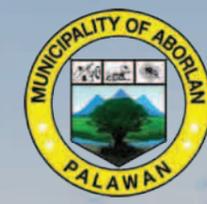


# ABORLAN

COLLABORATION FOR CONSERVATION

A Case Study on the Philippines



FONDATION SEGRÉ



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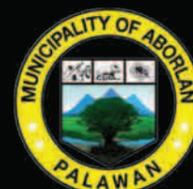
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A GROUNDSWELL OF DETERMINATION	3
THREATS AND OPPORTUNITIES	6
THE CRM PLANNING PROCESS	9
POLICY SUPPORT	22
PARTNERSHIP BUILDING	25
A BUSINESS ANGLE	29
LOOKING AHEAD	30
REFERENCES	37

# ABORLAN

## COLLABORATION FOR CONSERVATION

### A Case Study on the Philippines

*This case study on Aborlan is the seventh in a series of analyses being undertaken by WWF-Philippines. This series aims to communicate key issues and lessons from field projects to fellow practitioners, program and policy staff, personnel of managed and/or protected areas, partners, and donors.*

*The first in the series was on the Turtle Islands in Tawi-Tawi, which tackled issues of entry points for conservation, and how resource management ultimately depended on governance. The second case study discussed the establishment and operating systems of the multi-stakeholder environmental law enforcement program of El Nido, Palawan. The third case study described how Tubbataha, a pair of offshore reefs 130 kilometers from the nearest island, works as a protected area. The fourth case study related the establishment of conservation fees paid by scuba-divers in Mabini and Tingloy, Batangas. The fifth case study told the story of Donsol, Sorsogon and how the constant presence of whale sharks has transformed a small town into one of the world's best wildlife interaction tourist sites. The sixth case study on Taytay, Palawan, is about the transformation of a municipal government into a champion and model of resource management.*

*This publication on Aborlan Palawan, is a process documentation of how the municipality's Integrated Conservation and Resource Management (ICRM) is a true model of collaboration between the public and private sectors, and the academe.*

*The goal of these case studies is to help create a stronger understanding of the issues, and to promote further learning and sharing of successes and challenges. We welcome feedback on this case study, and on any others in this series. Please e-mail Chrisma Salao, Vice President for Conservation Programmes, WWF Philippines ([csalao@wwf.org.ph](mailto:csalao@wwf.org.ph)).*



**WWF** for a living planet®



*Aborlan is predominantly an agriculture and fishing community.*

## A GROUNDSWELL OF DETERMINATION

**A**borlan could very well be just another coastal municipality in mainland Palawan, located 69 kilometers south of the rugged province's capital city of Puerto Princesa. Bounded on the east and west by rich and mighty bodies of water, the Sulu Sea and the West Philippine Sea, and comprising part of Palawan Island's almost 2,000 kilometers of coastline, Aborlan is home to some 32,000 people (as of 2010) who make their living fishing and farming.

From the point of view of conservation, however, Aborlan ceases to be typical. This is because its 79,910 hectares of municipal waters are officially and legally a fisheries management zone, referred to by the municipal administration as an Integrated Coastal Resource Management (ICRM) area, and so declared on February 22, 2016, through Municipal Ordinance No. 8, series of 2016.

The people and leaders of Aborlan did not need anyone else to initiate this milestone development; the decision to protect their waters was theirs, reinforced by other stakeholders in a remarkable example of effective collaboration to protect a shared resource.

To be fair, the motivation may have been a matter of survival. Aborlan's waters are home to a reef cryptically known as Seven Line, allegedly even more expansive than the famed Tubbataha Reefs in the Sulu Sea, a natural park and Southeast Asia's only purely marine UNESCO World Heritage Site. The coral reefs of Seven Line measure a total of 12,339 hectares, as compared to Tubbataha's 6,235 hectares, although the latter encompasses a total of 97,030 hectares when one counts its protected waters.

