Published 2016 by WWF-Philippines

Quezon City, Philippines

ISBN 978-621-95538-1-0

Written by Marivel Dygico

Edited by Joy Rojas and Chrisma Salao

Design by Pierre Palallos

Photos by Kaila Ledesma Trebol

Additional Photos by Jose Ma. Lorenzo Tan (p13 & p23)

This publication is made possible by support from the Fondation Segré through WWF-International.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption

WWF-Philippines

4th Floor, JBD Building
65 Mindanao Avenue
Bagong Pag-asa
Quezon City 1105
Philippines
Tel: +63 2 920 7923
Fax: +63 2 426 3927
Email: kkp@wwf.org.ph
www.wwf.org.ph

FONDATION SEGRÉ

FONDATION SEGRÉ

CAGAYANCILLO

REAPING THE BENEFITS OF PROTECTING TUBBATAHA

A Case Study on the Philippines

A lighthouse stands tall on the reef of Arena (this page)***, where a family in isolation has to be resourceful to make a living. Fishing and seaweed farming are usual sources of income*** (cover)**.**

CAGAYANCILLO

REAPING THE BENEFITS OF PROTECTING TUBBATAHA

A Case Study on the Philippines

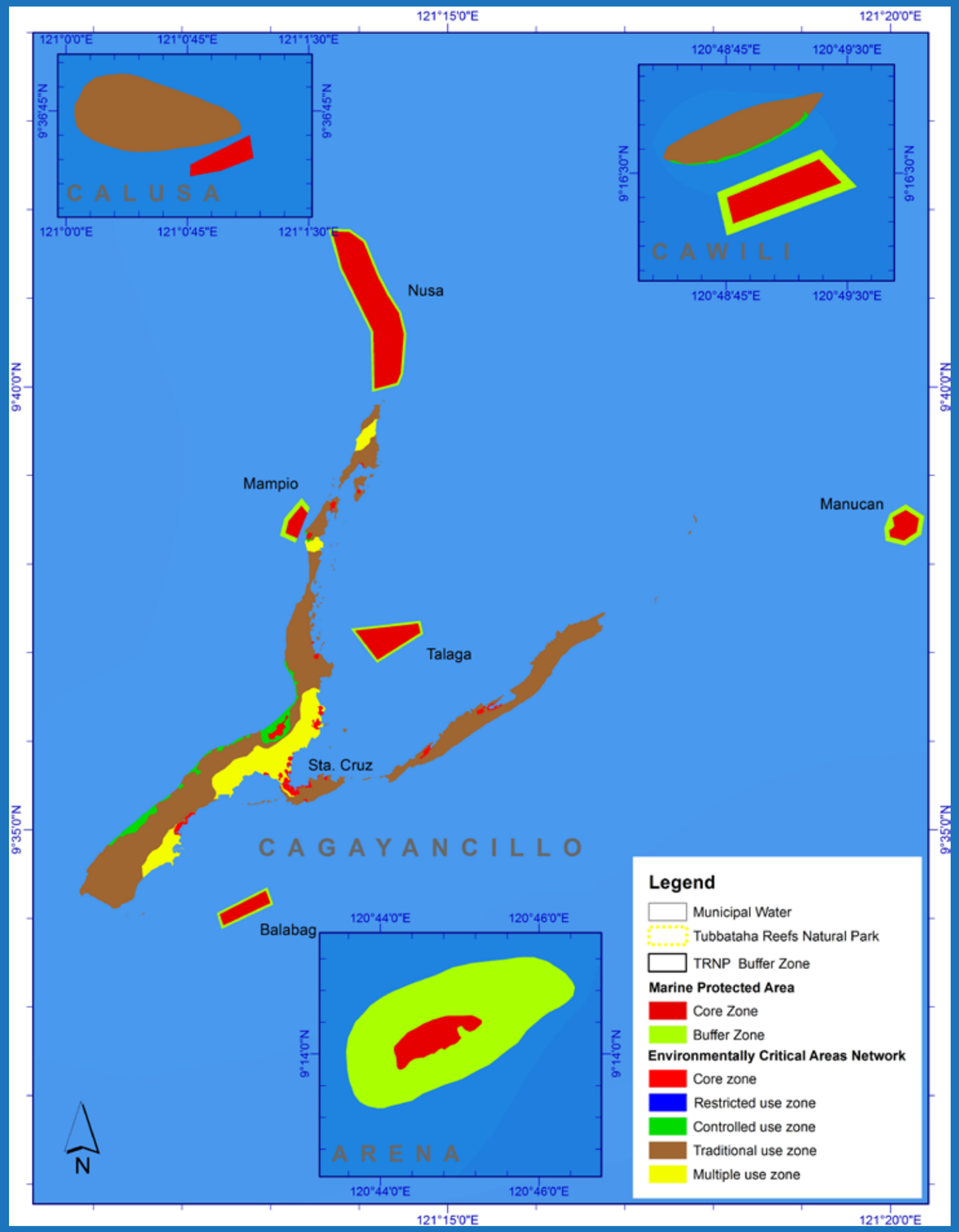
This case study on Cagayancillo, Palawan, is the eighth in a series of analyses being undertaken by WWF-Philippines. This series aims to communicate key issues and lessons from field projects to fellow practitioners, program and policy staff, personnel of managed and/or protected areas, partners, and 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. The seventh case study on Aborlan, Palawan, narrates how collaboration between the public and private sectors and the academe achieved fruition in the municipality's Integrated Conservation and Resource Management (ICRM).

