predominantly male and there is unequal sectoral and gender representation at the LBDA council where decisions and policies are made.

Economic benefits derived directly from the MPA as a network has not been systematically documented due to the lack of a monitoring and evaluation framework. Also, it has been identified that a comprehensive tourism plan was necessary to have standardized collection of fees for visitors, which is currently non-existent.

Capacity Assessment Scorecard: Capacity assessment for Lanuza Bay organized as a network has a low score of 18 out of a possible 45 or 40%. While the LBDA act as the binding force that can integrate the management of shared marine resources and has initiated mechanisms to sustain its operations with an organizational structure and a covenant to ensure smooth operations, implementation has been a challenge. Financial constraints and support from higher levels of governance and the full engagement of fisherfolk in the LBDA network need to be overcome. The tendency to be LGU-centric did not allow other major stakeholders from the community to participate in the decision-making process as they have no representation in the LBDA council. There is also no provision for travel of fishers to attend meetings unlike in LGUs. In terms of access and use of information and knowledge, the LBDA has some degree of awareness and linking the local to global issues but there is lack of mechanism to share this and have it accessed by different stakeholders. There is a lack of education programmes and translating research to policy and actions is a weakness. The capacity to monitor and evaluate the network of MPA is a huge gap as there is no scheme in place.

Site Profile of Tanon Strait Protected Seascape (TSPS)

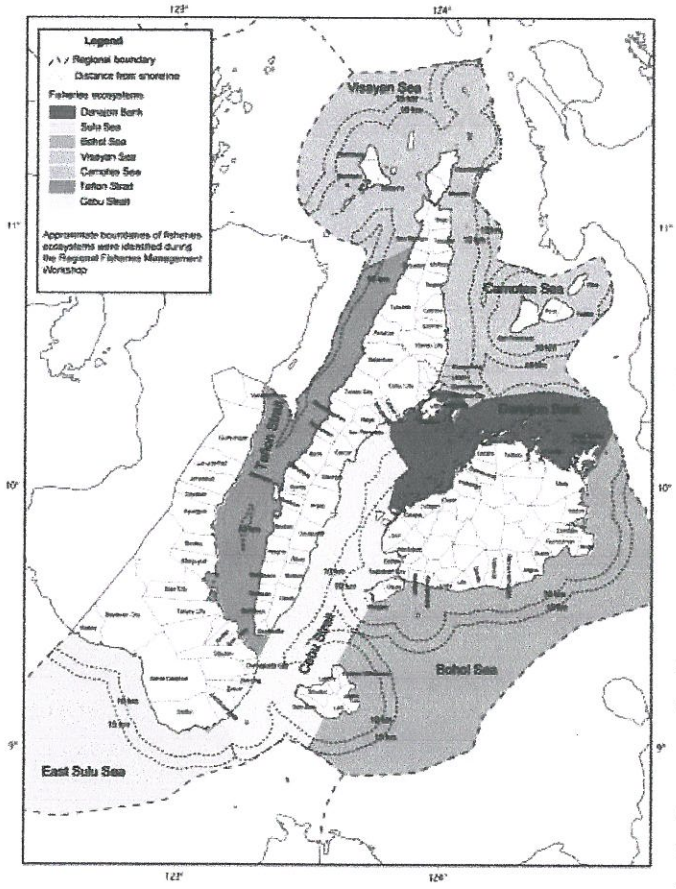
Area: 518,221 hectares

Region	Province	Municipalities	Population
Region 7	Cebu, Negros Oriental and Negros Occidental	35 municipalities and 7 cities (298 coastal barangays)	1,165,821 (2010)

Brief Description

The Tañon Strait was declared a Protected Seascape in 1998 through the Presidential Proclamation 1234 by then President Fidel V. Ramos in due recognition of its marine ecological importance as a migration corridor and home to a diverse assemblage of cetaceans.

Tañon Strait is located in the Central Visayas, which is considered as the epicenter of global marine shorefish diversity with the "richest concentration of marine life on the entire planet" (Carpenter & Springer, 2005). Tañon Strait is an important migration corridor for Whale sharks (*Rhincodon typus*), dolphins and other marine mammals. This site serves as a breeding, nursery, feeding, and resting grounds to at least 14 species of cetaceans, the most interesting of which are the Dwarf sperm whales (*Kogia simus*) and Melonheaded whale (*Peponocepala electra*) (Dolar). The Strait is also a distinct habitat of the chambered nautilus (*Nautilus pompilius*). Tañon Strait is one of this region's seven distinct fisheries ecosystems (*i.e.* Visayan Sea, Camotes Sea, Danajon Bank, Bohol Sea, Cebu Strait, East Sulu Sea, and Tañon Strait). It has an estimated 18,830 ha of coral reefs and 650 ha of mangrove forest along the Negros and Cebu coastline (Green *et al.* 2004). It is a popular destination for whale-watchers, scuba divers, conservationists and wildlife enthusiasts.



Tañon Strait also serves as an economic corridor in the Visayas region for hosting vital industries such as shipbuilding, power generation and manufacturing. The strait also serves as a transit point between Manila (Luzon) and the vital coastal cities in Southern Negros, Siquijor and Northern – Northeastern Mindanao (TSPS-GMP 2012).

Location

Tañon Strait lies between the islands of Cebu and Negros in the Central Visayas Region. It encompasses 35 municipalities and 7 cities under the jurisdiction of the provinces of Cebu,

Negros Oriental, and Negros Occidental (Table 1). The Tañon Strait covers an estimated area of 518, 221 hectares and perimeter of 684 kilometers. It runs to about 160 kilometers long and its width extends from 5 to 27 kilometers, with the narrowest point in the south between Liloan, Santader and Sibulan (TSPS-GMP 2012). It is relatively deep, having the deepest depth at 509 meters.

Table 1: Local Government Units and MPAs in the Tañon Strait Protected Seascape.

Province	Congressional Districts	Coastal Municipalities	Coastal Cities	Coastal Barangays	No. of MPAs
Cebu	3	23	1	167	96
Negros Oriental	2	10	3	99	32
Negros Occidental	2	2	3	32	4
TOTAL	**7**	**35**	**7**	**298**	**132**

ECOLOGICAL PROFILE

The Tañon Strait belongs to the ecoregion with the highest marine biological diversity in the world. Tañon's narrow channel is contiguous to the deep waters of Sulu Sea. It has a total coastline of 452.7 km. The estimated ecosystem area within the Tañon Strait is 3,995.2 km^2 (Green *et al.* 2004).

Cetaceans: Tañon Strait is an important feeding and resting ground for cetaceans (Hayasaka et. al 1983; Tucker and Mapes, 1978). Based on the study of Dolar, about 14 species of cataceans traverse the strait. This constitutes 54% of the total number of cetaceans known from the Philippines (25 species) and 47% of the total number of cetacean species recorded in Southeast Asia (Dolar 1999b; Perrin 1995). The occurrence/distribution of some cetacean species within the Tañon Strait is influenced by their preference of prey. Fraser's dolphin (*Lagenodolphis hosei*) is seen only in the deeper waters in the south of Negros Island but not within Tañon Strait (Dolar and Perrin, 1996) probably due to their preference to mesopelagic prey (Dolar et. al 1999; Dolar et. al. 2003). Dwarf sperm whales (*Kogia sima*) are abundant in Tañon Strait and feeds on cephalopods and benthic fishes (Gaskin, 1982; Ross, 1979; McAlpine, 2002). Bottlenose dolphin (*Tursiops truncatus*) is restricted to shallow and intermediate depths (Würsig and Würsig, 1979; Shane, 1990; Jefferson and Lynn 1994; Wells and Scott, 1999) probably due to its character that takes advantage of human fishing activities. Short-finned pilot whale (*Globicephala macrorynchos*) seems to move seasonally between the Sulu Sea and the southern part of the Tañon Strait. Its occurrence in Tañon is timed with the influx of frigate mackerels (*Auxis thazard*) (per. Observations by MLLD). Short-finned pilot whales feed primarily on squid but they are also known to feed on fish such as cod, herring, and mackerel and seasonally move onshore/offshore in pursuit of their prey (Bernard and Reilly, 1999; Olson and Reilly, 2002).

Coral Reefs in the Tanon Strait: Tañon Strait has about 188.3 km^2 (18,830 ha) of coral reefs, mostly fringing reefs along the Negros and Cebu coastline (Green *et al.* 2004). Based on the CRM Plans collected, coral cover of municipalities along Tañon Strait averages from 25% (poor condition) to 85% (excellent condition)[80].

Table 2: List of Coral Species Observed in Tañon Strait.

	Family	Genus
Scleractinian Coral	*Pocilloporidae*	*Pocillopora, Seriatopora, Stylophora, Madracis*
	Poritidae	*Porites*
	Acroporidae	*Montipora, Acropora*
	Fungiidae	*Heliofungia, Fungia, Herpolitha*
	Siderastreidae	*Psammorca, Cisinaraea*
	Agariciidae	*Pavona, Leptoseris, Coeloseris, Pachyseris*
	Mussidae	*Lobophyllia, Symphyllia*
	Merulinidae	*Hydrophora, Merulina, Halomitra*
	Oculinidae	*Galaxea*
	Pectiniidae	*Oxypora, Mycedium, Pectinia*
	Faviidae	*Leptastrea, Cyphastrea, Echinopora, Favia*
		Favites, Platigyra, Montastrea, Dipoastrea
	Caryophyllidae	*Euphyllia*
	Dendrophyllidae	*Turbinaria*
Non- Scleractinian Coral	*Helioporidae*	*Heliopora*
	Milleporidae	*Millepora*

Based on CRM Plan from 2001-2009

Reef Fish in the Tañon Strait: Based on the CRM Plans collected, reef fish abundance within the Tañon Strait ranges from 4,000 to 10,000 individuals per hectare belonging to over 24 fish families. The main target of this census was commercially valuable fish such as triggerfish, sweetlips, emperors, snappers, soldier fish, and goatfish. A few pelagic species were also accounted for such as anchovies, billfish, mackerels and tuna, which also play an important role in livelihood of some fishers in Tañon Strait.

Mangroves in the Tanon Strait: In Tañon Strait the remaining area of mangrove forest is 650 ha only (Green et. al. 2004) and the total area of culture ponds is 2,990 ha (Ong et. al. 2002). Other causes for mangrove loss included reclamation, cutting of trees for housing materials, siltation and pollution (Primavera, J.H. 1995; Lawas, L.M. 1974). Of the world's more than 70 mangrove species, around 46 are known to occur in the country, and 26 are known to occur in the Tañon Strait.

Table 3: List of Mangrove Species Observed in Tañon Strait.

