

Annex 3

Philippine Case Study on Conflict over Use of Municipal Water: Synthesis of three case studies in the Visayan Sea

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1. Introduction

Consciousness about the state of the environment has come into sharp focus in the last two decades. It has become an important concern in the agenda of nations and legislators, and has spawned movements and cause-oriented groups that have critically monitored the impacts of development on the environment. This vigilance has brought to the fore conflicts of interest among the stakeholders affected by changes in structure, processes and management. The emergence of such conflicts is particularly evident in the use of natural resources. The rising population and declining resource base serve as drivers to these clashes among interested groups seeking to gain an advantage over the others.

In the case of fisheries, the conflicts among and between groups of fishers and between traditional and new users of the marine resources, has been increasingly the subject of reporting in national and local dailies. In the scientific literature however, there are still few studies that have addressed fisheries conflicts and the associated personal, community and institutional aspects.

Bennett et al. (2001) explore the nature of fisheries conflict and have identified a typology to represent the dynamics observed in its causation and management. Warner (2000) points to four reasons that might explain the emergence of conflict: (1) demographic change, (2) natural resources competition, (3) pressure of development leading to changes in government policy, and (4) structural injustices.

Bennett et al. (2001) assert that institutional characteristics shape how and when conflicts may arise, and whether or not institutions will succeed in managing conflicts. When transaction costs (such as time, money and effort of fishers and governance) increase, new institutions emerge and evolve to minimize these transaction costs. There is a circular relationship in that conflicts can raise transaction costs, which challenges the effectiveness of institutions, which in turn can lead to further conflict.

Bennett et al. (2001) state that the requisites for effective fisheries management are strong and flexible institutions rooted in clear property rights, management systems rooted in community traditions, fair law enforcement and a competent State. Property rights can also remain on the theoretical level if there is neither competent means of enforcement nor the political will to enforce. The subject legislation of this current Philippine study in fact looks at the codified property rights with regard to the use of municipal waters. The national law however provides certain areas of flexibility, such as in the use of the 10.1-15 km zone for commercial fishing activities. The failure of formal and informal institutions to manage resources efficiently will lead to conflict because of the perception of inequality or injustice among the stakeholders (Bennett 2001).

Bennett applied the typology of Warner in analyzing the data obtained on three different countries. His results show that institutional failure is a critical factor in the emergence of conflict. In Bangladesh, transaction costs to fishers have been increased by the lack of support network, lack of active promotion of fisheries management for sustainable livelihoods, and corruption. In Ghana, although reforms initially lowered transaction costs for the state, the implementation of decentralization offset the aforementioned gain by transferring (thus increasing) the costs to lower management levels. This resulted to weakened enforcement regimes.

Bennett concludes that co-management is the best response to conflict because transaction costs, power and responsibility are shared. Moreover, the support of government and state institutions, such as law enforcement, stable markets and clear political processes, are critical for long-term effective and sustainable conflict management.

1.1 The Philippine Situation

Philippine waters have been judged as overexploited and its marine resources badly depleted. This contributes to the explanation (the other being the rapid growth of aquaculture) for why, although the Philippines ranked twelfth (1998) among the fish producing countries, the participation of capture fisheries in that production has been declining. In particular, the municipal fisheries sub-sector's production has been declining from 54.3% in 1978 and 46.7% in 1987 (Subade, 1999) to only 33.7 % in 2002 (BFAR, 2002). This trend is attributed to the decreasing number of operational municipal fishing boats, the existence of uncontrolled destructive capture methods and a consequently degraded marine environment.

1.2 Conflict in use of municipal waters in the Philippines

Decline in municipal fisheries production may also be attributed to conflict in the use of municipal waters. The 1998 Fisheries Code may have addressed this by stipulating that municipal waters should be reserved for the use of municipal fishers. Although the law provides some flexibilities for local government units (LGUs) to allow certain commercial fishers in the 10.1-15 km zone. In turn, ordinances have been promulgated by the LGUs to implement the provisions of this Code regarding access to municipal waters. The resulting management regime is expected to have created or intensified conflict among competing resource users, as well as between those who are put into advantageous and disadvantageous positions. Although not extensively addressed in this research, there is the added complication introduced by the DENR's Department Administrative Order 17. This imposes a stricter interpretation of the limits of municipal waters using the farthest offshore island, rather than the main coastline, as the point of reckoning for distance. The potential conflicts that arise from this zoning regulation include those within municipalities, between municipalities, between municipal and commercial fishing sector and between fishers and local government/implementing agencies.

1.3 The Visayan Sea.

Among the rich marine waters in the Philippines is the Visayan Sea. In 2000, it contributed 13.8% and 14.2% to the total production of commercial and municipal fisheries, respectively (BFAR 2000). It is the most productive municipal fishing ground in the country (BFAR 2002). The Visayan Sea is located in central Philippines and covers an area of 5,184 km² from latitude 11°00'N to latitude 11°45'N and from longitude 123°06'E to longitude 124°05'E. It is bounded by four provinces (Iloilo, Negros Occidental, Cebu and Masbate), 22 municipalities and three national geographical regions (Regions VI, VII and VIII).

The alarm has been raised that unless committed intervention is taken, marine life in the Visayan Sea is in danger of extinction. The key issues and concerns afflicting the Visayan Sea include resource depletion, unsustainable fishing methods, habitat degradation and resource use conflicts. Research data do not categorically point to overexploitation due to questions on methods used, data reliability, and inadequate samples (Aprieto & Villosio 1979, Armada 1999, BFAR 2001). The BFAR (2001) stock assessment report from January 1998-December 2001 indicates the following: (1) catch per unit effort of trawls, Danish Seines, ring nets and purse seines decreased during the period, (2) the dominant species are under high fishing pressure, and (3) exploitation has exceeded the maximum sustainable levels.

A review of secondary data led Vakily (2004) to the assertion that the Visayan Sea is definitely not underexploited, most probably fully exploited, and very likely overexploited. In his perspective as the director of the Visayan Sea Coastal Resources and Fisheries Management Project, there is not enough data, not enough precision and no measure of certainty to state the extent of over capacity or warrant a conclusion on the absolute state of exploitation of this resource. What can be stated with some certainty, however, is that the Visayan Sea is between fully to over-exploited. Nevertheless, there is a need for fisheries management in view of the popularly perceived

depletion and the increased fishing effort. In view of this need, there has been strong advocacy and action to organize resource-based alliances among political units to more effectively manage the Visayan Sea, and portions of it. There are now at least two alliances that have been created or reinforced within the umbrella of the Visayan Sea Project. These are the NIACDEV in Northern Iloilo and NNARMAC in Northern Negros Occidental.

Management of access to municipal fisheries is expected to intensify conflict among competing resource users, as well as between those who are advantaged and disadvantaged by the management regime. Central to coastal fisheries resource management is fisheries law enforcement. In its statement of policies, RA 8550 or the 1998 Philippine Fisheries Code gives preferential use of municipal waters to municipal fishers. Ordinances have been promulgated by the LGUs to implement the provisions of the Fisheries Code. Inevitably, this has created conflicts. Although not extensively addressed in this research, there is the added complication introduced by DENR's Department Administrative Order 17 which imposes a stricter interpretation of the limits of municipal waters using the farthest offshore island, rather than main coastline, as the point of reckoning for distance. The potential conflicts that arise from this zoning regulation include those within municipalities, between municipalities, between municipal and commercial fishing sector and between fishers and local government/implementing agencies.

1.4 Goals and Objectives.

The general goals of the research were: (1) to develop a broad framework for addressing approaches for reducing overcapacity in the fisheries of Southeast Asia; and (2) to examine where conflicts may arise and to provide plans to ameliorate these conflicts and its role in reducing conflicts and enhancing national and regional security.

The research attempted to meet these broad goals by pursuing the following specific objectives:

1. To describe the socio-economic conditions of fishers in selected areas around the Visayan Sea;
2. To know the perceptions of fishers with regard to fishing capacity and changes in the state of fisheries;
3. To explore the acceptability of certain exit strategies or approaches to reducing overcapacity; and
4. To document the types and causes of conflict that have arisen out of the municipal zoning regulation and the manner by which the stakeholders are responding to the conflicts.

2. Method

To enable an understanding of the dynamics of fishing overcapacity, conflicts and security issues in the Philippines, a case study is drawn of the fisheries conflicts arising from zoning regulations. A semi-structured questionnaire was used within an interview context to gather information on the study variables. These were complemented by key respondents interviews and focus group discussions.

2.1 Selection of the Study Municipalities.

Two municipalities and one city along the Visayan Sea area were selected to provide insight into the issues under study (see Figure 1). The municipalities selected represent different levels of fisheries resource management and organization. Consultation with the Visayan Sea Project officers yielded information concerning the types of access to municipal waters being implemented.

One type is represented by the municipality of Daanbantayan, Cebu, which provides for exclusive use of municipal waters only to its own municipal fishers. Thus, it excludes even the fishers of its neighboring municipalities. Moreover, Daanbantayan is in an area where no coastal resource alliance has yet been organized among neighboring municipalities in this side of the Visayan Sea.

Another type is the case of the municipality of Concepcion, Iloilo, which allows selective fishing in the 10.1-15 km area for commercial fishers. However, it was noted that these commercial fishers used active gears. Such gears are not really allowed in municipal waters.