There are several posited origins for the

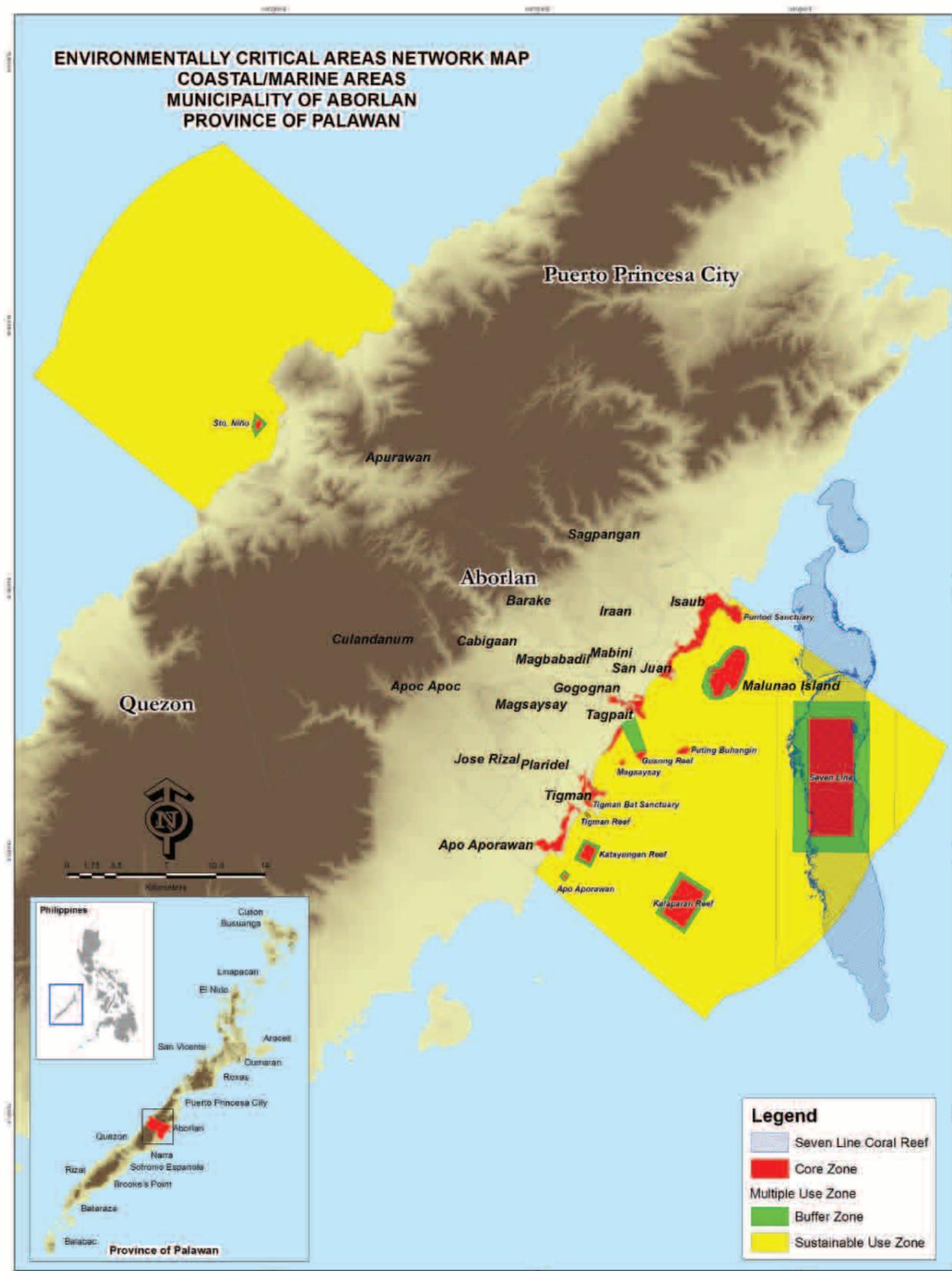


Figure 1. Map of Aborlan showing its municipal waters which have been declared an Integrated Coastal Resource Management (ICRM) area with core, buffer and sustainable use zones.

reef's name, ranging from its supposed length of seven miles, to the number of ridges or boulders along its length, or even its sequence in a long-ago topographical survey of the area. Seven Line is generally accessible only by motorized fishing boats. Oriented from north to south, the reef begins on the southeastern coast of Puerto Princesa, traverses the northeast portion of Aborlan's municipal waters, and ends in the national waters of the Sulu Sea. Roughly half of Seven Line reef (6,598 hectares) is in the municipal waters of Aborlan (Figure 1).

Nomenclature aside, Aborlan's rich reefs are a prized local fishing ground that has come under threat from outsiders and their destructive illegal fishing practices. "People travel from afar to go to Seven Line," notes Clemente Cacatian, Aborlan's Municipal Agriculture Officer (MAO). "They come from Puerto, Narra, even the Visayas to fish. That's why the local fishermen want to protect it. Only 10 percent of the fish catch from Seven Line is actually caught by local Aborlan fishermen."

Thus, the ease and speed by which the municipal waters of Aborlan were declared an ICRM area was largely due to the groundswell of determination to protect Seven Line coral reef. This agenda brought together fishermen, the municipal agriculture office, local government units (LGUs), and key figures at the provincial level, including the Office of the Provincial Agriculturist (OPA), as well as Sangguniang

Panlalawigan (Provincial Board) member Albert Rama, who hails from Aborlan.

Rama was a key figure not just in pushing for provincial funding for consultations, studies, and the eventual protection of Seven Line, but also in paving the way for the community to take Aborlan's existing coastal resource management system to a higher level.

Thanks to key players—including funding partners such as Fondation Segré; outside nongovernment organizations (NGOs), such as WWF-Philippines and the Environmental Legal Assistance Center (ELAC); and the academe, through the Western Philippines University (WPU)—and the application of a multisectoral approach that identified problems and solutions, Aborlan has shown communities everywhere that it is possible for several groups to come together for a common goal—and to do it right.



The dramatic increase of tourist arrivals in Puerto Princesa, increase in population, and itinerant fishermen mean an ever-increasing pressure on natural resources.

# THREATS AND OPPORTUNITIES

*Part of the intention in protecting Seven Line is for its “spillover effect” to supply nearshore coral reefs, so the fishermen of Aborlan need not go far when fishing.*



## From land to sea

Like in many coastal barangays (villages) in the Philippines, the people of Aborlan bore witness to how their once abundant seas came under threat, and their source of livelihood eventually became depleted. “I was born here and grew up here as a fisherman,” says Arturo Quillenita, member of the 40-member Barangay Fisheries and Aquatic Resources Management Council (BFARMC), organized in 2012, and a fisherman of Tagpait, one of Aborlan’s 19 barangays. “As fishermen, we take care of our corals, and we’re vigilant about the presence of illegal fishermen.” The migrants who came from Cebu and Bohol in the ’80s brought with them destructive practices such as cyanide and

dynamite fishing and the use of compressors, says Quillenita—and for the longest time, the culprits got away with it. “Illegal fishermen who were apprehended were just made to pay fees, but this was not enough, because they would repeat the offense.”

Meanwhile, the Palawan Council for Sustainable Development (PCSD), the multi-sectoral and inter-disciplinary government office in charge of Palawan’s abundant natural resources, as mandated by the province’s landmark Strategic Environmental Plan (or SEP, under Republic Act 7611, signed into law in 1992 and consolidating provincial environmental efforts), had long been focused on terrestrial riches, says Nelson Devanadera, PCSD’s

Executive Director. “There is now an urgency to focus on marine resources because of heavy extraction, depleting yield, problems with coral bleaching. It is now a crisis, and we should act fast—for fisheries and food security.”

“In the past, we were only focused on crops—food production, rice, corn,” seconds Municipal Agricultural Officer Cacatian. “We relied on the Bureau of Fisheries and Aquatic Resources (BFAR) for fisheries until 1997, even though the local government was devolved in 1991.” An opportunity for training on the ecosystem approach to fisheries management (EAFM) for the Sulu-Celebes Fisheries Management Project gave local leaders a broader perspective, Cacatian says. “We learned that agriculture has a big effect on fisheries—things such as too much fertilizer use, slash-and-burn farming residue. Therefore, we also needed a program for fisheries.”

Modern development has likewise brought

the accompanying ills to Aborlan. “We have a growing population and greater demand on resources,” notes Jonathan Daniel Pizaña, Designated Municipal Tourism Officer and Information Officer. The municipality’s current fisheries production ranges between 50 and 60 metric tons (MT) a month. While the population of Aborlan is only 32,000, tourist arrivals in Palawan grew ninefold, from 100,000 in 2000 to 900,000 in 2014, leading to a corresponding increase in demand. Pizaña continues, “Aborlan’s role in tourism has been as provider of agricultural and fishery needs of Puerto Princesa City, and this has meant higher prices for commodities here in Aborlan. Tourists bring cultural effects, too, such as prostitution.” Aborlan Vice Mayor Ariston Madeja puts it succinctly: “We have neglected our coastal resources. If we continue to do so, time will come when it will have a big effect.”