Family	Scientific Name
Avicenniaceae	*Avicennia alba, A. officinalis, A. marina*
Combretaceae	*Lumnitzera littorea, L. racemosa, L. rosea*
Euphorbiaceae	*Excoecaria agallocha*
Lythraceae	*Pemphis acidula*

[80] Hard coral cover category standard (Gomez, et al, 1994) - **Poor** 0% - 25% **Fair** 26% - 50% **Good** 51% - 75% **Excellent** 76% - 100%

Meliaceae	*Xylocarpus granatum, X. mlloccenis,*
Myrsinaceae	*Aegiceras corniculatum*
Myrtaceae	*Osbornia octodonta*
Palmae	*Nypa fruticans*
Rhizophoraceae	*Bruguiera cylindrical, B. exaristata, B. gymnorrhiza*
	Bruguiera parviflora, B. sexangula
	Ceriops decandra, C. tagal
	Rhizophora apiculata, R. mucronata, R. stylosa
Sonneratiaceae	*Sonneratia alba, S. caseolaris, S. ovate*

Seagrasses in Tanon Strait: Based on the CRM Plans collected, Tañon Strait has a total of seven species of seagrasses and *Thalasia sp, Enhalus sp* and *Cymodocea sp* are the three most dominant species. Seagrass cover ranges from 30% to 50%. About 60 species of seagrass have been reported worldwide (Bjork *et al.* 2008) and 16 species are reported in the Philippines (Menez et al., 1983; Fortes, 1989), while 7 are reported in Tañon Strait - *Cydomoccea serrulata* (Ribbon seagrass), *Enhalus acoroides* (Eal seagrass), *Halodule pinifolia* (Shoal seagrass), *Halodule uninervis, Halophila ovalis* (Spoon seagrass), *Syrigodium isoetifolium* (Sickle seagrass), *and Thalassia sp.* (Turtle seagrass). Integrated Coastal Resource Management Plan (2001-2014).

Socio-Economic Profile

As of 2010 data, Tanon Strait has a population of 1,165,821 with Cebu contributing the most to the numbers with 684,795, followed by Negros Oriental with 253,510 and Negros Occidental with 227,516 individuals. The most densely populated areas are in Toledo-Balamban and Badian-Moalboal in Cebu Province, Bais-Tanjay-Amlan and San Jose-Sibulan in Negros Oriental and San Carlos City and Escalante City in Negros Occidental.

Tañon Strait is one of the major fishing grounds of Central Visayas. Based on the survey of the BFAR and CRMP, there are about 26,850 fishers operating in the area with more than 12,000 motorized and non-motorized boats. Studies show that fisherfolk plying Tañon Strait have the highest number of active fishing gears such as gillnets (*kurantay*/drift gillnets, *palabay*/bottom gillnets, *patuloy*/surface-set gillnets), and passive gears such as hook-and-lines (*pamasol*) and squid jigs. Beach seining (*sahid/baling*) is also practiced in Tañon Strait, which is tolerated despite being officially illegal (TSPS-GMP 2012).

Role of Women in MPA Management

Secondary data on the role of women in MPA management, specifically in Tanon Strait was not available. Focused group discussions with LGU representatives and MPA management bodies covering 17 MPAs in 10 cities and municipalities within the TSPS were conducted to identify the roles of women in MPA management. Of the local MPAs, 11 of the 15 MPA management bodies had women members and only 6 out of the 15 groups had women leaders. The membership of women in the management bodies on the average is 15.8%, but with scores ranging from 0% to less than 50% of the total membership. Of this, only 4% held leadership positions. Of the total number of members in the 17 profiled MPA management bodies, only 16% are women and 84% are men. Some sites though claim that membership is on a per family basis but is named under the head of the family, which is usually the men.

The current roles of women in MPA management, as gleaned from the FGD may be categorized into (1) specific roles/tasks; and (2) programs where women may participate in:

For the roles/tasks, the following were identified:

- Manager
- Facilitator
- Officer in MPA management body: President, Vice-President, Secretary, Treasurer
- Fee collection and budget management
- Documentation (during meetings) and record-keeping; secretariat and office work
- Support activities: help disseminate information and call participants to meetings, food preparation during meetings, entertain visitors, help guard the MPA, prepare things for the men who guard the MPA (e.g. food, etc.); attend meetings; provide inputs during meetings and decision-making

For programs where women may participate in, the groups identified the following:

- Information, Education and Communication programs
- Social marketing program
- Law enforcement program: as intelligence, reporting of illegal activities
- Waste management program: information drive, coastal clean-up, watcher, collection, regular clean-up in MPA area
- Rehabilitation program: mangrove planting
- Monitoring and evaluation program

When asked how women participation in MPA management may be encouraged, the following were suggested:

- Give the women chances to hold positions in MPA management bodies
- Organize women's organizations
- Identify what the strengths of the women are against the weaknesses of men (e.g. women are good in convincing people)
- Orientation sessions on gender equality and equal rights
- Encourage women to make suggestions
- Include women in programs such as tour-guiding (entertaining guests and tourists), alternative livelihood programs
- Provide equal access to women in terms of monetary benefits (same with men)
- Encourage them to help in encouraging others to enforce the laws governing MPAs
- Accompany husbands in PA-related activities
- Encourage them to be active in clean-up activities, monitoring/guarding the MPA as well as reporting illegal activities, ticket collection from users, and other MPA-related activities (e.g. roadside planting)

MPA Status and Baseline Profiles

Financing for the TSPS is guided by RA 7586 Section 16 of the DAO No 25 series of 1992, which respectively provides for the establishment of the IPAF (Integrated Protected Areas Fund) for the purpose of promoting the sustained financing system. TSPS generated PhP 11,707,000 for

2013 from fees and collections from facilities user fees, resource user fees and concession fees. This revenue goes to the national fund of which 25% or 3M will go back to TSPS.

Baseline Management Effectiveness Tracking Tool

Threats: The highest threat to TSPS is from residential and commercial development, followed by biological resource use and harm and from pollution entering or generated within the protected area. Threats from invasive species and energy production and mining were comparatively low. The assessment also posted 0% threat from social and cultural -specific threats.

Management Effectiveness: Based on the METT tool, TSPS got a total score of 41 over 102 or a rating of 40.2%. TSPS got highest marks on Planning (57.14%) and Inputs (50%) with the lowest rating on Process (31.8%) and Context (33.33%). Comparing the scores from the METT administered in 2010, TSPS has improved in some management effectiveness aspects, such as in Planning, Inputs and Outputs but showed decreased ratings in Context, Process and Outcomes. Over-all TSPS decreased management effectiveness from 45% to 40.2%, an almost 5 point drop in rating.

Local Marine Protected Areas (MPA)

TSPS has a total of 131 local MPAs established and managed by the LGUs in partnership with local stakeholders and communities. Of the total local MPAs, 17 of these from 10 cities and municipalities in the Tanon Strait were profiled for this purpose: 5 MPAs in Negros Oriental, 4 MPAs from Negros Occidental and 8 from Cebu. This is 13% of the total number of MPAs in TSPS covering a total of 623.96 hectares. The sizes of the MPAs range between 2 hectares and 335 hectares or an average of 36.7 hectares, though there are more MPAs below 10 hectares.

In terms of years in existence, the average age of the MPAs profiled is 8 years old, with ages ranging from 0 years (Toboso MPAs) to 19 years (Campuyo MPA in Manjuyod, Negros Oriental).

Threats and Barriers to Conservation

Assessments of strengths, weaknesses and opportunities were conducted at two levels: the TSPS-level and the municipal/city/local MPA level. The assessments also asked what programs TSPS should focus on to provide value to current efforts.

TSPS SWOT Assessment: The SWOT assessment focused on three components: Policy and Institutional Arrangements, MPA Financing, Strengthening of MPAs and MPA Networks and Capacity-Building.

In terms of Policy and Institutional Arrangements, the major strength is TSPS being backed by a national law and the support mechanisms and provisions that usually go with it. Another strength identified was existing local initiatives in coastal and marine management as well as the

openness of both levels of authority to co-manage the area together. Major weaknesses are mainly unclear and/or misinterpretation of policies, protocols, lack of information which stems mainly from lack of venues for communication and clarification.

At the MPA Financing level, there were more strengths identified given that the TSPS has ample sources of revenue and influx of external support is seen in the offing. The major weakness identified was the lack of support policies for revenue-generation and sharing.

For the MPAs and MPA Network, again, a lack of policy on establishing and operating networks and alliances, coupled with a lack of scientific basis to support policy was identified. Though networks may be built on the already established LGU alliances, MPA management bodies, and organized community stakeholder groups found in all 42 cities and municipalities in TSPS.

In terms of capacity development, same as the strengths above, the cities and municipalities have already developed and established skills and capacities on coastal and marine management, such as in enforcement, organizing, IEC, planning and resource monitoring. Building on and enhancing these capacities as well as improving other capacities (e.g. monitoring and evaluation, sustainable financing) , coupled with a data-management/data-banking system were identified as needed.

Local Level: An assessment on the TSPS by managers of local MPAs and LGU representatives was conducted. The assessment asked questions which centered on what the advantages and disadvantages are of being part of TSPS, what TSPS' strengths and weaknesses are and how TSPS could help the local initiatives on coastal and marine management in general and the MPAs specifically.

What are the disadvantages of being part of TSPS?

1. Authority/Jurisdictional Issues - LGUs within the TSPS have lost authority/jurisdiction over their municipal waters; NIPAS goes against the devolution of powers to the LGUs; PAMB/ DENR and LGUs do not see eye to eye and have created conflict (e.g. municipal water issue) (both PAMB and mayors have bases for authority).
2. Revenue and Financing - SAPA and other users' fees go to TSPS, instead of it being a revenue source for LGUs (e.g. aquaculture); revenue sharing: some LGUs have not yet received shares; no guidleines for accessing; sharing scheme
3. Mechanisms and Protocols - Process/ bureaucracy of needing to ask permission from the PAMB for certain activities (e.g. park establishment application), also additional expense for the application fees imposed. Another layer of bureaucracy since decisions will be dependent on the PAMB; additional bureaucratic red tape with the additional processes and procedures; LGUS lose independence; cannot act without permission from TSPS, which has caused inactivity on the part of the LGUs; LGUs do not know status of SAPA applications and approvals; The area is too large to be managed by 1 management body
4. Policy and Policy Implementation - Enactment of law regarding the TSPS will be difficult as TSPS belongs to many congressional districts; Limited access and use/ownership of the seashore; Access and Use of fishing areas; Decision-making for TSPS activities and programs will be difficult and slow given the large number of the PAMB

What are the advantages of being part of TSPS?

1. Policy/Law
   - National law protecting and conserving TSPS; stronger basis for protecting resources within the area; concrete law
   - Commercial fishing is prohibited in TSPS
2. Financing/Access to Funds
   - In a position to access fundig support for TSPS; additional source of funding support/opportunities
   - Possible source of funds/honoraria for bantay dagat/fish wardens and other CLE equipment
   - Source of needed equipment
3. Assistance/Support for Local Initiatives
   - Help in enforcement and protection for the whole strait; additional protection; enhance CLE efforts by the local LGUs; apprehension and coordination with national agencies for enforcement support
   - Easier protection of endangered and other species
   - Possibility of marketing of tourism areas
   - Help in the management and regulation of illegal structures on the seashore since they approve the SAPAs
   - Additional manpower to manage coastal area (e.g. resource assessment and monitoring)
   - Legal assistance
   - Training assistance
4. Mechanisms/Protocols
   - LGUs are ensured consultation regarding SAPA applications and approval because of the existing structure (with APASus on the ground in consultation with LGUS); prior to 2012, the LGUs were not consultedd since approval was directly under the regional office.
5. Others
   - Collective pressure against illegal or destructive activities within the strait
   - Protection efforts are collaborative (ideally)
   - Expanded network
   - Information sharing

How has TSPS helped your local initiatives?