Escalante City represents an area where management is not as organized and active. However, its local government is firm in implementing the fishery laws. The city of Escalante has likewise been experiencing a level of controversy on the designation of the marine protected areas (MPAs) or fish sanctuaries. These three areas were selected to provide the basis of the Philippine case study, because of the expected variety of conflicts that may have arisen from their respective access regimes.

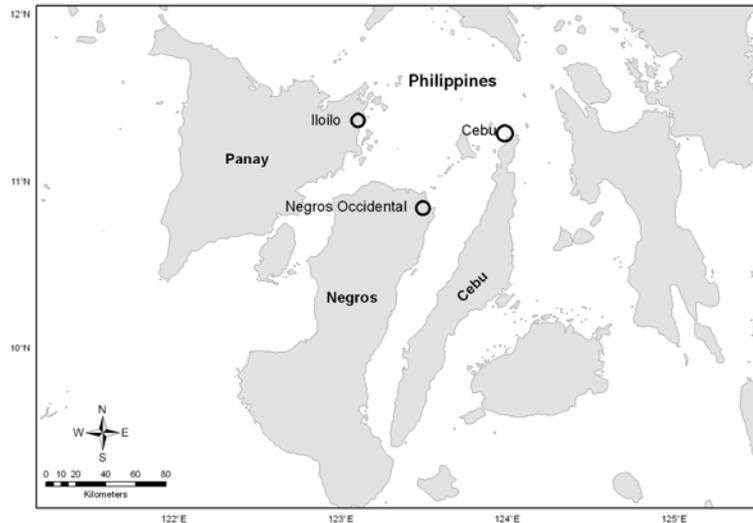


Figure 1. Location of study areas in the Visayan Sea.

2.2 Respondent Sample.

A total of 258 fishers were interviewed for the Philippine case study. Table 1 shows the distribution by type of fisher and by location.

Table 1. Study Respondents by Type of Fishers and Location.

	Concepcion		Escalante		Daanbantayan	
	Freq.	%	Freq.	%	Freq.	%
Fishers						
Municipal	53	49.1	52	57.8	30	50.0
Commercial	55	50.1	38	42.2	30	50.0
<i>owner</i>	13	23.6	5	13.0	3	10.0
<i>owner-captain</i>	11	20.0	0	0	0	0
<i>captain</i>	19	34.6	16	42.0	4	13.3
<i>crew</i>	12	21.8	17	45.0	23	76.7
Total	108	100.0	90	100.0	60	100.0

This was augmented by interviews of key informants which included the municipal mayor, chair of the MFARMC, the fishery coordinator, the chair and some members of the Bantay Dagat, members of the seaborne patrol, barangay fishwarden, available officer of fishers' association, the city's Executive Assistant for Agriculture, barangay leaders, the police, and the head of Barangay Fisheries and Aquatic Resources Management Council, as the case may be.

2.3 Sampling.

Two groups of respondents were identified: municipal fishers and commercial fishers. Some key informants were asked to identify fishers who, to their knowledge, have encountered conflict of any type as long as it is pertinent to their fishing operations. The list generated was augmented by a

snowball method wherein those interviewed were asked to name some other fishers who may have experienced conflict in their fishing operations.

2.4 Interview Schedule.

The interview questionnaire consisted of seven parts: Part 1. Profile of respondents; Part 2. Household characteristics; Part 3. Lifestyle indicators; Part 4. Characteristics of Fishing Activity/Production; Part 5. Assessment of fish catch and fishing activity; Part 6. Reactions to exit strategies/ Needs and assistance; and Part 7. Conflicts and responses.

2.5 Procedure.

Two sets of interview schedules were formulated: one for municipal fishers and one for the commercial fishers. The interview schedule was pre-tested with the municipal and commercial fishers from a municipal barangay in southern Iloilo. All interviews were conducted in the local language by four trained enumerators under the supervision of the research team.

The field work was carried out from June to July 2004. Data collection was always preceded with a prior visit with the town mayor and other local officials, with whom a dialogue on the study was conducted. After data analysis, focused group discussions were undertaken to report back to the barangay and obtain their feedback on the findings.

3. Description of the Study Area

3.1 Concepcion, Iloilo.

The municipality of Concepcion is located 112 km northeast of Iloilo City at 123°64' E longitude and 11° 13' N latitude (The Municipality of Concepcion, 2004). Concepcion has 17 islands with an aggregate land area of about 34.94 km² or 36.01% of its total land area of 97.02 km². Concepcion has 25 barangays, 14 of which are mainland barangays and 11 are island barangays. Of the 14 mainland barangays, five are coastal barangays.

Barangay Bagongon was chosen as the specific study site because it is popularly recognized as having witnessed many conflicts between municipal and commercial fishers. Most of the commercial fishers (mainly trawlers) in Concepcion reside in this barangay along with many municipal fishers. The barangay is the second biggest barangay of Concepcion in terms of land area (6.14 km²) inhabited by 1957 residents (projected population for year 2004). It is a remote fishing village, about a 50-minute boat ride from the mainland under normal weather condition. The municipal population growth rate is 2.79%, higher than the national rate of 2.31%. In 2004, the projected population of Concepcion is about 38,224 individuals. More than half of the total population (52.28%) live in the islands. Fishing is the main source of livelihood of most of the people.

3.1.1 Coastal Resources Management.

Concepcion is the seat of the Northern Iloilo Alliance for Coastal Development (NIACDEV), with the town mayor, its local chief executive, serving as the chair of the Alliance since it was formed in 1998. The Alliance aims to make northern Iloilo as the fish and other marine products capital of Western Visayas. Concepcion is popularly recognized as the "showcase" municipality in Northern Iloilo in terms of fisheries management and regulatory practices.

As indicators of the municipality's relatively high level of coastal resource management, one can point to: (1) the full-time appointment since 2001 of a coastal resource management officer; (2) the creation in 2001 of its Municipal Fisheries and Aquatic Resources Management Council (MFARMC); (3) the creation of barangay level FARMCs in six coastal barangays; (4) and the existence of nine fisherfolk organizations. In March 2004, fisherfolk registration started. There are 2,221 registered municipal fishers and 318 commercial fishing vessels. Among the municipal fishers, 932 use motorized boats and 894 use non-motorized boats. The municipal waters was

delineated with the assistance from the National Mapping and Resource Information Authority (NAMRIA).

The *Bantay Dagat* (Sea Patrol) was formed in 1995. The local chief executive heads the Bantay Dagat team. One team on duty is composed of a police officer and two drivers; in addition, they are backed up by a pool of 24 fish wardens who are also municipal fishers. The cost of operation is about PhP 2,000 daily (mainly for the fuel). The budget for the operation of the Bantay Dagat is derived from the fines and penalties from violations and fishery rentals that amount to millions annually. Despite the extensive municipal water, the Bantay Dagat has to contend with only two functional main patrol boats and three smaller patrol boats stationed in Barangays Loong, Nipa and Botlog.

3.1.2 *Regulations Pertinent to the Use of Municipal Waters.*

One significant issue affecting Concepcion's use of municipal waters is the unclear definition of the municipal waters brought about by DAO (Department Administrative Order) 17 issued by the Department of Environment and Natural Resource (DENR), which uses the outermost offshore island rather than the general coastline (RA 8550, 1998 Fisheries Code) as the point for reckoning 15 km limit. Using DAO 17 definition, the municipal waters of Concepcion would start from Baliguian Island, which is about 22.5 km away from the mainland. This means that under the zoning regulation, commercial fishers are allowed to fish only beyond 37.5 km away from the general coastline of the mainland. Although this order was eventually revoked on March 17, 2003, after it became effective on June 6, 2001, the confusion still remains.

Other conflicting legislation exist. A municipal ordinance was passed in 1999 to allow commercial fishers to fish within the 10.1 to 15 km of the municipal waters if they pay fishery rentals of PhP 2,500, good for two weeks. This 10.1 km is in the area of Danao-Danao Island. Fishers call this as the "second canal". This area is said to be equidistant to Concepcion and Cadiz, Negros Occidental. However, active gears like trawl and Danish seines are not allowed to fish in the municipal waters. Beach seines (locally called *sensoro*), however, are allowed within 7 km if they catch anchovies and "lobo-lobo" (fish smaller than anchovies). This fishing privilege is abused with the use of fish finder and superlight, and they catch any fish in sight. Also, municipal legislation states that the use and exploitation of the municipal water is reserved exclusively for local fishers. Nonetheless, municipal fishers from other municipalities are allowed to fish in Concepcion if they secure mayor's permit and uses legal gears.

Monitoring, control and enforcement of fishery laws is difficult and costly given the size of the municipal waters and the number of resource users. The local Bantay Dagat has only two patrol boats and is dependent on the information coming from deputized fish warden (volunteer fishers) based in the islands. Commercial boats are faster than the patrol boats. Commercial fishers also have "watchers" at the port reporting to them using cellular phones when the Bantay Dagat are in operation. The major regular violators identified were also government officials.

Encroachment of the municipal waters by the commercial fishers and of the MPAs is a daily problem. These commercial fishers are from Concepcion, nearby municipalities like Ajuy, Cadiz and Sagay, Negros Occidental and even from the municipalities in Masbate. It was reported that these "outsiders" tend to use destructive fishing gears like purse seines and big Danish seines.

3.2 *Escalante City, Negros Occidental.*

The city of Escalante is located at the northeastern part of Negros Island. The city is composed of 21 barangays, 7 of which are coastal. It has a land area of 192.7 km². The municipal waters, which has been delineated by the National Mapping and Resource Information Authority (NAMRIA), has an area of 220 km². The coastline stretches 37 km, excluding the city's only island (Bagong Banua).