This eighth case study tells the story of how successful marine conservation of Tubbataha benefited the people of Cagayancillo, so much so that they would like to declare their municipal waters as a marine protected area to bring these benefits even closer to home.

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).

WWF *for a living planet*®



The perceived increase in fish catch due to the protection of Tubbataha has inspired the Kagayanen to declare Marine Protected Areas (MPAs) nearer to their island homes.

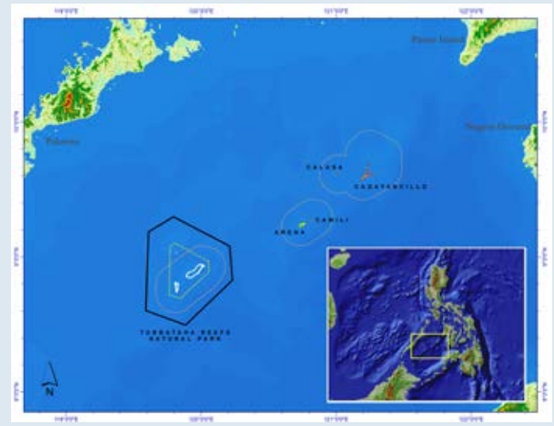
In the Shadow of a Giant

The spectacular experience of diving in Tubbataha is renowned worldwide. Outside of the province of Palawan, though, few people know that the reefs belong to the island municipality of Cagayancillo. At some point, the reefs' fame overshadowed Cagayancillo, creating resentment among its residents.

