic Conservation (BANAC)

MPAs, reserves and sanctuaries

Calatagan site

MPAs in Calatagan are established to manage the following resources: coral, seaweed and mangrove. The Calatagan Protected Areas Network Management Plan for 2016-2026 lists eleven protected areas. The establishment of an MPA requires the following steps: (i) site

assessment; (ii) community orientation and consultation; (iii) public hearing; (iv) MPA management planning workshop; (v) validation and approval of MPA management plan; (vi) Sangguniang Barangay Resolution requesting for the declaration of the MPA; and (vii) the issuance of an executive order. Calatagan has eleven MPAs (see Table 4).

The security of fisherfolks' tenure rests in the legal framework provided by the Fisheries Code of Calatagan and the executive order assigning the management of a specific MPA to a fisherfolk organization through a stewardship agreement (SA). The agreement is a collective, rather than an individual, grant from the LGU. This illustrates the advantage of community property rights as a tenure instrument over a state-owned resource. Given the expansive nature of the resource, the State can meet both its mandates: to manage the fishery resources judiciously and give preferential treatment to the subsistence needs of municipal fishers.

As a tenure instrument, the MPA imposes specific responsibilities on its managers. Officers and members are involved in the planning and management of the resources covered by the SA. They have to ensure that the fishery resources are utilised sustainably and that they are partners in the enforcement of fishery laws. The responsibility of the officers managing the MPAs entails the use of personal resources, meaning time and money. Income generation is the major benefit to MPA managers. Respondents cited the increase in their income in terms of being able to support education of children in college, gaining additional livelihood from eco-tourism activities, and experiencing an increase in fish catch that translated into more income. Non-cash benefits include the protection of the managed resources such as coral and mangrove and natural protection from storm surges, as well as the aesthetic development of the area.

The LGU provides the technical and logistical support to strengthen the capacity of the organization. For instance, the LGU facilitates its registration with government agencies to vest it with legal personality (allowing for its recognition under law, affording the rights and duties therein). Usually, the organization is registered with the Department of Labour and Employment (DOLE) as an association of fisherfolk for ease of compliance with documentary requirements compared with other government agencies like the Securities and Exchange Commission (SEC). The LGU also provides other kinds of capacity building, usually in partnership with NGOs or national agencies such as BFAR.

The zoning plan within the protected area operates as a regulation for the managers in terms of physical access to the resource, which is limited to the sustainable use zone, but also for outsiders like tourists. Resource regeneration or rehabilitation is achieved, while the managers can generate income in the form of the environmental fees collected by the managing organization. Conflicts over access to resources or violation of the regulations are usually referred to the barangay or to the BD. This may be because the barangay is the most accessible State institution for conflict resolution.

Agdangan site

There are three no-take areas in Agdangan, two of which are coral reefs and the remaining one a mangrove forest. Specific barangay-based fisherfolk organizations are assigned to each with the task of monitoring and surveillance. Most of the local fisherfolk are cognisant of the objective of these areas to enhance resource status and fish stocks, and ultimately increase fish catch and incomes. These MPAs are covered by a municipal ordinance, which involved consultations with the barangay-level organizations. The MPAs are

governed by a management board with the responsibility for enforcement assigned to the specified fisherfolk organizations and the BD. Also located in the two coralline MPAs are 72 giant clams (*Tridacna giga*) provided by the PRDP as a resource enhancement project; this is managed by the local government and the organized fisherfolk.

Fisherfolk organizations in four coastal barangays were also involved in contract reforestation for DENR's National Greening Program (NGP), planting 40 hectares of mangroves in selected sites along the coast. Women members of the fisherfolk organization in one barangay identified their roles in resource management and tenure. It included: regular monitoring and surveillance of the MPAs and municipal waters—and reporting the presence of illegal fishers; active participation in both the organization and the MFARMC as officers and members, along with handling the tasks of documentation and finance management. This is apart from their productive roles such as mending the nets and their household roles. The women cited reduction of illegal fishing; incremental increase in fish catch; and improved buying price for fish as benefits from resource management.

Fishing privileges: special permits, licenses, grants

Calatagan site

1. Artificial reefs and other fish aggregating devices

The installation of artificial reefs and other fish aggregating devices must conform to prescribed procedures. Those granted permits to artificial reefs and fish aggregating devices can only use passive fishing gears. Payaos are only to be constructed within 10.1 km of the municipal waters. Between each payao, there should be a distance of at least one km. Only permit holders are allowed to harvest fish from payao using gear specified in the permit, although an exception is granted to subsistence fishers. Fish pens, cages, traps and other structures for fish culture are also to be constructed and operated within established zones as identified by local ordinances. Only 10 per cent of the water surface of all lakes and rivers can be allotted for aquaculture. The unauthorised installation of payao is punishable with the confiscation of the payao installed and payment of the cost of its removal upon the refusal of the owner to remove the same. In addition to this, the offender is imprisoned for six months and fined Philippine Peso (PHP) 2,500.00 (1 PHP = 0.018 US\$). The destruction or removal of payao from its designated location attracts similar penalties.

The Fisheries Code of Calatagan provides that no person shall exploit, occupy, produce, breed, culture, capture, or gather any fish fry or fingerlings of any species and aquatic resources, or engage in any fishery activities in municipal waters without a prior license, lease or permit. The LGU has the exclusive authority to grant fishery privileges, with duly registered and accredited cooperatives of marginal fisherfolk having the preferential right. Fishery grants can also go to Philippine citizens authorised to engage in fisheries, with at least 60 per cent capital stock belonging to Filipinos. Licenses and permits issued by the LGU come with several restrictions to preserve the resources. Holders of licenses and permits are prohibited from undertaking construction that might obstruct free navigation in any stream, river, lakes, or bays flowing through or adjoining fish pens, cages, traps and ponds. Impeding the flow of the tide to and from their area, and obstructing migration paths of anadromous species, are violations of the license and permit.

2. Seaweed farming permits

Seaweed grows abundantly in the municipal waters of Calatagan. Given its econom-

ic value, seaweed farming is another source of income. The seaweed area can cover a total of 266.01 hectares of the total municipal waters. During the period of study, there were about 42 licensed seaweed farmers. The license to farm in a specific area, in accordance with zoning, must be renewed annually. One concern is the use of plastic straws that usually end up as solid waste in the sea. At one point, organic materials were attempted as an alternative, but they deteriorated rapidly, adding to the cost of operations. The seaweed farmers appear to have a dramatic increase in their income, though other activities like aquaculture impact it directly, as do the intricacies of production and trading and the inadequacy of post-harvest facilities.

Agdangan site

1. Fishpond Lease Agreement (FLA) in Agdangan

During the case study period, the Bisig ng Mangingisda ng Sildora (BMS) fisherfolk organization was finalising a 17-hectare FLA to utilise aquaculture operations in crab, shrimp and milkfish. The agreement would allow BMS to make long-term plans for the fishponds and earn higher income for their members. Even as the group was doing its due diligence in obtaining the FLA to formalise their tenure over the fishpond and mangrove area, three of their members were already conducting self-financed aquaculture operations. They cited the need for additional capital for the long-term maintenance of operations, and technical assistance—knowledge and skills—on state-of-the-art aquaculture technologies.

There were potential collaborations with the private sector in developing their aquaculture operations, including capital infusions. But the organization was hesitant about entering into such partnerships in fear of losses and mounting debt. However, BMS, like the other fisherfolk organizations in Agdangan, has a successful and growing savings and credit scheme that has brought tangible benefits to its members, demonstrating commensurate management capacity. The organization was also dealing with concerns of right of way (road and power lines) pertaining to their claimed FLA area by neighbouring aquaculture farms.

2. Community Fish Landing Centre (CFLC) in Agdangan

The CFLC is in Barangay Kanlurang Calutan and is being managed jointly by the LGU and the Samahan ng Mangingisda ng Kanlurang Calutan (SMKC) fisherfolk organization. It is maximised during the peak season of the northeast monsoon. However, there are plans for the CFLC to be managed by the municipal-wide cooperative, which was being strengthened through the effort of the barangay-based fisherfolk organizations, Tambuyog and the LGU. Vendors who have stalls in the CFLC pay a fee to the fisherfolk organization in the barangay. Unlike other CFLCs, the LGU and the MFARMC agree that the current site is appropriate for its operations, even as it is affected seasonally by the southwest monsoon. The MFARMC also recommends the passage of an ordinance that would require local fish traders to conduct their business in the CFLC.

C. Formal and informal institutions of tenure

1. Local laws and policies

Calatagan site

There are four key local policies that support fisheries tenure:

a. Fisheries Code of Calatagan

A review of the Calatagan Fisheries Code indicated the following mechanisms that support or strengthen the tenure of the municipal fishers within the fishing ground of the municipality:

- i. Exclusion of non-resident fisherfolk from the municipal waters, including aquaculture and processing, thereby creating an incentive for resident fisherfolk to manage and conserve the resources
- ii. Promoting normative behaviour of complying with regulations through the registration of fishers, craft and gear
- iii. Grant of stewardship agreement to organizations managing the MPAs, usually the local communities
- iv. Site-specific norms for the protection of tenure instruments such as the MPAs, fish aggregating devices (FAD), and permits to engage in seaweed farming
- v. Provision of social services through appropriate technology and research, credit, production and marketing assistance, sea-to-market roads and other basic social services such as, but not limited to, housing, healthcare, education, water and electricity. However, this is subject to the availability of financial resources from the LGU

The Fisheries Code was updated in 2022, with features supporting the tenure of municipal fishers. Among the updated code's goals is to ensure the effective implementation of the preferential rights of municipal fishers in the municipal waters. Towards this objective, the Calatagan Fisheries Code reserves the use and exploitation of its coastal and fishery resources within municipal waters for the residents of the municipality. Fishery rights are also subject to the regulations of the municipal government, which exercises general police powers over fishing activities within Calatagan. An example is the authority to declare a closed season as it may deem appropriate, for the purpose of management and conservation.

The Calatagan Fisheries Code defines other regulated and prohibited activities. Fines and citation tickets handed to offenders are payable to the treasurer's office. These form part of the support to the BD and the Municipal Trust Fund to be solely used for activities relating to fishery law enforcement. The list of prohibited activities includes:

- The possession of a compressor on board a bangka or fishing vessel
- The use of compressor as paraphernalia or breathing apparatus in fishing
- The violation of the permit or regulation in fish caging
- The possession or use of 'tubli' (poison vine plant used as a biopesticide) or similar organic materials

- Fishing within the no-fishing zone in MPAs
- Unauthorised installation of payao
- The construction of 'baklad' (fish corral) in prohibited zones or its construction without permit
- The construction of fishpen in prohibited zones
- Seaweed farming out of the designated zone
- The destruction or removal of payao from its designated location
- Removing buoy markers of protected area or boundaries of municipal waters
- Fishing in municipal waters by an unregistered fisher
- Fishing with the use of unregistered bangka
- Fishing with the use of unregistered gear
- Catching juvenile fishes and other species
- Dumping of trash fishes at sea or on land
- Unauthorised fishing or harvesting in payao
- The use of 'sudsod' (scissor or push net) for shellfish gathering
- The violation of the catch ceiling imposed by Sangguniang Bayan
- The violation of closed season imposed by the Sangguniang Bayan

b. Environment Code of Calatagan

This 2009 ordinance codified all the rules and regulations. It provides, among others, the exclusive fishery privileges to registered municipal and commercial fisherfolk. Part of the zonation plan is the institution of MPAs. This ordinance in effect strengthens the local policy of the LGU in promoting and protecting the tenure rights.

c. Integrated Coastal Management Plan (2020-2024)

The plan was intended to complement the Comprehensive Land Use Plan (CLUP) of the municipality. Covering the years 2020 to 2024, the plan incorporated the following elements and programmes: fisheries management, habitat management, shoreline/foreshore management, coastal tourism development, waste management, enterprise and livelihood, watershed management, coastal zoning, gender and development, health and sanitation management, and legal and institutional arrangement.

d. Calatagan 10-Year Fishery Development Plan (2020-2030)

This is a blueprint for all development projects and interventions in relation to coastal and marine resources. It is also a guide for the complementation of strategies among the different fisheries sector stakeholders. As well, it provides directions for all coastal resource management (CRM) interventions, and serves as the basis for monitoring and evaluation development interventions within the 10-year period.

The matrix of the development plan is divided into three major parts: (i) fisheries and aquatic resources management, protection and conservation; ii) socio-economic and livelihood enhancement; and (iii) governance and institutional strengthening. One of the objectives of the plan is to strengthen access and control of municipal fishers to fishery and aquatic resources through effective zonation and the permitting power of the LGU. This objective is consistent with the institutionalisation of the issuance of

stewardship agreements to MPA managers. The development plan also proposes the increase in the subsidy to members of BD and MFARMC.

Agdangan site

Three documents by the local government of Agdangan have been selected for review. The first is Municipal Resolution 2002 – 064, pertaining to fisheries regulations. It outlines the regulations regarding: zonation of municipal waters, processes for exclusive permits pertaining to shellfish culture, fish corrals, and gathering of milkfish and other fry. The resolution also provides for a system of permits and fees for fishing gears as well as registration of fishing craft up to 3 GT as these pertain to municipal fishers.

Further, the resolution provides for: reciprocity in terms of access of municipal fishers to municipal waters of neighbouring municipalities; requirements for reporting of fish catch for municipal fishers; recognition of the role of and support for the MFARMC; provision for the establishment of a municipal fishers registry; installation of a colour-coding scheme for municipal fishing craft; a section on prohibitions and penalties on, say, illegal fishing activities punishable by law; and support for the BD. As such, the municipal resolution that served as the basis for the passage of a municipal fisheries ordinance signed by the local chief executive provided a firm legal basis for the translation of relevant provisions of Republic Act 8550 (the Fisheries Code of 1998) into local law.

The second is Municipal Ordinance 2017 – 1, titled ‘Ordinance Establishing Agdangan Marine Protected Area (MPA), Adopting Marine Protected Area Management Plan, Providing for the Management, Development and Conservation and Providing Funds Hereof and For Other Purposes’. It established the Agdangan MPA with a total area of 254 hectares in three distinct locations, namely: Silag, Bahura Santol and Lawis. It also established the Marine Protected Area Management Board and an MPA Management Plan. The ordinance also enumerated the prohibited activities in the core and buffer zones of the MPAs; provided for a schedule of fees for allowable research and tourist activities; and established an MPA Trust Fund.

The third instrument was titled ‘Municipal Resolution 2019 – 046’, and it pertained to the declaration of the closed fishing season for Tamban (*sardinella spp.*) based on studies by the BFAR that stated the spawning period of the species is from December to February. The success of the closed season on sardines in the Zamboanga peninsula has allowed stocks to recover, resulting in a corresponding increase in catch. Therefore, the closed season for Tamban in the municipal waters of Agdangan was set from November 16 to March 1.

2. Local Government Initiatives

Calatagan site

Various support mechanisms for fisherfolk are available under the Fisheries Code of Calatagan, which outlines a major role for the LGU in aiding beneficiaries of tenure instruments. For instance, the LGU supports municipal fishers through appropriate technology and research, credit, production and marketing assistance, sea-to-market roads, and other basic social services. Support is also provided by the LGU in the promotion of conservation and management measures. Insofar as stewardship agreements in MPAs are concerned, the LGU provides available technical support through the MAO. The BD also enjoys financial, logistic, technical, and legal support from the office of the municipal mayor.

Another form of support is the availability of a municipal fisheries grant or a development fund. This is a form of trust fund to finance fishery projects, primarily for the upliftment of the municipal fishers. The fund may be used for development, management, and conservation of the municipal resources. NGOs, the academia, private individuals and experts also provide technical inputs. The development of the Fisheries Code, the Environmental Code, and the 10-Year Municipal Development Plan was achieved in collaboration with stakeholders from the sectors mentioned.

Agdangan site

The municipal agriculturist overseeing the implementation of fisheries management programmes said that current resources (as of the case study period) were insufficient in terms of staffing and financing, despite the recent Supreme Court decision to increase the national income share of local governments. The devolution of additional government functions has broadened their mandate to an extent that is not commensurate with the projected with the projected increase in revenue. The agriculturist said that national laws should stipulate a budget mandate for fisheries management and development like those for disaster management and gender. Agdangan is currently (during the period of study) in the process of updating its plans for CRM, integrated coastal management (ICM), comprehensive land use plan (CLUP) and comprehensive development plan (CDP). Women fishers shared that their families benefit from government programmes such as the 4Ps (conditional cash transfer) and the Supplementary and School-Based Feeding Programs (SFP/SBFP) to address malnutrition. But they lamented that farmers are seemingly the budget priority of LGUs and the national government, ahead of fishers.