In 2003, Escalante City had a population of 88,577 people. The 7 coastal barangays have a total population of 37,425, which is more than 40% of the total city population. Of the 19,276 ha land area, more than 96% are agricultural in land use. Farming, fishing and merchandising are the main

sources of livelihood in the city. Sugarcane is planted in approximately 62% of the agricultural area. The rest are planted with coconut, corn and rice.

In 2003, the Bureau of Fisheries and Aquatic Resources (BFAR) and the National Fisheries Research and Development Institute (NFRDI) assessed selected sites in northern Negros and concluded that coral reefs in Bagong Banua and Malabagon are in fair condition. The study observed infestation of crown-of-thorns in some sites. They likewise noted the prevalence of dead corals, which are remnants of blast fishing activities within the area. The condition of coral reefs in other areas in Escalante is unknown. No assessment has been done for mangrove and seagrasses, although mangroves are present in the barangays of Cervantes, Washington, Japitan, Old Poblacion and Rizal (Calumpong and Mendez 1997).

3.2.1 Coastal Resources Management.

In 2000, the city of Escalante and 8 other cities and municipalities established the Northern Negros Aquatic Resources Management Advisory Council (NNARMAC). The NNARMAC is an alliance of local government units in northern Negros, which serves as a coordinating body to manage the area's fisheries and aquatic resources. The alliance is relatively young compared to the more organized NIACDEV in northern Iloilo.

Escalante City maintains an organized Bantay Dagat equipped with three patrol boats, each with communication equipment and a Global Positioning System (GPS) to identify location. Between 1998 and 2003, the Bantay Dagat has collected more than PhP 1.3 million as penalties for the violation of fishery laws. Seventy percent of the amount is used for the maintenance and operating expenses of the Bantay Dagat. The rest is spent for personnel incentives. The Bantay Dagat of Escalante is considerably one of the "operational" Bantay Dagat in the region, and is actively patrolling the coast against illegal fishing activities.

Local fishers have also been slow in organizing themselves into a collective group for fisheries management and conservation. A few of the fishers are members of a fisherfolk organization and three other cooperatives. The coastal barangays have yet to establish their Barangay Fisheries and Aquatic Resources Management Councils (FARMC). The City FARMC has been recently created. But it has yet to provide a more active role in the management and utilization of the city's fisheries and aquatic resources.

3.2.2 Regulations Pertinent to the Use of Municipal Waters.

In order to help manage Escalante's fisheries, a number of local laws have been passed. Municipal Ordinance No. 43 is regarded as the principal fisheries law in the city. It is notable that the ordinance has not been updated since the R.A. 8550 or the Fisheries Code of the Philippines was passed in 1998. Municipal Ordinance No. 43 establishes the zoning regulation in Escalante City. It provides that Danish seines are not allowed to operate within 7 km from the shoreline, while trawls and purse seines are not allowed to operate within 10 km from the shoreline.

In 2003, the City Council approved the establishment of the Escalante Bay Marine Sanctuary through City Ordinance No. 156. The proposed sanctuary has a total area of 1323.5 ha and is situated near the Bagong Banua Island (Fig. 2). However, its creation has been delayed pending the approval of the Sangguniang Panlalawigan of Negros Occidental.

3.3 Daanbantayan, Cebu

Daanbantayan is a fourth class municipality located in the northernmost tip of the island of Cebu. It lies about 147 km from Cebu City. It has a total population of 69,335, of which 58,954 live in coastal barangays. The estimated number of fishers is 11,000. Of the municipality's 20 barangays, 15 are coastal, inclusive of two island barangays. One island barangay (Logon) is within 5-10 km from the shoreline of Daanbantayan and the other (Carnaza) is 10-15 km away. The total land area of the municipality is 10,545 ha and the length of its shoreline in the mainland is 67 kilometers. The main products of Daanbantayan are marine products, coconut, buri, maguey, bamboo, corn and coal.

3.3.1 *Coastal Resource Management.*

Unlike the two other study areas, Daanbantayan is not a member of any coastal resource management alliance. Nevertheless, it has established its Municipal Fisheries and Aquatic Resources Management Councils (MFARMC). Its head reported in the interview for this study that the Barangay FARMCs were organized three years ago, but these are currently inactive. Members do not come to meetings called by MFARMC because they find travelling to the venue costly and perceive no benefit from their attendance. As of the time of the research, it was reported that only 600 of the 11,000 fisherfolk in Daanbantayan are registered, despite the ordinance in late 2002 requiring them to register.

The Bantay Dagat created in 2002 consists of nine members and is provided by the municipality with six pumpboats and a PhP 1.3 million allotment per year. The equipment available to them are a camera, megaphone, and a telescope. Due to lack of funds the municipality is unable to provide them with a GPS which would otherwise have facilitated the task of apprehending violators of the zoning regulation. The team operates from four in the morning to five in the afternoon. At night, a seaborne patrol of six members also operates. Each warden is paid a thousand pesos monthly and can expect to receive 10% share of fines and 25% from the total catch of violators. However, this sharing scheme seemed not to have been implemented up to the time of this study.

3.3.2 *Regulations Pertinent to the Use of Municipal Waters.*

Despite the non-existence of a coastal resource management alliance, the local government has enacted a number of fisheries ordinances which regulate fishing effort. One is the stipulation that hulbot-hulbot (Danish seine) and purse seine methods of fishing are prohibited in municipal waters, i.e. within 15 km of the coastal and island barangays. Thus, Daanbantayan implements the exclusive use of municipal waters for its fisherfolk.

There is an understanding among the three neighboring municipalities of Daanbantayan, Bogo, and Medellin that they are going to implement the exclusive use of their respective municipal waters. However, encroachers would be advised properly before cases are filed against them. Informants cited that some fishers as far as Leyte had tried to ask for permit to operate in their municipal waters. However, they were not allowed due to this municipality's exclusivity agreement.

An ordinance requiring fishers to register was also passed in 2002. Through this ordinance, the Daanbantayan municipal Bantay Dagat task force was created under the office of the mayor. Its purpose is to fully implement and enforce all existing fishery laws and ordinances pertaining to the protection, conservation and preservation of aquatic life and marine resources within the municipality's territorial waters. In 2002, an ordinance was likewise passed requiring the color code and registry markings of all sea vessels in the coastal barangays within the municipality of Daanbantayan, and prescribing penalties for violations thereof. The intent of the ordinance is to more effectively monitor the legitimacy of the fishing boats operating in the municipal waters.

4. Socio-demographic Characteristics of Respondents

In all study areas, the municipal fishers were consistently older than the commercial fisher respondents by approximately 10 years. Table 2 provides the socio-demographic characteristics of fisher respondents. Except in Concepcion which shows about the same value, the average age at which respondents started fishing is slightly lower for municipal compared to commercial fishers. For both groups, this is in their teenage years. The only exception is in Cebu where commercial fishers have average age of 20 years old. The average number of years fishing is consistently higher for municipal (26-29 years) compared to commercial fishers (16-19 years). Household size is about 5-6 members. The higher modal educational attainment is found among the commercial fishers of Concepcion (elementary graduate) and Daanbantayan (high school level). Most of the municipal fishers in all three study areas have only completed elementary education.

Table 2. Selected socio-demographic characteristics of fishers.

Variable	Concepcion		Escalante		Daanbantayan	
	Mun n=53	Com n=55	Mun n=52	Com N=38	Mun n=30	Com n=30
age of the respondents	42.96	33.96	45.92	35.42	46.10	36.57
age start fishing	16.31	15.64	16.98	18.65	18.83	20.17
Number of years fishing	26.66	18.82	28.94	17.57	28.43	16.07
Sex						
Male	100%	98.2%	100%	100%	96.7%	100%
Female	0	1.8%	0	0	3.3%	0
Civil Status						
Married	92.5%	72.7%	96.2%	65.8%	93.3%	66.7%
Single	7.5%	23.6%	0	31.6%	3.3%	30.0%
Widower	0	3.6%	3.8%	2.6%	3.3%	3.3%
Educational attainment						
<u>Primary Education</u>						
• Elementary	49.1%	30.9%	73.1%	36.8%	50%	16.7%
• Elementary Grad	26.4%	30.2%	13.5%	18.4%	20%	26.7
<u>Secondary Education</u>						
• High School	13.2%	10.9%	0	21.1%	16.7%	20.0%
• High School Grad	9.4%	12.7%	11.5%	18.4%	10%	20.0%
<u>Tertiary Education</u>						
• Vocational	1.9%	1.8%	0	0	0	0
• College	0	5.5%	0	2.6%	3.3%	6.7%
• College grad	0	0	1.9%	2.6%	0	10.0

Legend: Mun = municipal; Com = commercial

The annual household income is higher for commercial fishing households. Daanbantayan commercial fishers had the highest average annual household income at PhP 61,060 while among municipal fishers the highest average is PhP 37,223 in Escalante. Household size ranges from 4.7-5.5 members.

A greater percentage of commercial than municipal fishers own the land where their house is built. In Escalante, although this difference is minimal. Among the three areas, Concepcion's municipal fishers are better off in terms of land ownership. About 90% on the average own their houses, of which many are made of light materials among the municipal fishers. More of the commercial fishers in Concepcion and Daanbantayan report having houses made of permanent materials. The highest access to electricity is found among fishers in Cebu, which probably speaks more of the higher economic development in this province. Overall, there are also more commercial fishers with access to electricity compared to municipal fishers. Wood is the most common fuel used for cooking. In Concepcion, there is a high usage of charcoal as well. In Cebu, LPG is slightly more popular than wood.