Most municipalities/cities have not received any help yet. Those who received assistance from TSPS were on funding for local initiatives (e.g. mangrove reforestation) and training and deputation of environmental rangers. Also, some saw the value of TSPS in terms of regulation of industries within the strait (through the SAPA). One area said that tenurial instruments are now easier to process.

How can TSPS help local initiatives and what programs should TSPS focus on?

1. Policy
   - Policy support; 1 policy for the whole area for protection (e.g. structures within 20m easement, access for fisherfolk, prohibitions (kubkob) and allowed activities)

- Review/amend the NIPAs law; clarify issues, specifically on legal framework
- Recognize LGU authority over municipal waters
- Recognize alliances within TSPS
- Regulation of activities within Tanon Strait (e.g. oil exploration)
- Harmonization of everything: establishment of inter-alliance relations and inter-LGU alliances (clustering)

2. Funding/Financing
   - Fund access and support: make funds more accessible to the LGUs; support for fish wardens (honoraria); funding and logistics support
   - Equitable revenue-sharing
3. Specific Programs:
   - Coastal Law enforcement: to curb illegal fishing, commercial fishing; provide support and equipment (patrol boats);
   - Tourism/ecotourism development and marketing
   - Livelihood development
   - Conservation program for marine mammals and endangered species, cetaceans)/ Environmental protection (biodiversity)
   - Coastal zoning and municipal water delineation
   - Foreshore management: Illegal structures on the shoreline: assessment, database and regulation, demolition of ilegal structures along Tanon Striat
   - Capacity development: MPA management, environmental governance for new Mayors, managers, implementers, coastal law enforcement
   - Legal assistance
   - Technical expertise/assistance: GIS, mapping, technology transfer; resource assessment; planning (coastal management planning, business planning)

4. Operational mechanisms and protocols - Coordination with LGU re: municipal water plans; Clear processes: e.g in permitting aquaculture (BFAR, DENR/TSPS, local); Institutionalization of program implementation of TSPS

IV. Key Stakeholders

A total of 86 groups were identified as stakeholders in the TSPS. This includes provincial LGUs (3), city and municipal LGUs (42), government agencies (14), non-government organizations (8), donor and special government projects (7), peoples' organizations and fishery councils (3), special interest groups (4), and academic institutions (5).

Site Profile of Southern Palawan

Area: Aborlan, Narra, Sofronio Espanola, and Brookes Point

Coverage:

Region	Province	Municipalities	Land Area	Population	Municipal waters
4B	Palawan	Aborlan Narra Sofronio Espanola Brooke's Point	72,251.72 78,655.58 49,586.75 58,345.27	38,963 86,184 39,642 72,700	 902.50 sq.km 485 sq. km 702 sq.km
Total			258,839.32 ha		

Brief Description

Palawan is an archipelago comprised of 1,768 islands. It lies in southwest Luzon bounded by Mindoro in the northeast, the West Philippine Sea in the southwest, and Sulu Sea in the southeast. Palawan is considered to be the largest province in the country with a land area of 14,896.55 km^2 that is 5 % of the national territory. It also has one of the largest marine territorial waters (49,000 km^2), coastal waters (3,200 km^2) and coastline (1,959 km) in the country. Palawan has three major island groups: the Calamian group of islands in the north, the Dumaran-Cuyo islands in the northeast, and the Balabac-Bugsok group in the southwest.

Considered as the last ecological frontier of the country, Palawan hosts several ecologically critical habitats which are home to a rich flora and fauna, most of which are endemic to the province. Palawan has the largest forest cover in the country with 6,663.38 km^2 (46% of Palawan's land area and 9.3% of the country's forest) with primary forest at 1,897.72 km^2 (22.89% of the country's primary forest), largest mangrove extent at 584.00 km^2 (42 % of the country's mangroves), and largest coral reefs at 98.00 km^2 (36.29 % of the country). Around 3.91 % of the province' seagrass beds are still in excellent condition. Palawan is internationally recognized as a Man and Biosphere Reserve and is home to two World Heritage Sites (St. Paul Subterranean River National Park and Tubbataha Reef National Marine Park. (State of the Coasts of Palawan)

The economy of the province is largely dependent on agriculture and fisheries with mining and logging as secondary source of income. Three major crops are grown – palay, corn and coconut. Other crops grown are bananas, cassava, sweet potatoes, cashew and vegetables. The industry and manufacturing sector, which includes quarrying and mining, contributes 14 % to the provincial economy.

Ecological Profile

The combined land area of the four (4) municipalities namely Aborlan, Narra, Sofronio Espanola and Brooke's Point is 258,839.32 hectares which is 17.83% of the total land area of the province. The total area of municipal waters is 45,500 sq km with an average of 1,978 sq.km. per municipality exceeding the land area.

Fisheries account for 20.24% of the economy (CBMS, 2008). Major fishing grounds in the province are the West Sulu Sea, Imuruan Bay and Mindoro Strait with a combined area of 34,506.54 km^2. In 2011, the total fisheries production was recorded at 682,379.24 mt comprised of commercial (33,035.51 mt; 4.84 %), municipal and inland (171,615.81 mt; 25.15 %), and aquaculture sectors (477,727.92 mt; 70.01 %). There was however a sharp decline in municipal fisheries of around 12,260 mt/yr from 2006 to 2011. In contrast for the same period, aquaculture production has an increasing rate of 19,520 mt/yr.

The commercial sector has 3,541 fishers operating on 186 fishing boats. On the other hand, the municipal fisheries sector employs 66,773 fishers on 15,259 fishing boats – 8,507 of which are motorized and 6,752 are non-motorized. Aquaculture has two major types: seaweeds (49.50 km^2) and inland (12.68 km^2). The seaweed culture employs 5,775 seaweed farmers and produces around 400,000 mt/yr.

Narra Municipality: Narra is an agricultural municipality approximately 94 km south of Puerto Princesa City. Based on the coastal resources assessment conducted by the Palawan Council for sustainable Development Staff in 1997 the municipality of Narra, showed fifteen species of mangroves: *Sonneratia alba* (Pedaba), *Sonneratia caseolaris* (Pagatpat), *Rhizopora apicuta* (bakawan lalake), *Rhizopora mucronata* (bakawan babe), *Xylocarpus granatum* (Tabigi), *Xylocarpus moluccensis* (Piagau), *Brugueira gymnorrhiza* (Busain), *Brugueira sexangula* (Pototan), *Ceriops tagal* (Tangal), *Ceriops decandra* (Malatangal), *Aegiceras floridum* (Tinduk-tindukan), *Avicennia marina* (Bungalo) and *Scyhiphora hydrophiillacea* (Nilad). The highest number of species identified per site is nine (9) and was recorded in Raza Islad and Barangay Aramaywan. The study also revealed that Narra's mangrove cover was found to be relatively intact as compared to other areas in Palawan despite some observed disturbances. Clearings were documented and fishpond activities were noted in Sitio Palo-palo, Barangay Burirao. Evidence of cutting was also observed in Barangay Aramaywan.

As far as seagrass is concerned a total of nine species was recorded in the seven sites and these were *Cymodocea serrulata*, *Cymodocea rotundata*, *Syringodium isoetifolium*, *Halodulle uninervis*, *Halodule pinifolia*, *Enhalus accoroides*, *Thallassia hemprichii*, *Halophila* sp., and *Halophila ovalis*. The study reported that the overall condition of seagrass communities in Narra is generally good. Out of the sixteen (16) species found in the Philippines, nine (9) existed in Narra. *Thallassia hemprichii* which serves as food for the dugong was found in four (4) out of seven sites surveyed. This would explain sightings of dugongs in the coastal areas of Narra as reported by the Joint Dugong Research and Conservation Program in May 1995.

As far as coral reef is concerned, Temple Island has the highest live coral cover placed at 70.51%. The lowest computed at 38.30% and was recorded in submerged reef. On the average, the average overall live coral cover in Narra was 50.47% and can be rated as good. The percentage of dead corals was high particularly at Linda (28.44%), Emelina (28%), Pagasinan Island (26.71%) and Pulaw Telam Island (26.95%). It was also indicated that coral rubbles was relatively high for the whole municipality at 10.31% indicating the damage possibly brought about by dynamited fishing and the use of anchor. There was presence of large amount of algae that is an indication of heavily degraded reef areas. Considerable mechanical damage to corals probably caused by the improper use of anchors and the use of trawls and dynamite were also

documented. Silt was observed present in both soft and hard corals in Emelina Island. Crustaceans and molluscs such as octopus, clams squid and crabs were observed to be missing from the survey sites.

With regards to fish visual census, study showed that the dominant species at all sample sites was Pomacentridae (Damsels) at 66.55% of the total species count. *Labridae* (Wrasses) was high at 7.34% while *Chaetodontidae* (Butterfly fish) represented 5.09% of the overall fish count. *Caesonidae* (Fusiller) accounted for 6.6% while *Scaridae* (Parrotfish) represented 2.85%. In terms of fish density, Cudil Island has the highest placed at 1.01 fish per square meters. In terms of fish count, Banking Island ranked first followed by Linda Island. The worst site is Bangawan Island, however in terms of number of families, Rasa Island ranked first while Banking Island ranked second.

It was observed that sites with high fish count also had relatively good coral cover. It was also evident that plantivores which consist of the damsels and fusilier species dominated the overall condition of reef fisheries in the municipality of Narra. Study shows that there was a noticeable absence of large predators such as grouper and sweetlips especially along the deeper transects. There appeared to be a very low numbers of other usual target species of caesonids, carngids, labrids, lethonids, lutjanids, mullets, nemipterids, scarids, rerranids and siganids in most sites of the survey area, largely indicating that the area is being overexploited and overfished.

Brookes Point: In the municipality of Brooke's Point, from the rapid resource assessment conducted by the BFAR in 2004 stated that Barangay Ipilan had an estimated percentage of hard coral cover at 29.84% with non-acropora hard coral granite form as the most abundant biotic component covering 27.54% of the transect line. *Acropora* corals are a minor component at 2.30% while dead coral cover was recorded at 14.62%. Other fauna represented by soft corals, sponges and crinoids was observed to be the highest recorded in the site. Algal cover was noted to be moderately low in cover at 3.20%. The abiotic cover such as sand and rubbles were also high in this site occupying 21.10% of the transect line.

A total of 47 species under 19 families were recorded in the site with the following distribution: 5 target species of 4 families (*Carangidae*, *Haemulidae*, *Lutjanidae* and *Serranidae*), 4 indicator species of 3 Families (*Chaetodontidae*, *Pomacanthidae*, and *Zanclidae*) and 38 major species of 12 families. Of the major species listed *Labridae* and *Pomacentridae* were widely represented at 10 and 13 species respectively.