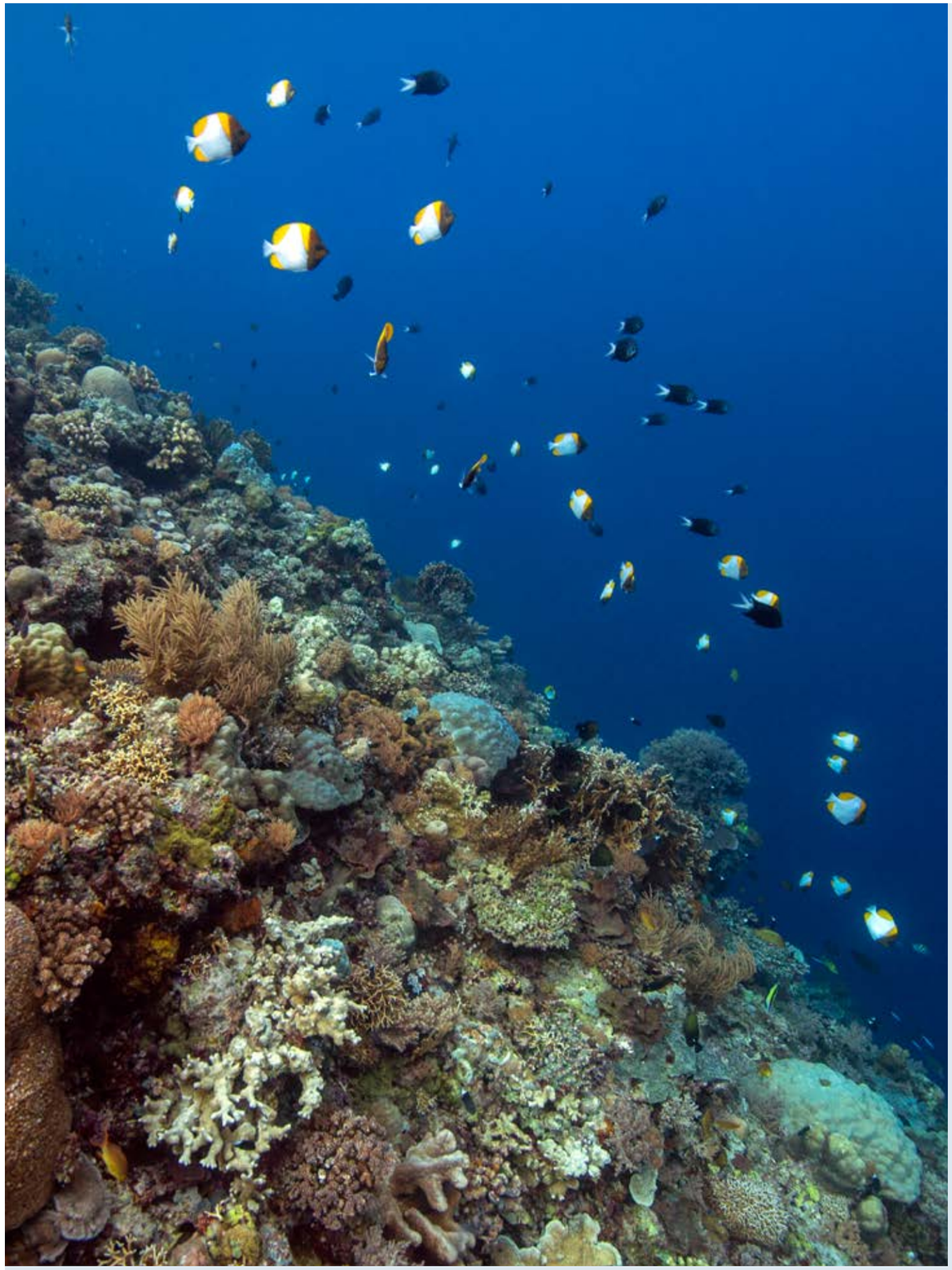
Tubbataha is the traditional fishing grounds of the people of Cagayancillo, as well as the Samal, Badjao, and Tausug ethnic groups. In the 1980s, the influx of migrants and the development of more modern equipment yielded greater fish catch. But signs of fishing pressure—including the use of dynamite and cyanide—were also detected.

Tubbataha was declared a National Marine Park in 1988, but it took years for people to understand why fishing was prohibited in an area teeming with fishes. Townsfolk watched with suspicion as outsiders took turns managing Tubbataha. In time and after several failed attempts, it was the local and collaborative management of Tubbataha that protected the assortment of life in the reefs, allowing them to grow, reproduce, and populate other reefs in the Sulu Sea.

Through the years, the success of Tubbataha as a protected area reinforced the sense of pride and ownership among the Kagayanen. In 2004, they established the first set of local marine reserves in Cagayancillo, forming a chain of small marine protected areas (MPAs). The objective was to make Cagayancillo abundant again, just like Tubbataha. Then Mayor Joel Carceler declared to his constituents, "I do not want to see the day that our fishermen will need to go far to fish. We should always have more than enough right here."



The municipal waters of Cagayancillo include the Tubbataha Reefs Natural Park.



A healthy reef translates to food and income for the people of Cagayancillo.

II Sustaining Life and Livelihood

The challenge of conservation is to show tangible community benefits. With no humans other than marine park rangers inhabiting the park, the Tubbataha Reefs Natural Park (TRNP) extends its program to the nearest communities of Cagayancillo to substantiate its contribution to socio-economic development.

To compensate for Tubbataha's no-fishing policy, Cagayancillo receives a portion of the conservation fees collected for Tubbataha. Originally, the municipality received 7% of the conservation fees, but the rate was increased to 10% in 2007. Since 1998, Cagayancillo has collected a total of PHP6.5 million (USD 138,300). This fund goes to livelihood development projects proposed by the local government, such as capital provision for small-scale businesses and the paving of a 12-kilometer farm-to-market road in the main island of the municipality.

Of course, the more important benefit that people derive from Tubbataha is the awareness and appreciation of its healthy reefs. Healthy reefs translate to increased fish catch and ultimately, higher income and better quality of life.

In Cagayancillo, the people have a long and deep relationship with the sea.

Fish abounds not only for the locals but for the greater Sulu Sea as well.

Population dynamics and income sources

Cagayancillo is an archipelagic municipality found in the northeastern part of the Sulu Sea, about 130 kilometers from Tubbataha and 300 kilometers from the city of Puerto Princesa. It is the smallest municipality in Palawan, with 31 islands and islets and a total land area of 26.4 square kilometers. Its inhabitants are dominated by the ethnic group called Kagayanen, who make up 98% of the total population of 7,116 (2010) and belong to about 1,046 households. The remaining 2% of the population are from the neighboring provinces of Panay and Visayas.