Table 3. Characteristics of Fishing households.

Variable	Concepcion		Escalante		Daanbantayan	
	Mun n=53	Com n=55	Mun n=52	Com n=38	Mun n=30	Com n=30
Annual Income (PhP)	31,311.98	55,094	37,223.08	41,969.74	32,863.33	61,060.53
Household Size	4.94	4.76	5.07	5.5	5.03	5.23
Own land where house is	35.8%	65.5%	19.2%	21%	13.3%	56.7%
Permanent materials	11.3%	45.5%	34.6%	23.7%	30%	40.0%
Semi permanent	37.7%	23.6%	23.1%	47.4%	23.3%	30.0%
Light materials	49.1%	30.9%	42.3%	28.9%	46.7%	30.0%

Access to electricity	50.9%	80%	65.4%	71%	70%	90%
Electric Bill (PhP)	115.2	194.7	177.73	247.44	235.04	911.11
Fuel used in cooking *						
charcoal	37.7%	78.2%	13.5%	26.3%	3.3%	20%
Wood	90.6%	67.3%	94.2%	84%	93.3%	53.3%
LPG	5.7%	21.8%	17.3%	13.2%	20%	56.7
others	0	5.5%	0	0	0	0
Source of water *						
Deepwell	81.1	78.2%	82.7%	81.6	13.3%	33.3%
Shallow well	13.2	18.2%	7.7%	7.9	0	16.7
Rain	0	0	0	0	0	0
Filtered	0	0	0	5.3	0	6.7%
Pipes	26.4	10.9%	0	2.6	86.7%	36.7%

Legend: Mun = municipality; Com = commercial; n = sample size; * = multiple response

5. Fishing and Fishing Related Activities

While the boats used by municipal fishers are by definition less than three gross tons (GT), the boats used by commercial respondents in Concepcion and Escalante are also less than three GT but with active gears. Table 4 shows the fishing-related characteristics. In a few cases in Concepcion, it was learned that some respondents misdeclare their tonnage in order to avail of privileges given to boats smaller than three GT. The tonnage reported by commercial fishers in Daanbantayan ranges from 20.1 to 150 GT.

In Concepcion, municipal fishers were using simple and passive fishing gears, which are not highly exploitative and are appropriate to use in the shallow nearshore where most of them fish. The table shows that two variants of longline, “kitang” and “labay”, were the most popular gears used by the municipal fishers (54.72% and 39.62 %, respectively). In Concepcion, “kitang” is vertical longline and “labay” is horizontal longline. A longline is an extremely long line with a large series of baited hooks and requires periodic attention at more or less fixed interval of time. A small number of municipal fishers were engaged in traditional hook and line (5.67%), troll line (9.43%), squid jig (3.77%), crab pot (7.55%), and bottom set gill net (13.21%).

On the other hand, most (94.55%) of the commercial fisher-respondents in Concepcion were involved in trawl fishing. Three commercial fishers were engaged in gillnet fishing. Trawl is a more efficient active gear and is appropriate for offshore use. It can be destructive and has the potential to overexploit the resource.

In Escalante, some of the fishers use multiple gears. Because gillnets and longlines were the most common fishing gears in Escalante, majority of the respondents chosen were operators of the said fishing gears. All of the respondents from the commercial sector were baby trawlers, except one who was a mid-water trawler.

In Daanbantayan, the most common among the municipal fishers is the drift gillnet, followed by the drop line and then the bottom set gillnet and crab pots. All respondents own their gear and 83% own their boats. Eighty percent of municipal boats are motorized and of less than three GT. On the other hand, 77% of commercial fisher respondents were affiliated with only six Danish seines (of which five are referred to as zippers and one as a hulbot-hulbot) and a purse seine. As explained in the separate report on Daanbantayan, there was difficulty locating commercial vessel respondents plying the Visayan Sea outlying the northern section of Cebu.

Table 4. Characteristics of fishing activities.

Variable	Concepcion		Escalante		Daanbantayan	
	Mun n=53	Com n=55	Mun n=52	Com n=38	Mun n=30	Com n=30
No. of boats	53	30	52	19	30	7
Tonnage						
<3 GT	100%	65.5	100%	100%	83.3%	6.7%
3.1-20 GT	0	9.1	0	0	0	0
20.1-150 GT	0	0	0	0	0	80%
Fishing days in a month	15.94	17.96	23.16	17.57	26.40	21.20
Fishing trips/day						
Once	92.5	76.4	88.5%	100%	100%	10%
Twice	7.5	7.3	11.5%	0	0	0
Others	0	0	12.7%	0	0	0
<>1 week	0	0	0	0	0	90%
Total fishing hours a day	8.55	11.69	11.90	14.79	9.2	14.26
License	28.3%	69.1%	15.4%	76.3%	40%	100%

Legend: Mun = municipality; Com = commercial; n = sample size

In general, fishers in Concepcion and Escalante go on a single fishing trip per day and average 16-23 days a month. The commercial fishers in Daanbantayan can go for a week on a fishing trip and return in less days only when their supplies run out. They average 14 hours of fishing daily. As with the other commercial fishers in the two other places, the daily fishing hours are longer compared to the hours spent by municipal fishers.

6. Assessment of Fish Catch and Fishing Activity

The fishers were asked to evaluate their catch five years ago compared to their current catch. They were then also asked to compare the future catch (five years hence) with the present. Their responses were captured in a forced-choice response format.

The majority of the municipal fishers and the commercial fishers for the three areas claim that their volume of fish catch in the past is higher compared to the present. They are pessimistic of the future, however, because they expect that their catch will decline. The higher catch five years ago is due to the following: (1) fewer fishers, (2) few high efficiency gears, (3) no illegal fishing, and (4) no restrictions in fishing activity. The municipal fishers blame the decline in their catch to the operation of the commercial fishers. On the other hand, the small scale commercial fishers in Concepcion and Escalante hold the large scale commercial fishers, like the purse seines and Danish seines, responsible for the destruction of their fishing areas. Moreover, the enormous capacity of these vessels to catch large volumes of fish also limits their catch. A single operation of these large-scale vessels is equivalent to one month of hard work in fishing for the small-scale fishers. Their pessimism over the future is due to their expectation that more people will enter fishing as an occupation. Because many coastal dwellers are poor and lack skills, fishing is always a last resort to earn a living. For those with capital, it is a profitable enterprise. Catch is also expected to further decline because of the predominance of destructive gears. However, a significant percentage of the large-scale commercial fishers in Daanbantayan, which are composed of danish seines and purse seines, assert that the volume of their fish catch remained the same. The irony of it is that these large-scale commercial fishers admit that they are destructive and they have larger fishing capacity. Nonetheless, they have to continue their operations because fishing is also their main source of income. There is also the belief that fisheries management regimes will eventually lower production. In Daanbantayan, the municipal fishers, more than the commercial ones, experience the decline in fish catch through the years.

For most of the municipal fishers, the size of their fish catch in the past remains the same as the present. They stress that the size of fish will not all of a sudden be giant fishes, crabs and shrimps. Rather, most of the fishers catch the same species that stop growing after they reach maturity. Depending on the season caught, the size of squid varies. Those who believe that size will be smaller blame over-fishing, in which even the juveniles are captured by fine mesh nets.

Their responses on changes in the value of fish catch are related to prices and volume of the species caught. According to fishers, the prices of the fish products were lower in the past but they can still catch higher volume during that time. Presently, the prices of fish products are higher; however, they now have lower volume of catch. Most fishers declared that they used to have larger income from fishing. They expect their future to be gloomy because they expect lower income. Aside from similar reasons given by the municipal fishers, the commercial fishers show more appreciation for the expenses entailed in fishing and its effect on income. This may be because the crew members, share of catch are affected by operational expenses of the boat. While this is also the same for municipal fishers, the number of fishers sharing the catch is fewer and the crews are mainly family members.

When asked to compare the past and present composition of their catch, the municipal fishers from Concepcion and Escalante claim that they used to catch higher value of first class fish species. Because of the emergence of the destructive gears, they are now catching third class species. Most of both types of fishers in Daanbantayan, however, claim that their catch remained unchanged and will still be the same in the future. The commercial fishers also said that the composition of their catch remained constant, because they have been fishing in the same area.

The length of time fishing for most of the commercial and municipal respondents from the three study areas is expected to be the same in the future. The main reason is that they will still follow the same schedule of fishing regardless of volume of catch. Only the commercial fishers in Daanbantayan and the municipal fishers in Concepcion claimed that they used to have shorter fishing time in the past, because it was easier and quicker to find fish. Although most of the respondents say that the fishing time still remains the same, there are also a number of the commercial fishers in Concepcion who contend that they now have longer fishing time because they are forced to fish farther. Hence, it requires longer fishing time on their part. About 32 % in Concepcion said that in the future, they expect longer fishing time because they need to wait until they have a catch because it is their only source of income to buy for family's needs.

All of the respondents pointed out that there are fewer fishers in the past compared to the present because not many knew of this occupation. According to them, it will still continue to increase in the future because of the entry of the sons of the fishers. Many lack formal education and have no other employment options. However, there is also a set of respondents who think that the future increase in number of fishers will be due to the attractiveness of fishing as a profitable enterprise. The increase in population is also cited as reason for increase in fishers.

7. Reactions to Exit Strategies

The pattern of popularity of the different exit strategies varies from area to area, although there is an apparent consensus on the preference for the banning of some gears and the provision of alternative livelihoods.