Community fish landing centre in Brgy. Kanlurang Calutan, Agdangan, Quezon, the Philippines

D. Opportunities and Challenges to strengthen tenure rights

Presented below are matrices of opportunities and challenges in strengthening tenure rights observed in research sites:

Table 5. Opportunities and challenges to tenure at Calatagan site

Tenure Instrument	Opportunities	Challenges
1) Registration (fisherfolk, fishing gear)	<ul style="list-style-type: none"> • Reporting and monitoring mechanisms exist: semi-annual report of fish catch required for license holders • Done on site (ease of access) • A system of reporting and monitoring on all aspects of fisherfolk activities and operations is mandated by Local Fish Code; aim is to produce data on the number of fishermen, fishing craft, catch effort, fishing violations, and other related information 	<ul style="list-style-type: none"> • Additional funds needed to achieve target increase in coverage
2) Municipal waters zoning	<ul style="list-style-type: none"> • Monitoring, control and surveillance regime mandated by the LGU 	
3) Community Enforcement:		
<ul style="list-style-type: none"> • Bantay Dagat 	<ul style="list-style-type: none"> • Close coordination with MFARMC • Strong culture of volunteerism among fishers • Has 47 deputised members • Widely recognised by communities in local fisheries law enforcement • Has support from MAO (minimal honorarium and operations expenses) • In process of recruitment for leadership succession 	<ul style="list-style-type: none"> • Limited funding from LGU for law enforcement and information activities
<ul style="list-style-type: none"> • MFARMC 	<ul style="list-style-type: none"> • Actively engaged in policymaking • With technical and financial support from MAO in policymaking and development planning • Close Coordination with BD • Strong support of NGO partners in technical capacities 	<ul style="list-style-type: none"> • Lack of second generation of leaders
4) MPA	<ul style="list-style-type: none"> • Mangrove forests already existing at the time of the enactment of Fisheries Code are declared as reserved and protected areas, effectively prohibiting the cutting or conversion of mangrove trees and areas • 11 PAs covered by Calatagan Protected Areas Network Management Plan (2016-2026); each with respective organizations as managers • Benefits from MPAs (livelihood) widely recognised by communities 	
5) Special permits, licenses, grants (like seaweed farmers, payao, fish cages and fish pens)	<ul style="list-style-type: none"> • Local fisheries code provides policy and operational framework for specific activities covered by permits, licenses and grants • Economic benefits from seaweed farms well-recognised by communities 	

Table 6. Opportunities and challenges to tenure at Agdangan site

Tenure Instrument	Opportunities	Challenges
1) Registration (fisherfolk, fishing gear)	<ul style="list-style-type: none"> MARINA and BFAR actively engaged in registration 	<ul style="list-style-type: none"> Inefficiency in recording due to technical glitches
2) Municipal waters zoning	<ul style="list-style-type: none"> Local leaders are open to the idea of operating small-scale to medium-scale commercial gears and craft, if, and only if, these are owned and operated by the local fisherfolk cooperative 	
3) Community Enforcement: <ul style="list-style-type: none"> Bantay Dagat 	<ul style="list-style-type: none"> Has eight members divided into two teams (who are considered to be 'veterans') Also leads other activities like coastal clean-up and rescue operations Has good reputation and trusted by LGU and BFAR 	<ul style="list-style-type: none"> Apprehensions do not usually translate into actual cases due to "lack of evidence" Can only conduct enforcement operations during good weather Lack of funds for continuous operations Needs capacity training like in the use of GPS Needs community reporting system Needs life/accident insurance due to hazardous nature of tasks
<ul style="list-style-type: none"> MFARMC 	<ul style="list-style-type: none"> Chairperson has long history of being a local fisherfolk leader and recognised by local governments MFARMC has support from LGU 	<ul style="list-style-type: none"> Lack of funds for continuous operations Maintenance of organizational cohesiveness of both the barangay-based organizations and municipal-wide cooperative towards pursuing resource management, advocacy and enterprise development (for both BD & MFARMC)
4) MPA	<ul style="list-style-type: none"> 3 MPAs covered by municipal ordinance High levels of awareness among the communities about the importance of MPAs With support from DENR in mangroves reforestation (through National Greening Program) 	
5) Special permits, licenses, grants (like seaweed farmers, payao, fish cages and fish pens)	<ul style="list-style-type: none"> FLA for mangroves-based enterprise (aquaculture and aquasilviculture) is being finalised Revitalisation of cooperative underway Linkages between cooperatives and CFLC can be strengthened for peak seasons Potential to revive and/or continue enterprises such as seaweed farming, community-based sustainable tourism (homestays and floating cottages) 	

Opportunities from support mechanisms

Calatagan site

When the LGU deems it necessary, a catch ceiling may be implemented, after due consideration, to prevent over-fishing and depletion of stocks. The Sangguniang Bayan may also declare a closed season for fishing and fishery-related activities when appropriate, after considering technical studies.

Agdangan site

There are already successful ongoing savings and credit schemes that can serve to inform and inspire members about how collective action can bring tangible results to the benefit of participants.

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VII. Conclusion

The various instruments that support and promote tenure in fisheries are formally codified in the municipal Fisheries Code.

- 1. Importance of fisherfolk registration.** Fisherfolk registration is the operative mechanism for individual tenure of fisherfolk within municipal waters. The preferential treatment to municipal fishers is the formal recognition of their tenure. However, the Fisheries Code specifically requires individual registration of fisherfolk to be able to utilise all fishery-related activities within municipal waters. This is reiterated in the local ordinances of the municipalities of Calatagan and Agdangan. The inclusion of fisherfolk in the registry of municipal fishers is also the basis for effectively addressing the invisibility of the sector in development programming by the State.
- 2. Tenure and conservation.** Tenure instruments granted by the LGU to fisherfolk cooperatives in capture fisheries promote conservation of aquatic resources. This is clearly demonstrated by the outcome of the management of MPAs by fisherfolk associations. Through an ordinance, a fisherfolk organization that manages a specific ecosystem is bound by the rules on access and use rights. They are given specific responsibilities related to conservation. In turn, the fishers secure their tenure in a specific area within the municipal waters and are given powers to take decisions in the allocation of benefits.
- 3. Tenure and economic benefits.** Scaling the economic benefits derived from the tenure instruments for the use of fishery resources requires support from the State and even non-state actors like local businesses or enterprises. The use and access rights granted by the various tenure instruments to municipal fishers depend on how the rules for access are enforced and whether their rights are protected from competing users. Likewise, the conversion of such entitlements to concrete monetary and even non-monetary benefits for the fisherfolk requires support from the LGU. Tenure instruments over fishery resources alone—without production or post-harvest facilities to add value to the catch or improved facilities in case of eco-tourism activities in zones allowed within a protected area—are not enough.
- 4. Organizational capacity.** Organized community is a key element to capture the benefits from tenure in fisheries. Both Calatagan and Agdangan share the historical involvement of civil society bodies in both organizing coastal communities and engaging the LGUs. Members of the organizations managing the MPAs, for instance, were previously members or leaders of peoples' organizations that were supported by NGOs in terms of capacity-building and organizational management, or even academic institutions providing extension work in coastal communities.
- 5. Local policy influencing.** As a consultative body, MFARMC has influenced the resource and rights allocation. It matters too that the councils are adequately supported by the LGUs. But like the BD, sustainability of the organization and succession plans to recruit and train younger leaders remain a challenge.

6. **Role of Bantay Dagat.** The BD has assumed an institutional role in the enforcement of tenure laws and regulations. In this, the BD teams have drawn technical, legal and financial support from their respective MAOs under the LGU and even from NGOs. BD membership, usually voluntary, draws from the coastal communities or barangays. Their rootedness in the dynamics of the community appear to be an advantage or an incentive for involved participation in ensuring compliance by the members of the community.
7. **Secured tenure and local autonomy.** The LGUs have provided policy space for the adoption of local ordinances that promote fisherfolk's tenure. The LGUs' jurisdiction over municipal waters matched with the State policy on preferential treatment of municipal fishers has provided the legal infrastructure for secured tenure instruments. Under the framework of delegated police power, LGUs can adopt ordinances granting tenure over specific fishery and marine resources. Part and parcel of such power is the authority to raise revenue—this is the basis for the collection of environment user fees, or the imposition of fines and penalties for violations.

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VIII. Recommendations

For fishers, tenure instruments represent the State's guarantee to access fisheries. However, to be able to derive full benefits from having access to resources, fishers need another set of skills and capacities. Tenure provides the crucial first step for the benefit of small-scale fishers, but a whole area of programme support should be provided to capacitate fishers in the management of coastal resources as well as institutions and organizations. Collaborative partnerships among government agencies, NGOs and other coastal stakeholders need to look at developing programmes that strengthen existing tenure instruments. Foremost among these is institutionalising programme support to local policy formulation and enforcement bodies such as BD and MFARMC in the form of technical and financial enhancement.

Scaling up the discourse on fisheries tenure requires further investigations on economic viability. The individual as well as community rights, responsibilities and remedies available to fishers in terms of access and tenure need to be clarified. The process of engaging individuals and groups for enforcing tenure instruments needs to occur alongside the production of tangible benefits to ensure sustainability. Thus, the policy discourse on fisheries tenure should also look at the economic side of tenure instruments, particularly the benefits to fishers as well as the cost of its enforcement. Moreover, it must account for the role of the youth to ensure that the hard-earned recognition of small-scale fishers' tenure over fisheries resources are sustained in the future.

Specific policy recommendations for Calatagan:

1. As indicated in the 10-year fishery development plan, the registration of fishers and their renewal should be prioritised in terms of improving the reach and ease of processing the registration of fishers, their gear and fishing vessels
2. Tap other sectors such as resort owners and small businesses deriving benefit from the management and protection of MPAs to provide support to volunteer BD and MFARMC members. This should be through appropriate regulation by the LGU
3. Considering that the fisheries law itself is the basis of various tenure instruments, its effective implementation is linked to the sustainability of tenure. Compliance with the law is also a function of its effective communication to the public

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IX. References

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X. Annexure

Annex 1. Survey Results

Results of survey on fisherfolk tenure in Calatagan, Batangas and Agdangan, Quezon (total number of respondents: 59)

1. Fisheries activities:

An overwhelming majority of respondents are engaged in fisheries capture (53 out of 59 respondents) while 2 are engaged in aquaculture with 8 others in other fishery-related activities.

Table 7. Fisheries activities at case study sites

Which of the following fisheries activities are you engaged in?	Capture	53
	Culture	2
	Others	8

Figure 5. Fisheries activities

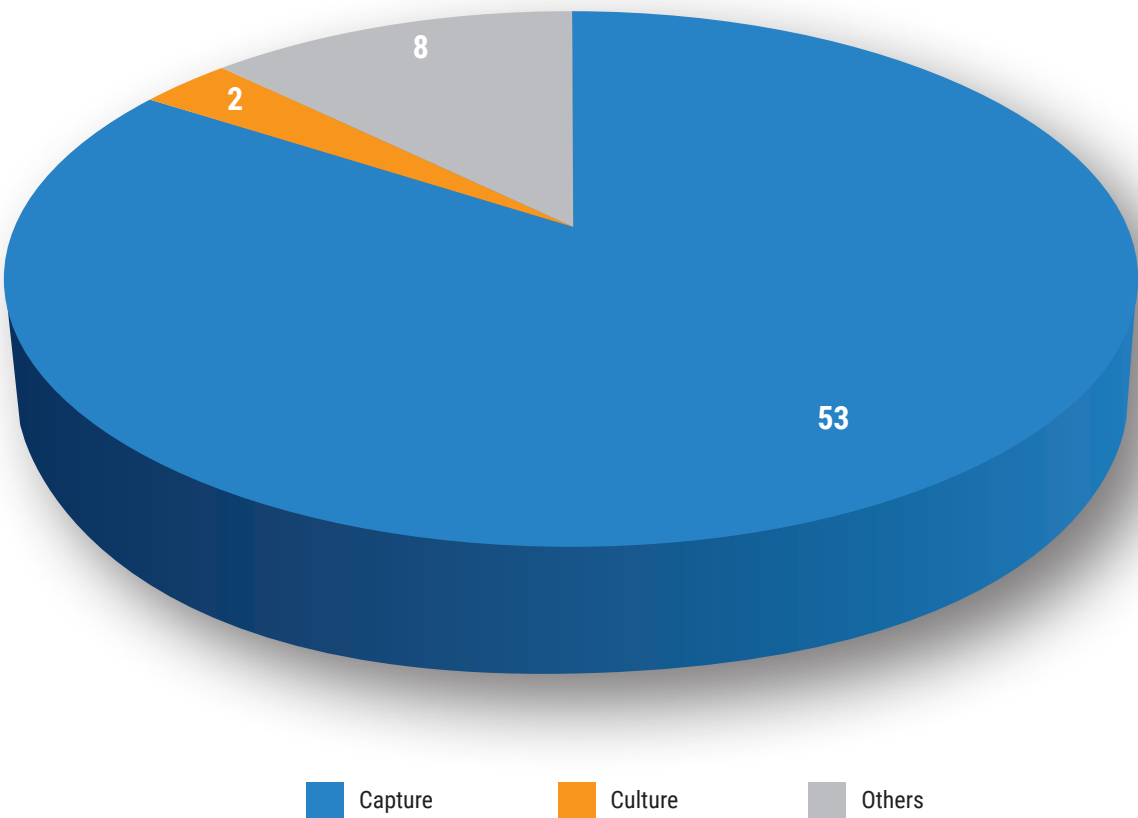
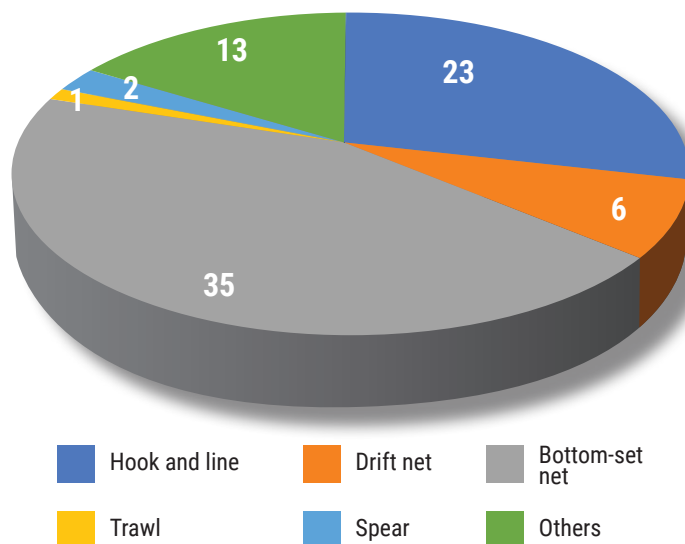


Table 8. Fishing gear used

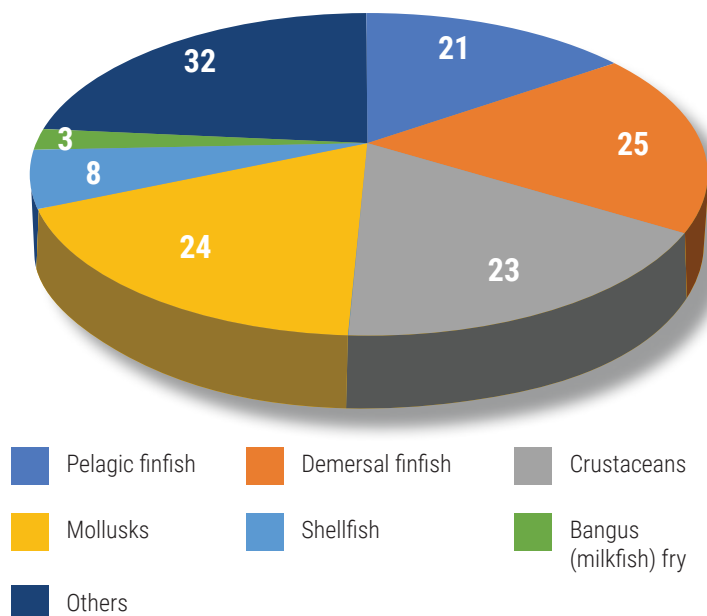
What fishing gear do you use?	Hook and line	23
	Drift net	6
	Bottom-set net	35
	Trawl	1
	Spear	2
	Others	13

2. Fishing gear used:

More than half of the respondents (35) use bottom-set net (lambat palubog) and around one-third (23) use hook and line (kawil). Six fishers use drift net (lambat palutang), while there were two spear (pana) fishers and 1 trawl (galadgad) fisher. Eighteen respondents use other gears, with the gear mix mostly targeting demersal (bottom and/or reef dwelling) species.