The population of Cagayancillo does not follow the national trend. Over a period of 107 years, its population grew at an average rate of 1% per year, lower than the national rate of 2.3%. These occurred during periods of relative national economic prosperity, when there were more employment opportunities outside the islands, such as the post-war reconstruction (1948-1960), growth of the manufacturing industry (1960-1970), the infrastructure boom and start of Overseas Filipino Workers' deployment (1975-1980). The lowest population growth, at -1.1%, was between 1995 and 2000, the period of the Asian financial crisis.

Historic and economic events contributed to the increase in Cagayancillo's population. From 1939 to 1948, the municipal growth rate was 3.6% per year, outpacing the 2.1 % annual national growth rate for the same period. The figure was attributed to the influx of evacuees from larger islands during World War II. From 1990 to 1995, Cagayancillo posted a growth rate of 5.7% per year, versus the 2.3 % annual national growth rate. These years were marked by the boom in seaweed production in response to increased demand by the international market. From 2007 to 2010, the growth rate was 3.3% per year versus the 1.9% annual national growth rate. This coincided with the global recession, which made simple living conditions on the islands better than in urban areas.

Population in 2015 declined to 6,285 (PSA, 2016). This could be due to the slump in seaweed production, when most of the planted stocks were wiped out by diseases and strong monsoonal currents. The resurgence of fishing as the municipality's main economic activity displaced women workers, pushing them to seek employment opportunities elsewhere. Seaweed farming started to bounce back in early 2014.

Fishermen in Cagayancillo are farmers at the same time. Fishing boats are docked during farming season. (top)
The Kagayanen's livelihood is a family activity, where children grow up helping their parents. (bottom)

Being a good free diver is a requirement in the seaweed farms of Cagayancillo. From laying seaweed seedlings to harvesting, seaweed farmers hold their breath as they watch out for predators, check for diseases, and fight strong currents that can sweep them away.

Rising from poverty

Between 2007 and 2015, the economic situation of Cagayancillo residents aged 15 years and above changed significantly. Although fishing and farming were still the primary sources of income, the percentage of individuals who identified fishing as their main occupation dropped drastically from 44% to 19%. Meanwhile, the percentage of farmers remained constant at 12%. An increase in the percentage of animal raisers from less than 0.5% to 12% was also noted in those years.

The figures indicate a shift in emphasis of income source—from capture fisheries to seaweed farming—and not necessarily a shift from sea-based to land-based production.

Usual Occupations of the Population 15 Years Old and Above in Cagayancillo: 2007 and 2015

Occupation	2007	2015
Gainful Occupations		
Administrative, executive, and managerial workers	8 percent	1.0 percent
Professional, technical, and related workers	6	-
Clerical workers	< 0.5	2
Service and sales workers	2	6
Farmers and forestry workers	12	12
Fishers and seaweed farmers	44	19
Animal raisers	< 0.5	12
Craftsmen	5	-
Plant and machine operators	1	-
Elementary occupations	3	0
Non-gainful Occupations		
Housekeepers	4	11
Pensioners	1	0
Students	14	33
Unemployed	< 0.5	4
Total	**100 percent**	**100 percent**

On land, the women take care of the seaweed harvest by making sure they have seedlings for the next cropping. They must also ensure the quality of dried seaweeds passes buyers' standards.

Another change was the dramatic increase (from 19% to 48%) of persons—among them, housekeepers and students—who identified their occupations as "non-gainful." (Housekeepers increased by threefold while students doubled.) This may indicate that household income was sufficient enough for women to stay home and look after their families while students were able to focus on their studies.

The WWF 2007 and 2015 surveys further showed that the average monthly household income in Cagayancillo rose from PHP4,813 (USD102) in 2007 to PHP24,043 (USD512) in 2015. The 2015 average monthly income translated to PHP288,521 (USD6,139) per year. This amount was above the national average family income of PHP235,000 (USD5,000) recorded in 2012. With an average household of 6.5 members, the per capita income was PHP44,388 (USD944) per year. The 2012 poverty threshold for Region IV-B, to which Palawan belongs, was PHP17,054 (USD363) per year. This means that the average household in Cagayancillo earned above the poverty threshold.