7.1 Banning of certain gears.

Most of the respondents strongly supported the prohibition of some fishing gears to rehabilitate the aquatic habitats, to increase fish population, and to prevent illegal fishing activities. These include dynamite fishing, cyanide fishing and use of destructive and highly efficient gears like Danish seines and trawls. They believe that trawls destroy coral reefs and the Danish seines catch juvenile fish because they use fine meshed nets. A single night's catch of these seines is equivalent to the municipal fisher's two-week catch. There is a preponderant concern in Concepcion that some gears catch even the immature fish, thus decreasing future fish stocks. Many of the baby trawlers did not consider themselves as destructive. The fishers said that the government should take the lead role in eliminating illegal fishing.

7.2 Alternative jobs outside fishing.

Those who agree with the option for alternative jobs realize as they grow older, fishing has become heavy, difficult and hazardous work. They hope that the new jobs outside of fishing will be lighter than fishing. Many agree to move out of the industry on condition that the earnings should at least equal their income from fishing. Others felt that fishing was inseparable from their lives, and working on land would not be as psychologically gratifying.

In further exploring the feasibility of promoting alternative livelihoods, respondents were asked to state the skills outside of fishing, which can be acquired for themselves, their spouse, or children. Many indicate that they would be able to do something in business, carpentry, mechanic work, construction, masonry, driving, farming, and handicrafts making. Because of their limited education, their choices for employment are narrower.

The single most important assistance they express as needed to leave the fisheries is capital. Most of them expect the assistance to come from the LGUs in the form of either a loan or a grant.

7.3 Limitation of catch and of fishers.

Similarly there is a general disagreement for the establishment of a maximum limit of catch and the limitation in the number of fishers. The fishers cannot imagine how limitation of catch can be effected as, once fish is caught, putting back to sea a possibly dead fish would serve no purpose. More importantly, fishers argue that limiting catch according to scale of operation would make their operations less viable and would mean lower incomes for them. They cannot see the logic of limiting catch when in fact they have already been experiencing lower catch. Some fishers suggest that limitation should apply only to commercial fishers because they have large catches. This effect on income is seen as more significant for municipal fishers, as it will greatly affect their ability to support their families.

Limiting the number of fishers is largely unpopular. The limited employment opportunities lead people to fishing as their main source of living. Restricting access would mean hunger for many. Some municipal fishers say that for as long as fishers are using legal gears – and they are from the same municipality - then they should be allowed to fish. As local residents, they think that they have the right to fish within their municipal waters. They suggest that the commercial fishers should be kept out of municipal waters.

7.4 Practice of Closed Season.

There is ambivalence for the practice of closed season. The municipal fishers in Daanbantayan and Escalante, are especially split on this exit option. While some appreciate the value for the spawning and biological growth of fish, others see only the impact of a season on their livelihood. They would have no means of income during the proposed closed season. However, about 75% of both types of fishers in Concepcion agree with closed season. Most of the latter's municipal (77.4%) and commercial fishers (74.60) agreed to have a closed season. According to them, fish breed and grow during closed season. Thus, plenty of fish is expected to be harvested later. To some fishers, the closed season is also rest time for them. To some commercial fishers, they will agree to stop fishing even for four months. In return, they would have no fishing restrictions for the remaining eight months. Those who were against it cited the lack of livelihood during the non-fishing period. Those who were amenable to the proposal said they would like to give the fisheries a chance to recover, especially during the spawning season.

7.5 Establishment of MPAs/Sanctuaries.

Although there is clear agreement for the establishment of MPA's in Daanbantayan and Concepcion, 86% of the commercial fishers and 32% of municipal fishers in Escalante disagree with it. The reasons given are that MPA's reduce their fishing ground and will ban gleaning activity. Their unexpected negative predisposition toward fish sanctuaries reflect the controversy that has surrounded this issue. The incumbent mayor's political rivals used the establishment of MPAs as

an issue against him. There were misinformation circulated regarding the negative impacts of MPAs on the fisheries.

8. Conflicts in the Fisheries

Respondents were asked about their experience with conflict brought about by the zoning regulation applied to municipal waters. They were guided to include details on the nature and cause of the conflict, the events, persons involved, and manner of resolution.

8.1 The Zoning Regulation.

In the municipality of Concepcion, through an ordinance, allows commercial fishers between 10.1-15 kilometers from the shoreline for a rental fee of P2,500 for two weeks. Commercial fishers resent their exclusion below the fifteen kilometer zone. They believe that the best fishing grounds are at about the seven kilometer area. They question why municipal fishers are privileged while it is the commercial fishers that pay licenses, permits, and taxes. Most fishers interviewed were unaware that the municipal fishers from other municipalities could fish in the waters of Concepcion if they secure permit and license to operate.

Depending on gear used, municipal fishers in Escalante venture up to certain distances from shore, many of whom operate up to 12 kilometers. By ordinance Danish seines are not allowed to operate within seven kilometers, while trawls and purse seines are prohibited within ten kilometers. However, in practice, baby trawlers operate after seven kilometers while Danish seines are allowed beyond ten kilometers. Purse seines (super hulbot) and other trawls (mansuria) are prohibited within fifteen kilometers from the coastline. This discrepancy between ordinance and practice has been confusing for the fishers.

Daanbantayan has reserved the 15 kilometer municipal waters exclusively to local municipal fishers, an ordinance which is common to neighboring municipalities. This is a source of dissatisfaction among some respondents because some municipal waters are experienced to be richer fishing grounds than theirs (Daanbantayan).

8.1.1 Concepcion, Iloilo.

The municipal water of Concepcion is reserved for use by the municipal fishers. Commercial fishers are supposed to operate beyond 15 km of the municipal waters. In Concepcion, an ordinance was passed in 1999 allowing commercial fishers to fish within the 10.1 to 15 km area from the shoreline. Fishers call this "free zone" as the "second canal," just about 3 km from Barangay Bagongon, in the area of Danao-Danao Island. This "second canal" is said to be equidistant to Barangay Bagongon and Cadiz, Negros Occidental. This fishing right, however, is in exchange for a fishery rental worth PHP 2,500 for two weeks.

The commercial fishers of Barangay Bagongon feel that they are being treated as "outsiders" in their own waters. They resent their exclusion in the municipal waters where they believe that the fish stocks abound. They believe that the fish path is before 15 km and the ideal fishing area is at 7 km. Their main dilemma is where to fish. They are being forced to travel offshore but this means higher operation cost, decreased income and coming into contact with Bantay Dagat of other municipalities who also resent the presence of "outsiders" in their fishing grounds. They operate inside the municipal waters by taking the risks of being apprehended, fined, imprisoned and have their fishing gears confiscated.

The commercial fishers expressed disappointment with the fishery laws, which, according to them, are biased in favor of the small scale fishers. Accordingly, the access regulation is pushing them out of fishing. They have nowhere else to go. They articulated their need for more government protection because they are the ones that secure licenses and permits and pay taxes, and not the municipal fishers. They said they deserve to be given and be informed of the area where to fish in the municipal waters.

The fishers also expressed no control over the fishery. They oppose the operation of fishers from municipalities in Negros Occidental and Masbate in their municipal waters. Most were not aware that the municipal fishers from other municipalities could fish in the waters of Concepcion, if they secure permit and license to operate.

8.1.2 *Escalante City, Negros Occ.*

The longline and handline fishers operate nearshore, rarely beyond 5 km from the coastline, and just around Bagong Banua and the nearby reefs. A few venture near the island of Baliguian, Concepcion and off Molocaboc Island, Bantayan. The gill-netters fish up to a distance of approximately 12 km while a few operate near Bantayan Island. Fish corrals, as well as trap and pot fishers, operate nearshore, often at the inter-tidal areas.

Under the Municipal Ordinance No. 43, Danish seines are not allowed to operate within 7 km from the coastline while trawls and purse seines are prohibited within 10 km from the mainland. However, local practice is different. Baby trawlers are allowed to operate after 7 km while municipal Danish seines (*bira-bira*) are allowed beyond 10 km. Other larger fishing vessels like the purse seines, ring net, Danish seines (super *hulbot*) and otter trawls (*mansuria*) are prohibited within 15 km from the coastline.

Baby trawlers are banned within 7 km from the coastline, but when opportunity allows, they operate with 2-3 km from the coastline. Towing of trawl may continue as far as 10 km, although the operation is limited by the presence of reefs and rocks in certain areas. Depending on the time of the year, the baby trawlers move to different fishing grounds in pursuit of shrimp stocks. They move to Sacramento and Carmen Reefs in Cadiz City and Baliguian Island, Concepcion, where shrimp catch is better during the southwest monsoon.

8.1.3 *Daanbantayan, Cebu.*

Daanbantayan implements the exclusive use of municipal waters demarcated as 15 km from the coastline. The penalty for violation by commercial vessels with active gears is imprisonment of 1-6 months and individual crewmember liability consisting of a PhP 2,500 fine. In early 2004, the municipality has recorded having earned so far a million pesos in fines. The fines are used to assist municipal fishers, in forms like loans, and free nets.

The ordinance on color coding and registry markings on all sea vessels registered in the coastal barangays of Daanbantayan is further intended to facilitate the enforcement of zoning regulation. There is an agreement among the neighboring northern municipalities of Daanbantayan, Bogo, and Medellin that they will implement exclusive use of their respective municipal waters.