Figure 6. Fishing gear used**Table 9.** Fish species/gathered

What fish species do you catch/gather?	Pelagic finfish	21
	Demersal finfish	25
	Crustaceans	23
	Mollusks	24
	Shellfish	8
	Bangus (milkfish) fry	3
	Others	32

Figure 7. Fish species caught/gathered

3. Fish species caught/gathered:

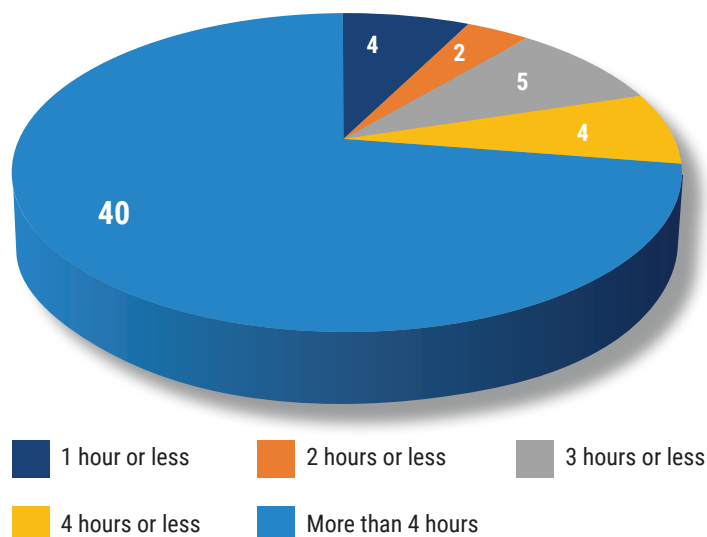
Most of the species caught/targeted by local fisherfolk are demersal finfish (25) such as grouper (lapu-lapu) and rabbitfish (danggit); mollusks (24) such as squid and octopus; and crustaceans (23) such as blue crabs and shrimps. However, pelagic finfish such as round scad and sardines are not far behind at 21. Others gather shellfish (8) and bangus (milkfish) fry. It must be noted that 32 fishers reported catching/gathering other fish species perhaps attesting to the diversity of local fisheries.

Table 10. Fishing time

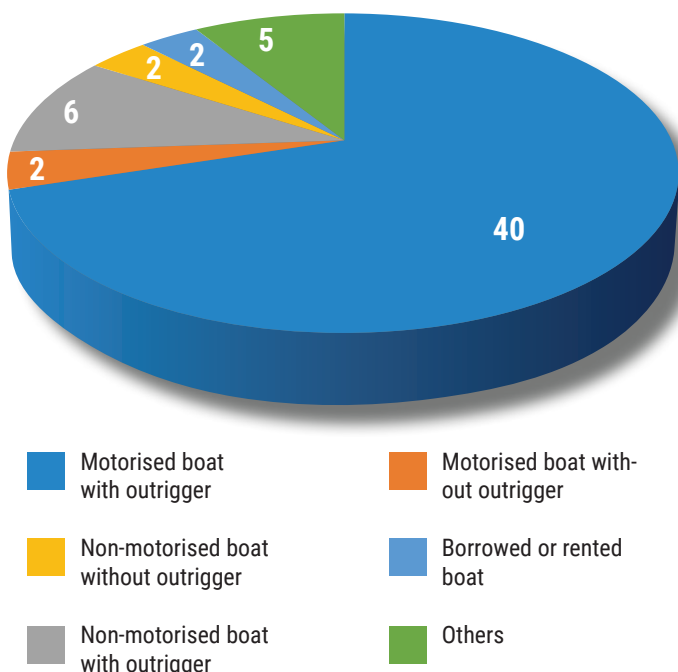
How much time do you fish including travel to and from the fishing ground?	1 hour or less	4
	2 hours or less	2
	3 hours or less	5
	4 hours or less	4
	More than 4 hours	40

4. Fishing duration:

A large majority of the fisherfolk responded that they spend more than 4 hours fishing including travel to and from the fishing ground (40) while others responded that they spent less time – 4 hours or less (4); 3 hours or less (5); 2 hours or less (2) and 1 hour or less (4). Fishing time is correlated to target species or designated fishing spots as well as to the health of the fishery. Fishery scientists say that a trend of increasing fishing time is an indicator of overfishing.

Figure 8. Fishing duration**Table 11.** Fishing vessel type

What type of fishing vessel do you use in catching/gathering fish?	Motorised craft with outrigger	40
	Motorised craft without outrigger	2
	Non-motorised craft with outrigger	6
	Non-motorised craft without outrigger	2
	Borrowed or rented craft	2
	Others	5

Figure 9. Fishing vessel type

5. Fishing vessel type:

A large majority of the fisherfolk respondents (40) indicated that they used motorised craft with outriggers (katig), while the other vessel types: motorised craft without outriggers (2); non-motorised craft with outriggers (6); non-motorised craft without outrigger (2); borrowed or rented craft (2) and others (5). This matches well with responses on fishing time as most of the motorised craft with outriggers can go to more distant fishing spots.

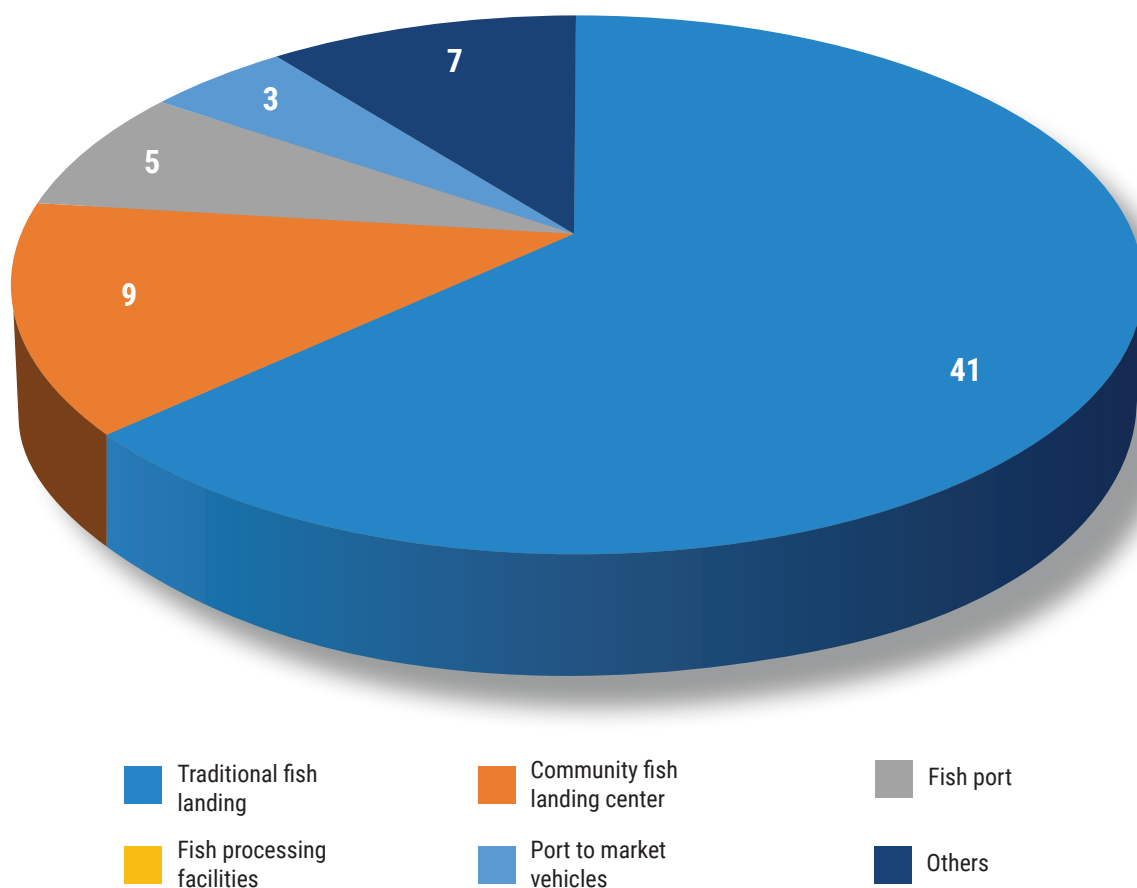
6. Post-harvest facilities:

In terms of landing their catch, most fisherfolk still use their traditional landing areas (41), while nine respondents said they use the Community Fish Landing Centre (CFLC) in Brgy. Kanlurang Calutan; five fishers use a fishport (not located in Agdangan; likely in Lucena City); while port to market vehicles had three takers with five fishers opting for other facilities.

Table 12. Post-harvest facilities

Which of the following facilities do you benefit from in catching/gathering fish?	Traditional fish landing	41
	Community fish landing centre	9
	Fish port	5
	Fish processing facilities	0
	Port to market vehicles	3
	Ice plants	0
	Other	7

Figure 10. Post-harvest facilities



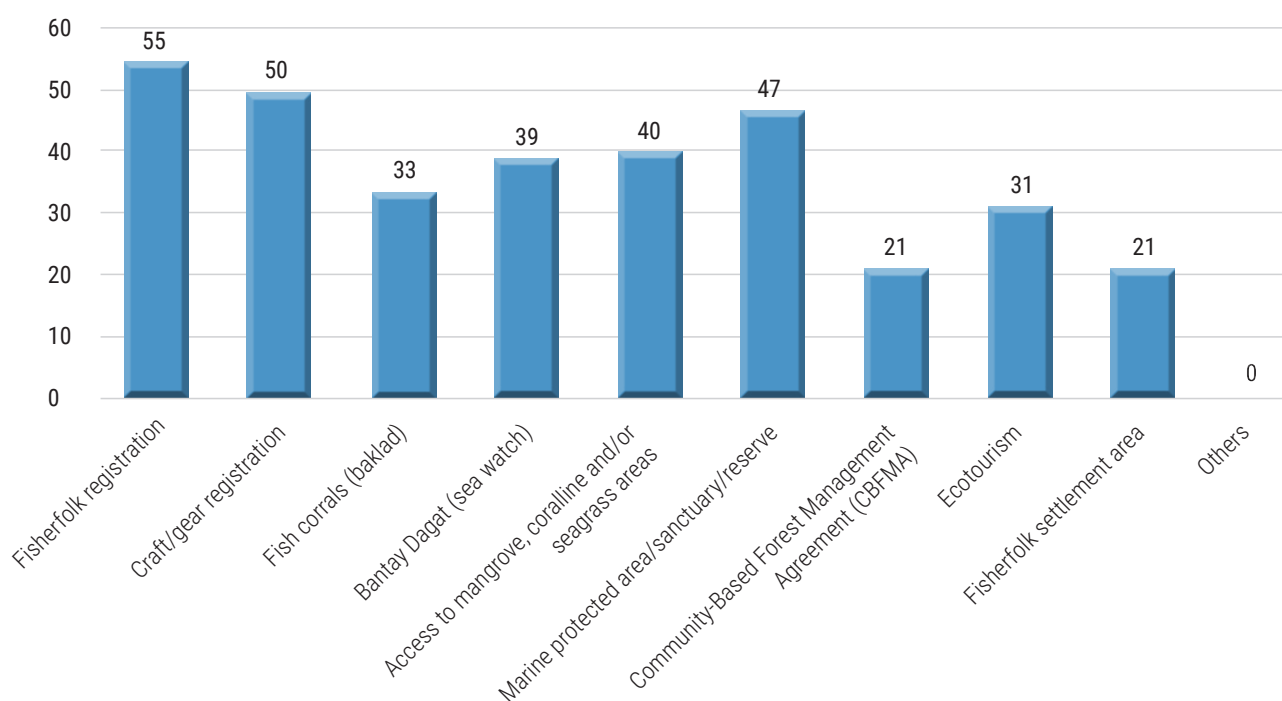
7. Tenure Instruments in Fishing Ground:

The most common tenure instruments that can be found in the fishing grounds of Calatagan and Agdangan are (in order): fisherfolk registration (55); craft/gear registration (50); marine protected areas/sanctuaries/reserves (47); access to mangrove areas, coralline and seagrass areas (40); Bantay Dagat (39); fish corrals (33); ecotourism (31); CBFMAs (21); fisherfolk settlement areas (21).

Table 13. Tenure instruments/elements in fishing ground

What tenure instruments/elements can be found in your fishing grounds?	Fisherfolk registration	55
	Craft/gear registration	50
	Fish corrals (baklad)	33
	Bantay Dagat (sea watch)	39
	Access to mangrove, coralline and/or seagrass areas	40
	Marine protected area/sanctuary/reserve	47
	Community-Based Forest Management Agreement (CBFMA)	21
	Ecotourism	31
	Fisherfolk settlement area	21
	Others	0

Figure 11. Tenure Instruments in Fishing Ground



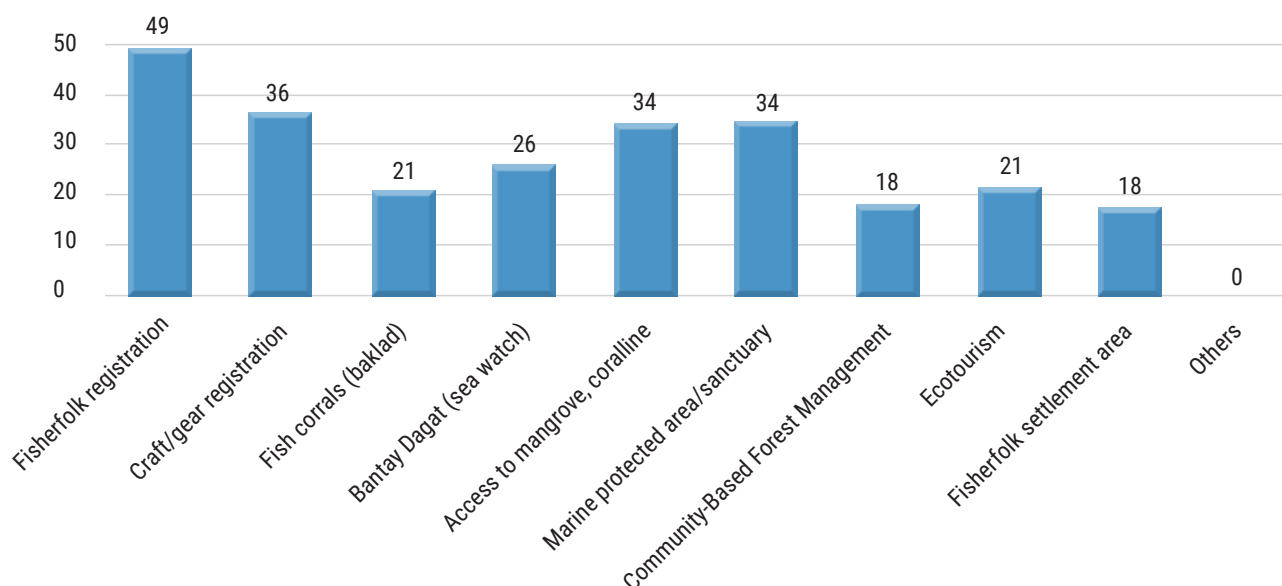
8. Tenure instruments:

Tenure instruments that are appropriate in the fishing grounds of Calatagan and Agdangan, are in order: fisherfolk registration (49); craft/gear registration (36); access to mangrove areas, coralline and seagrass areas (34); marine protected areas/sanctuaries/reserves (34); Bantay Dagat (26); ecotourism (21); fish corrals (21); CBFMAs (18); and fisherfolk settlement areas (18). It should be noted that compared to the tenure instruments found in these fishing grounds, the number of respondents that did not confirm these as appropriate to individuals and/or organizations are as follows: craft/gear registration (14); Bantay Dagat (13); marine protected areas/sanctuaries/reserves (13); fish corrals (12); ecotourism (10); fisherfolk registration (6); access to mangrove areas, coralline and seagrass areas (6); CBFMAs (3); and fisherfolk settlement areas (3).