In Barangay Maasin, were the marine protected area was established, the corals was characterized by *Acropora* and non-acropora corals of branching type. Massive, encrusting, submassive, foliose and mushroom forms of corals covering 35.02% of the transect line and occasional occurrences of algae such as brown algae and Halimeda of 2.70%. The abiotic forms were the second highest component covering 33.78% followed by dead corals at 17.02%. The rest was covered by other fauna and the most dominant was soft corals followed by sponges and crinoids at 11.48% of the transect line. As far as species composition was concerned, fish observed in the area is well represented with 65 species under the 22 families. The most dominant families were Pomacentridae and Labridae. Target or commercially important species were Lutjanids, Haemulids, Cangids and Serranids. There were 8 indicator species of butterfly

species belonging to families Cahetodontidae, Pomacanthidae and Zanclidae that were observed in the area.

No data for the municipality of Aborlan and Sofronio Espanola were gathered relative to the condition of mangroves, seagrass, corals and fish visual census.

Socio-Economic Profile

Data from NSO shows the total population in the province increased from 640,486 in 1995 to 755,412 in 2000. The population growth was 3.64 percent for the period of 1995 to 2000. As far as the four municipalities in Southern Palawan are concerned, based on NSO projection the total population for 2012 are as follows: Aborlan (38,963), Narra (86,184), Sofronio Espanola (39,642), and Brooke's Point (72,700). Narra has the biggest population among the four municipalities while Aborlan has the least population. The annual growth rate of the four municipalities varies based on the NSO report.

In terms of literacy rate the municipalities of Aborlan, Narra and Sofronio Espanla had an average rate of 94.99 percent which is also higher than the national and provincial averages. This high rate of literacy was attributed to the Provincial Teachers Pool Program of the Provincial government of Palawan which hires and deploys teachers to address the shortage of teachers in elementary and secondary public schools of the province.

In four municipalities, data showed an increase in member's participation in community development from 36.36 percent in 2000 to 38.17 in 2002. Sofronio Espanola registered an increase of 9.66 percent during the two survey periods. However, the municipality of Brooke's registered a negative trend in terms of household members participation in community organization. The province has been experiencing a favourable trend in employment situation from 2000 to 2005. Employment rate recorded at 86.31 percent in 2005 which is higher than the 2002 rate of 82.79 percent. About 66.55 percent of employed persons in the province are into the sector of agriculture and fishery followed by the service sector at 21.57 percent and industry at 7.43 percent. Data from 2011 of CBMS report of the province revealed that agriculture and fishery sector is still the leading sector in the economy.

MPA Status

Table 1: MPA established in four southern mainland municipalities

Municipality	No.	Area (ha)	Name of MPA	Remarks
Aborlan	2	24.00	Apurawan Fish Sanctuary Tagpait Fish Sanctuary	Established under Mun. Ord. No. 003 s. 2007and 002 s. 2011 with inactive Management Board
Narra	14	860.25	Taritien and Malatgao Coral Sanctuary Tenga Reef Fish Sanctuary Arena Fish Sanctuary Antipuluan-Taritien Seagrass	Established under Mun. Ord 159 series of 2005, 4 MPAs have active MPA Management Board and Ordinance are enforced

			Sanctuary Rasa Island Fish Sanctuary Puntod Reef Marine Sanctuary Tinagong Dagat Fish Sanctuary Aramaywan-Calategas Fish Sanctuary Maalapo fish Sanctuary Lipasana Tawing-tawing Reef Sanctuary Batang-batang Fish Sanctuary Burirao fish Sanctuary Baragatan Reef Sanctuary	with the Bantay Dagat, Patrol boat are provided with LGU with regular budget allocation
Sofronio Espanola	1	320.99	Sapah and Sarimburawan Fish Sanctuary	Established under Mun. Ord No. 76 series of 2008. Absence of MPA Management Board
Brooke's Point	1	150.00	Maasin Fish Sanctuary	Established under Mun. Ord No. 04A series of 2004.
Total	**18**	**1,318.25**		

During the site survey and validation, it was found out that all of the established MPAs are classified as Fish Sanctuaries. The most number of MPAs were in the municipality of Narra with a total area of 823.26 hectares while Aborlan has two (2) MPA's with an area of 24.0 hectares and the municipality of Sofronio Espanola and Brooke's Point have each one MPA with an area of 320.99 and 150.0 hectares respectively. Out of the four (4) municipalities, 62.45% are located in the municipality of Narra and were established under the municipal ordinance approved by the respective Sangguniang Bayan.

Issues and Threats

All municipalities have their coastal environmental profile which was crafted through the assistance of the PCSDS and the Provincial Government through the Office of the Provincial Agriculturist. Coastal resource assessments were conducted through the Participatory Coastal Resource Assessment (PCRA). The issues and threats affecting Palawan can be summarized into five categories: **population, habitat destruction and pollution, law enforcement, climate change and governance.** In terms of population, Palawan has one of the highest annual population growth rates in the country at 3.67 %. This was further compounded by high rate of in-bound migration from provinces in Luzon, Visayas and Mindanao. Most migrants settle in coastal areas causing rapid increase in coastal population particularly in the last ten years. The high population as well as the lack of livelihood and employment opportunities in the coastal areas exert high fishing pressure and threaten the sustenance of coastal ecosystems.

There has been rampant habitat destruction in the province particularly in the last ten years. Deforestation, illegal fishing methods and overfishing, and habitat conversion cause habitat destruction. The latter primarily involved conversion of mangrove forest to aquaculture ponds, tourism, and infrastructure development particularly in the southern municipalities of Palawan. Other contributors to habitat destruction are pollution of coastal waterways, agricultural runoff (in San Vicente, Taytay), and mining/quarrying (in southern part of the province particularly in the municipalities of Narra and Sofronio Espanola.

Law enforcement is also a serious problem resulting to proliferation of illegal fishing activities in Palawan. While there are some municipalities that have strict law enforcement (i.e. Roxas, Taytay, San Vicente), most remote municipalities (for example Cuyo, Agutaya) have limited capacities to apprehend encroachers and violators. There have also been encroachments of foreign fishing vessels particularly in areas (i.e. Tubbataha Reef) where there are territorial disputes with other countries. There have been some anticipated coastal problems under climate change scenario. The province will be vulnerable to the effects of sea level rise, increased sea surface temperature and more frequent occurrence of harmful algal blooms (i.e. red tide in Malampaya Sound, Taytay and in Honda Bay, Puerto Princesa City). However, the province has insufficient information yet on disaster risk reduction and the corresponding management plans.

Despite the zoning ordinance, there still have been conflicting uses, most notably the lack of defined sea lanes and conflict as to use of coastal areas e.g. establishment of fish coral and seaweeds farms. As most municipalities are quite isolated and remote, the provincial government has limitations in delivering extension services and IEC campaigns for coastal communities. In addition, there have been institutional conflicts among agencies implementing environmental management. This problem is typified in the program for the indigenous people wherein the NCIP has difficulty in implementing the IPRA. Coastal waters are claimed by IPs as part of the ancestral domain.

Key Stakeholders and Roles

A stakeholder analysis was conducted during the inception workshops participated by the different personnel in the four municipalities. It was found out that even the indigenous peoples groups (Tagbanua and Palaw'an) particularly in the municipality of Aborlan, Narra and Espanola has a stake over the establishment and maintenance of the MPA in the site. The Tagbanua in Aborlan is part of the MPA management board. The fisherfolks are part of the Management body and actively involved in the FARMC. The fisherfolk also help in law enforcement, reporting on illegal fishers, IEC and in crafting policies. They can be trained to conduct biophysical assessment. The people's organizations in the 4 municipalities are: Tambalang Growers' Association (seaweeds) in Espanola, Tagpait Mangrove Association in Aborlan, Aramaywan Seaweeds' Farming Association and Calategas Bangus Fry Catchers in Narra. The women sector on the other hand particularly in the municipality of Narra is represented in the MPA Management Body by the Rural Improvement Club. There are also the Fish Vendors' Association (women) in Narra and the Marikit Women's Association in Aborlan. They can be active in the intensified IEC campaign in the area and in livelihood development. The Rotary Club as a socio-civic organization was identified as one of the stakeholder that help fund the

livelihood activities in the area. There are also resort owners in Narra who can help in promoting the MPA as tourism sites.

SWOT ANALYSIS

The SWOT analysis was undertaken during the workshop attended by the different representatives of the different municipalities.

Strengths

- Supportive LGUs in CRM activities in the 4 municipalities
- Several stakeholder groups supportive of MPA establishment and management, eg Tagbanua and Palawan tribes
- Budget allocated for CRM – Aborlan, Narra, Espanola – Bantay Dagat
- Bantay Dagat – Aborlan (5 patrol boats), Narra (2 patrol boats), Espanola (defective patrol boat), Brooke's Point
- Mangrove reforestation (funding from BFAR, LGU, DENR, PAFC)
- Active MFARMCs – with women and youth participation
- POs in areas with MPAs – Aborlan (7); Narra (14); Espanola (2)
- MPA management bodies – with women's participation
- MPA bodies in place except for Espanola
- Effective enforcement efforts reduced incidence of illegal fishing
- Awareness on existence of MPAs and rules governing it
- Some MPAs have sanctuary guards (Narra)
- QRT of BFAR in place with BFAR personnel deployed in municipalities
- Presence of academe – IEC (DepED); biological assessments (Universities)
- Loans provided to fishers (interest-free) as a form of livelihood assistance

Weaknesses:

- Espanola – no MPA council; no PNP maritime deployed
- Narra: Inactive management board; MPAs not a priority
- Budget allocation for monitoring/management MPAs not sufficient
- Patrolling – not enough resources for gasoline, defective boats, lack of funds to support training of BD members
- Frequent turn over in composition of bantay dagat resulting to the need to re-train them
- Inadequate skills of LGU and MPA managers in the conduct of resource assessment
- Theft of bouys even if considered as a prohibited act, thieves are not caught.
- Insufficient watch tower stations
- Copies of results of studies done in municipalities not shared to LGUs

Opportunities

- CLUP being revised for Espanola and Narra to include water (CLWUP); Aborlan – finalized;
- Fees from the certifications for accreditation and shipment of live fish (Aborlan) used for patrolling (gasoline)
- Incentives for tipsters who report illegal fishing and similar activities
- Potential of MPAs for ecotourism (source of revenues)
- Narra and Aborlan – included in PNAP and NGP

Threats

- Narra: Brgy Captain sits as chair of the MPA management body – affected by elections
  - Existence of mining
  - Proposed coal thermal plant
  - Compressor fishing; trawl; cyanide (Narra, Aborlan Espanola)
  - Encroachment of illegal fishers in municipal waters
- Conflict between executive and legislative bodies affects CRM activities, eg delays approval of budgets
- Coastal settlements – domestic wastes

Site Profile of Verde Island Passage (VIP)

Area : **1.14 Million Hectares (11,400 km.²)**

Region	Provinces	Municipalities/Barangays	Population
Region IV-A (CALABARZON) and Region IV-B (MIMAROPA)	Batangas, Mindoro Oriental, Mindoro Occidental, Marinduque, Romblon	31 Municipalities, 2 cities and 250 Barangays	**4,127,726**

I. Brief Description

The Verde Island Passage (VIP) is considered as the "center of the center" of the world's marine shorefish biodiversity having 1,736 species overlapping over a 10-kilometer area (Carpenter, Kent E. and Springer, 2005). It is part of the Sulu Sulawesi Seascape (SSS) lying between the southern coast of the province of Batangas and the northern coast of Mindoro Island.