The municipal fishers of Daanbantayan used to fish in neighboring municipal waters before the exclusivity agreement among the northern municipalities was forged. This agreement resulted due to the strictness of Medellin in applying their own exclusivity regulation by the apprehending the municipal fishers from Daanbantayan and others in the area. This created some friction (transaction cost) between municipalities so that the joint agreement was a way of resolving the growing animosities. Some municipal fishers expressed dissatisfaction with the exclusivity because they would want to fish in the waters of other municipalities. For example is in Sta. Fe, where they believe the fish are more abundant.

There are only two commercial boats, both hulbot-hulbot, based in Daanbantayan. Only one has been allowed to operate in the municipal waters through a special form of arrangement. The other hulbot-hulbot does not have the same arrangement because the owner is not politically in good terms with the top local official. The commercial fishers find the zoning ordinance unacceptable and unfair.

8.2 **Conflicts arising in enforcement**

In the study island barangay in Concepcion, enforcement becomes more difficult due to the distance from the base station of the Bantay Dagat. Violators are gone by the time the Bantay Dagat arrive at the scene. There also exist conflicts between the provincial Bantay Dagat and the

municipal Bantay Dagat; the former perceived to be stricter than the latter especially in apprehensions of commercial fishers. Some commercial fishers have expressed willingness to take up arms against the provincial mobile teams. The municipal fishers however favor what they see as the seriousness and impartiality of the provincial Bantay Dagat. The commercial fishers have been pushed farther from Concepcion and into inevitably encroaching in other municipal waters. The 2nd canal ((10.1-15 km. area) and users fee arrangements are not allowed by the provincial Bantay Dagat. In this same barangay, the Bgy. Captain owns a number of trawl boats, which are observed to be regularly violating the zoning regulation including the MPAs. The deputized fish wardens are afraid of apprehending him because of his perceived power.

In Escalante, the LGU can be credited with political will to initiate management of its fisheries resources: regulations, marine protected areas/sanctuary establishment (MPA's), and the creation of the Bantay Dagat. The MPA has been used as a political issue and was the target of a misinformation campaign during the previous election. The Bantay Dagat is an object of criticism for different reasons: for municipal fishers they are seen as being soft on violators while commercial fishers claim they are too strict and make unwarranted arrests.

In Daanbantayan, commercial crewmembers dispute the apprehensions made by the Bantay Dagat as being a ploy to collect money from them. As in Escalante, the municipal fishers complain of the accommodation being made by the LGU toward commercial vessels. They complain of the practice of releasing violators once fines are paid without having them either serve time or have their gear and/or vessel impounded. It then becomes too easy for them to resume fishing and usually to repeat violations. The penalty has not served to prevent future violations. The Bantay Dagat acknowledges that they have no control over what higher bodies in LGU will do, after they have affected apprehensions.

8.2.1 Concepcion, Iloilo.

As mentioned, commercial fishers are completely banned in less than 10.1 km. of Concepcion is municipal waters. However, commercial fishers encroach in the municipal waters. Some factors are favorable to the commercial fishers. The size of the municipal water makes sea patrolling very costly and enforcement of regulations difficult. Barangay Bagongon is far from the mainland where the Bantay Dagat team is based. If there are reports of commercial fishing operation within the municipal waters from barangay fish wardens, commercial fishers are long gone before the Bantay Dagat arrives. Commercial boats were said to be faster than the patrol boats of the Bantay Dagat. It was also reported that commercial fishers have "watchers" at the port where the Bantay Dagat patrol boats are docked. The "watchers" inform commercial fishers when the Bantay Dagat team is in operation. In case of apprehension, the compromise penalty is only PhP 2,500, an amount that is very small relative to the value of the fish illegally caught.

As expected, the conflict of commercial fishers with the Bantay Dagat and local government officials for implementing the zoning regulation is most pronounced. They reported that local Bantay Dagat would apprehend those with no license, those fishing within 7 km, those fishing in restricted areas like the MPAs, and would file case and sometimes would settle for fines. More pronounced than this was their dislike of the Provincial Bantay Dagat team sent by the Provincial Governor at the same time of the study. They mentioned that the Provincial Team came unannounced and gave no warnings to violators. They are "stricter" than the local Bantay Dagat in implementing the zoning regulation. Fishing in the "second canal" is no longer allowed; hence, no more fishery rentals. Commercial fishers were told to fish beyond Baliguian Island, which is about 22 km from the mainland. They perceived that the Provincial Bantay Dagat is serious in filing a case, confiscating boats and gears and in prosecuting the crew. Their understanding was that the Provincial Bantay Dagat Team would really want the phase of out of trawl operation. With their frustrations, some commercial fishers expressed their willingness to take up arms against the Provincial Mobile Team.

Municipal fishers expressed approval of the presence of the Provincial Bantay Dagat. They felt more protection with its presence. According to them, the Provincial Bantay Dagat has driven the commercial fishers farther into the sea. With regard to the local Bantay dagat, a number of municipal fishers perceived that they are biased in favor of some trawlers. They claimed that the Bantay Dagat would warn their friends when they are about to perform surveillance operation or do

not apprehend illegal fishers who are friends. The Bantay Dagat team of Ajuy and Cadiz have also apprehended and put to prison or imposed fine for commercial fishers from Concepcion for encroaching in their municipal waters.

One challenging issue in Barangay Bagongon is that the Barangay Captain who owns a number of trawl boats that regularly violate the zoning regulation: encroachment into municipal waters and fishing in the MPA. The deputized fish wardens in Barangay Bagongon are discouraged to apprehend his boats. Their lack of equipment to gather evidences always put them at the losing end. The deputized fish wardens reported that they do not have a patrol boat for surveillance operation because the engine was confiscated by the Barangay Captain. No one is brave enough to raise a case against the Barangay Captain, whom people perceive as powerful because of his position.

8.2.2 *Escalante City, Negros Occidental.*

The current city administration has been credited with the political will in the management of Escalante's fisheries through strict enforcement of fishery rules, proposed creation of a marine sanctuary, and an organized Bantay Dagat. However, the force of politics provides confusion and complicates the resulting conflicts in fisheries. In the recent local elections, the MPA creation was used as a campaign issue, which muddled the possible benefits of a marine sanctuary. Misinformation regarding the MPA may have intensified local opposition to the MPA.

The Bantay Dagat is among the subject of conflict reported by resource users, although the two sectors make contrasting allegations. The municipal fishers claim that the Bantay Dagat sometimes does not fine violators, and they sometimes do not function at all. On the other hand, the commercial operators claim that the Bantay Dagat is very strict. Further, they make arrests even when the boundaries of the 7 km zone are not clear.

8.2.3 *Daanbantayan, Cebu.*

The Bantay Dagat is the deputized body of the local government to enforce ordinances in the municipal waters. In Daanbantayan, it was created by an ordinance in 2002 to curb illegal fishing. Prior to its creation, the responsibility of apprehending fishing violators are lodged on the tanod of the town. However, it was reported that the tanods were not consistent in enforcement, allowing privileges to their friends and relatives in exchange for some share in their catch.

The Bantay Dagat consists of nine members and is provided by the municipality with six pumpboats and a 1.3 million pesos allotment per year. The equipment available to them is a camera, megaphone, and a telescope. Due to lack of funds, the municipality is unable to afford a GPS which would otherwise have facilitated the task of apprehending violators of the zoning regulation. The team operates from four in the morning to five in the afternoon. At night, a seaborne patrol of six Bantay Dagat officers also operates. Each Bantay Dagat member (warden) is paid a thousand pesos monthly and can expect to receive 10% share of fines and 25% from the total catch of violators. However, this sharing scheme seemed not to have been implemented up to the time of this study.

The most common report from the commercial fishers is their conflict with the Bantay Dagat on the latter's judgment that they have intruded into the inshore area. The commercial crews see their accusation as a ploy to extort payments from the accosted fishers. On the part of the municipal fishers, they complain about the poor enforcement of the zoning regulation by the LGU and the Bantay Dagat. They perceive that special arrangements are made by these regulators to accommodate the incursion of commercial vessels into the zone reserved for the municipal fishers. These municipal fishers are critical of what they see as the LGU's soft handling of violators.

On the other hand, some wardens who are in the team of the Bantay Dagat are also highly critical of the practice of the LGUs for releasing violators once the fines are paid. They believe that without imprisonment, the violators would simply violate again. There is also a perception that local officials have arrangements that allow commercial boats to operate in the inshore area. Thus, they believe that while the Bantay Dagat perform their responsibility of apprehending violators, the political will to fully prosecute is outside their control.

On the part of the Bantay Dagat, the interviewed chair acknowledged that they allow amicable settlements. Under the situation, if the fine is paid, no case is filed or if filed, dismissed. All the money goes to the municipality. In general, he believes that the Bantay Dagat is effective. Although their efficiency is affected by lack of gasoline and bad weather, which commercial fishers then take advantage. There is also a lack of policemen to accompany the team for arrest work.

The fish warden also reported that they caught some big-time commercial fishers but when they try to file a case, the court says they can pay the fine and be freed of the charges. The warden believes this method only leads to repeated violation and proposed that violators be imprisoned and not allowed to pay the fines instead. Another problem cited by the wardens is the interference of politicians: councilors, mayors, barangay captains. Apprehending officers or witnesses are approached by violators and appealed to not appear in court. The police admit that because of pity and understanding of the hardship of life, they give in to the appeal. They extract a promise for violators not to repeat in a signed document with municipal officer. They note that lawyers of violators are good/big time and know how to use the law in their favor.