Table 14. Tenure instruments/elements appropriate to individual and/or organization member

What tenure instruments/elements are appropriate for you as an individual and/or as a member of your organization?	Fisherfolk registration	49
	Craft/gear registration	36
	Fish corrals (baklad)	21
	Bantay Dagat (sea watch)	26
	Access to mangrove, coralline and/or seagrass areas	34
	Marine protected area/sanctuary/reserve	34
	Community-Based Forest Management Agreement (CBFMA)	18
	Ecotourism	21
	Fisherfolk settlement area	18
	Others	1

Figure 12. Tenure Instruments appropriate to Individual and/or Organization Member



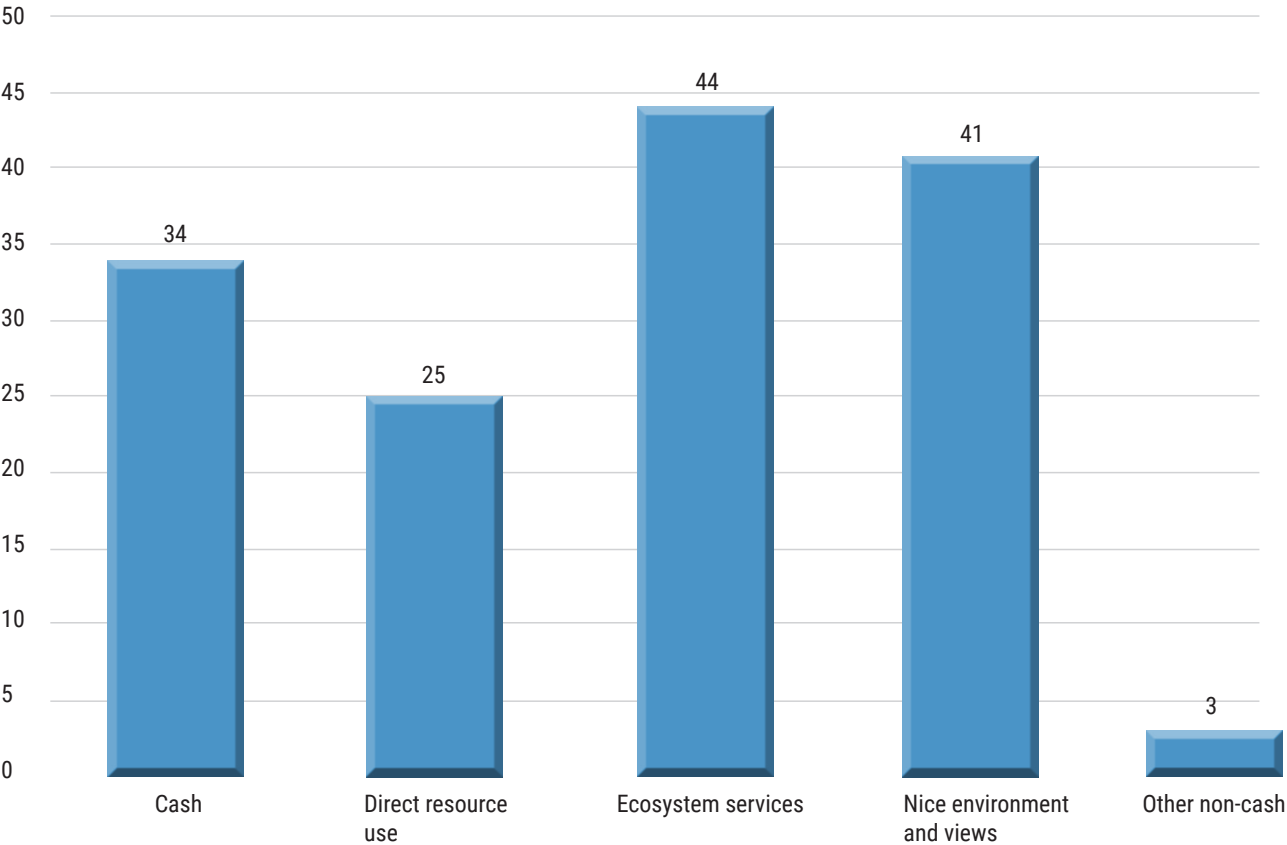
9. Benefits from tenure instruments:

In terms of benefits from tenure instruments/elements, fisherfolk highlighted the following, in order: ecosystem services (44); nice environment and views (41); cash (34); direct resource use (25); and others (3). Ecosystem services include provisioning, regulating, cultural and supporting services, and could possibly overlap with direct resource use. Nice environment and views can be linked to maintenance and/or enhancement of amenity. Cash only came in third.

Table 15. Benefits from tenure elements/instruments

What are your benefits, as an individual and/or organization member, from utilising these tenure elements/instruments?	Cash	34
	Direct resource use	25
	Ecosystem services	44
	Nice environment and views	41
	Other non-cash	3

Figure 13. Benefits from tenure instruments



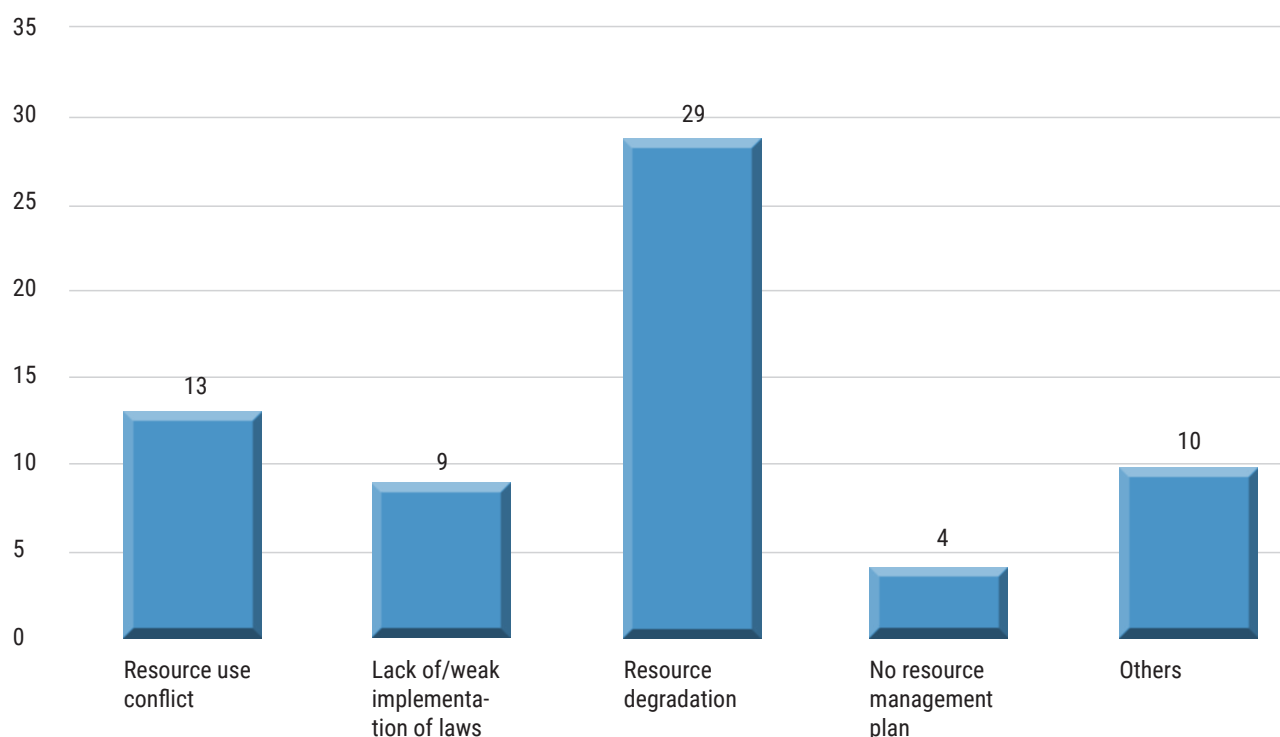
10. Problems in utilising tenure elements/instruments:

Regarding problems encountered in utilising these tenure elements/instruments, the top fisherfolk response was resource degradation (29) followed by resource use conflict (13), lack of/weak implementation of laws (9), no resource management plan (4) and others (10). Resource degradation indicates possible overfishing caused by over participation (too many artisanal fishers), intrusion of highly efficient commercial operations and/or illegal fishing in marine protected areas. There were, however, no reports of blast and poison fishing.

Table 16. Problems encountered in utilising these tenure elements/instruments

What are the problems encountered in utilising these tenure elements/instruments?	Resource use conflict	13
	Lack of/weak implementation of laws	9
	Resource degradation	29
	No resource management plan	4
	Others	10

Figure 14. Problems encountered in utilising tenure elements/instruments



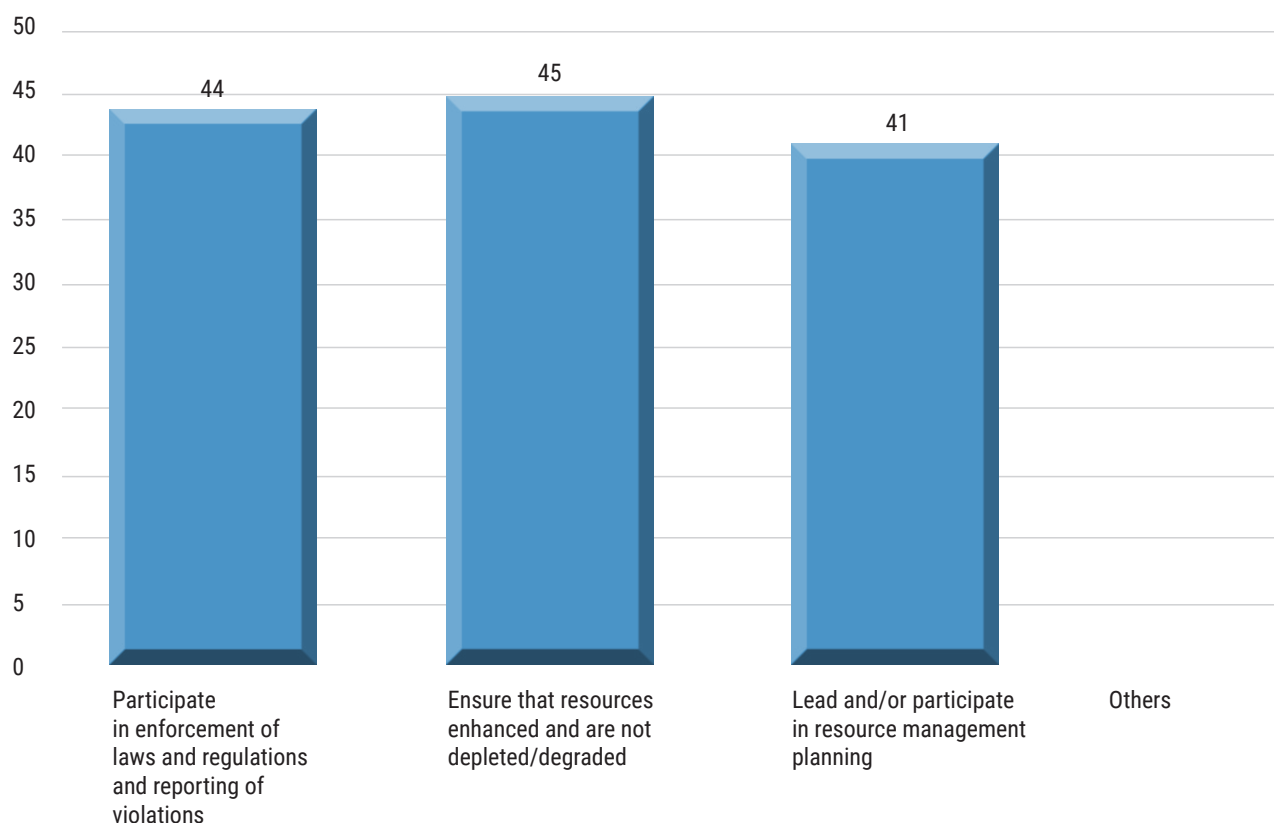
11. Responsibilities in the utilisation of tenure instruments:

In terms of their own responsibility and role in utilising these instruments/elements, the fishers' responses were split, almost equally, across: ensuring that resources are enhanced and are not depleted/degraded (presumably through their own fishing practices) at 45; participating in enforcement of laws and regulations, and reporting of violations (Bantay Dagat is the organization assigned to monitor the marine protected areas) at 44; and leading and/or participating in resource management planning through the MFARMC and other mechanisms (41).

Table 17. Responsibilities in the utilisation of tenure elements/instruments

What are your responsibilities in the utilisation of these tenure elements/instruments?	Participate in enforcement of laws and regulations, and reporting of violations	44
	Ensure that resources are enhanced and are not depleted/degraded	45
	Lead and/or participate in resource management planning	41
	Others	0

Figure 15. Responsibilities in the utilisation of tenure instruments



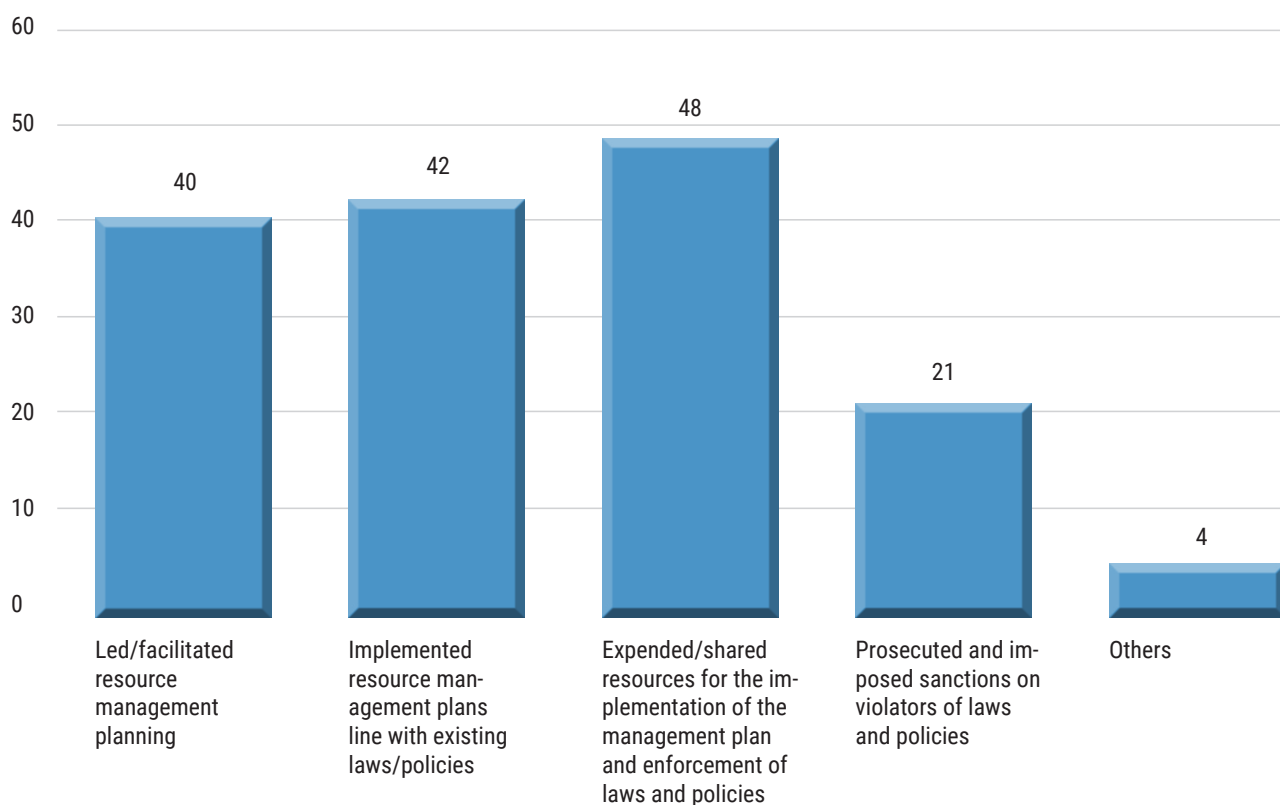
12. Responsibilities performed by local government unit:

The local government was perceived to be performing the following responsibilities towards tenure instruments/elements: expending/sharing resources for the implementation of the management plan, and enforcement of laws and policies (48); implementing resource management plans in line with existing laws/policies (42); leading/facilitating resource management planning; prosecuting and imposing sanctions on violators of laws and policies (21); and others (4).