*Armen J. Molleno, aquaculture technician of the Municipal Agriculture Office of Aborlan, is the only staff member of the municipality focusing on fisheries.*



*Aborlan still has pristine, old growth mangroves. Aborlan boasts of 23 species of mangroves belonging to 11 families, about half of the total number of species found in the Philippines.*

## THE CRM PLANNING PROCESS



### From consultation to integration

**W**hat gave the municipality a head start in addressing marine conservation was a history of over a decade of initiatives, no matter how small or incomplete in scale. In other words, coastal resource management was nothing new to Aborlan. “Initiatives on a Coastal Resources Management Plan (CRMP) started around 2005-2008, with capacity building of BFARMCs,” recounts Engr. Anna Lee E. Mole, Acting Municipal Planning and Development Coordinator (MPDC). “We organized fish wardens, though they were not deputized, and we conducted meetings and had inventories of fisheries, corals, and seagrass.” Armen J. Molleno, an aquaculture technician who has been with the MAO’s office since 1997, confirms that a municipal CRM plan has been in place since 2005. “We already had initiatives in the past, but these

were isolated from each other, and the plans have not been fully implemented yet.”

Ordinances had already been issued to protect specific areas, however, specifically Gusong Reef and its nearby mangroves, which were declared a sanctuary in 2012. Malunao Island, home of the tabon bird and a renowned sports fishing site, was declared a sanctuary even earlier, in 2000. “There were separate ordinances for different sanctuaries,” says Engr. Mole. “The process for CRMP was difficult due to technical work. It was a coincidence that we had a municipal government employee at the time with an environmental management background, Maureen Eunice Ibale; otherwise we would not have been able to complete the CRMP. Then it was pending with the Municipal Council, until the ICRMP came along.”

The ICRMP, the plan that brought everyone together, was what the people called the move to declare Seven Line reef a sanctuary. At the time, Anderson H. Zabalo, Barangay Captain of Tigman, was already pushing for a habitat of local flying foxes in their area to be declared a bat sanctuary. “By the time the ICRMP started, the bat sanctuary proposal was already on third reading by the barangay. We approached the Department of the Environment and Natural Resources (DENR), and they explained that we needed zoning—core, buffer, and multiple use—and that this needed to go through public hearings at the barangay, and then the municipality.” The same process of public hearings and zoning was applied to the ICRMP, which included the provision that 10 percent of Seven Line will be declared as Core Zone.

In 2013, the Office of the Provincial Agriculture (OPA) and WWF-Philippines, through the Coral Triangle Support Partnership project funded by the United States Agency for International Development (USAID), conducted a marine protected area (MPA) workshop in Puerto Princesa City, where Seven Line was immediately identified as a priority by the provincial government. With the OPA taking the initiative, an MPA management plan was formulated, based on Participatory Rapid Appraisal (PRA) gleaned from the feedback of fishermen, as no scientific information was available at the time. “In the past, farmers and fisherfolk were freewheeling,” recalls Municipal Agriculture Officer Cacatian. “They were free

to extract resources for livelihood. When we developed the plan, fisherfolk leaders had to be part of it.”

Part of the success of formulating and implementing the Aborlan ICRMP could be due to the willingness of the people involved to share credit as well as responsibility. “It was the MAO who gave me information about Seven Line, and I picked it up as one of our projects,” says Albert Rama of the Sangguniang Panlalawigan (SP or the Provincial Council). “I consulted PAO (Provincial Agriculture Officer) Romy Cabungcal and WWF staff RJ de la Calzada. During our planning workshop, the province allocated PHP1 million (about US\$21,700) for the groundwork for Seven Line. I provided the initial push, and things rolled into place.”

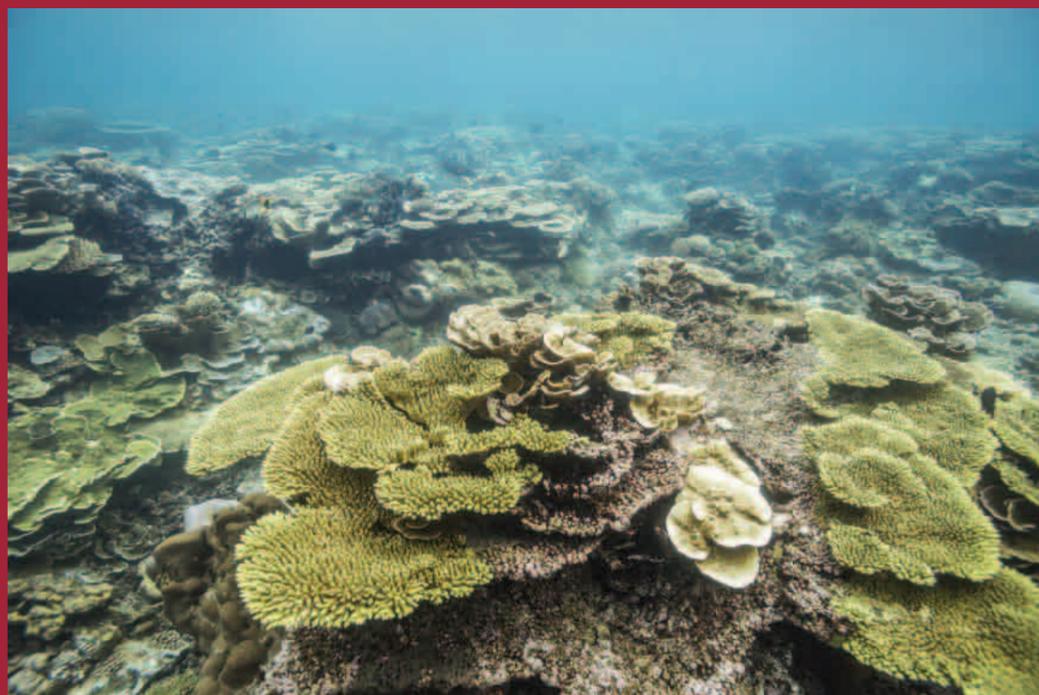
Palawan PAO Romeo “Romy” Cabungcal, meanwhile, points out that it started with Rama, “as representative of Aborlan in the Provincial Council. He endorsed to the provincial government the establishment of Seven Line as an MPA, and the province immediately released the PHP1 million. It was an inter-LGU (local government unit) alliance, and Seven Line was part of the project jointly held by the province and the municipal LGU. Policy support was there at both levels. The role of the Office of the Provincial Agriculture (OPA) was to implement at the provincial level. We held meetings, workshops, participatory coastal resource assessments (PCRA), all toward making the management plan.”