The VIP connects the South China Sea with Tablas Strait, the Sibuyan Sea and Cuyo Pass. It covers an area of approximately *1.14 million hectares* shared among the 5 provinces of Batangas, Mindoro Oriental, Mindoro Occidental, Marinduque and Romblon. It is within the CALABARZON (IV-A) and MIMAROPA (IV-B) Regions with a total population of 4,127,726 (2010 Census of Population, NSO) who directly or indirectly depend for livelihood and protein source from the VIP's rich resources.

The VIP has been identified as a Marine Biodiversity Conservation Corridor of Conservation International-Philippines and recently recorded 338 coral species (Fenner, unpublished), 8 of which is considered rare, belonging to 74 coral genera; 3 species of sea turtles; 5 species of cetaceans; 262 species of fish in Balayan and Tayabas Bay, and 162 species belonging to 30 families, in other 8 sites; 18 true and 17 associate mangrove species belonging to 19 families and 24 genera of vascular plants in Puerto Galera and 32 species in Balayan; and, 9 in Balayan and adjacent bays and 10 species belonging to 6 genera of seagrass and seaweeds in Mindoro Oriental, have been observed in the passage (CI, 2009). Further, charismatic species such as dolphins, whales, turtles, and whalesharks occur in the Passage (Dolar 2006).

However, biodiversity and ecosystems of the VIP are threatened by the status and direction of development proliferation in the area such as manufacturing, residential and institutional uses, fishing, farming and tourism. Its waterways are also one of the busiest in the Philippines, being used daily by oil and chemical carriers. Likewise, the coastlines of Batangas province are occupied by shipyards, chemical and petrochemical plants, and oil refineries.

Executive Order #578 (EO 578) issued by then President Gloria Macapagal Arroyo during the National Conference on Biodiversity held in November 8, 2006, established the national policy on biodiversity, highlighting its implementation in VIP. The EO provides for the creation of Ad Hoc Task Force to formulate the Verde Island Framework which serves as guide in developing the Verde Island Management Plan. As of mid 2013, the Batangas, Mindoro Oriental and

Occidental Provincial and Municipal LGUs periodic joint meetings and conduct of activities resulted to the creation of MPA social network. However, an enabling policy to legally establish VIP as a MPA Network (VIP-MPAN) and create a central Management Structure has to be further worked on.

Site Profile:
The Verde Island Passage straddles the waters of the five provinces of Batangas, Mindoro Oriental, Mindoro Occidental, Marinduque and Romblon, within Region IV-A (CALABARZON) and Region IV-B (MIMAROPA). Thirty one (31) municipalities and 2 cities from these 5 provinces comprise the whole VIP. These are:

Table 1: Region, Provinces, and Municipal Coverage of Verde Island Passage (VIP)

Region IV-A	**Region IV-B**			
Batangas Province	**Mindoro Oriental**	**Mindoro Occidental**	**Marinduque**	**Romblon**
Balayan, Batangas City, Calaca, Bauan, Calatagan, Lemery, Lobo, Mabini, Nasugbu, San Juan, San Luis, San Pascual, Taal, Tingloy & Lian	Calapan City, Naujan, Pinamalayan, Pola, Puerto Galera and San Teodoro	Looc, Lubang, Abra de Ilog and Paluan	Gasan, Buenavista, Mogpog and Boac	Banton, Concepcion, Corcuera
15	7	4	4	3

Covering an area of 1.14 Million hectares or 11,400 km², it is bounded on the northeast by San Juan, Batangas; on the east by the towns of Mogpog and Buenavista, Marinduque; on the south by Pinamalayan, Oriental Mindoro; further southeast are the island municipalities of Concepcion, Corcuera and Banton, in the province of Romblon; on the southwest by Calisurigan point, Cape Calavite and Paluan in the province of Occidental Mindoro; on the west is the westernmost tip of the Cabra Island of Lubang, Occidental Mindoro; and, at the northwestern most side is the Limit Point in Nasugbu, Batangas.

According to the study of Carpenter and Springer (2005) in the Indo-Malay-Philippines archipelago (IMPA), the Philippines has the highest concentration of species diversity per unit area than anywhere in Indonesia, including Wallacea. Using the assemblage of species in the single 10 km x 10 km pixel with the most species, it was revealed that 1,736 or about 58% of all species in the study area are located in the VIP between Mindoro and Luzon, making it the epicenter of diversity. The study suggests that the geological events that led to *allopatric speciation* are prevalent in the Philippines. The integration of islands that created the archipelago also contributed to the concentration of species. The process of amalgamation created barriers when lager islands took shape, separated populations, and provided conditions for *allopatric speciation*. Listed below are some of the significant species sighted that thrive in the VIP.

Cetaceans: Based on the marine mammal study of CI-P in 2006, 5 species of cetaceans namely: Risso's dolphin (*Grampus griseus*) spinner dolphin (*Stenella longirostris*), pantropical spotted dolphin (*Stenella attenuata)*, Fraser's dolphin (*Lagenodelphis hosei*), common bottlenose dolphin (*Tursiops truncatus*) and one stranding recovery of a dwarf sperm whale (*Kogia sima),* and eight more species based on anecdotal evidence thrive in the waters of VIP.

Turtles: Three (3) species of sea turtle namely: the green sea turtle (*Chelonia mydas*), the olive ridley (*Lepidochelys olivacea),* and the critically endangered hawksbill turtle (*Eretmochelys imbricata*) are sighted and nesting in some part of the passage.

Fishes: Balayan and Tayabas Bay are Biodiversity refuge which is home to 262 species of fish. The assessment conducted by CI-P within 8 specific areas in the VIP recorded a total of 162 species of fishes belonging to 30 families, 28% or 12 families of which are commercially important. Among the commercially important fishes are: surgeonfishes (*Ctenochaetus binotatus, Naso minor, Naso hexacanthus*), fusiliers (*Pterocaesio pisang*) and triggerfishes (*Melichthys vidua*), and wrasses (*Oxycheilinus diagrammus*). Whalesharks and manta rays are also sighted in the area.

Among MPAs, Pulong Bato and Nalayag Point MPAs in Batangas showed the highest number of fishes and corresponding biomass. Large school of butterfly fish (*Chaetodon kleinii*) was also observed in this area, while in non-MPA sites, damselfishes (*Pomacentridae)* and schooling wrasses (*Labridae)* abound.

More than half (54.2%) of the predicted fishes per habitat type in the VIP are Reef Associated species. To maintain or improve this diversity, the coral reefs in the area and other coastal habitats need to be conserved and managed effectively. Likewise, 36.6% of predicted fishes in the VIP are commercially and domestically important to the communities located along the coastal areas of the VIP. However, almost half (49.9%) of the predicted fishes has no data, and would need further assessment or study.

Coral Reef: Fenner (unpublished) recorded 338 species of corals in the Passage, 8 of which are rare. Dr. Wilfredo Licuanan and Dr. Rob van Woesik discovered in Lian, Batangas a suspected new species of coral, an *Acropora.* Once confirmed, this will be an additional record for VIP.

Mangroves: Studies conducted within the Philippines-Sulu Sulawesi Marine Ecoregion by the Worldwide Fund for Nature (WWF) showed that mangrove areas are found to occur in protected coves and quiet embayments in the coastal areas of Batangas and protected coastal areas of large and small islands within the Sulu seas such as Mindoro, Marinduque and Romblon. The largest mangrove area in VIP can be found in San Juan, Batangas covering an area of 4.96 sq. km., Puerto Galera in Mindoro Oriental with an area of 0.53 sq. km., is home to 18 true and 17 associated mangrove species belonging to 19 families and 24 genera of vascular plants. Recorded also in Balayan, Batangas are 32 mangrove and mangrove-associated species.

Seaweeds and Seagrass: Nine (9) seagrass species are found in Balayan and adjacent bays and 10 species in 6 genera are recorded in Mindoro Oriental. Large watersheds can be found in Southern Batangas while the islands of Marinduque, Mindoro Oriental and Occidental and Romblon are, by themselves, watersheds.

Socio-Economic Profile

The VIP comprised of the 5 provinces of Batangas, Mindoro Oriental, Mindoro Occidental, Marinduque and Romblon has a combined population of 4, 127,726 as of 2010 (NSO, 2010

Census of Population and Housing). Among the 5 provinces, Batangas province has the highest population with 2,377,395 (58%), followed by Mindoro Oriental with 785,602 (19%), Mindoro Occidental with 452,971 (11%), Romblon with 283,930 (7%), and Marinduque with 227,828 (5%). Of the 4, 127,726 combined population of the 5 provinces, 1,815,487 or 43.98% come from the 31 municipalities and 2 cities bordering the VIP.

Batangas City was recorded with the highest population density of 6.5 persons per hectare, followed by Marinduque with 93%, Mindoro Oriental with 69%, Mindoro Occidental with 57%, and Romblon with the smallest with 6% population density. Batangas ranks 8th with highest population, and 6th highest density among the 80 provinces in the country. This will continue to rise given the population growth data from 2000 to 2007 which recorded an annual growth rate of 2.29%.

In terms of land area, Mindoro Oriental has the largest with 668,149 hectares or 52% of the combined land area of the 5 provinces which is 1,290,409 hectares (12,904.09 sq. km^2). Batangas and Romblon each has an almost equal share of 13% (Batangas having a total land area of 171,620 hectares and Romblon with 163,320 hectares), Mindoro Occidental with 134,310 hectares or 12%, and Marinduque as the smallest with 153,100 hectares or 10%.

The 5 provinces in the VIP heavily depend on fishing and farming for livelihood. Main crops produced are palay, corn, and coconut. Based on record, the 5 provinces in the VIP contributed a total of 239,220 metric tons of fish or 5.42% of the total fish production in the country in 2006. Sources of production came from aquaculture with 57,078 metric tons; marine municipal fishing with 36,432 metric tons, commercial fishing contributed 17,424, and from fishing in inland waters with 8,286 metric tons. Batangas recorded the highest volume of fish production among the 5 province. Production came both from inland and coastal aquaculture and municipal fishing. In 2007 to 2008, 36,385 fishers in the VIP were recorded from the provinces of Batangas, Mindoro Oriental and Occidental. (CI-P and PATH Foundation, March 2010)

Employment comes from numerous establishments around Batangas such as the 8 industrial parks like the Cocochem Agro-Industrial Park and Tabangao Special Export Processing Zone, 181 companies that are mostly situated in Batangas City, the International Port in Batangas, and the many resorts along the coasts of the VIP. These contribute significantly to the economy of the communities near them. Despite these industrial and agricultural opportunities, records show that in 2006, Batangas had 25.6% poverty incidence, higher than the average for the region which is 16.7%. The province fell short in terms of fish supply per capita consumption of 12% in 2004 (Batangas PPDO, 2007).