Table 18. Responsibilities performed by local government unit

What are the responsibilities performed by your local government unit about the tenure elements/instruments?	Led/facilitated resource management planning	40
	Implemented resource management plans in line with existing laws/policies	42
	Expended/shared resources for the implementation of the management plan, and enforcement of laws and policies	48
	Prosecuted and imposed sanctions on violators of laws and policies	21
	Others	4

Figure 16. Responsibilities performed by local government unit



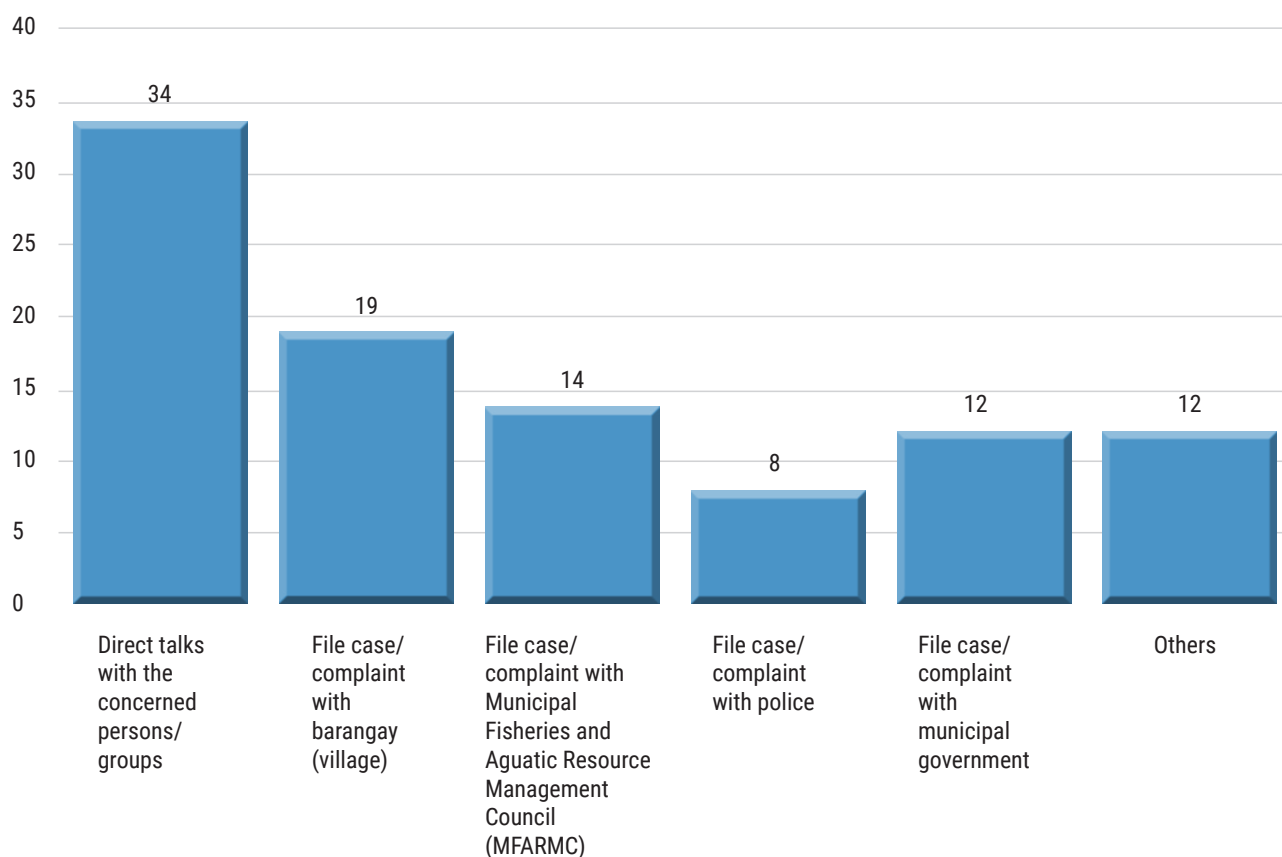
13. Remedies when rights under tenure elements/instruments are not respected:

Fisherfolk responded on the available remedies when tenure is violated/not respected as follows: direct talks with the concerned persons/groups (34); file case/complaint with barangay (19); file case/complaint with the MFARMC (14); file case/complaint with municipal government (12); file case/complaint with police; and others (12). These responses suggest that the fisherfolk prefer resolution at the community, village or sectoral level before looking for remedies from the municipal government or the police.

Table 19. Remedies when rights under tenure elements/instruments are violated/not respected

What are your remedies when your rights under tenure elements/instruments are violated/not respected?	Direct talks with the concerned persons/groups	34
	File case/complaint with barangay (village)	19
	File case/complaint with Municipal Fisheries and Aquatic Resource Management Council (MFARMC)	14
	File case/complaint with police	8
	File case/complaint with municipal government	12
	Others	12

Figure 17. Remedies when rights under tenure instruments are not respected



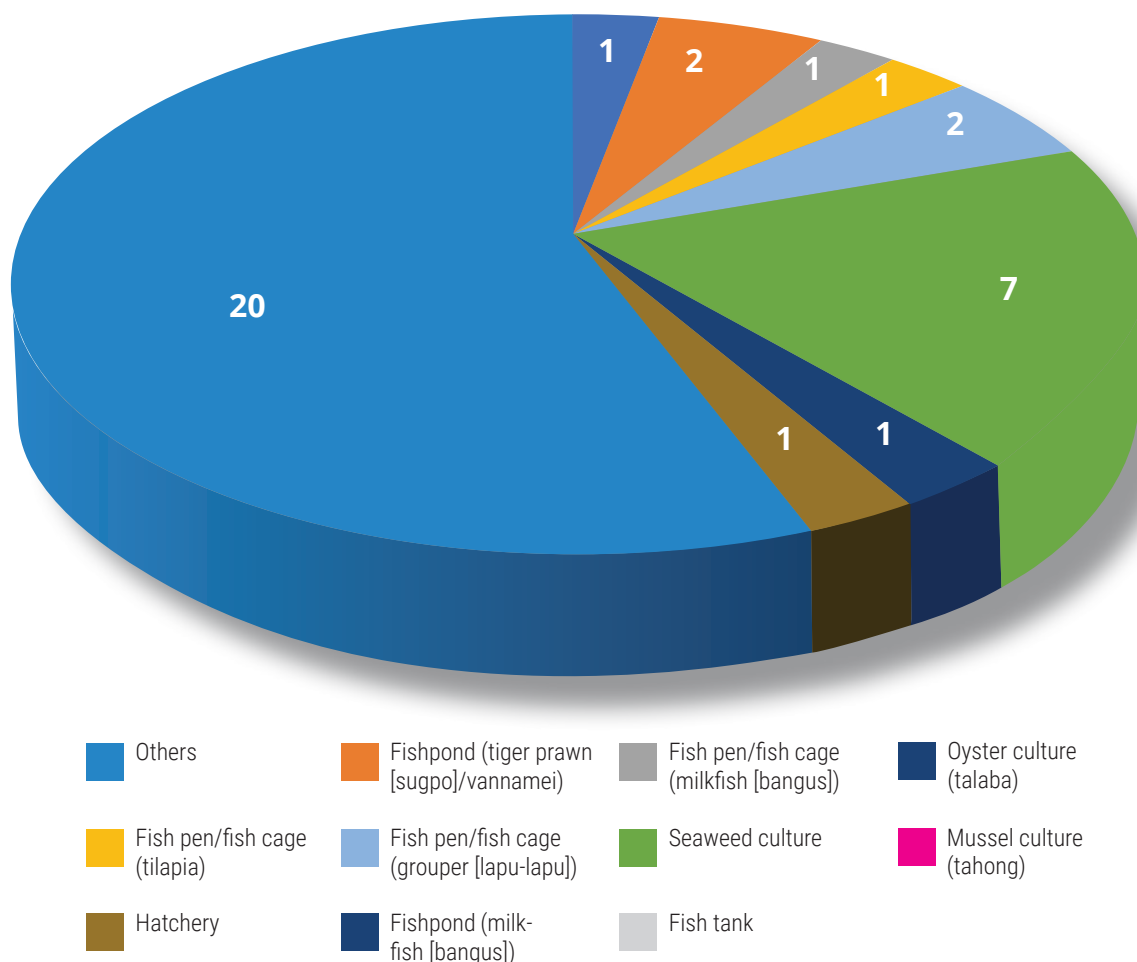
14. Types of aquaculture:

Only 36 of the 61 fisherfolk responded being involved in aquaculture, with many answering others (20), referring to activities not covered by the other listed choices such as seaweed farming (7) and the rest such as fishpond (milkfish [bangus]); fishpond (tiger prawn [sugpo]/vannamei); fish pen/fish cage (milkfish [bangus]); fish pen/fish cage (tilapia); fish pen/fish cage (grouper [lapu-lapu]); oyster culture (talaba); and hatchery, getting no more than 2 practitioners each. Not included as a choice in the survey was mud crab fattening, which is common in the area.

Table 20. Types of aquaculture

What type of aquaculture do you practice?	Fishpond (milkfish [bangus])	1
	Fishpond (tiger prawn [sugpo]/vannamei)	2
	Fish pen/fish cage (milkfish [bangus])	1
	Fish pen/fish cage (tilapia)	1
	Fish pen/fish cage (grouper [lapu-lapu])	2
	Seaweed culture	7
	Oyster culture (talaba)	1
	Mussel culture (tahong)	0
	Fish tank	0
	Hatchery	1
	Others	20

Figure 18. Type of aquaculture practiced



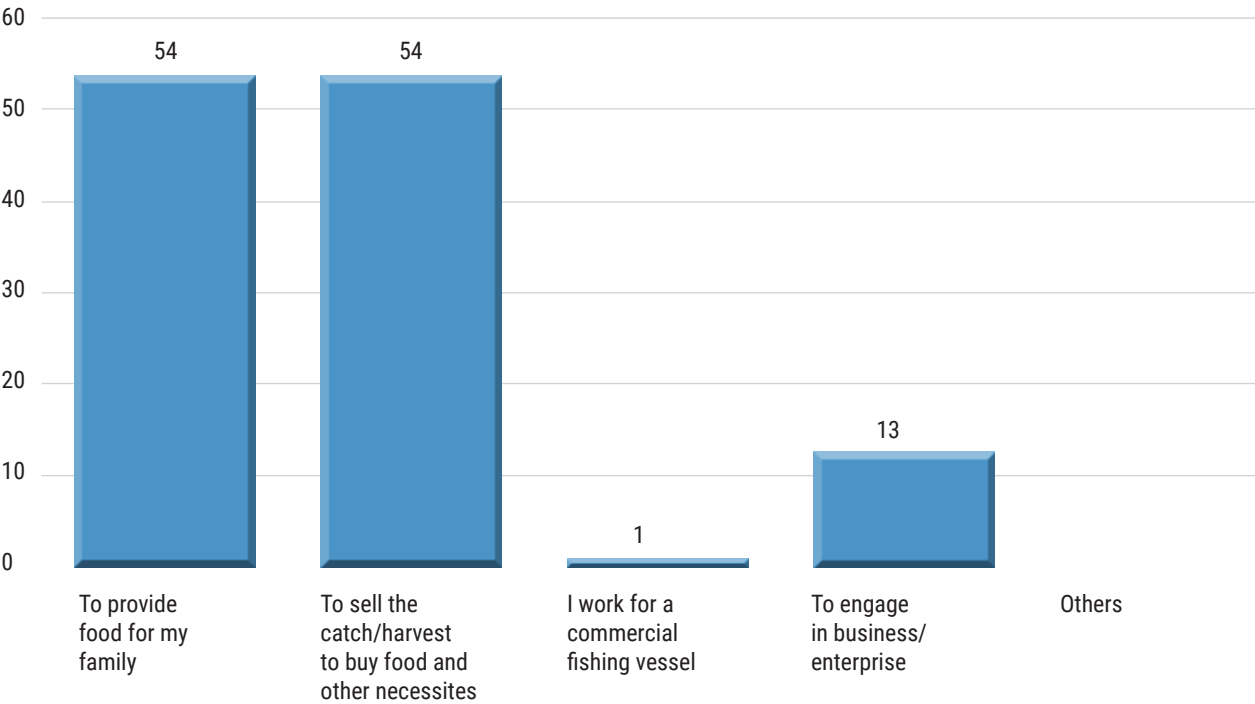
15. Primary reason for catching/ culturing fish:

Reasons for catching/culturing are subsistence (food for the family) and cash (sell to buy food and other necessities); both were answered by 54 of the respondents. A distant third is to engage in business/ enterprise (13), highlighting the prevailing perspective or world view of the fisherfolk. One respondent responded that he/she works for a commercial fishing vessel.

Table 21. Primary reason for catching/culturing fish

What is the primary reason why you catch and/or culture fish?	To provide food for my family	54
	To sell the catch/harvest to buy food and other necessities	54
	I work for a commercial fishing vessel	1
	To engage in business/enterprise	13
	Other	0

Figure 19. Primary reason for catching/culturing fish



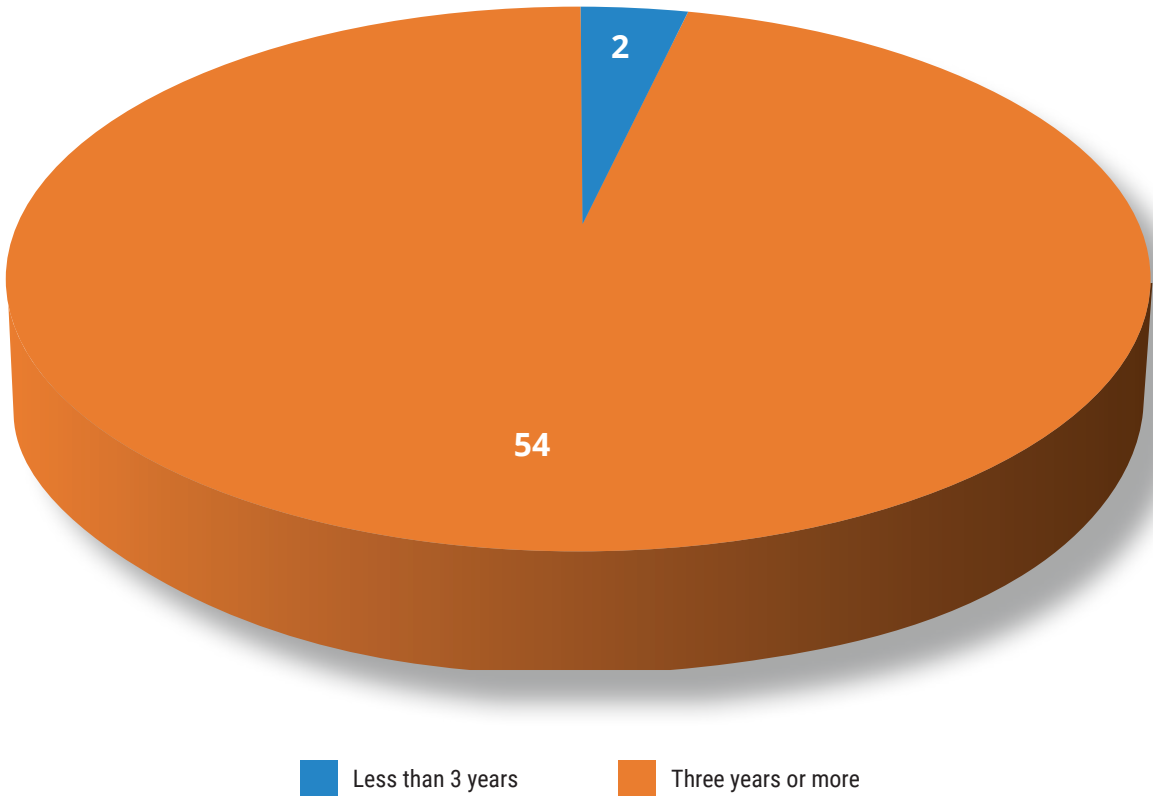
16. Years engaged in fish capture/culture:

An overwhelming majority (54) responded that they had been engaged in fish capture/culture for three or more years, while three respondents answered that they had been in fishing less than 3 years. This suggests that there were relatively few newcomers in the fishing grounds.