*The coral reef of Seven Line measures more than 12,000 hectares, almost twice the size of the famous Tubbataha Reefs. About half of Seven Line is in the municipal waters of Aborlan.*



*The Municipal Council of Aborlan was going to declare the Seven Line reef as a Marine Protected Area (MPA), but based on the results of the scientific surveys, they declared their entire municipal waters as an Integrated Coastal Resource Management (ICRM) area, including mangroves and seagrass beds.*



## Scientific studies

Adding to the confluence of events and efforts, more entities joined in to help. In 2014, already with an eye on the conservation of Seven Line, WWF-Philippines began work to support scientific studies, with funding from Fondation Segré—a Switzerland-based foundation established by economist and banker Dr. Claudio Segré to support environmental projects—through WWF International. The Marine Key Biodiversity Areas (MKBA) project was implemented by the National Fisheries Research and Development Institute (NFRDI) of the Department of Agriculture’s Bureau of Fisheries and Aquatic Resources (DA-BFAR) for southern Palawan. The MKBA, funded by the Global Environment Facility through the United Nations Development Programme (UNDP-GEF), and implemented nationally by the DENR, provided support to the neighboring municipalities of Aborlan.

“The initiatives of WWF and NFRDI coincided,” notes Municipal Agriculture Officer Clemente Cacatian, “so our fisheries program became stronger, when it used to be fragmented. When there was integration, our office participated through our aquaculture technician, Armen Molleno. This was a big help because we were able to request for assistance from agencies. Even our fisherfolk wanted to have projects.”

“We lobbied with the Municipal Council,” says Molleno. “The ordinance went through three readings and public hearings per barangay between October 2015 and March 2016. The public hearings were a good venue for suggestions from the barangay.” While the municipal council led the effort, the Environmental Legal Assistance Center (ELAC), an environmental NGO focused on people’s constitutional environmental rights, provided legal and technical assistance.

“The Sangguniang Bayan members’ views on the environment were not that broad,” Tigman’s Barangay Captain Zabalo notes, “but they were guided by WWF and ELAC to take care of the environment.”

In 2014-2015, the Segré project funded coral, reef fish, seagrass, and mangrove surveys, as well as community workshops and consultations on Seven Line and the municipal waters. Western Philippines University (WPU), an aquaculture and agricultural institution for higher education located in Aborlan, and Reef Check divers helped in the data gathering. “We had been hearing about Seven Line for a long time, how big it was, but we didn’t have any data,” says Lota Creencia, Ph.D., Professor at the College of Fisheries and Aquatic Sciences at WPU.



*Coral reefs are not only threatened by destructive and over fishing, but increased sea surface temperature cause them to turn white, known as coral bleaching. Healthy reefs have shown the ability to recover from bleaching events, but reefs in poor condition find it difficult and could eventually get smothered by algae.*



### **Corals**

The average hard coral cover in Seven Line Reef was in good condition. Of the seven surveyed stations, only Stations 3 and 6 had "fair" hard coral cover. In healthy coral reefs, hard coral cover can be more than 75 percent. However, even in Tubbataha Reefs Natural Park (TRNP), average hard coral cover was only 39.08 percent (Ledesma et al., 2008). Higher hard coral cover (62.98 percent) was observed in Cagayancillo (Dolorosa et al., 2015). Healthy coral reefs are known to harbor more diverse species than unhealthy reefs (Komyakova et al., 2013; Bell and Gazlin, 1984). Thus, protecting parts of the reefs in Seven Line to allow them to recover is a key to sustainable fisheries.

### **Reef fish**

A total of 229 fish species were found in the reefs of Seven Line; 215 of these were located inside placed transect lines, while 14 species were found outside the lines.

Comparisons to Tubbataha Reefs again crop up, as the reefs of Seven Line were recorded to have more species than the reefs in Cagayancillo, the nearest municipality to Tubbataha, which yielded 195 (Dolorosa et al., 2015). Seven Line also "scored" higher than other known sites in Palawan like Honda Bay's Pandan Island, with 178 species (Gonzales et

al., 2006), and Snake Island, with 171 species (Pagliawan and Rodriguez, 2008), as well as Taytay Bay with 156 (Balisco, 2014), and Araceli, with 114 species (Gonzales et al., 2010).

The condition and productivity of coral reefs are also measured by fish density and biomass. The average fish density in Aborlan's surveyed sampling stations was 1,816 individuals per 1,000 square meters (m<sup>2</sup>), categorized as "moderate" (Hilomen et al., 2000), with a high of 2,560 individuals/1,000 m<sup>2</sup> in Station 4 and a low of 1,238 individuals/1,000 m<sup>2</sup> in Station 5. Since Seven Line is about 15 kilometers from the shoreline, it is less vulnerable to exploitation than areas nearer to the mainland and coastal communities.

For fish biomass, which measures the amount of fish living in a given area at a given time, the average for the sampling stations was pegged at 90.56 MT per square kilometer (km<sup>2</sup>), considered very high (Hilomen et al., 2000). Of all the sampling stations, Station 7 registered the highest estimate at 138.59 MT/km<sup>2</sup>, with Station 3 having the lowest at 43.82 MT/km<sup>2</sup>.

The establishment of an MPA to protect a reef has been proven to increase fish catch in areas open to fishing, mainly due to the spillover of fish from protected or restricted sections into more accessible fishing grounds (Alcala et

al., 2005). Thus, it is evident that the protection of Seven Line Reef is critical if fisheries in Aborlan are to remain productive and sustainable.

### ***Seagrass beds***

Seagrass beds are among the most important marine ecosystems in coastal areas, providing nutrition and habitats, stabilizing the ocean substrate, and contributing to the biogeochemical cycle (Green and Short, 2003). As breeding and feeding grounds and homes for a range of species, from parrotfish and turtles to dugong, they also play a huge role in fisheries production. In fact, seagrass service value has been estimated at US\$19,005 per hectare per year (Costanza et al., 1997)—even higher than the value of agricultural croplands.