The fivefold increase in income from 2007 to 2015 was largely driven by the more lucrative seaweed farming and the live reef fish trade. This explains the increase in the contribution of marine extraction activities to household income from 47% to 82%. In 2014, however, Mayor Lourdes Lanoy stopped the operation of live reef fish trade due to fishermen's use of sodium cyanide. This ban made seaweed farming the main source of income in Cagayancillo. It also led local fishermen to fish for food consumption rather than trade, thus providing a period of rest for reef fishes.

The farming of seaweed (*Eucheuma cottonii*) was first introduced in Cagayancillo in 1982 by then Department of Education District Supervisor Sergio Favila and a teacher, Javier Carceler. Planting materials for this venture were purchased from Roxas, Palawan. It took three years before enough seaweed was produced to attract buyers like Marine Colloids and Shemberg.

In 2000, WWF-Philippines witnessed how Cagayancillo was almost wiped out of seaweed. Local fishermen attributed it to the increase in unregulated fishing activities using cyanide. From Batangas, WWF-Philippines brought *sakol* (*Kappaphycus alvarezii*), based on the advice of "Father of Seaweed Farming in the Philippines," Dr. Gavino Trono Jr. *Sakol*, a hardy variety more resistant to diseases and other environmental factors, revived seaweed farming in Cagayancillo. To this day, there are remnants of this variety locally dubbed "kkp," after KKP (Kabang Kalikasan ng Pilipinas) or WWF-Philippines.

Seaweed farming in Cagayancillo is a cycle of ups and downs. In 2009, WWF-Philippines brought in another batch of planting materials (*Euchema cottonii*) from the South East Asian Fisheries Development Center (SEAFDEC). In 2011, Mayor Lanoy brought new stocks of planting materials (*Euchema spinosum*) to replace old stocks which had become susceptible to diseases.

Seaweed farmers enjoyed an abundant year in 2015. Income for households engaged in seaweed farming increased from 13% to 99% (2007-2015), and the average income for seaweed production increased from 11% to 94%.

Cagayancillo fishermen and seaweed farmers alike believe that avoiding the use of noxious substances and other destructive gears in fishing keep the reefs healthy and the waters more conducive for growing seaweed.

Average Household Income, Income Composition and Household Distribution by Income Sources in Cagayancillo: 2007 and 2015

Item	2007	2015
Average Household Income from all sources Per Month	**PHP4,813**	**PHP24,043.24**
Income Composition in Percent		
Salaries and wages	25 percent	10 percent
Marine resources extraction	47	82
Farming	7	2
Poultry and livestock	5	3
Business proceeds	6	3
Rentals from properties	1	0
Remittances	2	0
Farmland share	2	0
Pension	5	0
Total	100 percent	100 percent
Percentage of Households by Type of Income Sources (Multiple Response)		
Salaries and wages	34 percent	37 percent
Marine resources extraction	79	97
Farming	89	91
Poultry and livestock	91	89
Business proceeds	12	8
Remittances	21	0
Pension	5	0
Rentals of properties	2	0
Share from farm land	5	0
Average Number of Income Sources	**3.4 sources**	**3.2 sources**

The paraw is the traditional sailboat of the Kagayanen. Made in various sizes, these boats are still used for fishing near the shore. In the past, fishing trips to Tubbataha on a big paraw could take from one week to a month.

An ordinary day in Cawili, made complete by a good supply of freshwater.

The presence of seabirds and incredible dive sites underscores the connection between Tubbataha and Cagayancillo.

Cawili, Tubbataha's closest neighbor

Cawili, the island-community of Cagayancillo nearest Tubbataha, has a small MPA (0.75 square kilometers), which is managed as a no-take zone. It is adjacent to a Bird Sanctuary (0.04 square kilometers) that is along the same flyway of seabirds in Tubbataha. Nison Abados, more popularly known as "Abog," lives on the island and is a champion of marine conservation. "Since WWF introduced marine conservation in early 2000, we have been vigilant," he said. "The reefs sustain our needs for food and income and there is no one who will protect them except us. For years now, we have an abundant fish supply. I really believe some of them come from Tubbataha, especially the big ones."

Scientific study has yet to be undertaken to establish the spillover of mature fish species from Tubbataha to Cawili, across 40 km of deep waters. However, there is no reason to counter local belief, as it leads to a sense of connection with Tubbataha and appreciation for the benefits of marine conservation.

Pointing to the lush native trees commonly called Anoling, where red-footed boobies and frigates are perched, Abog declared, "No one dare cut those trees or else they will have to face up to me. Those trees are home to the birds that guide us home when we get lost at sea. They also store for us a good supply of fresh water."