Seaborne police also fall victim to violators. In one case, when the officer boarded the zipper to undertake an arrest, he was brought by the zipper to Bantayan, without his even realizing it. He stayed in the boat for several nights and was scared that they might hurt him. He was rescued at the sea waters of Bantayan. Case was then filed for both the violation and kidnapping.

There is acknowledgement of the tedious process of apprehending and filing a case for violation. Any misstep can easily result in infirmities that work against filing the case. In the case of encroaching commercial fishers, they are brought to the shore and their boats are detained by the Bantay Dagat. Some just pay the fine of PhP 30,000 or so, depending on number of crew. When they succeed in filing a charge, this is easily dismissed because of the difficulty of presenting appropriate evidence. One warden believes that no conviction of commercial fisher has ever been made, but he is not sure because it is not his job to follow up the filed cases. Their concern (seaborne member) is to "release the violator in good physical condition."

8.3 Conflicts among fisheries stakeholders

8.3.1 Concepcion, Iloilo.

The conflict in Barangay Bagongon is centered on municipal fishers and commercial fishers. Their increasing number and lack of alternate jobs have heightened their competition for space and resources. This in turn has heightened their conflict, fishing pressure and problems with control and monitoring.

Commercial fishers believed that municipal fishers are "jealous" of their bigger volume of fish catch. They also resented the privilege given to hook-and-line fishers to fish in the buffer zone areas of the MPAs. Between trawlers and Danish seine operators ('zipper' type), conflict also arise. Trawlers are said to be "jealous" of the big volume of catch of Danish seines. According to a trawler operator, every fisher in Barangay Bagongon or Concepcion is "jealous" of him because he is the main supplier of squid of an international processing plant located in the neighboring municipality (San Dionisio).

Conflict is present between and among commercial and municipal fishers. There were reports of municipal and commercial fishers fishing in the same area that would sometime result to net entanglements (which can be deliberate or accidental). Most of the time, the damage is on the net of municipal fishers. One incident led to boat chasing with the trawlers chasing the municipal fisher (vertical long line user) after the latter demanded that the trawlers haul their nets for the long line that got entangled. It was a false alarm.

Municipal fishers resented the trawl (from Bagongon and Danao) and hulbot-hulbot (from Tagubanhon, Ajuy) operations. They had many encounters with these commercial fishers. Most believed that commercial fishers (most of the time) would intentionally run-over them and drag their nets. Most incidents resulted to destroyed nets or capsized boat. Their signals and their request for commercial fishers to fish somewhere else were always ignored.

There was a report of trawlers running-over a fish aggregating device of a municipal fisher. The trawlers were armed and threw a bottle of kerosene to the complaining municipal fisher. Others received grave threats from commercial fishers after helping the local Bantay Dagat. Net and outrigger entanglements resulting to damage of gears and boats among commercial fishers were also reported. One incident led to the throwing of drinking glasses in the sea. The few risk-averse and law-abiding commercial fishers resented the non-compliance of zoning regulation of their fellow commercial fishers. Overcrowding of municipal fishers in the same fishing area would result to entanglement of nets and the boat being hit (intentional or accidental) resulting to some damages. There were also reports of fish stealing from someone else's fish aggregating device and stationary gears.

8.3.2 *Escalante City, Neg Occidental.*

In Escalante, the overlapping fishing grounds of different fishing gears have resulted in cases of boat crashing and damaged outriggers; some death was even reported. The damage is greater when a bigger boat crash into the boat of a municipal fisher. One account of death was reported when his boat was rammed by a big Danish seine vessel, which sped away after the incident.

It is also inevitable that fishing gears would get entangled, especially when one of the gears is an active gear. Entanglement of the fishing gears is the most frequent conflict recorded. Among municipal fishers, entanglement of gears usually happens when drift gillnets (e.g. *kurantay pangisda* and *pamo*) drift over set lines (e.g. *kitang* and *pasol*) or get entangled with another gillnet. Entanglement among commercial fishers also occurs especially among baby trawlers. Sometimes, it happens between a baby trawl and a larger vessel like a purse seine, otter trawl or Danish seine. The baby trawls often figure in entanglement cases with lines and gillnets. In the process, lines and nets that were set by the municipal fishers get entangled, torn or lost. Occasionally, larger fishing vessels also run over the fishing gears of municipal fishers and cause damage to the gears.

8.3.3 *Daanbantayan, Cebu.*

Among commercial fishers, the few conflicts reported in the interviews are those between the zipper and the purse seine. The conflict arises in the dropping of their respective nets in adjacent areas, which result in entanglement. Implicit is the need to respect the primacy of whoever reaches the fishing grounds first. Consequently, the latecomer has to put up an adequate distance before dropping his net.

The municipal fishers report conflicts among each other. They expressed anger toward the dynamite users. There is also reported conflict brought about by competition for fishing sites, where they drop their gears. They report the intentional cutting of nets they leave unattended resulting in loss of both gear and catch. Bubo gear entangle with fine mesh nets. In general, municipal fishers are more forgiving of their fellow municipal fishers, acknowledging that they are both trying to survive and eke out a living from fishing.

Commercial fishers complain against the municipal fishers for the use of dynamite and other harmful fishing methods. They are, however, apologetic about the damage they unintentionally cause to the municipal fishers when they hit their boats and gears as they pass through the sea. This can result in the sinking/loss and damage of gears. This occurrence is an admission that they encroach on the grounds of the municipal fishers. According to commercial fishers, they have made it a point to compensate for the damage to property, unless they are unaware that they have caused any damage.

From the perspective of the municipal fishers, the conflicts between municipal and commercial fishers are brought about by a battle of gears. The hulbot-hulbot entangles their nets or drag their bubo (fish pots). Trawlers may drag the nets and even the small boats of the municipal fishers without being aware of it. The hulbot-hulbot also destroys their fish aggregating devise and steal their catch. In most cases, they do not stop to compensate for the damage done. The municipal fishers are helpless not only because of the size and swiftness of the commercial vessels, but also because some of the latter are armed. The presence of the commercial fishers is seen to have

decreased their catch. Table 5 summarizes the conflicts among fisheries stakeholders in the areas covered by the study.

Table 5. Conflict among fisheries stakeholders.

Conflict Between Commercial Fishers(CF) and Municipal Fishers(MF)	Among Commercial Fishers	Among Municipal Fishers
<ul style="list-style-type: none"> • CF resent privileges of hook and line fishers in MPAs • CF see MF as being jealous of their catch volume • Net entanglement • CF intentionally run over MF and drag their nets, destroy nets, capsize boats. • CF ignore MF when latter ask them to leave municipal waters • Trawlers run over fish aggregating device of municipal fishers • Armed trawlers • Grave threats when MF help Bantay Dagat • Boat crashing into each other. Death reported in one case. • CF blame MF for dynamite use. 	<ul style="list-style-type: none"> • Trawlers jealous of larger catch of Danish Seines. • Jealousy toward supplier of squid to international plant • Net and outrigger entanglement • Entanglement of gears especially baby trawl run into lines and gillnets • Anger toward dynamite user • Competition for attractive fishing sites • Intentional cutting of gears 	<ul style="list-style-type: none"> • Fish stealing from stationary gears • Overcrowding in same fishing area –net entanglement • Overlapping grounds of different gears results in boat crashing into each other and damage outriggers • Entanglement of gears. Battle of gears • Zipper vs purse seine: entangle nets if they drop in adjacent areas

8.4 Modes of Conflict Management

8.4.1 Concepcion, Iloilo.

Small conflicts like net entanglements and boat hits were often settled amicably through payment of damage and words of apologies. Most of the time, municipal fishers ignored other municipal fishers fishing in the same area or would leave to avoid the escalation of conflict. In some cases, no resolutions were offered and so the conflict lingered and escalated. Sometimes, it was aggravated by more actions to frighten municipal fishers.

Fishers accepted that they are “powerless” and have no choice but to follow regulations, accept penalty for violations when it concerns the Bantay Dagat, and the government officials. It is different, however, when it concerns the Barangay Captain. Cases involving him are resolved in the Mayor’s office, and most of the time in his favor.

8.4.2 Escalante City, Negros Occidental.

Resolution of conflicts involving entanglement of fishing gears is carried out through several means. In the case of two municipal fishers, most of the aggrieved persons just kept silent. Some of them feel that it is futile to ask for damages because they were both poor anyway. A considerable number of cases were not resolved because the aggressor was not identified. About 20% of the cases were settled among the fishers themselves, considering that they were friends,

relatives or acquaintances. In some cases, payment of damaged gears was necessary. A few of the cases were resolved through the intercession of the Bantay Dagat or the police.

In the case of entanglement between two baby trawlers or another commercial fisher, all of the cases recorded had been settled amicably between both parties. The trawlers simply disentangled the nets and continued operation. In a few cases, there may be some arguments on who had been the negligent party, but eventually they were able to resolve the issue.

Damage or loss of fishing gears is one of the major conflicts between municipal and commercial fishers. In such cases, the trawler is always considered as the aggressor. Although sometimes, the trawler would claim otherwise. In most cases, payment of damage or loss of gear is always the resolution of the conflict. Payment would be in the form of money or fish, and is settled directly between the two parties. Sometimes, the Bantay Dagat, Barangay Captain or the police would have to intercede. Although in many cases, the trawlers were ready to pay albeit regretfully because the money would be deducted from their share of the income. A number of municipal fishers said the trawlers ran away while some just kept their silence. A few were settled amicably, without payment.