Seagrass beds in Aborlan were found to be in fair condition, although diversity was low, with only eight common species recorded. Meanwhile, 57 species of seaweeds were found in coastal areas of Aborlan, 53 percent of which were Chlorophytes (30 species), 26 percent Rhodophytes (15), and the remaining 21 percent Ochrophytes (12). A 2013 study made by PCSD did not include a record of seaweed species composition.

The protection of Aborlan's seagrass and seaweeds is essential to both the ecology and economy of the municipality. The seaweed has commercial uses, while healthy seagrass beds help maintain marine life and fish stock.

### ***Mangroves***

As for mangroves, Aborlan boasts 23 species belonging to 11 families—a figure that accounts for about half of the total of 35-40 species seen in the Philippines (Primavera, 2004).

“There are areas, such as in Marikit, Tagpait, and Isaub, where human use is obvious,” says WPU's Dr. Creencia. “We even saw a mangrove area being converted to coconuts. Still, it can be seen in the study results that Aborlan has remaining areas with pristine mangroves, like Malunao. It has some natural protection-gnats! Lots and lots of them! Malunao is uninhabited because there is no solid ground, except for a small stony area. It is really virgin, old stand, primary mangrove forest, although there are signs of trimming of branches in the periphery.”

Maximo de Asis, Jr., Barangay Captain of Tagpait, recalls, “We were consulted about the value of the mangroves. It is the source of our crabs. No one uses mangroves for charcoal making, but people use them to build houses.”



*Each habitat has a role in the life cycle of the fish, from larvae in mangroves until they reach Seven Line, where they grow to become the brood stock.*



*The extensive seagrass cover of Aborlan help filter silt coming from the uplands, preventing it from reaching and smothering coral reefs.*

## ECAN guidelines

Under Palawan's SEP, the PCSD is gunning for the widespread application of the Environmentally Critical Areas Network (ECAN) guidelines for management and zoning of coastal and marine areas. Instead of simply going by strict numerical guidelines, such as percentages of coral cover and protected areas, ECAN guidelines—a graded system of environmental protection and development monitoring, established as the main strategy for Palawan's SEP—identify core zones in the MPA based on biodiversity, habitats, and natural barriers, and pinpoint no-take zones as well as multiple use areas which remain open to subsistence fishermen. Emphasis remains on sustainable management and use of resources.

"The value of the sanctuary is that it will address the fact that the number of people in the communities is increasing, while fish are decreasing," says De Asis. "Even the consumption habits of the townspeople have been affected."

Possibly because of the perception of a common threat—that is, outside fishermen—the people of Aborlan also seem to have realized early on the importance of enforcement, with local leaders earmarking financial support for the efforts of a functional and appreciated Bantay Dagat force. "The budget is assured," notes Engr. Ted Baltazar, Municipal Administrator of Aborlan, "because we have allocated half a million pesos (US\$10,900) for CRM." "Funding is not a problem," seconds Engr. Mole. "They allocated P750,000 (US\$16,300) last year, and PHP1 million (US\$21,700) this year, for enforcement."

Bgy. Tagpait's de Asis breaks it down further: "We have a budget of PHP100,000 (US\$2,200) per sanctuary per year. That is for seven coastal barangays in the east, and two in the west." Thus, while they recognize that the Bantay Dagat is just one component of managing Seven Line, Aborlan's officials are convinced it is the critical first line of defense.

With the data on hand, it was time for mapping and zoning of the proposed ICRM site of Seven Line, the delineation of the areas across the expanse of the reefs. From the beginning, it was a cooperative process, with government actively seeking feedback, consulting fishermen, and addressing any concerns on possible limitations to access.

"The fishermen's concern was that they would no longer be allowed to go fishing," says Barangay Captain Zabalo of Tigman, "but zoning allocated areas for fishing." "During the public hearing, not everyone understood right away," recalls Vice Mayor Madeja. "But when we explained that only 10 percent would be declared a core zone, the fishermen agreed to the ICRM." "That's because in the past, a sanctuary meant 'no touch,'" says Municipal Agriculture Officer Cacatian. "When Seven Line became an MPA and we explained about core, buffer, and multiple use zones, it was okay with them."

The people take pride in their participation. "We would be asked how we would take care of our marine resources," says Tagpait's Barangay Captain de Asis. "We played a big role in ICRM."



*The people of Aborlan are hopeful that protection and management of their coastal resources would translate to more fish and better lives.*



*Demand for fish in Puerto Princesa have increased the price of the goods in Aborlan.*



*Aborlan's ICRM is a product of partnership among the municipal, provincial and barangay government, with assistance from non-government organizations and the academe.*

Two rounds of consultations were conducted, recounts Cacatian. "The first involved the clustering of barangays for each public hearing, with barangay captains and community leaders. During drafting of the ICRM ordinance, however, Atty. (Grizelda) Mayo-Anda said that was not good enough, and she really wanted to hear from the fisherfolk. She insisted we go to each barangay, so we went to all nine coastal barangays. This turned out well and helped the ordinance."

Atty. Mayo-Anda, Executive Director of ELAC, confirms the thorough approach. "We really spent time discussing the mangroves. The fishermen really saw the value of the MPA."

"We followed the comprehensive land use plan (CLUP) and zoning ordinance of the municipality," confirms MAO's Molleno.

"The zoning of core, buffer, and multiple use zones was patterned after the ECAN. They were discussed one by one, and therefore based on the results of public consultation." During the actual delineation of the zones, Molleno reports, the survey team was

accompanied by one or two fishermen per barangay, a number limited only by the size of the boat, and not the willingness of the participants, who were familiar with the area. "They went with the survey team to get GPS points of the boundaries of each zoned area."

With the studies on mangroves, forests, and other elements as well as marine resources, people began to see the bigger picture. "It is a big deal for the LGU to see that the habitats are all interconnected," notes WPU's Dr. Creencia. "For example, we explained to them the role of each habitat in the life cycle of the fish, from larvae in mangroves until they reach Seven Line, where they grow to become the brood stock. We provided enlightenment. We provided scientific basis and information."

Once again, to their eternal credit, the willingness and openness of the community meant that even the scientists did not have to start from scratch. "In my view, the Aborlan community already had a lot of experience and exposure," says Dr. Creencia. "They already knew it—their appreciation was only deepened."