Table 22. Years engaged in fish capture/culture

How long have you been engaged in fish capture and/or culture?	Less than 3 years	2
	Three years or more	54

Figure 20. Years engaged in fish capture/culture



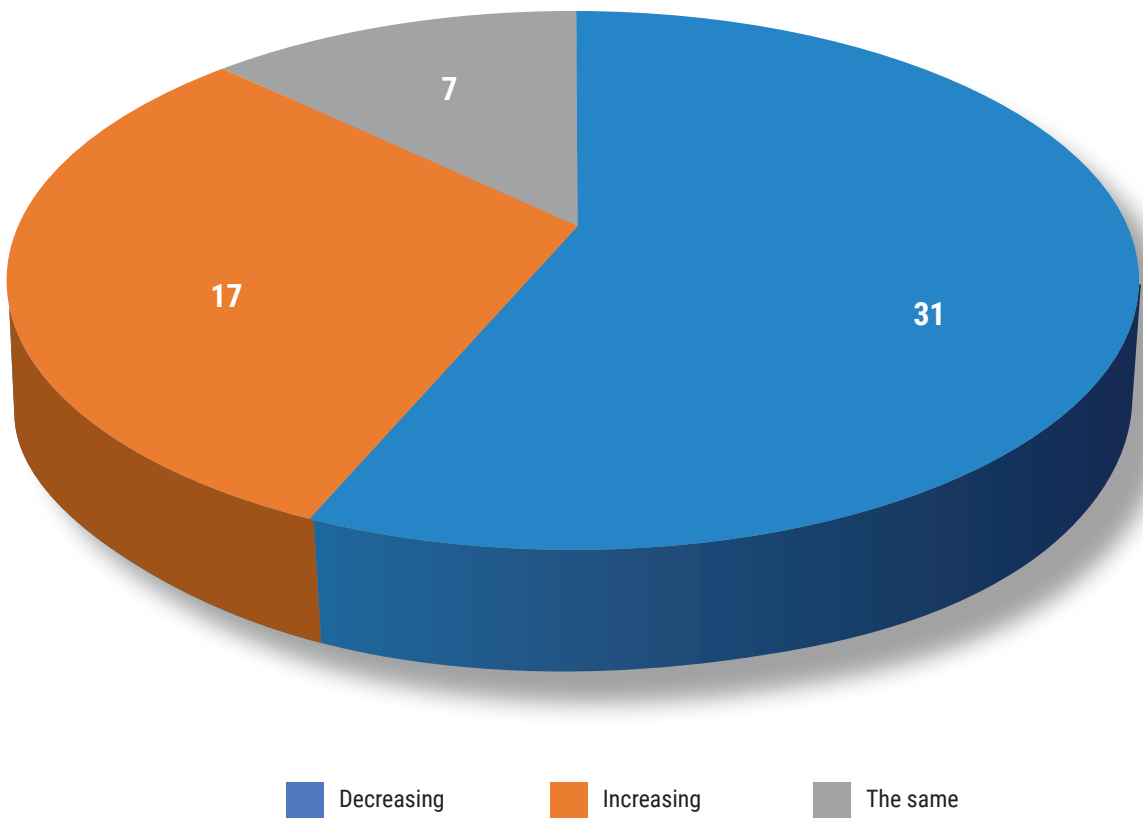
17. Status of catch/harvest:

Regarding the status of fish catch/harvest, 31 respondents noted that it had decreased from three years prior; 17 answered that it had increased; and 7 stated that it had stayed the same. This is consistent with the earlier question (10. Problems in utilising tenure elements/instruments) where 29 respondents considered resource degradation as the foremost problem.

Table 23. Status of catch/harvest

Compared to your catch/harvest three years ago, what is the status of your catch/harvest at present?	Decreasing	31
	Increasing	17
	The same	7

Figure 21. Status of catch/harvest



18. Main reason for decreased catch/harvest:

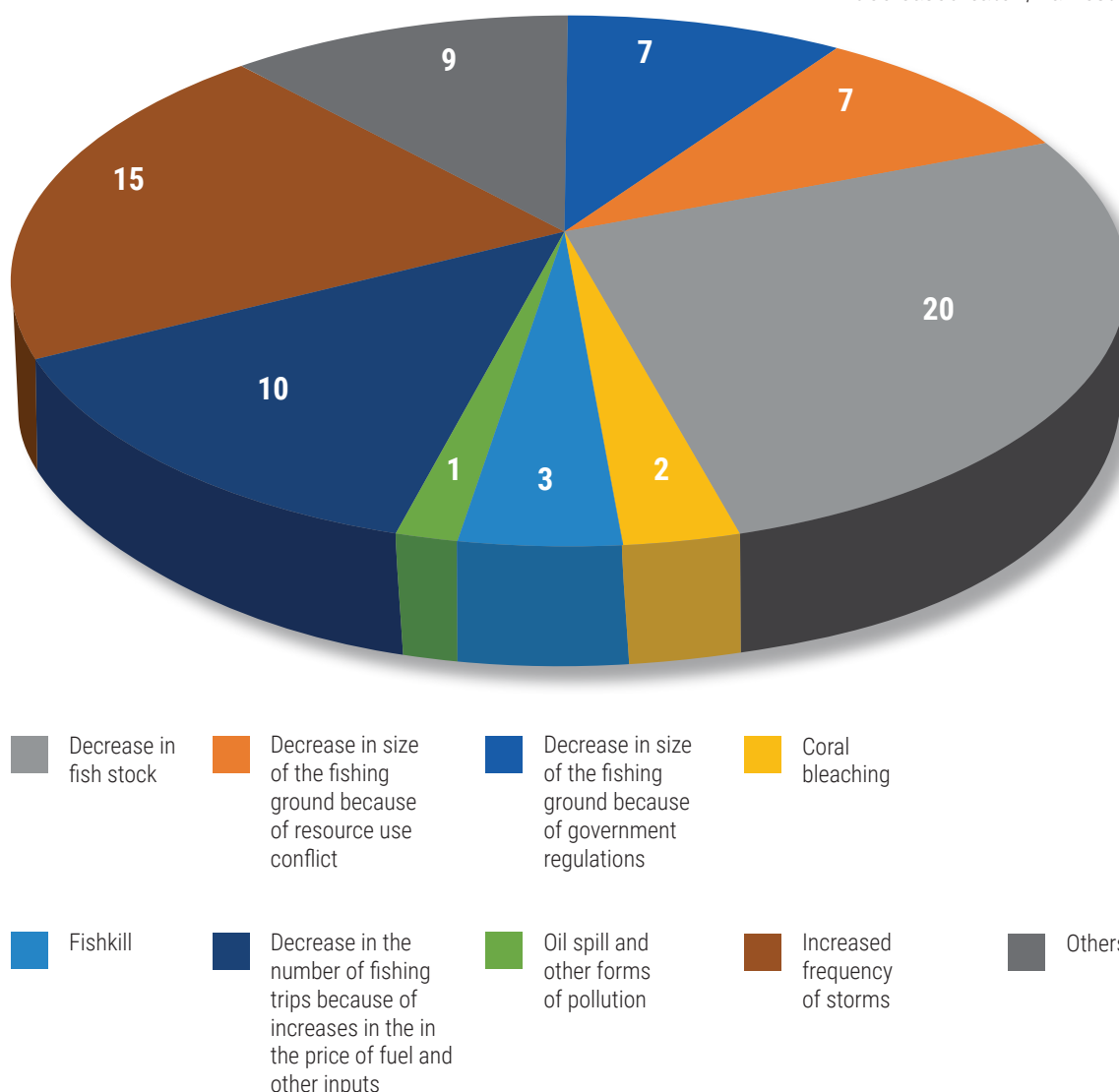
Reasons cited for decrease in catch/harvest:

Reasons cited for decrease in catch/harvest were topped by decrease in fish stock (20) followed by increased frequency of storms (15); decrease in the number of fishing trips because of increases in the price of fuel and other inputs (10); decrease in size of the fishing ground because of government regulations (7); decrease in size of the fishing ground because of resource use conflict (7). The remaining reasons were fishkill (3); coral bleaching (2); oil spill and other forms of pollution (1); and others (9).

Table 24. Main reason for decreased catch/harvest

If catch/harvest decreased, what is the main reason why it did so from three years ago?	Decrease in size of the fishing ground because of government regulations	7
	Decrease in size of the fishing ground because of resource use conflict	7
	Decrease in fish stock	20
	Coral bleaching	2
	Fishkill	3
	Oil spill and other forms of pollution	1
	Decrease in the number of fishing trips because of increases in the in the price of fuel and other inputs	10
	Increased frequency of storms	15
	Others	9

Figure 22. Main reason for decreased catch/harvest

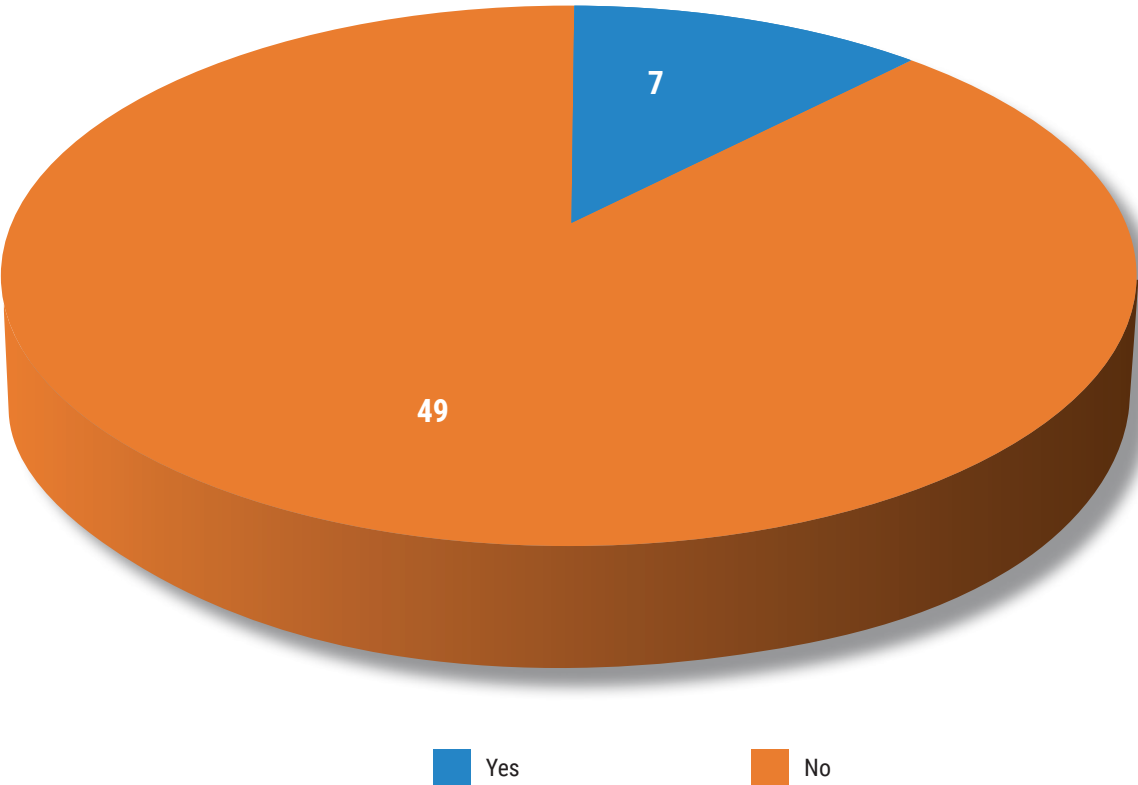


19. Insurance for catch/harvest:
Only seven respondents had insurance for their catch/harvest, while 49 did not.

Table 25. Insurance for catch/harvest

Do you have insurance for your catch/harvest?	Yes	7
	No	49

Figure 23. Insurance for catch/harvest



Annex 2. List of respondents

Calatagan, Batangas and Agdangan, Quezon

	NAME			ADDRESS			BIRTHDATE			GENDER
	FIRST	MIDDLE	LAST	BRGY.	MUN	PROV	MONTH	DAY	YEAR	
1	Wilfredo	Atienza	Hernandez	Sta. Ana	Calatagan	Batangas	January	29	1970	Male
2	Bernadith	Bautista	Aganan	Encarnacion	Calatagan	Batangas	June	24	1983	Female
3	Mark Anthony	Sornet	Marfil	Tanagan	Calatagan	Batangas	October	24	1983	Male
4	Alexander	Villato	Rosales	Bagong Silang	Calatagan	Batangas	December	6	1974	Male
5	Conrado	Gamiz	Babaran	Sta. Ana	Calatagan	Batangas	January	18	1955	Male
6	Crizalie	Insigne	Gutierrez	Sta. Ana	Calatagan	Batangas	February	6	1978	Female
7	Bernardo	Gozano	De Jesus	Sta. Ana	Calatagan	Batangas	January	16	1960	Male
8	Fe		Guarin	Bagong Silang	Calatagan	Batangas	January	11	1984	Female
9	Marissa		Catapang	Bagong Silang	Calatagan	Batangas	March	3		Female
10	Eduardo	Medina	Fraxedes	Tanagan	Calatagan	Batangas	October	11	1978	Male
11	Ranel		Barangas	Tanagan	Calatagan	Batangas	January	12	1980	Male
12	Annie	Cudiamat	Apolinar	Quilitisan	Calatagan	Batangas	April	17	1975	Female
13	Ruth Helen	Elposar	Ricasa	Kilitisan	Calatagan	Batangas	November	10	1966	Female
14	Joedelyn	Zapatero	Caunar	Encarnacion	Calatagan	Batangas	April	16	1992	Female
15	Nomer	Custodio	Majadas	Tanagan	Calatagan	Batangas	November	9	1989	Female
16	Bernardo	Medina	Fraxedez	Tanagan	Calatagan	Batangas	October	15	1971	Male
17				Bagong Silang	Calatagan		January	3	1970	Female
18	Vapes	Villanueva	Beria	Encarnacion	Calatagan	Batangas	November	2	1990	Female
19	Nestor	Villaruz	Paredes	Barangay 1	Calatagan	Batangas	June	11	1964	Male
20	Lucena	Estoleydos	Duman	Quilitisan	Calatagan	Batangas	May	29	1966	Female
21	Jesiderio	Frona	Delos Reyes	Barangay Gulod	Calatagan	Batangas	May	23	1976	Male
22	Ramona	A	De Jesus	Sta. Ana	Calatagan	Batangas	October	6	1981	Female
23	Marcelino	Camarino	De Vera	Sta. Ana	Calatagan	Batangas	June	2	1976	Male
24	Ellen	Abena	De Vera	Sta. Ana			April	26	1981	Female
25	Imee	Sornet	Carnacete	Tanagan	Calatagan	Batangas	July	31	1982	Female
26	Remedios	Camerino	Arellano	Sta. Ana	Calatagan	Batangas	August	3	1969	Female
27	Carlos	Babaran	Insigne	Sitio Palo Bandera	Calatagan	Batangas	November	4	1964	Male
28	Zenaida	Babaran	Arellano	Sta. Ana	Calatagan	Batangas	October	1	1961	Female