Mindoro Oriental and Occidental ranked 32nd and 36th amongst the poorest provinces in the Philippines in year 2000. They seem to worsen over time because in 2003 they ranked 28th and 19th place respectively and in 2006, became the 12th and 13th most poor province in the country respectively. On the other hand, the small province of Romblon is the 25th poorest in the Philippines in 2006.

Role of Women in MPA Management

There is a dearth of literature on the role of women in MPA management. Based on the list of Bantay Dagat and MPA Network Managers and members of the Municipal MPA network Management Board, out of 71 members (from the 3 provinces and 19 municipalities along VIP), only 23 (32.4%) are women. It is worth noting that key persons in the PG-ENRO of Batangas, as well as the Provincial Agriculture Office of Mindoro Oriental, and the Municipal Agriculturist and Planning and Development Officer of the Municipality of Looc, are all women. Most of the 23 women members of the MPA network Board hold key position in the Municipal Agriculture or ENR offices and are the drivers of CRM initiatives as well as MPA conservation in the VIP. In the MPA Management Boards in Oriental Mindoro, a Women Sector Committee is included in their structure, together with Senior Citizen, youth and BHW.

Presence of Indigenous Peoples

Among the 5 provinces along VIP, the two Mindoro provinces are home for the Indigenous Peoples called Mangyan which is the collective name of 7 indigenous peoples (IP) groups in Mindoro. Six, such as the Iraya, Alangan, Tadyawan, Hanunuo, Buhid and Tau-buid (also known as Batangan or Bangon) speak related language, while the 7th group, the Ratagnon (sometimes called Latagnon or Datagnon) is said to be non-indigenous to Mindoro because they speak Cuyunon a Visayan language used by a group from Palawan.

The Iraya Mangyan is the IP sub-tribe that inhabits the areas of Puerto Galera and Abra de Ilog and some parts of Naujan. At present, the Iraya Mangyan basically occupies most of Mt. Malasimbo and a portion of Mt. Halcon, the rest of the mountains of Abra de Ilog up to the municipality of Paluan in Occidental Mindoro. *Historically, it is said that this group used to occupy the coastal areas and subsists on fishing, but were moved farther inland by migrant settlers and development pressures.* (www.Mangyan: Native From Oriental Mindoro). The estimated population of the Iraya-Mangyan is 10,689 distributed in around 141 settlements in the municipalities of Abra de Ilog, Mamburao, and Paluan (OSCC, IV, 1993). The Iraya Mangyan is organized through the assistance of the Mangyan Mission. Their organization is called *Malanggatan Iraya Paranawan Kakuyayan, Inc.* (MIPK) wherein they maintain a "house" (meeting and training center) located in San Teodoro, Mindoro Oriental. Some Iraya Mangyan can still be seen along beach resorts in Puerto Galera, selling *rattan* baskets and other forest products to tourists for their livelihood.

MPA Status

CI-Philippines is instrumental in the establishment of MPAs in the provinces of Batangas, Mindoro Oriental and Lubang Island, Mindoro Occidental. They helped the establishment of 69 officially declared individual MPAs (though recently it increased to 71) covering an area of 17,089 hectares officially established through local legislations in the VIP area. These MPAs are distributed in 19 municipalities in the three provinces (i.e., 10 in Batangas, 7 in Oriental Mindoro and 2 in Lubang Island, Occidental Mindoro). The provinces of Marinduque and Romblon have not been included in these efforts yet.

Use and level of regulation of the MPA declared areas are designated as: *No Take Zone*, covering an area of 2,426 hectares; *Marine Reserve* (only Hook and Line are allowed) with 1,282 hectares; *Mangrove Areas* (strictly conservation areas) covering 336 hectares; and, the *Fisheries Management Areas* (with Fishing Gear restrictions) covering 13,045 hectares. Figure 8 is a

map[81] that shows the growth and locations of established MPAs in the whole VIP as of 2010. The CI-P closely worked with the LGUs in the three provinces (Batangas, Oriental and Occidental Mindoro) in the establishment of these MPAs. Those recently declared MPAs in Batangas and Mindoro Occidental are not yet reflected on this map.

Figure 2: Map showing the Established Individual MPAs in the VIP (Source: CI-P)

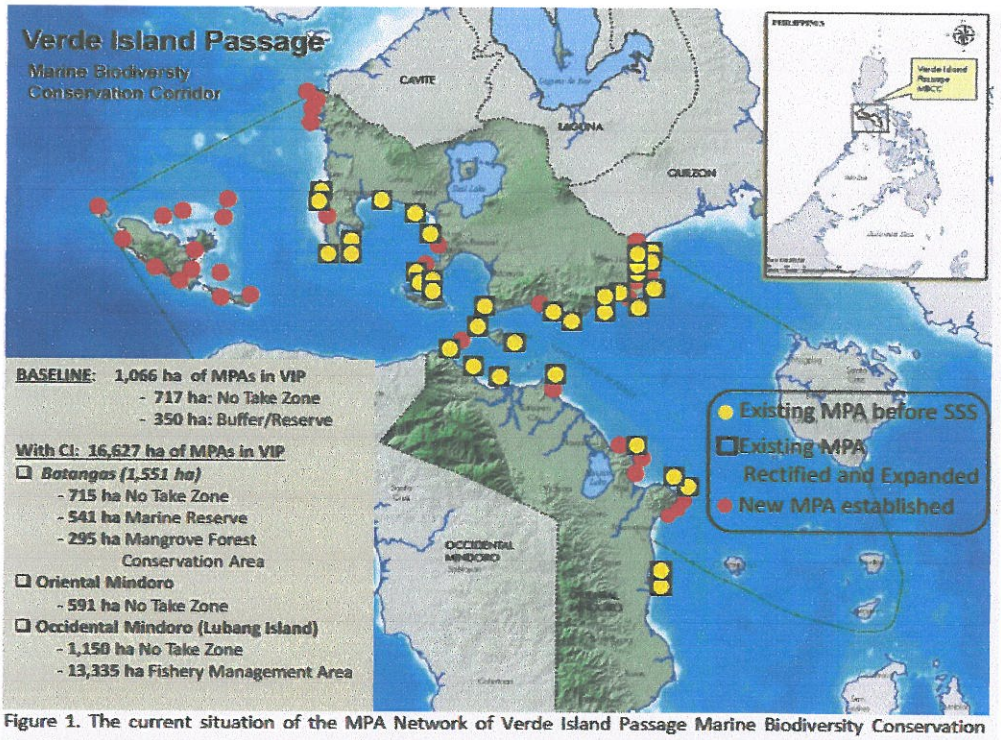


Figure 1. The current situation of the MPA Network of Verde Island Passage Marine Biodiversity Conservation Corridor encompassing 16,627 hectares of critical habitats in 19 Municipalities (Batangas: 10, Oriental Mindoro: 7, Occidental Mindoro: 2) and includes 2,456 hectares of no-take zones, 13,335 hectares of Fishery Management Areas and 295 hectares of Mangrove Forest Conservation Areas.

Out of the 71 MPAs, Table 2 below is the list, location, size and legal basis for establishment of the 54 assessed MPAs.

Table 2. List, Location, Sizes and Date & Legal Basis for Establishment of the 54 assessed MPAs in the VIP

No.	Name of MPA	Location	Size (Area in hectares)	Date and Legal Basis for Establishment
1	**Batangas Provincial MPA Network**	**Region IV-A Province of Batangas**	1,923.95 (1,294.29)	SP Res. # 02-2007 "An Ordinance Creating the Verde Island Passage Development

[81] Baseline data reflected on this map has discrepancy with data indicated on the METT of 2013. This can be attributed to: additional MPA established as in the case of Lobo in Batangas, the inclusion of Puerto Galera's UNESCO declared Man and Biosphere total area coverage for Oriental Mindoro, and for Occidental, the municipalities of Paluan and Abra de Ilog are added to the former record which is only for the Lubang Island.

No.	Name of MPA	Location	Size (Area in hectares)	Date and Legal Basis for Establishment
				Authority"
		Balayan (1)	(37)	
1.1	Carerahan Fish Sanctuary and Reserve	Bgy. Carerahan	37	Sept. 2003 MO 594 s. 2003
		Batangas City (5)	(32.18)	
1.2	Nalayag Point Fishery Refuge and Sanctuary	San Agustin Kanluran, Isla Verde	16.26	2002 M0 #13 s 2007 (amended MO #13 s. 2002)
1.3	Pulong Bato Fishery Refuge and Sanctuary	San Agapito, Isla Verde	14.13	2002 M0 #4 s. 2007 (amended MO #13 s. 2002)
1.4	Pagkilatan Fishery Reserve	Bgy. Pagkilatan	1.79	2005 MO#4 s. 2007 (amended MO #13 s. 2002)
		Lemery (1)	(6.2)	
1.5	Sinisian Marine Protected Area	Sinisian East	6.2	2008 MO# 02-343
		Lobo (4)	(132.18)	
1.6	Sawang/Olo-Olo Fish Sanctuary	Bgy. Sawang & Olo-Olo	16.74	Dec. 10, 2001 SB Res. #2001-59 adopted by Bgy. Res. 2001-08 & Ord. # 02-2002
1.7	Malabrigo Fish Refuge and Sanctuary	Bgy. Malabrigo	25	2002 SB Res. #2002-60 & Bgy. Res. #02-2002 & Ord. #02-2002
1.8	Biga Marine Sanctuary	Sto. Haliging Bato, Kamantigue, Bgy. Biga	20.65	2001 MO # 2-2001 & Res. #13-2001
1.9	Lobo Mangrove Forest Reserve	Bgy. Sawang, Olo-Olo, Lagadlarin and Fabrica	69.79	No Ordinance yet
		Mabini (4)	(99.3)	
1.10	Twin Rocks Marine Sanctuary	Sto. Balagbag, Bgy. Bagalangit	22.915	1991 Mun. Ord. 11-91, amended 1993, Mun. Ord. 04-2006 amended in 2006
1.11	Cathedral Rock Marine Sanctuary	Sto. Siiran, Bgy. Ligaya	15.395	
1.12	Arthur's Rock Marine Sanctuary	Sto. Punta, Bgy. Bagalangit	17.984	
1.13	Brgy. Ligaya Marine Protected Area/Batong Buhay Marine Sanctuary	Sto. Balanoy, Bgy. San Teodoro	43.006	2009 Mun Ord. 05-2010
		Nasugbu (4)	(113.49)	
1.14	Taytayen/Etayo Marine Reserve	Pico de Loro Cove, Bgy. Papaya Bgy. Balaytigue	40.49	2009 Ord. #23, Res. #52, s 2009