# POLICY SUPPORT IV



*Aborlan's ICRM went through two rounds of consultations with leaders and all nine of its coastal barangays.*

## Making it legal

**E**CAN provided ample guidance and policy support for the zoning efforts, and PCSD continued to “ECANize” the province—that is, updating the guidelines on zoning criteria based on network principles. Because the approach is more complex and broad in coverage, the council has been proceeding with care. “We already had a first attempt at ECAN zoning of coastal and marine areas, and there are questions on jurisdiction, so we will focus on municipal waters,” says PCSD’s Nelson Devanadera.

“Cagayancillo and Aborlan have completed their ECAN zoning. Aborlan will now be a model for other municipalities to follow.”

In February 2016, the ordinance on Aborlan, “An Ordinance Integrating and Harmonizing All Pertinent Ordinances Relating to Fisheries and Protection of Aborlan’s Municipal Waters and its Coastal Resources and Other Purposes,” was approved on third reading by the Municipal Council. It was signed by the mayor, and is now being reviewed for endorsement by the provincial government.



*Aborlan's ICRM is a model for other municipalities in zoning their municipal waters for Environmentally Critical Areas Network (ECAN).*



*Community members and barangay officials determined the zoning of core, buffer and sustainable use zones through the barangay consultations.*



*The barangay consultations and awareness raising activities for ICRM did not only involve government officials and fishers, but also schoolchildren, women, and the general public.*

## PARTNERSHIP BUILDING



### The same goal

The ICRM process for Aborlan is a complex web of collaborations, involving several stakeholders—the LGU, the community, the academe, and private sector donors coursing their support through active NGOs. All were drawn together to work for the same goal, in the same place, and at the right time.

“The support of WWF for ICRM has the same objectives as our project—namely, capacity building of the LGU for EAFM,” says Noel Barut, Ph.D., who handles foreign-funded projects for

NFRDI. “This is especially helpful if government funding is limited for developing a CRM plan. There is pooling of resources, personnel, and activities. We only have one objective. For example, WWF already did the delineation. Our people no longer have to be burdened with that. I do not think of Aborlan much because WWF is there. We can concentrate on doing the fish stock assessment as counterpart of NFRDI to MKBA. Projects don’t have funds for primary data collection, so that’s what we do.”

Such work also complements that of BFAR,



*Ronnie Canino currently builds boats for fishing. Good management and increased fish catch could mean higher demand for his business, but this could be a double edged sword because of increased fishing pressure. Tourism, if developed successfully, could create a new market for him to make tourist boats.*

as the bureau lacks the necessary data, and collection of information will remain an ongoing process. “Everything is being attributed to climate change, but we should really look into overfishing also, because demand is so high,” Barut notes. “Still, the complementation in the work of the different agencies is very visible.”

“For us in the provincial government, that kind of working relationship is good,” says Provincial Agriculture Officer Cabungcal. “Partnership is an advantage, and the municipal LGU needs support from other partners.”

“The LGU partnership between BFARMC, the mayor, and the MAO was good,” says Engr. Mole. “The LGU provided engines, for example, while the BFARMCs provided boats, nets. The partnership of WPU, NGOs, BFAR, and OPA was key. My advice to others who want to do this is, seek the assistance of the academe. WPU has a College of Fisheries, and the site is also accessible to them because it is in Aborlan. They conduct technical surveys, they were easy to talk to, and they get plus points for accreditation for their extension work. When it comes to research, work with the academe.”

“On the side of academic institutions, this is an opportunity to see actual work in the field,” affirms WPU’s Dr. Creencia. “We gain new information, we see gaps. Actual data from the field is a big help, we become more credible in teaching. At the same time, the actual situation

in the field becomes part of our mentoring of our students. This is big, because they are the future workers in the field.”

Extension is part of the mandate of academic institutions, Dr. Creencia says, and that includes extending assistance to the community where they are located. “Our three mandates are instruction, research, and extension. The partnership means a lot; because of the logistical support, we are able to mobilize. Even if this is commissioned work, we learn a lot. It becomes an enabling mechanism for us to meet all three mandates, for us to become effective.”

Partnerships also thrive on mutual trust, and the amount of trust involved in this collaboration made it all the more remarkable—and consequently, successful.

“What I noticed was that the Municipal Council of Aborlan really trusted the team,” says ELAC’s Atty. Mayo-Anda. “They had trust and confidence in WWF and partners like ELAC. Usually, there is a certain cautiousness when there are issues involved, but in this case, they were very open. They really want to protect their resources.” A contributing factor, Atty. Mayo-Anda adds, is that the parties have been working together for more than two decades. “It’s a government and NGO relationship. Despite the issues, they saw the value of the relationship, until it found fruition in the CRM framework. Hopefully, this trust will last through the years.”



*The local government plans to tap the 1 million tourist arrivals in Puerto Princesa by developing the Aborlan “Chain of Adventure” that would include diving, swimming in rivers and waterfalls, and mountain hiking.*

## A BUSINESS ANGLE VI

### Tapping tourism

**W**ith the Seven Line MPA in place, Aborlan is now looking for other ways to fund it. Tourism is the first and most logical enterprise that comes to mind, as marine parks are a potential income generator. “The pull of the south on tourists is weak, so tourists go north,” says the Municipal Tourism Office’s Jonathan Pizaña. “There aren’t many tourism sites in the south. There are many resorts, but not unique scenery, except for waterfalls, such as Estrella. The waterfalls in Aborlan, such as Pintingan Falls, which has a 20-meter drop, are currently inaccessible. As of now, we have no tourism packages to offer tourists.”

Provincial Board Member Rama agrees that there remains much to be done, but the province is not lacking in plans. “The province is looking for places to develop. What we want is for Seven Line to become part of the Aborlan “Chain of Adventure” in tourism. This includes

Talakaigan River, the irrigation dam, as a picnic area. We can make a view deck overlooking the mountain, river, lowland, and sea. We can also make a zip line. We have swimming areas and waterfalls. But we do not have tourism facilities yet. For the long term, though, I want Seven Line declared part of the National Integrated Protected Area System (NIPAS).”

Jaime M. Ortega, Mayor of Aborlan, has even bigger ambitions: “We are planning to make Seven Line a tourism area like Tubbataha.” The Tubbataha Reefs in the Sulu Sea, after all, are the country’s premiere scuba-diving destination, generating significant annual revenue, but accessible only by live-aboard boats during the Philippine summer months due to rough weather the rest of the year. If Seven Line is more accessible year-round, and the necessary infrastructure can be built, Ortega’s plan is entirely feasible.