This small and typically flat tropical island is known for its fresh water. Even those from the main island of Cagayancillo, where there is no source of fresh groundwater, come to Cawili when the extended summer season drains their tanks of collected rainwater. WWF staff members who visited Cawili at the height of El Niño in April 2016, when severe drought saw violence erupt in other parts of the country, were surprised to see verdant foliage all over the island. Red-footed boobies were also spotted all around the island, unlike in previous years, when they tend to concentrate on a small patch near the village. Locals suspect they came from Tubbataha where the Bird Islet's vegetation did not survive the summer's heat. This phenomenon affirms another noteworthy connection between Cawili and Tubbataha.

There are about 150 families permanently settled in Cawili. Very close is Arena, an atoll where seaweed farmers built houses on stilts as temporary shelter. The residents of Cawili have proposed to declare the lagoon in Arena a core zone or no-take area. From 2007 to 2009 transient settlers engaged in shark fishing, creating pollution from shark entrails and other domestic wastes in this lagoon. Seaweed was decimated, and fish catch declined. Cawili residents are convinced that if the lagoon is protected, they will have healthier seaweed and more fish in the outer reefs.

It is worth noting that in June 2003, the local government of Cagayancillo initiated the inclusion of the Jessie Beazley Reef as part of TRNP, in an effort to protect the area from the effects of increased fish catch. The Municipal Resolution No. 078-S-2003 was passed and submitted to the Tubbataha Protected Area Management Board (TPAMB). The inclusion of the Jessie Beazley Reef increased the size of the Tubbataha Reefs Natural Park to 970.3 square kilometres, essentially tripling its size.

Protecting Reefs For People III

WWF-Philippines started monitoring the reefs of Cagayancillo in 2001 using the same methods applied to monitor the Tubbataha reefs. Unlike the annual monitoring of Tubbataha reefs, coral monitoring in Cagayancillo is only done when financial resources are available. After the four-year co-financing scheme by David & Lucille Packard Foundation and the United Nations Development Programme-Global Environment Facility (2001-2004), several partners enabled WWF to continue its work in the area, even on limited scope and intermittent timeframe. These partners were Homeland Foundation, Marisla Foundation, Petron Foundation, Grieg Star Shipping and Grieg Foundation, FCM & Travel People, Fondation Segré, and Cebu Pacific Air.

In the years that coral surveys were undertaken, a gradual decrease in hard coral and soft coral cover was noted from 2001 to 2003; however, recovery was also seen in 2004. In 2009, a decrease in live coral cover was recorded. This may be due in part to a new method used. A participatory method using swim transect was introduced to train a monitoring team from the community. In 2014, using an upgraded method (Reef Check T-Plus) applied in Tubbataha, the percentage of live coral cover was up again, and the coral reefs of Cagayancillo were classified under "fair condition" based on quartile scaling of reef health by Gomez et. al. (1994).

Percentage of Live Coral Cover Estimates

YEAR	PERCENTAGE OF LIVE CORAL COVER
2001	39.23
2002	16.96
2003	23.56
2004	44.08
2009	23.08
2014	43.78

Perhaps the best measure of success of the MPAs of Cagayancillo is that their fishing grounds are less than a kilometer away from shore.

Regular monitoring of corals, fish, and wildlife is a means to determine the effectiveness of MPAs.

The fish biomass showed significant decrease in 2003 especially for the species with commercial value such as groupers, surgeonfishes and parrot fishes. Of the sites surveyed, only Cawili had a stable biomass. Fish density figures showed increasing trend from 2001 to 2004, despite the fall in biomass. When compared with sizes of fish observed, it can be surmised that fishing pressure removed the fish population of larger sizes, and left the smaller fishes that constitute the high fish density levels. There were 30 fish families recorded, 75% of which were reef-associated species.

Total Biomass (mt/sq km) and Density (individuals/100 sq m) Estimates in Cagayancillo

YEAR	BIOMASS (MT/sq km)	DENSITY (Individuals/100 sq m)
2001	34.12	235.5
2002	146.74	343.96
2003	23.56	25.63
2004	45.14	344.92
2009	174.85	187
2014	136.85	168.3

In terms of actual fish catch, the average yield is 5 kg per person per fishing trip of about 4-6 hours. Though this figure is lower compared to the reported 7 kg in 2007, it is still comparatively higher than most areas in the province and in the country, which in 2000 declined to 2 kg per day. Fish population in the area is still huge as fishers in Cagayancillo use simple fishing gears such as hook and line, spears, gill nets, and small paddle boats or sailboats locally called paraw. They need not go far to fish because the fishing grounds are less than a kilometer away from the shore.

Seaweed farming is now the main source of income in Cagayancillo, and has alleviated fishing pressure.