The fishers are generally satisfied with the way the conflict had been resolved. In the case of two municipal fishers, about 58% said they were satisfied and a considerable 42% were not. The unsatisfied fishers include those who felt that they should have been paid for the damages but could not ask for any compensation because he knows that the other party has no capability to pay. Between the municipal and commercial fishers, satisfaction was high at 75%. Those who were not satisfied include those who were not able to catch the “aggressor” and those who felt that the payment given was not enough. Resolution of conflicts involving gear entanglement among commercial fishers is often resolved satisfactorily.

8.4.3 Daanbantayan, Cebu.

When they can, municipal fishers ask commercial fishers for payment on damages that the latter has caused. When duly compensated they are satisfied; however there is dissatisfaction when they are ignored or not attended to. Some fishers just move out of the area of conflict to avoid further confrontation. This leaves them with a sense of helplessness as they are not able to do anything in the situation where they are the victim or put at a disadvantage. The inaction of the LGU/Bantay Dagat frustrates them. As an exceptional verbal response, one fisher stated that he wished he also had a gun. But in the same breath, he acknowledged that such would be a bad solution. There is a prevalent sense of dissatisfaction over the lack of resolution regarding the perceived poor implementation of the zoning regulation. Table 6 summarizes the mode of conflict management in the areas covered by the study.

Table 6. Modes of conflict management.

Municipal Fishers vs Commercial Fishers	Among Commercial Fishers	Among Municipal Fishers	Others
<ul style="list-style-type: none"> • Entanglements settled through payment of damage/ amicable (often) • No resolution, conflicts linger, violators run away • Lead to more actions to intimidate municipal fishers • Solve through mediation of Bantay Dagat, Captain or police 	<ul style="list-style-type: none"> • Amicable settlement among themselves 	<ul style="list-style-type: none"> • They ignore each others' transgressions fault, aware of common poverty situation: futile to ask for damages. • Try to avoid confrontation 	<ul style="list-style-type: none"> • Mayor's Office in Concepcion is more accommodating of Bgy. Captain who is a commercial boat/ operator • Frustration over inaction of LGU/ Bantay Dagat

<ul style="list-style-type: none"> • Verbal expressions of desire of using arms • Dissatisfaction over poor implementation 			
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9. Conclusion

The exact status of exploitation of the Visayan Sea has not been ascertained due to lack of accurate and comprehensive fisheries assessment studies. Analysis drawn from the existing research indicates that the Visayan Sea is “not underexploited, most probably fully exploited, and very likely overexploited” (Vakily 2004). Even without precise scientific evidence, the stakeholders have pointed out several signs of over-fishing. These include the decline of catch, rise of low-valued species, increased number of fishers and fishing pressure, the use of highly-efficient fishing gears, and the increasing conflicts between resource users.

Over-fishing has increased fishing pressure, competition for declining resources, and adoption of technologically-sophisticated harvesting methods. It has also spurred enactment of legislation that seeks to address and stem over-fishing, such as RA8550, which incorporates the provision on the use of municipal waters for municipal fishers. The legislation has naturally limited the access of commercial fishers to waters beyond the 15 kilometers from the municipality’s general coastline. Whereas in the past, they had unrestricted use of the area 7 km and up. With this change, conflicts have arisen which are exacerbated by the following factors: poor enforcement of the zoning regulation, extension of privileges to commercial fishers allowing them continued access, and the perception of commercial fishers that the regulation is unfair.

This study has documented the inter- and intra-group conflicts reported by the respondents. Among commercial fishers, there is competition for the perceived best spot for fishing. When one fisher does not respect the primacy of whoever arrives first, there is gear entanglement and resulting damage. Among municipal fishers, the overcrowding in the same area, due to their number and perceived best location also brings about some gear conflicts.

The more common conflicts are those between the municipal and commercial fishers. The typical occurrence is the running-over/bumping of municipal fisher’s smaller crafts by the commercial boats. These often result in net and outrigger entanglements, loss of small fisher’s gears, damage to stationary gear and fish aggregating devices of small fishers and other craft damage. Certainly, the less visible loss is the decrease in the small fisher’s catch because the commercial fishers insist on operating in the municipal waters using their highly efficient gears.

The general response to the competition over space and fisheries resources tends to be non-confrontational, tolerant and, with few exceptions, non-violent. It may even be argued that these have been the same conflicts in the past when there were less restrictions on fishing grounds. However, the difference brought by the introduction of the zoning regulation is that the municipal fishers have been given a legal mandate to protect and to expect state protection of their stakes in the municipal waters.

Although this preferential option to them provided by law is inadequately enforced, the conflicts can escalate into more disturbing and risky clashes. There is a need to recognize that inadequate reinforcement can increase two attributes in the fisheries: (1) the sense of helplessness and frustration which is disempowering, and (2) the sense of unfairness, which can empower when critical thresholds are reached. Although the outcomes of these attributes appear countervailing, either way the results are negative: lack of response towards responsible governance, which will be viewed as losing its legitimacy to enforce. There may be also escalation into more violent modes of dealing with conflict, when fishers take matters into their hands. These aforementioned possible outcomes have security implications.

The escalation into more violent responses to conflict has been hinted at by a few municipal fishers who say they contemplate using arms. Some the commercial fishers are armed, and thus, feared by the small-scale fishers. This is clearly going to be a threat to physical peace and security. On the other hand, the continued decline in fish catch from capture fisheries can endanger livelihoods and survival particularly of the fisherfolk and also the employed crew of commercial vessels. This is surely a social security issue because of resulting widespread unemployment, for which not the government ill-prepared to meet. The entire well-being of the society is threatened.

With successful enforcement, a number of commercial fishers are expected to leave the sector altogether. There is also expected impact on total fish production, if commercial fishers decide to exit from fishing. This will result to a threat to food security for the country. Instead of exit for commercial fishers it may be possible that they can be assisted to develop and operate as offshore vessels that may venture into much deeper into the Philippine Exclusive Economic Zone.

Given these prospects, it is imperative for the government to intervene. In fact, it continues to be popularly perceived as the only agent of change and the initiator of needed action. More dedicated coastal fisheries resource management, as has been advocated (Bennett et al., 2001), may still be the best route of intervention. This approach is programmed to empower stakeholders to take responsibility over their resources and thus be more proactive about it. The roles of the local governments, as well as formal and informal institutions, are critical to manage the conflicts in fisheries. (There is a need to do additional analysis on the relative advantage, if any, of the municipalities with CRM in place compared to those with have none.)

Less enlightened fisheries management at the present is still towards resource development and utilization. These are monitored by some LGUs distribute fishing gears. The concept of limiting and regulating the fishing effort is still unfamiliar to local authorities and stakeholders. This is evident in their responses to exit strategies.

Even if enforcement is made entirely effective, and municipal fishers would operate undisturbed in the 0-15 kilometer zone, they still have to operate within the capacity of the resource. A limitation policy on the number of fishers allowed within the municipal waters will probably be instituted, which is an unpopular option to the fishers. This will mean not admitting additional entrants, which is a strategy that may be resisted by the community. Traditionally fishing has been seen as an open access enterprise and where specialized skills are not needed for entry. For the economically poor this is almost a last frontier to earn a living. Regulating access by limiting number of fishers may further impoverish the rural people. Unless there are other viable livelihood options that may be opened up by the national and local economy. The most immediately logical move is to provide those displaced or excluded with alternative livelihoods.

In the past, several livelihood projects were implemented but ultimately failed because of poor planning, inadequate production and financial skills, and lack of market support. The efforts to generate and institutionalize complementary and alternative livelihoods should a continuing program of government. This is the area where fishers and many rural folks for that matter have the least experience, and thus, have limited success. With adequate monitoring and responsive support, the chances for fishers to exit from fisheries may be realistically forthcoming.

With the aforementioned in mind, limiting catch and establishment of closed seasons which are not acceptable exit options to the local fishers. In addition, the option of limiting entry in the fishery may be facilitated in the long term by providing educational opportunities for the children of fishers, as priority group. This will prevent their entry or facilitate their exit from fishing. Currently, fishers foresee that more young people who are unable to afford formal schooling will join their fathers in the fishing sector or apprentice in commercial fishing. Ensuring access to formal education, however, would not be forthcoming if no external assistance is available to them given their economic circumstance. It requires foresight from the government or any funding agency that instead of programs like providing of fishing gears, or engines to non-motorized boats, they allocate the money to educational scholarship to be given to sons and daughters of fishers.

It will be a challenge to institute effective exit strategies, which may need to go through the route of public consultation and legislation. Given the poor track record of the government in implementing regulation, such strategies will be met with resistance and skepticism. However, if the government

is able to show political will and sincerity in implementing new measures to minimize fishing effort and is consistent in pursuing reform, the fishers may support by complying fully with such reforms.

Aside from effective enforcement, certain exit strategies are needed to decrease pressure on the Visayan Sea. In Daan Bantayan the most favored exit strategies are the banning of certain gears, establishment of MPA and the provision of alternative jobs that do not depend on the sea. The least liked option is the setting of a maximum catch limit and the limitation of the number of fishers. They are ambivalent about the closed season option. This pattern of response demonstrates the lack of willingness for their fishing activities to be curtailed in a major way. When they agree to ban of gears, it is usually with reference to dynamite/cyanide fishing rather than the gears they currently use. The commercial fishers may not necessarily be referring to active gears of trawling, sonar, fish finders and super lights. The use in municipal waters of this sophisticated gear may eventually result to the depletion of the fishery resources in the Visayan Sea.

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