# LOOKING AHEAD VIII

*Food security is the goal of coastal resource management and marine protected areas.*



## The future of the MPA

**S**o what do the people of Aborlan see in the future of their prized park? “Seven Line will be guarded, since there are still many poachers from other municipalities and provinces such as the Visayas and Mindoro,” says Bgy. Tigman’s Zabalo. “Tourism will be developed, and Tigman will benefit. We already had training on handicrafts, using barangay funding. NGOs with tourism projects are already assisting us, such as Palawan Tribes. Other possible tourism activities are diving and surfing from January to April.”

“My dream is for us to have a tourism spot,” echoes Bgy. Tagpait’s De Asis. “Under the Bottom-Up Budgeting (or BUB, the Philippine

government’s fiscal reform program that allowed LGUs and civil societies to participate in the budgeting process of national line agencies), we proposed to build a mangrove walk, a shed in the mangroves for tourists as well as guards. We still lack materials to build these, though.”

For Aborlan’s lone aquaculture technician, Armen Molleno, law enforcement remains “the heart of the ordinance. There is a provision to create a CRM office, and the difference that will make is that funds will really be used for CRM.” Molleno is speaking from a literally painful experience he had in the line of duty, in 1999. “There were two fishermen with a compressor. I tried to apprehend them, and

there was a pursuit at sea. I reached them in the pier, but they were ready, and they beat me up. Many cases were filed but dismissed. What was even more painful was that I personally had to pay for all my expenses!”

“The provincial government’s approval of the ordinance will become a turning point,” says Municipal Agriculture Officer Cacatian, “especially in terms of funding. When other NGOs also see that we have an ordinance on MPAs, it will present us with more opportunities.” Cacatian also notes that the hardworking Molleno could use some help. “The ordinance has a provision to create a separate fisheries office. It will be a separate division. Right now, we only have Armen.”

Rama, meanwhile, is optimistic that his fellow Aborlan residents will no longer have to go very far to find subsistence, tourists will find nearby diversions—and the two functions can happily co-exist. “The value of Seven Line in fisheries is that it supplies the fish to smaller coral reefs. This means the fishermen do not need to go far for fishing.” It’s an opinion shared by Cacatian, in what he refers to as the “spillover effect” of Seven Line. “For tourism,” continued Rama, “as a dive site, it’s only 15 kilometers away. I do not foresee conflict between fishing and tourism because of zoning.”

## Challenges

**K**eeping Seven Line the treasure that it is for future generations of Aborlanons will mean facing a few challenges.

There remains the underdeveloped tourism sector, for example. “For tourism, our Municipal Tourism Council lacks personnel,” says Municipal Administrator Engr. Ted Baltazar. “We need people who would focus on tourism,” says Bgy. Tagpait’s de Asis. “It is still weak. We have Talakaigan River, for example, and the beach in Tigman.”

“What can we offer for tourism?” says Provincial Agriculture Officer Cabungcal. “The advantage of Aborlan is that it is near Puerto Princesa City. Look at the Underground River. If you think about it, that is even farther than Aborlan, but people go because there is something to see.”

There is the continued guarding of the municipal waters, and the necessary funding to sustain it. “Future plans include enforcement—not just infrastructure, but also protection,” says Engr. Baltazar. For protection, the solution is simple, Engr. Mole says: “We need to deputize our fish wardens.” “They need to guard their resources and place buoys to demarcate these areas,” de Asis adds. “The ICRM area already has zones, so fishermen know where to fish.”

Vice Mayor Madeja echoes the importance of adequate enforcement, before the situation worsens. “The challenge is funding to fully

implement the ordinance. We do not have the capacity to do so. How will we do that when many of the illegal fishermen are migrants, or have protection and connection to higher-ups? Still, we really need to protect our area. Palawan is the biggest supplier of fish. If left unprotected, the effect will be felt in Manila and the whole country. At this point, we can still do something.”

Aborlan Mayor Jaime M. Ortega has his own plans for implementing ICRM in monitoring the local industry. “Fisheries is among my priority programs. We will have a closed season to fishing. We didn’t give permits to live reef fish (LRF) trading and fishing. I want the buying station here, so we can control the trade and ensure cyanide was not used. Our corals are already recovering.”

Progress would not be possible, however, without proper education to pave the way for policy and enforcement. “The next phase for Aborlan is to develop the implementing rules and regulations (IRR) of the ICRM framework, but the challenge remains enforcement and education,” says ELAC’s Atty. Mayo-Anda. “Law cannot swim alone. You have to partner that with awareness and capacity building. In law, or any legal framework, enforcement and implementation are always the problem. The need for information is very evident. My concern for Aborlan now is how to engage the local government in embracing the ridge-to-reef approach. We need capacity building, awareness,



*The ICRM municipal ordinance is only the beginning. Aborlan now faces the challenge of implementing the policy.*

and enforcement.”

Finally, all of the work would be for naught if the people of Aborlan are not determined to see the project through. “The ordinance is now in place, and will become the bible of the LGU,” Municipal Agriculture Officer Cacatian notes. “I think the LGU can implement it, but needs political will for proper implementation.”

MAO’s Molleno agrees. “The provisions of the ordinance are enough, we just need to execute the details. We need to implement the plan, and this needs political will.”

With the approval of the ordinance by the Municipal Council and the municipal mayor last February, the full impact of the establishment of the ICRM on individual lives has yet to be seen. Still, the success of the collective effort—and the obvious investment of the stakeholders in marine conservation, heightened even more through consultation and involvement—augurs well for future endeavors, and for greater food security for the people of Aborlan.



*Information, education and communication (IEC) was an integral part of Aborlan’s ICRM planning process.*

## Replicability

The success of Aborlan’s declaration of its ICRMP is clearly due to several factors. As key players have noted, Aborlan can indeed be a model for the whole of Palawan province. The question is, can all these factors come together with similar ease and speed to replicate the experience in other places in Palawan as well as the rest of the country?