	NAME			ADDRESS			BIRTHDATE			GENDER
	FIRST	MIDDLE	LAST	BRGY.	MUN	PROV	MONTH	DAY	YEAR	
29	Herman	Camerino	De Jesus	Sta. Ana	Calatagan	Batangas	October	11	1983	Male
30	Micheal	Enero	Nuyda	Salvacion	Agdangan	Quezon	September	13	1982	Male
31	Enrico	Enero	Buenaventura	Salvacion	Agdangan	Quezon	January	26	1974	Male
32	Reynaldo	Mercado	Riego	Salvacion	Agdangan	Quezon	December	31	1979	Male
33	Arnold	Po	Riego	Salvacion	Agdangan	Quezon	September	28	1973	Male
34	Ronnel	Leines	Zaballero	Salvacion	Agdangan	Quezon	July	29	1987	Male
35	Feliciano	Romaguera	Riego	Salvacion	Agdangan	Quezon	October	23	1953	Male
36	Ariel	Rocacorba	Galvez	Salvacion	Agdangan	Quezon	May	25	1977	Male
37	Bryan	Parafina	Galvez	Salvacion	Agdangan	Quezon	February	24	1999	Male
38	Arcadio	Gardulo	Caballes	Salvacion	Agdangan	Quezon	November	13	1949	Male
39	Emeliano	Aznar	Riego	Salvacion	Agdangan	Quezon	February	7	1983	Male
40	Arlene	Salvador	Morillo	Silangan Calutan	Agdangan	Quezon	August	11	1973	Female
41	Ida	Roquesa	Menor	Silangan Calutan	Agdangan	Quezon	May	8	1963	Female
42	Melchor	Encina	Villamin	Silangan Calutan	Agdangan	Quezon	January	6	1980	Male
43	Josepina	Ayapana	Lliagas	Silangan Calutan	Agdangan	Quezon	August	12	1973	Female
44	Renato	Farafina	Arandia	Silangan Calutan	Agdangan	Quezon	November	3	1962	Male
45	Elenita	Igot	Morata	Silangan Calutan	Agdangan	Quezon	December	23	1976	Female
46	Ma. Lourdes	Legaspi	Laurito	Silangan Calutan	Agdangan	Quezon	October	14	1967	Female
47	Miriam	Pobeda	Petalcorin	Silangan Calutan	Agdangan	Quezon	May	19	1977	Female
48	Arnold	Gojildon	Morata	Silangan Calutan	Agdangan	Quezon	January	16	1969	Male
49	Mary Jane	Rabe	Arandia	Silangan Calutan	Agdangan	Quezon	January	16	1983	Female
50	Wilson	Villarosa	Estrope	Kanlurang Calutan	Agdangan	Quezon	June	21	1980	Male
51	Jessie	Villarosa	Estrope	Kanlurang Calutan	Agdangan	Quezon	July	5	1983	Male
52	Wilfredo	Rabe	Alvarico	Kanlurang Calutan	Agdangan	Quezon	August	31	1976	Male
53	Ramil	Alvarilo	Amarillas	Kanlurang Calutan	Agdangan	Quezon	August	23	1980	Male
54	Alexander	Emura	Amular	Kanlurang Calutan	Agdangan	Quezon	June	10	1971	Male
55	Oscar	Salvador	Distrito	Kanlurang Calutan	Agdangan	Quezon	October	30	1966	Male
56	Rodolfo	Catinggan	Alcantara	Kanlurang Calutan	Agdangan	Quezon	September	24	1968	Male
57	Rosalito	Faignan	Apa	Kanlurang Calutan	Agdangan	Quezon	March	20	1971	Male
58	Wilfredo	Botalig	Igot	Kanlurang Calutan	Agdangan	Quezon	January	15	1967	Male
59	Momar	Peral	Apari	Kanlurang Calutan	Agdangan	Quezon	September	25	1988	Male

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Annex 3. Summary of the Focus group discussion with MPA Managers (5 people), Seaweed farmers (5 people), Members of the Bantay Dagat (5 people)

Date of activity: 8 September 2023

Venue: Conference room, Municipal Hall of Calatagan, Bantangas

Facilitated by: Mario E. Maderazo and Donatello Justiniani

Participants were referred by the Municipal Agriculture Office (MAO). They were informed of the objectives of the FGD and they were given guidelines on how the discussion will be undertaken. The facilitator asked a question and each of the members were encouraged to respond by asking them individually. Answers were noted by the co-facilitator and also recorded through audio and video documentation.

Due to time constraints and availability of the respondents (most of the participants had limited time to spare for the FGD given their other domestic concerns), they were gathered in the conference room and were seated according to their group. Each group member was given time to answer the questions. Follow-up questions were posed to the respondents to clarify their answer or response.



Focus group discussion with MPA Managers (5 people), Seaweed farmers (5 people), Members of the Bantay-Dagat (5 people), Municipal Hall of Calatagan, Bantangas by Tambuyog Development Center

The following is the summary of the discussion:

1. Anong fishery or aquatic resources ang inyong pinagangalagaan?

(What are the fishery or aquatic resources being managed?)

- MPA Managers
 - › Mangrove, seagrass and corals
- Seaweed Farmers
 - › Seaweeds
- Bantay dagat
 - › Municipal waters of Calatagan (15kms from the shoreline)

2. Ano ang batayan ng inyong pangangalaga/pamamahala sa rekursong ito?

(What is the basis of your conservation/management efforts over the resources that you identified?)

- MPA Managers
 - › Ordinance creating the MPAs and the stewardship agreement with the LGU to manage the MPAs
 - › We are barangay residents near the protected area and we are also registered fisherfolk. Some of us are officers of FARMC
- Seaweed farmers
 - › We apply for permit on a yearly basis, we pay 300 pesos for the permit
 - › I have been renewing my permit for 6 years now (as of September 2023).
 - › We are also registered fisherfolk of Calatagan and we have IDs
- Bantay-dagat/MFARMC
 - › We are deputised by the Mayor after undergoing training conducted by the Municipal agriculture office
 - › We are also registered fisherfolk
 - › We also have Bantay Dagat IDs and deputation letters from the Mayor

3. Gaano na katagal kayong namamahala?

(For how long have you been involved in fisheries management?)

- MPA Managers
 - › Depends on when the MPA was created, but on an average, 5 to 6 years
- Seaweed farmers
 - › Most seaweed farmers started in in 2017
 - › Others started three years ago
- Bantay-dagat
 - › The original batch of bantay-dagat started in 2000
 - › On the average 10 years above

4. Maari bang ilarawan ang sistema ng inyong pamamahala?

(Describe the system/method of management)

- MPA Managers
 - › It was the MAO that helped us establish the MPAs
 - › There were meetings conducted about the mangrove or coral reefs, on how we can rehabilitate and protect them. A site assessment was conducted
 - › At some point we were assisted by Conservation International
 - › We formed our organization to manage the MPAs
 - › As far as we know, we needed an ordinance to establish the MPA, so the MFARMC and our barangay chairman also helped us
 - › We conduct monitoring of corals and also the mangroves, but we are assisted by the MAO
 - › We have our officers in the organization, who help manage the MPAs. We have to attend meetings and take on certain responsibilities
- Seaweed farmers
 - › We need to first apply for a permit from the MAO, then we are given a specific area near our barangay where we can establish our nursery and an area for planting seaweed
 - › We need to renew our permit annually, pay 350 pesos per year for an area of approximately 2,000 sq meters
 - › We hire people to plant seaweeds, and usually it takes 45 to 60 days to grow the seaweeds
 - › The water condition is important for the seaweeds to grow. We have had problems with fishpond operators because their operations affect the quality of the water in the sea. The current or flow of the water is also important, that's why we also monitor our seaweed farm regularly
- Bantay Dagat
 - › We conduct regular seaborne patrols, at least three times a month depending on the weather conditions
 - › If there are reports about illegal activities, we also verify the report via text messages or personal reports from members of the community
 - › We have close coordination with MFARMC members in terms of the problems we encounter in fishery law enforcement
 - › We currently (as of September 2023) have about 47 members organized into four teams that conduct seaborne patrols on an alternate basis
 - › We have quarterly meetings facilitated by the MAO
 - › We also conduct education campaigns about the ordinances and the fishery law, we call this the 'soft approach'
 - › Every year, we lead the coastal clean-up organized by the MAO

5. Ano ang mga benepisyo na inyong nakuha mula dito? Estimate in terms of money. Probe both cash and non-cash benefit?

(What are the benefits, both cash and non-cash variety, derived from the management and conservation efforts? Provide an estimate in terms of the monetary benefit.)

- MPA Managers
 - › There are currently (as of September 2023) 11 Protected Areas with their respective organizations managing the MPAs
 - › Provided additional income to support education of their children. Other sources of income came from environmental fees collected by the organization, or increase in fish catch and additional livelihood from ecotourism activities e.g as boat guide, selling to tourists, or renting their craft or homes to tourists

- › Non cash benefits cited are the protection from storm surge, reduction of illegal fishing, thus the conditions of the mangrove and coral reefs have improved, eco-tourism activities have increased
- Seaweed farmers
 - › Dramatic increase in their income (helped in education of their children, constructed a house, additional funds to increase production)
 - › Average net income as high as PHP32,000 a month, or the lowest at PHP5,000
 - › Dried seaweeds are priced higher
 - › They are able to harvest seaweed propagules which they will use for another cycle of production
- Bantay Dagat
 - › As volunteers, they only get a quarterly stipend from the LGU, but they are also either fishers or seaweed farmers
 - › They are given a rice subsidy quarterly
 - › They also have insurance
 - › Non-cash benefits include the reduction of illegal fishing activities and growth of ecotourism opportunities

6. Ano ang mga isyu o problem ang inyong na encounter or kasalukuyang hinaharap sa pamamahala?

(What are the issues or problems that you encounter or currently face with respect to managing the MPA?)

- MPA Managers
 - › Intrusion of illegal fishers into the protected area
 - › Lack of resources to implement the management plan, sometimes they have to use their personal money
 - › Tourism activities have become unregulated, which has affected coral reefs and water quality
 - › Lack of compliance by fishpond operators with certain regulations (expansion within mangrove area and waste water management etc.)
 - › Crown of thorns
 - › Plastics and other waste materials (disposal)
 - › Bangka or craft for monitoring purpose
- Seaweed farmers
 - › Post harvest facilities e.g. drying of seaweeds
 - › Previously, they employed organic materials to be used as strings to tie the seaweeds, in order to encourage the non-use of plastic straws, but these materials were not durable enough
 - › Aquaculture operations, e.g. waste water from fishpond operations affect the water quality in the farming area
 - › Capacity to meet volume requirements from traders and buyers
- Bantay Dagat
 - › Aging members and no young recruits, as young people usually work in the city or prefer to study if they are capable of going for higher education
 - › Inadequate resources such as funds for fuel and to increase the stipend of bantay-dagat as their time to conduct seaborne patrol, is time taken away from their work as fishers or other menial jobs

7. Ano ang naging papel ng lokal na pamahalaan at ibang ahensiya ng gobyerno sa ginagawa ninyong pmamahala?

(What, if any, are the roles played by the local government and other agencies in your management efforts?)

- MPA Managers
 - › LGU provided technical support in the site selection and approval of the ordinance. LGU also provided capacity-building trainings
 - › Provided the agreement and guidelines on how to manage the protected area
- Seaweed farmers
 - › LGU provided permits to be able to conduct seaweed farming
 - › LGU provided capacity-building trainings
 - › BFAR provided propagules for planting
- Bantay-dagat
 - › LGU provided stipend/honorarium; deputation training, uniforms and banca for sea-borne patrol
 - › BFAR provided a speed boat for seaborne patrol
 - › Provincial government provided life insurance

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Annex 4. Key Informant Interview with Emelyn Custodio

Interviewed by: Mario E. Maderazo

Date of Interview: 7 September 2023

Place of Interview: Office of the Municipal Agriculturist, Municipal Hall of Calatagan, Batangas province

a. Ano posisyon sa LGU?

(What is your position in the Local Government Unit?)

- Municipal Agriculturist

b. Gaano na katagal sa serbisyo?

(How long have you been in the public service?)

- I started in 2000 as a fisheries technician, then in 2016 I was appointed as Municipal Agriculturist

c. Ano ang Gawain?

(What are your duties and functions?)

- My job involves the implementation of the projects of the Municipality with respect to livestock, agricultural crops and fisheries

d. Ano ang program sa pangisdaan?

(What are the fisheries programs of the Municipality?)

- Provide the technician and help organize the Barangay Fisheries and Aquatic Resources Management Council or BFARMC. We started this in the year 2000.
- We also help organize the federation of all BFARMC, into Municipal Fisheries and Aquatic Resources management Council (MFARMC) which is mandated by the Fisheries Code
- Our office also assisted the MFARMC by providing a lawyer to help draft the Fisheries Code in 2005. After the drafting process, we assisted the MFARMC in lobbying efforts with the members of the Sangguniang Bayan (local legislative council), which led to the code's eventual adoption in 2006
- Our Office also led the organizing of Bantay Dagat in 2000. We provided training to them before they were deputised as volunteer Bantay Dagat. At times, we also join in the seaborne patrolling to support the Bantay Dagat
- Our Office is also the lead in the implementation of the fishery ordinances, which means we conduct information and education campaigns at the barangay level about the ordinances being implemented
- Through years of fishery law enforcement, illegal fishing activities have declined, so we started to focus on managing and rehabilitating our corals and mangroves in partnership of course with NGOS like Conservation International (CI). They assisted us in terms of the technical and scientific aspects of managing our corals and mangroves. Our technical staff and our BD were also trained by CI to conduct coral reef assessment
- They (CI) also provided us with training on climate vulnerability assessment, climate change mitigation adaptation and about mangrove protected areas. Hence, we were able to undertake our mangrove rehabilitation and reforestation. They also helped us in establishing our mangrove nursery



Key Informant Interview with Municipal Agriculurist Emelyn Custodio, Office of the Municipal Agriculurist, Municipal Hall of Calatagan, Batangas

- We also put up artificial reefs in Barangay Bangong Silang as part of the coral reef rehabilitation project
- We have also assisted six barangays in establishing MPAs in their respective areas

e. Ano mga nagging kalaksan at kahinaan?

(What are your strengths and limitations in terms of implementing the programmes in the fisheries?)

- Our municipality has earned various recognitions for our efforts in managing and conserving our fishery resources. In 2009, our Mangrove Protected Area in Barangay Caretonan, won the first prize in competition Para el MAR Marine Protected Area (MPA) Awards and Recognition (sponsored by Marine Protected Areas Support Network (MSN), in cooperation with the Bureau of Fisheries and Aquatic Resources (BFAR) and the Department of Environment and Natural Resources (DENR))
- In 2015, we won the first place in BRAVO (Batangas Recognition Awards for Verde Passage Outstanding Marine Protected Areas at Bantay Dagat) for our Bantay Dagat
- In 2016, we won first place in the Southern Tagalog Region at the Malinis at MasaFocusganang Karagatan (or MMK, the Bureau of Fisheries and Aquatic Resources' incentive programme to recognise the country's most outstanding coastal communities,

wherein several millions of pesos are awarded as source funding for livelihood projects to the coastal towns that best exhibit good Coastal Resource Management (CRM) practices). We also placed second in the National MMK Competition, where we won a 2 million peso cash prize

- In 2017, we won first place again in the Regional MMK competition and we were in the top 5 in the national competition
- However, we still have to deal with a number of bigger issues such as the reduction of poverty in the coastal area, and also increase the registration of fisherfolk and their fishing vessels. We think we have reduced illegal fishing by 90 per cent. So, we have to translate such management and conservation efforts into concrete economic gains
- Our ICM here in Calatagan is being looked at as a model by other LGUs
- We also have issues with fishpond operations and how these affect the seaweed farming operations. Then there are the tourism-related activities, which affect our conservation efforts and sometimes conflict arises between fishing and tourism
- We also organized the youth sector by providing training on leadership and environmental awareness
- In terms of our weaknesses, we have very limited funds to support our programmes and we have to deal with developing second-liners for our bantay dagat and MFARMC. We have ageing leaders and there is need to draw the younger people to become involved in fisheries management and conservation

f. Paano ang naging proseso sa pagbuo ng mga MPA? Ano ang naging papel ng LGU/Opisina

(What is the process involved in establishing a Marine Protected Area? What was the role of LGU or your Office (MAO)?)

- Our office provides support by organizing the communities near or adjacent to the resources to be protected. Then, we also establish partnerships with NGOs or academics to provide us with scientific and technical support. After we have established the technical basis for establishing an MPA, we then draw in the MFARMC to lobby or engage the Sangguniang Bayan for the adoption of an ordinance creating the MPA. Then, we also help facilitate the conflict resolution process as there are various competing interests involved in accessing benefits from the MPA, or there are activities that are illegal or affect this MPA

g. Ano ang plano at programa ng LGU kaugnay ng pammahala ng pangsidaan?

(What are LGU's plans and programmes in relation to fisheries management?)

- We are tapping the BFARMC for support regarding the registration of fisherfolk, their fishing vessels and their gears. At the moment (as of September 2023), we have 5,647 registered fisherfolk. We hope to generate funds to support our registration efforts
- We have updated our Fisheries Development plan for 2020 to 2030
- On MFARMC, we will continue providing technical support to MFARMC given their crucial role in reaching out to the communities and in representing the voice of the fisherfolk in the local Sanggunian
- We remain supportive of the operations of Bantay Dagat, that's why we have done a number of training sessions and reorganized the teams

h. Ano ang mga local na instituyon formal and informal na nakatulong sa pamahala?

(What are the local institutions, formal or informal, which helped in fisheries management and conservation?)

- I think the Philippine National Police helped in law enforcement, then the fisherfolk organizations (more than 40 organizations), then Conservation International, as I have mentioned earlier, provided the technical support, in terms of capacity-building to our staff and the fisherfolk organizations. We have become a destination for study tours on MPA management and fishery law enforcement, and even in solid waste management. So I think both the formal and informal groups have helped in managing our fisheries here in Calatagan

i. Ano ang mga rekomendasyon upng higoit na mapatibay ang tenure ng mga manginngisida?