No.	Name of MPA	Location	Size (Area in hectares)	Date and Legal Basis for Establishment
1.15	Cutad (Pico de Loro) Marine Reserve	Pico de Loro Cove, Bgy. Papaya Bgy. Balaytigue	52.62	
1.16	Pinagdakutan/Santelmo Marine Sanctuary	Bgy. Balaytigue	13.93	
1.17	Punta Fuego Sanctuary	Bgy. Papaya	6.45	
		San Juan (14)	(873.94)	
1.18	Catmon Mangrove Protected Area	Bgy. Catmon	104	2000
1.19	Catmon Marine Protected Area	Bgy. Catmon	49	MO 01-2010 amended MO 07-2006
1.20	. Imelda Mangrove Protected Area	Bgy. Imelda	91	2006
1.21	Imelda Marine Protected Area	Bgy. Imelda	58.44	MO 01-2010 amended MO 07-2006
1.22	Calubcub 1st Marine Sanctuary	Bgy. Calubcub	75	2000
1.23	Pinagbayanan Mangrove Forest Conservation Area	Bgy. Calubcub 1st	8.6	MO 01-2010 amended MO 07-2006
1.24	Barualte, Bataan, Nagsaulay, Subukin Mangrove Forest Conservation Area	Bgy. Barualte, Bataan, Nagsaulay, Subukin	73	2006 MO 01-2010 amended MO 07-2006
1.25	Subukin Mangrove Forest Conservation Area	Bgy. Subukin		
1.26	Hugom Marine Sanctuary	Bgy. Hugom	11	Feb. 12, 1999 MO 01-2010 amended MO 07-2006
1.27	Puting Buhangin Marine Sanctuary	Bgy. Puting Buhangin	55.5	2000 MO 01-2010 amended MO 07-2006
1.28	Laiya Ibabao Submarine Garden	Bgy. Laiya-Ibabao	54	2006
1.29	Laiya Ibabao Marine Protected Area	Sto. Napayong, Bgy. Laiya Ibabao	62.3	MO 01-2010 amended MO 07-2006
1.30	Ticalan Marine Sanctuary	Bgy. Ticalan	69.1	2000 MO 01-2010 amended MO 07-2006
1.31	Laiya Aplaya Marine Protected Area	Bgy. Laiya-Aplaya	75.5	2006 MO 01-2010 amended MO 07-2006
1.32	Abung Marine Sanctuary	Bgy. Abung	87.5	2000 MO 01-201amended MO 07-2006
2	**Oriental Mindoro MPA Network**	***Region IV-B Oriental Mindoro***	5,113 (5,408.77)	Provincial Ordinance No. 004-2004 Ordinance Enacting the Coastal, Marine and Inland Water

No.	Name of MPA	Location	Size (Area in hectares)	Date and Legal Basis for Establishment
				Resources Management Code of Oriental Mindoro
		Calapan City (2)	(78)	
2.33	Harka Piloto Fringing Reef MPA	Bgy. Lazareto	37	2003, 2004 and 2010 Calapan City Ord./Res. #60-02 Sec.9 Art. 3 of Calapan City Ord. of 2003
2.34	Silonay Mangrove Conservation Area	Bgy. Silonay	41	
		Gloria (1)	(80.83)	
2.35	Agsalin Fish Sanctuary	Bgy. Agsalin	80.13	April 2004 Mun. Ord. #64 s. 2005 & Res. # 150-2006
		Naujan (2)	(46)	
2.36	Tujod Fish Sanctuary	Bgy. Herrera	30	2006 Municipal Ordinance #54 S. 2008
2.37	Masaguing Fish Sanctuary		16	March 21, 2011 Municipal Ordinance #54 S. 2008
		Pinamalayan (4)	(61.08)	
2.38	Ranzo Fish Sactuary	Bgy. Ranzo	16.4	2005 Resolution No. 020-2005 MPA Ordinance No. 02-2005 Municipal Fishery Code of Pinamalayan 02-2010
2.39	Banilad-Simboryo Marine Protected Area	Sto. Mahabang Buhangin, Bgy. Banilad	10.4	
2.40	Banilad-Ginapangan Marine Protected Area (Mahabang Buhangin)	Sto. Simborio, Bgy. Banilad	10.28	
2.41	Pili Marine Protected Area	Lower Bongol, Bgy. Pili	24	
		Pola (6)	(202.39)	
2.42	Bacawan Fish Sanctuary	Bgy. Bacawan	23.44	Feb. 2006 (Bacawan)
2.43	Saint Peter the Rock MPA	Bgy. Tagumpay	24.18	
2.44	Saint John the Baptist Fish Sanctuary		49.38	Oct. 4, 2010 (St. John the Baptist)
2.45	Song of the Sea FS	Brgy. Misong	60.61	
2.46	Kingfisher Marine Reserve	Brgy. Tiguihan	14.66	
2.47	Stella Mariz FS	Brgy. Calima	30.12	
		Puerto Galera (1)	(4,828)	
2.48	Puerto Galera MPA (Man and Biosphere)	Muelle Bay (Bgys. San Antonio, Sto. Niño, Poblacion, Palangan & Sabang)	4,828	December 26, 1973 Presidential Decree No. 354
		San Teodoro (2)	(112.47)	
2.49	Punta Ilag Fish Sanctuary	Bgy. Ilag	23.1	Dec. 20, 2001 Mun. Ord. #54 s. 2008
2.50	Tamauyan Fish Sanctuary		89.37	

No.	Name of MPA	Location	Size (Area in hectares)	Date and Legal Basis for Establishment
	Mindoro Occidental MPA Network	***Region IV-B Occidental Mindoro***	79,620.22 (1,334.828)	Not yet established as a network
2.51	Lubang Marine Park	***Lubang***	1,149.52	March 24, 2010 Joint Municipal Ordinance No. 01 series 2010
2.52	Looc Marine Park	***Looc***		
2.53	Abra de Ilog-Apias Fish Sanctuary (proposed additional site)	***Abra de Ilog*** Bgy. Apyas	105.3081	Oct. 01, 2007 Mun. Fish Ord.97-2007 (154.47 has.)
2.54	Paluan -Mahabang Buhangin MPA (proposed additional site)	***Paluan*** Bgy. Tubili	80	March 28, 2011 Mun. Ord. #01-2011 (486.20 has.)
	54 MPAs	**2 regions (4A and 4B)** **3 provinces** **18 Municipalities** ***56 bgys.***	8,037.888 hectares	

Though not yet officially organized as VIP site level network, a *social network of MPA Managers and enforcers (Bantay Dagat)* was formed in 2008 comprising of the provinces of Batangas, Oriental Mindoro and Lubang-Looc. An ad hoc committee was tasked for organizing the networks in Batangas, composed of 13 LGU members, Oriental Mindoro with 8 LGU members and Lubang-Looc for Occidental Mindoro, as one cohesive network. This formation has a common vision to organize a VIP wide network, to improve management and sharing responsibilities and conservation gains from Marine Protected Areas.

Batangas MPAs and Provincial Network

Batangas has the highest number of municipalities with declared MPAs among the 5 provinces in the VIP. Nine (9) municipalities namely: Balayan, Bauan, Calatagan, Lemery, Lobo, Mabini, Nasugbu, San Juan and Tingloy and one (1) city, Batangas City, initiated the establishment of MPAs covering an area of 1,923.95 hectares (PG-ENRO Provincial MPA Network METT, 2013).

Mindoro Oriental MPAs and Provincial Network

The province of Mindoro Oriental has a coastal length of 324.45 kilometers (kms.), shared by 12 municipalities and 1 city, namely; Calapan City, Baco, Bansud, Bongabong, Bulalacao, Gloria, Mansalay, Naujan, Pola, Pinamalayan, Puerto Galera, Roxas and San Teodoro. Just like Batangas, Oriental Mindoro formed a provincial MPA and Law Enforcement Network. This was formally launched in July 16, 2009, after a series of meetings and consultations with concerned LGUs, the Provincial Government of Oriental Mindoro-Provincial Agriculture Office-Fishery/CRM Division and the Sulu-Sulawesi Seascape Conservation Initiative of CI-P.

The network covers all MPAs established in the province to enhance their social and biological connectivity. At present, there are 13 existing MPA sites in the municipalities along the VIP, all

1. Lubang Marine Park	2,216.00
2. Looc Marine Park	2,585.37
3. Cabra Island	1,095.81
4. Bahurang Vigo	1,350.00
5. Bahurang Malapad	1,050.00
6. Bahurang 7	1,320.00
7. Bahurang 8	1,000.00
8. Agkawayan/Ambil Pass	2,167.27
9. Bahurang Aurora/Poblacion/Bonbon	136.00
10. Bahurang Bulacan	500.00
11. Bahurang Tapat/Talaotao	45.17
12. Butong-Pandan/Bulacan	1,019.02
TOTAL	**14,484.64**

Source: Office of the Provincial Agriculturist, Mindoro Occidental

VIP Site Network

Out of the 1.14 million hectares covering the entire VIP distributed among the 5 provinces, only 17,089 hectares (170.89 km²) are MPAs based on CI-P (SSS Report, 2010). This hectarage will increase to 21,645.85 hectares (216.2485 km²) if newly established MPAs are counted including those established in other areas[82]. These MPAs are located only in the three provinces of Batangas, Mindoro Oriental and Mindoro Occidental, where assistance in MPA establishment and management were provided by CSOs, particularly CI-Philippines.

Following the issuance of EO 578 by President Macapagal Arroyo, an Ad Hoc Task Force was formed which led in the consultations and development of the Verde Framework: A Management Plan Framework for the Verde Island Passage. No policy, institutional mechanisms and financing has been established to pursue and sustain the implementation of the Plan. But each of the 5 provinces has included in their CRM plans areas within VIP as critical conservation area. The effort has to be linked and unified, to create wider and stronger impact and results.

A social network of MPA Managers and law enforcers (Bantay Dagat) was officially organized jointly by the provinces of Batangas and Mindoro Oriental and Occidental (Lubang-Looc), and an ad hoc committee was formed with the responsibility for organizing the networks in Batangas, with 13 LGUs (municipality level), Mindoro Oriental with 8 LGUs, and in Occidental Mindoro, Looc and Lubang, as one cohesive network. This formation has a *common vision to "organize a VIP-wide network, improving management and sharing the conservation gains of their respective MPAs*. The ad hoc committee has been regularly meeting, planning and sharing resources, working towards the above-stated vision. Each of the Provincial Governments of the three provinces has committed to support the realization of this vision, including yearly provision of budget. The graph below shows the budget allocation for CRM from 2005 to 2010 by the 16 municipal LGUs along the VIP. It can be noted that there is an increasing trend in budget allocation for MPA management.

[82] Additional declared MPA in Lobo,Batangas, the inclusion of Paluan and Abra de Ilog, Occidental Mindoro MPAs in the METT, and declaring the whole Puerto Galera Man and Biosphere Reserve area as MPA (CI's record is only 547 hectares, while in the METT, 4,828 hectares was declared as total MPA area).