The resources made available to the project at the same time may be hard to match. There was the push from Provincial Board Member Albert Rama, who facilitated the release of money for consultations and initial studies and assessments. There was the contribution of WWF and Fondation Segré to provide the scientific basis for the protection of the reefs and waters. There was the MKBA project of the NFRDI, backed by the UNDP-GEF and implemented by the DENR, and its long-term goal of applying EAFM to Palawan’s fisheries. And there was the substantial financial support of the municipal government for enforcement, which may now have to be beefed up to cover the expanded jurisdiction of the ICRMP.

The fact that the funds came from several institutions, both government and private, and the way these funds enabled more institutions to get involved, contributed to the general sentiment that the ICRMP of Aborlan is truly the result of collaboration, where all the major stakeholders participated in and contributed to the process.

Some of these stakeholders insist the work begins with mobilizing partners, so responsibility

is immediately spread out. “Use the participatory process, and establish partnerships,” says MAO’s Armen Molleno.

For others, there is the need to spread the word as much as possible, so intentions and procedures are made clear, everyone is informed and empowered, and the sentiments of the most affected stakeholders are brought to the fore. “IEC is really needed,” says Provincial Agriculture Officer Romeo Cabungcal. “Other people think preliminary activities such as IEC and consultations are not much. They ask why this needs funding. But that is where you will see how people really look at the implementation of the project.”

“What really helped,” concludes Tagpait Barangay Captain Maximo de Asis, Jr., “were the seminars and trainings on fisheries and the value of coral reefs.” In the course of implementing the Segré project, WWF-Philippines conducted several rounds of consultations and environmental education sessions, not just with government officials and fishers, but also among schoolchildren, women, and the general public during barangay assemblies.

Planning must be carried out thoroughly and systematically. “WPU covers the whole of Palawan,” notes WPU’s Dr. Lota Creencia, “so time is the main limitation, and availability of budget. Advance coordination is really the key.”

Then again, it could be as simple as what BFARMC member and fisherman Arturo Quillenita suggests. “My advice to others is to plant mangroves, and take care of coral reefs.”

It is a reminder that every person in a coordinated marine conservation effort has an essential role to play, and it is never small or insignificant. Ultimately, when hard science meets a strong sense of ownership and a genuine concern for the state of the oceans, then the whole can truly be much greater than the sum of its parts.

## References

- Alcala, A.C., Russ, G.R., Maypa, A.P., Calumpong, H.P. 2005. A long-term, spatially replicated experimental test of the effect of marine reserves on local fish yields. *Canadian Journal of Fisheries and Aquatic Sciences* 62:98-108
- Balisco, R. T., Matillano, J., Dieron, N., and Dolorosa, R., Assessment of Seven Line Reef in Aborlan, Palawan, Philippines, A Project of WWF-Philippines, Funded by Fondation SEGRE, 2014
- Balisco, R.A.T. 2014. Reef fish communities and assemblage in Apulit Island and nearby reefs as a support for the design and pilot-testing of Payment for Ecosystem Services (PES) in Taytay, Palawan. 28 p. A report presented to the Local Government of Taytay, Palawan.
- Bell, J.D., Galzin, R. 1984. Influence of live coral cover on coral-reef fish communities. *Marine Ecology Progress Series*, 15:265-274.
- Benliro, I.M.P., Creencia, L.A., Lubrico, L., Mangroves in Aborlan, Palawan, Philippines, A Project of WWF – Philippines, Funded by Fondation SEGRE 2014
- City of Puerto Princesa, 2013. “Puerto Princesa City Tourism Situationer.” <http://www.visitmyphilippines.com/images/ads/1a90d350d3a7d506c964731b7cc15a69.pdf> [16 July 2016].
- Costanza, R., d’Arget, R., de Groot, R., Farberk, S., Grasso, M. Hannon, B., Limburg, K., Naeem, S., O’Neill, R.V., Paruelo, J. Raskin, R.G., Suttonkk, P. and van den Belt, M. 1997. The value of the world’s ecosystem services and natural capital. *Nature*, 387:256-260.
- Dolorosa, R.G. 2015. The sea cucumbers (Echiordermata: Holothuroidea) of Tubbataha Reefs Natural Park, Philippines. *SPC Beche-de-mer Information Bulletin* 35:10-18
- Dolorosa, R.G, Balisco, R.A.T., Bundal, N.A., Magbanua, R. 2015. Reef assessment in Cagayancillo, Palawan, Philippines. WWF Philippines
- Gonzales, B.J., Becira, J.G., Rodriguez, E.F., Pagliawan, H.B., Palla, H.P. 2010. Reef fish and benthic lifeform assessments in near shores of Araceli, Dumarán Island, Palawan. *CRA, Araceli, Palawan*.
- Gonzales, B.J., Sariego, R.S., Galon, W.M., Pagliawan, H.B., Becira, J.G., Benliro, I.M.P., Rodriguez, E.F., Montaña, B.S., Dieron, N.D. 2006. The Pandan Island resource and recommendations for sustainable utilization.
- Hilomen, V.V., Nañola, C.L., Dantis, A.L. 2000. Status of Philippine reef fish communities. In: *Philippine coral reefs, reef fishes, and associated fisheries: status and recommendations to improve their management* (Licuanan WY and Gomez ED eds.).
- Komyakova, V., Munday, P.L., Jones, G.P. 2013. Relative importance of coral cover, habitat complexity and diversity in determining the structure of reef fish communities, *PLOS One* 8(12): e83178.
- Pagliawan, H.B., Rodriguez, E.F. 2008. Reef fish communities of Snake Island, Honda Bay, Palawan, Philippines. In *The Snake Island: Biodiversity and ecotourism*.
- Palawan Council for Sustainable Development (PCSD), Proposed Revised ECAN Guidelines, PPC, Palawan, Philippines.
- Philippine Statistics Authority. URL: <http://nap.psa.gov.ph/activestats/psgc/listmun.asp> [15 July 2016].
- Philippine Statistics Authority. URL: [http://www.nscb.gov.ph/secstat/d\\_popnProj.asp](http://www.nscb.gov.ph/secstat/d_popnProj.asp) [15 July 2016].
- Sariego, R.S., Montaña, B.S., Becira, E.M., Spatial Variation of Seagrass and Seaweed Community Structure in Aborlan, Palawan, Philippines, A Project of WWF – Philippines, Funded by Fondation SEGRE 2014
- Ustares, J., 2015. “Tourist arrivals in Palawan up by 66%.” <http://palawan-news.com/tourist-arrivals-in-palawan-up-by-66/> [15 July 2016].