(What are your recommendations to strengthen the tenure of fisherfolk in Calatagan?)

- Help alleviate the poverty conditions of fisherfolk in Calatagan through effective transition plans under the Mandanas Ruling. This will provide additional funds to the LGU to support our programmes and projects. We also need to help change the attitudes of people and ensure good governance. We also need to increase the participation of women in fisheries. We also have problems with solid waste management and this also affects our fisheries. That's why we in Calatagan have to focus our attention to improve our solid waste management. I think also, that we have to ensure that our MPAs are managed effectively by our fisherfolk communities by supporting their organizations

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Annex 5. Summary of Focus Group Discussions and Key Informant Interviews in Agdangan, Quezon

1. Key Informant: Bantay Dagat Team Leader Nonieto Clet

- Twenty years in the Bantay Dagat (BD)—now currently a leader of one of the two teams (of four persons each) that conducts patrols on alternate days
- Patrols last from 7am to 11am if there are no sightings of illegal fishers, but can last for the whole day if there is a boat chase
- Has conducted numerous apprehensions of illegal fishers including blast, poison and commercial fishers, who often take advantage of bad weather conditions to conduct prohibited activities; they also dismantle bottom-set fish corrals (illegal in Agdangan)
- Illegal fishers were turned over to the Philippine National Police (PNP) in Lucena City
- The BD also works with the Bureau of Fisheries and Aquatic Resources (BFAR), which adjudicates illegal fishing through administrative cases involving confiscation of boats and gears
- The BD also apprehends illegal mangrove cutters; takes the lead in coastal clean-up activities; participates in disaster response; takes part in water search and rescue; and even manned checkpoints during the pandemic
- The PNP Maritime Group also conducts their own patrols, but are seldom encountered by the BD
- The BD is considered reliable by both the local and national government in performing their role in monitoring, surveillance, enforcement and apprehension (having been duly deputised by the local government and granted police powers)
- BD members were formerly (unpaid) volunteers, but are now “regulars” i.e. contractual workers of the local government, also referred to as job orders
- They use patrol boats, fuel for operations and maintenance provided by the local government, and more recently, by the World Bank-funded Philippine Rural Development Project (PRDP)
- The BD has undergone numerous rounds of training through the years and some of the members are licensed open water divers; however, the planned training on global positioning system (GPS) for the teams has not gone through (as of September 2023)
- With the current BD team members advancing in age, there were already ongoing efforts to identify possible successors



Focus group discussions and key informant interviews in Agdangan, Quezon, the Philippines, by Tambuyog Development Center

2. Key Informant: Municipal Agriculturist (MA) Jomar Salagubang

- The current Municipal Agriculturist (as of September 2023) has been with the local government for the last thirteen years with six years of prior experience in the Disaster Risk Reduction and Management (DRRM) office
- There are some resources available for MFARMC operations and organized and non-organized fisherfolk (e.g. food and transportation), but this is viewed as insufficient and the local government relies on the devolution of national programmes
- The MA is currently (as of September 2023) proposing that subsidies in the form of food items be given to local fishers during the monsoon season (“cullada”) as they are hardly able to fish because of rough waters from July/August to September/October
- He argued that this state of affairs may be even worse than storms whose negative livelihood effects are limited in duration, and stated that DRRM funds are available for this purpose. However, municipal finance officials do not agree
- There are pending applications for seabed mining in Tayabas Bay, which the IFARMC is campaigning against—spearheaded by Agdangan and supported by academic experts
- While the Mandanas ruling may provide the local government with more resources including for fisheries management, Agdangan’s current (as of September 2023) share of the national income has decreased because of government expenditures during

the COVID-19 pandemic and the decrease in the local population

- The MA also stated that making budget share and regular staffing for fisheries management similar to gender and DRRM will significantly amplify current efforts
- He also ensures there are funds for maintaining and enhancing the MPAs
- The municipal fishers registration (FishR) is being maintained and updated even though they had to overcome system glitches that affected their connectivity with the BFAR national fisherfolk database
- There are aquaculture operations in the municipality: seaweed culture (supported by PRDP); shrimp culture in intensive brackishwater ponds and milkfish and mud crabs in extensive brackish water ponds and milkfish in fish cages
- In terms of agriculture, there are production support programmes for crops (rice, corn, coconut and vegetables) and livestock (cattle, hogs and carabaos)
- The Community Fish Landing Centre (CFLC), located in Brgy. Kanlurang Calutan, is operational during the peak season, but only poultry and vegetables are sold in the retail area during the “cullada”
- The municipality has SCUBA equipment (tanks and BCDs) that the BD divers use to monitor coral reefs (inc. MPAs); mitigate crown of thorn infestations and conduct SCU-BASURERO (clean-up) operations
- It also maintains a mangrove nursery to produce propagules for planting/reforestation

3. Key Informant: Municipal Fisheries and Aquatic Resources Management Council (MFARMC) Chair Edy De Mesa

- The Chair of the Agdangan MFARMC is also the Chair of the Tayabas Bay Integrated Fisheries and Aquatic Resources Management Council (IFARMC)
- He has been a member of the MFARMC for fifteen years and Chair for the last six years, while also heading the fisherfolk organization in Barangay Kanlurang Calutan
- There are six barangay-level fisherfolk organizations from five coastal barangays that provide perspectives and inputs to the MFARMC
- As chair, he facilitates discussions on local fisheries issues and problems to contribute to the preparation of resolutions for consideration and possible action by the concerned local government instrumentalities such as the municipal council and the local chief executive, based on inputs from the barangay organizations
- This work covers amendments to the municipal fisheries ordinance (MFO) and the local fisheries development plan (FDP); enhancements to the management plan for the marine protected areas (MPAs) and mariculture areas in the municipality
- A current problem (as of September 2023) is the constriction of docking areas for local fishers’ craft due to tourist resort and residential development along the coastal areas
- The placement of floating cottages near the marine protected areas, sanctioned by local government and operated by the barangay fisherfolk organizations has stimulated tourism in the area and generated additional income for community members
- Those who violate MPA rules and regulations are penalised with community service-oriented punishments such as coastal clean-up efforts

- As part of the PRDP initiatives in the area, giant clams (*Tridacna giga*) were put in the seabed in and around the MPAs and regularly monitored by the BD
- The MFARMC and the barangay fisherfolk organizations conduct fish catch monitoring
- The MFARMC Chair is of the opinion that small commercial fishing operations should be allowed in municipal waters (10 – 15 kilometers from the shoreline) if these are owned by the fisherfolk cooperatives
- The existing fisherfolk cooperative is planning to conduct small-scale commercial fishing operations within municipal waters, but this still has to be approved by the local government and sanctioned with an ordinance
- Internal management systems of the MFARMC employ regular monthly meetings, social media group chats for communication, agenda preparation, committee reports, drafting of resolutions for discussion and financial support for transportation expenses within and outside the municipality for fisherfolk leaders
- The LGU occasionally provides production support including for gears and fiberglass vessels (Banca Ko, Gawa Ko), while the support from BFAR comes mainly in the form of trainings
- With regard to the CFLC, the MFARMC Chair shared that the facility is becoming dilapidated, the Project Management Committee is non-functional and the CFLC Operations Manual has not been translated into a municipal fisheries ordinance
- To further strengthen the MFARMC, he recommends that the local government enact budget allocation for its operations (including honoraria for its members)
- With regard to its leadership role in advocating for improved fisheries management in Tayabas Bay, the MFARMC can help push for measures such as closed season for sardines as proposed by the Management Board of Fisheries Management Area 12

4. Focus Group Discussion — Bisig ng Mangingisda ng Sildora (BMS)

- BMS has a pending claim over an abandoned 17-hectare fishpond, wherein they are currently completing the requirements to obtain a Fishpond Lease Agreement (FLA)
- In the meantime, three of their members are conducting aquaculture activities farming mud crabs, shrimp and bangus (milkfish)
- They were supposed to enter into partnerships with private sector business entities who were willing to lend them over a million pesos, but this fell through because of the pending FLA application and their own lack of confidence in engaging in a “large” business venture
- The organization has also earned revenue from right of way payments (with pending collectibles) for electricity poles passing through the “property”; there is also a pending proposal for road right of way to a neighbouring commercial fishpond operations
- BMS members also engage in bangus fry gathering (on demand) and seaweed culture, and raised the issue of illegal fish traps (pukot) along the river in the barangay
- They have an ongoing savings and credit programme with excellent repayment rates and have accumulated a substantial loan fund (in the hundreds of thousands of pesos)
- They cite lack of capital and technical knowledge as the reasons for their lagging behind in the application of modern technology in their practice of aquaculture

- They think that there should be livelihood assistance to fisherfolk households during the “cullada”
- To move forward with their enterprise endeavours, they plan to obtain financial, logistical and technical support from the national government
- They consider the present situation (as of September 2023) of having many elderly members as a problem that will affect them over the long term



Focus group discussion in Agdangan, Quezon, the Philippines by Tambuyog Development Center

5. Focus Group Discussion – Samahan ng Nagkakaisang Mangingisda ng Silangan Calutan (SNMSC)

- SNMSC has more than 100 members, of which 60 per cent are men and 40 per cent are women, although they are encountering difficulties regarding attendance at general assemblies and membership meetings
- The women members are also members of the Bantay Dagat and monitor incidents of illegal fishing activities because their assigned marine protected area is visible from the shoreline
- They have conducted mangrove reforestation activities (5 hectares) in partnership with the Department of Environment and Natural Resources (DENR) and seaweed culture in partnership with the Department of Agriculture (DA)
- Women’s roles in fishing include mending nets and household work when the male members are out fishing, and tasks in the organization like finance and documentation
- Women aver that they are represented in the SNMSC Board of Directors and MFARMC
- They stated that resource management by the organization and the community has brought about increased catches (4 kg. average per fishing trip) and reduced market prices for fish
- The organization has an ongoing savings and credit scheme with an excellent repayment rate and the loan fund already amounted to over PhP 1M (as of September 2023)
- The women asserted that livelihood assistance is needed during the “cullada” when

the fishers are unable to fish because of adverse weather conditions; their view is that assistance to agriculture is the priority of the local government

- The organization also attempted to bring in oyster culture, but they were not able to pass the quality control tests of the buyer
- There are beneficiaries of the Pantawid Pamilyang Pilipino Program (conditional cash transfer) of the Department of Social Welfare and Development (DSWD)
- Deworming programmes are conducted in the community and recent surveys (as of September 2023) revealed only two cases of child malnutrition in the community
- There was an extensive discussion on tourism development with the women asserting that this has caused displacement in terms of docking areas for fishing boats and possible eviction from their homes; they are considering the option of obtaining Foreshore Lease Agreements from DENR
- The local government looks favourably on tourism development due to its supposed positive effect on the local economy with the Mayor saying that progress in the locality should not be blocked

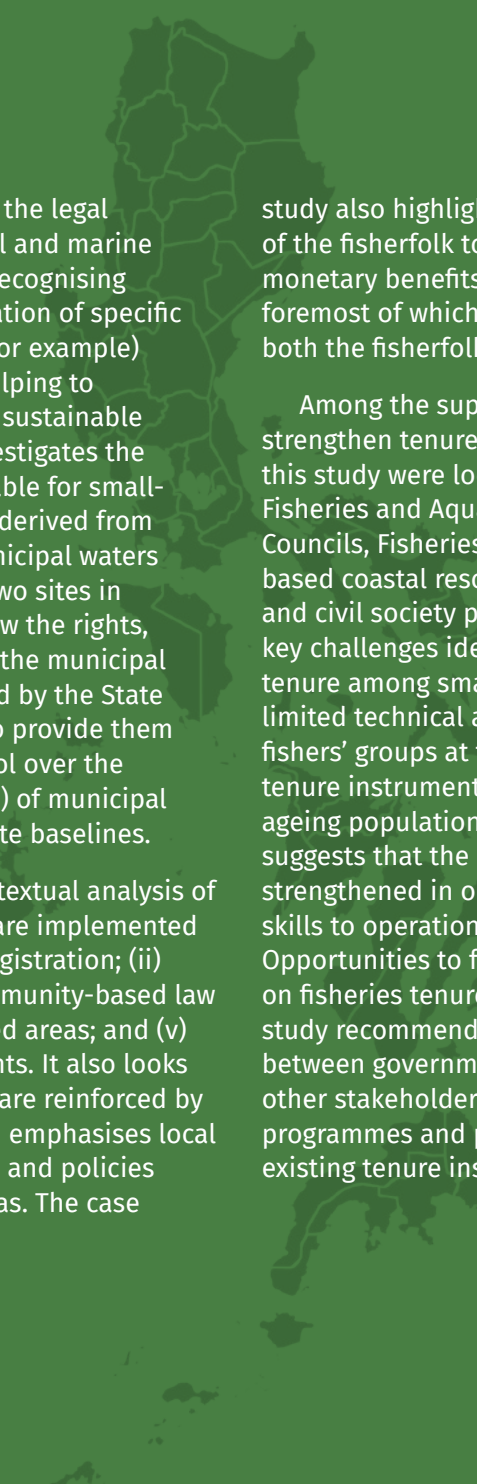
6. Focus Group Discussion – Samahan ng Mangingisda ng Kanlurang Calutan (SMKC)

- Incidents of illegal fishing have gone down because of active resource management efforts led by the MFARMC, Bantay Dagat and the various barangay organizations
- They took part in drafting the coastal resource management plan (fishery development plan) and are members of the MPA management board
- Consequently, increased catch during the peak season has been attributed by the community to the success of these efforts
- However, the resultant increased income went towards the purchase installments of household appliances and other goods
- SMKC has an ongoing savings and credit scheme, and earns revenue from food stalls renting space in the CFLC and boat rentals for tourism
- They estimate that the number of registered fisherfolk increased from 700 to over 1,000 over the past several years; even those who do not own boats and upland farmers register to engage in “pangingilaw” (lights-aided fishing)
- There are still cases of commercial fishing intrusions in the municipal waters of Tayabas Bay
- They are aware of proposals to allow commercial fishing in municipal waters if these are over seven fathoms deep; they counter these by arguing that these operations should only be permitted if they are owned and operated by local fisher cooperatives

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Tuna handline fishers getting ready to go out to sea in Mindoro Occidental, the Philippines, by Nesto Diego/Tambuyog Development Center



Tenure rights in fisheries provide the legal framework for sustainable coastal and marine resource use and management. Recognising tenure rights allows for the allocation of specific coastal resources (fishing areas, for example) to individuals or communities, helping to prevent overfishing and ensuring sustainable resource use. This case study investigates the various tenure instruments available for small-scale fisherfolk, and the benefits derived from their access and control over municipal waters and coastal resources. Covering two sites in **the Philippines**, it investigates how the rights, responsibilities, and remedies of the municipal fishers are enforced and mediated by the State (through the local government) to provide them the preferential access and control over the eight nautical miles (15-kilometre) of municipal waters, measured from appropriate baselines.

The case study provides a contextual analysis of how five key tenure instruments are implemented at the local levels: (i) fisherfolk registration; (ii) municipal waters zoning; (iii) community-based law enforcement; (iv) marine protected areas; and (v) special permits, licenses and grants. It also looks at how these tenure instruments are reinforced by the local government code, which emphasises local autonomy, as well as special laws and policies that are applicable to coastal areas. The case

study also highlights the critical responsibilities of the fisherfolk to enjoy the monetary and non-monetary benefits of these tenure instruments, foremost of which is the registration of both the fisherfolk and their craft/gears.

Among the support mechanisms that further strengthen tenure instruments as analysed in this study were local policy bodies such as the Fisheries and Aquatic Resources Management Councils, Fisheries Management Areas, community-based coastal resources management programmes, and civil society projects on the coasts. The key challenges identified to sustaining coastal tenure among small-scale fishers were: the limited technical and financial resources of fishers' groups at the forefront of operationalising tenure instruments on the ground, and the ageing population of fishers. The case study suggests that the capacity of fishers be built and strengthened in organizational and institutional skills to operationalise tenure instruments. Opportunities to further elevate the discourse on fisheries tenure were analysed. The case study recommends enhancing collaboration between government agencies, NGOs, and other stakeholders in bringing development programmes and projects that strengthen existing tenure instruments at the local level.

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