Income From Marine Extraction Activities Among Households in Cagayancillo: 2007 and 2015

Item	2007	2015
Average Income from Marine Extractions of Engaged Households	**PHP2,872/ month**	**PHP13,420/month**
Income Composition		
Net Fishing	32 percent	1 percent
Hook and Line Fishing	28	3
Spear Fishing	24	1
Octopus Collection	4	-
Gleaning	2	1
Seaweed Production	11	94
Total	100 percent	100 percent
Distribution of Households by Type of Marine Extraction Activities (Multiple Response)		
Net Fishing	42 percent	38 percent
Hook and Line Fishing	53	46
Spear Fishing	41	33
Octopus Collection	4	1
Gleaning	47	42
Seaweed Farming	13	99
Average Number of Marine Extraction Activities Engaged	**2.0 activities**	**3.0 activities**

The limited access to markets caps the amount of fish that fishers catch. There are only 3 to 5 traders who deliver fish outside of Cagayancillo, so a good 45% of the catch is for local consumption. While this situation limits the amount of income they earn from fishing, it also reduces pressure on the fishing grounds. Seaweed farming has replaced fishing as the main source of income. In fact, during the peak season for seaweeds, usually in the first half of the year, fishing for trade is nil.

Some fishers aptly refer to their fishing grounds as their natural refrigerator, a storage they can access when needed. Most of them believe that they are able to keep the fishes close because the coral reefs are closely guarded since they were declared as MPAs. Through these small patches of no-take MPAs, they have come to appreciate how the seas and marine resources sustain their livelihoods.

Moving Onward IV

Cagayancillo is living proof of successful MPAs.

Facing the challenges

Cagayancillo is shaping up from a bleak, isolated community to a land of opportunities. The challenges are great but not insurmountable. Through their association with the Tubbataha Reefs Natural Park, the Kagayanen have developed a strong sense of pride in their hometown, as well as high hopes inspired by new leadership in the local government.

Learning from previous experiences in managing their marine protected areas and overall law enforcement of the seas, the various sectors in the municipality agreed to act together under a unifying vision that Cagayancillo, like Tubbataha, "will reign as a world-renowned marine conservation area and a prestigious tourist destination, with healthy and God-fearing citizenry."

Intensive plans are underway to formulate a 10-year Comprehensive Land and Water Use Plan which will serve as a guide for all projects and activities of the public and private sectors in Cagayancillo. A key element of the plan is the zoning and establishment of a municipal-wide MPA, aimed not just to conserve biodiversity but also to sustain tourism and fishery development. Implementation of the plan is anchored on the local government and the Kagayanen's many years of caring for their reefs and associated resources.

The fishery resources of the municipality remain abundant and more than enough for the local communities. Pressures on the reefs come from transient fishermen, whose presence has increased in the last several years, especially since local fishers have shifted to seaweed farming. The consensus to establish a municipal-wide MPA was reached precisely to address this situation. Through a series of community consultations and planning workshops (from October 2015 to June 2016) facilitated by WWF and Fondation Segré, local government officials and community leaders realized they need more authority and clout to protect their waters. Though this will add to their responsibilities, it will also allow them to impose regulatory measures to keep fishing and tourism activities to sustainable levels.

The other challenge is putting up the financial resources needed to support operations and management of the MPAs. A detailed planning activity is being facilitated by the same project to ensure that plans are doable and operational requirements are made available.

Moreover, Tubbataha is faced with issues that originate beyond its boundaries, such as illegal fishers and shell collectors, marine debris, and proliferation of large vessels passing through the area. Though these vessels travel outside park boundaries, they leave oil contaminants and trash in their wake.

Still, having overcome a long history of numerous challenges before, Tubbataha and Cagayancillo remain resilient as they face each new obstacle with their own resources as well as those from reliable partners.