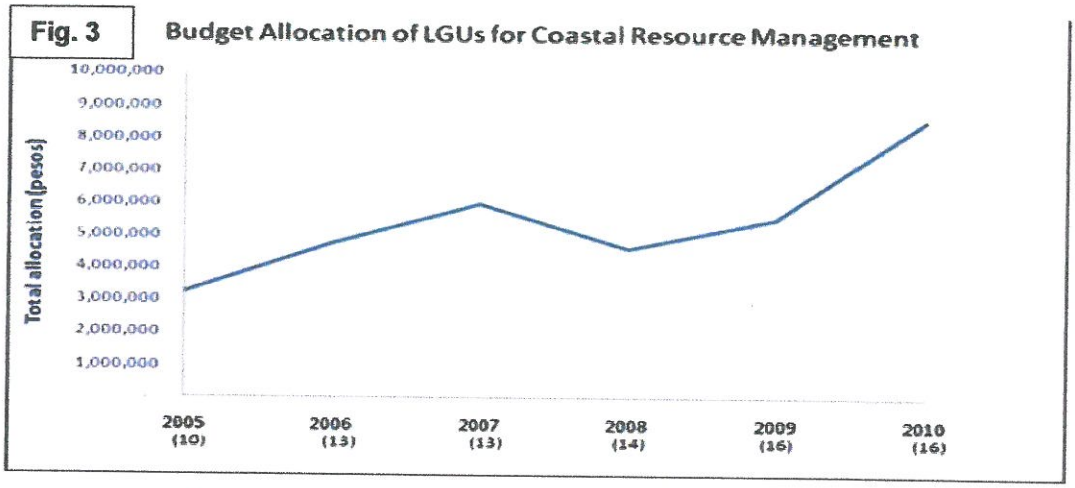


Figure 2. Total budget allocation from 2005 to 2010 of 16 LGUs in the VIP (7 in Batangas: Nasugbu, Calatagan, Bauan, Balayan, Mabini, Lobo and San Juan; 9 in Oriental Mindoro: Bulalacao, Gloria, Pinamalayan, Naujan, Pola, Baco, Calapan City, San Teodoro and Puerto Galera). The total allocation nearly tripled between 2005 and 2010. Figures in parentheses in the x-axis are the number of LGUs contributing in each year.

The Bantay Dagat, which is also organized as enforcement network for VIP has 910 existing members spread over the municipalities of Batangas, Mindoro Oriental and Looc-Lubang in Occidental Mindoro. CI-Philippines in collaboration with Provincial and Municipal LGUs have provided these Bantay Dagat with patrol boats and enforcement paraphernalia. Governor Vilma Santos-Recto committed PhP 9 Million or US$200,000 in support to operations of the Batangas Enforcement Response Team (BERT) composed of the Provincial Governor as Chair, the PNP Provincial Director, Chief-PNP Maritime, District Commander of the PCG, Bantay Dagat (community-based law enforcers) Network Chair, and the Squadron Commander of the PCG Auxiliary. Likewise, Governor Umali of Mindoro Oriental adopted EO #46 by EO#33 creating the Bantay Dagat network of Mindoro Oriental and allocating budget amounting to PhP 1 Million or US$23,000for enforcement operations. There is yet no VIP network level financing mechanisms and system that was put in place yet, as well as a management structure that will consolidate, monitor and sustain these efforts.

Key Stakeholders and On-going Initiatives

VIP stakeholders are clustered into 6 which are: 1) LGUs (Provincial, Municipal and Barangay levels), 2) Private Sector (11), 3) Academic Institutions (10), Government Agencies (12), Civil Society Organizations (CSOs)/NGOs (12), POs (1), IPs (3) and the MPA Management Council in each Municipality (MFARMC) and Barangay (BFARMC) levels. The LGUs are the primary MPA managers in partnership with different stakeholders. The BCRMF (Batangas Coastal Resource Management Foundation with 31 multinational industries as members (Shell Refinery, First Gas, First Gen) partners with the LGUs on various CRM initiatives, eg mangrove rehabilitation, coral reef assessments, law enforcement, capabilitiy building of Bantay Dagat netwok, etc. Academic institutions such as the University of Batangas, De la Salle System, Batangas State University, UP MSI and UP Visayas and others provide technical support research, biophysical monitoring, climate change vulnerability assessment, etc. Various national

government agencies like BFAR, DENR-BMB, DOT, NAPC, DSWD, among others also provide various kinds of assistance to the coastal and marine conservation efforts. Other donor agencies such as the USAID, GIZ and the EU have projects on coastal and marine conservation in the VIP.

Several NGOs and private companies such as Conservation International-Philippines (CI-P), Worldwide Fund for Nature (WWF-Philippines), First Philippine Conservation Inc. (FPCI), Shell Foundation, Malampaya Foundation Inc., among others, has implemented several initiatives geared towards biodiversity conservation and management through research, community organizing, livelihood, policy advocacy, IEC (Information, Education, Communication) and the establishment, protection and management of MPAs in the three provinces within VIP - Batangas, Mindoro Oriental and Occidental (particularly in Lubang and Looc).

Annex F: GEF Tracking Tools

[Refer to separate file]

Annex G: Capacity Scorecard of the Five Sites

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
Capacity Result 1: Capacities for Engagement									
Indicator 1: Degree of legitimacy/mandate of lead environmental organizations	Organizational responsibilities for environmental management are not clearly defined	0	2	2	2	3	0	1.8	60%
	Organizational responsibilities for environmental management are not clearly defined	1							
	Authority and legitimacy of all lead organizations responsible for environmental management are partially recognized by stakeholders	2							
	Authority and legitimacy of all lead organizations responsible for environmental management are partially recognized by stakeholders management recognized by stakeholders	3							
Indicator 2: Existence of operational co-	No co-management mechanisms are in place	0	2	2	1	0	0	1	33.3%
	Some co-management mechanisms are in place and operational	1							

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
management mechanisms	Some co-management mechanisms are in place and operational formally established through agreements, MOUs, etc.	2							
	Comprehensive co-management mechanisms are formally established and are operational/functional	3							
Indicator 3: Existence of cooperation with stakeholder groups	Identification of stakeholders and their participation/involvement in decision-making is poor	0							
	Stakeholders are identified, but their participation in decision-making is limited	1							
	Stakeholders are identified, and regular consultations mechanisms are established	2	2	1	1	1	1	1.2	40%
	Stakeholders are identified, and they actively contribute to established participative decision-making processes	3							
Sub-Total		9	6	5	4	4	1	4	44.4%
Capacity Result 2: Capacities to Generate, Access and Use Information and Knowledge									

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
	information management infrastructure is limited								
	Comprehensive environmental information is available and shared through an adequate information management infrastructure	3							
Indicator 6: Existence of environmental education programmes	No environmental education programmes are in place	0	2	1	0	1	1	1	33.3%
	Environmental education programmes are partially developed and partially delivered	1							
	Environmental education programmes are fully developed but partially delivered	2							
	Comprehensive environmental education programmes exist and are being delivered	3							
Indicator 7: Extent of the linkage between environmental research/science and policy	No linkage exist between environmental policy development and science/research strategies and programmes	0	2	1	0	1	0	0.8	26.7%
	Research needs for environmental policy development are identified, but are not translated into relevant research strategies and programmes	1							

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
development	Relevant research strategies and programmes for environmental policy development exist, but the research information is not responding fully to the policy research needs	2							
	Relevant research results are available for environmental policy development	3							
Indicator 8: Extent of inclusion/use of traditional knowledge in environmental decision-making	Traditional knowledge is ignored and not taken into account for relevant participative decision-making processes	0	1	1	2	2	1	**1.4**	**46.7%**
	Traditional knowledge is identified and recognized as important, but is not collected and used in relevant participative decision making processes	1							
	Traditional knowledge is collected, but is not used systematically into relevant participative decision-making processes	2							
	Traditional knowledge is collected, used, and shared for effective participative decisionmaking processes	3							
Sub-Total		15	9	6	5	8	5	**6.6**	**73.3%**

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
adequate environmental policies and regulatory frameworks	enabling environment								
	Some relevant environmental policies and laws exist, but few are implemented and enforced	1							
	Adequate environmental policy and legislation frameworks exist, but there are problems in implementing and enforcing them	2							
	Adequate policy and legislation frameworks are implemented, and provide an adequate enabling environment; a compliance and enforcement mechanism is established and functions	3							
Indicator 11: Adequacy of the environmental information available for decision-making	The availability of environmental information for decision-making is lacking	0							
	Some environmental information exists, but it is not sufficient to support environmental decision-making processes	1	2	1	1	1	1	**1.2**	**40%**
	Relevant environmental information is made available to environmental decision-makers, but the process for updating this information is not functioning properly	2							

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
	Political and administrative decision-makers obtain and use updated environmental information to make environmental decisions	3							
Sub-Total		9	6	4	5	3	5	**4.6**	**51%**
Capacity Result 4: Capacities for Management and Implementation									
Indicator 12: Existence and mobilization of resources	The environmental organizations don't have adequate resources for their programmes and projects, and the requirements have not been assessed	0	2	2	2	2	1	**1.8**	**60%**
	The resource requirements are known but are not being addressed	1							
	The funding sources for these resource requirements are partially identified, and the resource requirements are partially addressed	2							
	Adequate resources are mobilized and available for the functioning of the lead environmental organizations	3							
Indicator 13: Availability of	The necessary required skills and technology are not available, and the needs are not identified	0	1	1	2	2	1	**1.4**	**46.6%**

Annex H: Co-Financing Letters

-In separate file-

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
required technical skills and technology transfer	The required skills and technologies needs are identified, as well as their sources	1							
	The required skills and technologies are obtained, but their access depends on foreign sources	2							
	The required skills and technologies are available, and there is a national-based mechanism for updating the required skills and upgrading the technologies	3							
Sub-Total		6	3	3	4	4	2	**3.2**	**53%**
Capacity Result 5: Capacities to Monitor and Evaluate									
Indicator 14: Adequacy of the project/programme monitoring process	Irregular project monitoring is being done without an adequate monitoring framework, for detailing what and how to monitor the particular project or programme	0	1	0	0	0	0	**0.2**	**6.6%**
	An adequate resourced monitoring framework is in place, but project monitoring is irregularly conducted	1							

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings (= sum of MPAs/No. of MPAs)					(= sum of sites/No. of sites)	
	Regular participative monitoring of results is being conducted, but this information is only partially used by the project/programme implementation team	2							
	Monitoring information is produced timely and accurately, and is used by the implementation team to learn and possibly change the course of action	3							
Indicator 15: Adequacy of the project/programme evaluation process	No or ineffective evaluations are being conducted, with no adequate evaluation plan or the necessary resources	0							
	An adequate evaluation plan is in place, but evaluation activities are irregularly conducted	1							
	Evaluations are being conducted as per an adequate evaluation plan, but the evaluation results are only partially used by the project or programme implementation team	2	1	0	0	0	0	**0.2**	**6.6%**
	Effective evaluations are conducted timely and accurately, and are used by the implementation team and the Implementing Agencies and/or GEF staff to correct the course of action, if needed, and to learn for further planning activities	3							

Capacity Result /Indicator	Staged Indicators	Rating	Davao Gulf	TSPS	Lanuza	VIP	S. Palawan	Average	%
			Site Ratings *(= sum of MPAs/No. of MPAs)*					*(= sum of sites/No. of sites)*	
Sub-Total		6	2	0	0	0	0	**0.4**	**6.6%**
TOTAL SCORE (Site)		**45**	**26**	**18**	**18**	**19**	**13**	**18.8**	**42%**
% to total (Site)		100%	**58%**	**40%**	**40%**	**42%**	**29%**		

Annex H: Co-Financing Letters

-In separate file-