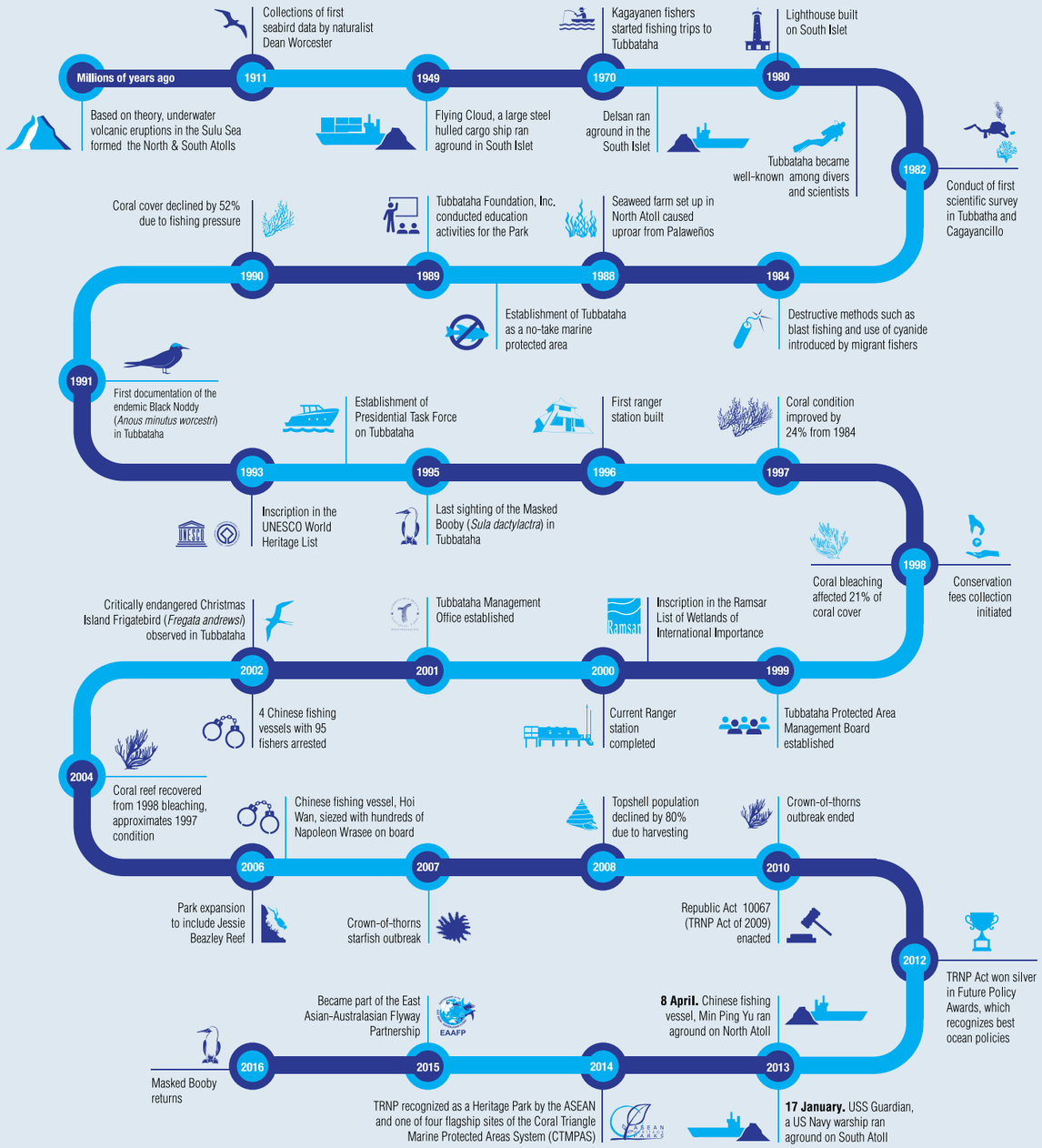
Living proof

Although the tale of Cagayancillo cannot be told without mentioning Tubbataha, the municipality is living proof of the rewards of a successful marine protected area. Despite several large-scale and localized events that caused damage to the reefs of Tubbataha and Cagayancillo, natural regeneration remains the best technology that restores the affected reefs back to life. In fact, bleached areas due to crown-of-thorns starfish infestation and sea water warming, and corals damaged from ship grounding recover and grow faster than expected. The large population of fish, especially the herbivore fishes, devours algae and clears the substrate for corals to find space to sprout and recover their territories. In Cagayancillo, where marine resource extraction is the number one source of livelihood and where occasional incidents of cyanide and blast fishing by transient fishermen still occur, the affected reefs surprisingly recover as well. Biological resiliency is evident in these places, the core of the Sulu Sea.

Healthy reefs in Tubbataha and Cagayancillo show remarkable resiliency, having recovered from incidents of coral bleaching and destructive fishing.

Tubbataha Through The Years

Tubbataha Reefs, a premier divers' paradise and recognized leader in marine protected area management, celebrated its 28th year as a Natural Marine Park last August 11, 2016. With the uncompromising enforcement of park laws, generous support of partner organizations, and tireless efforts of park rangers who patrol the marine protected areas, the Tubbataha Reefs Natural Park is destined to retain its breathtaking beauty—and celebrate more milestones in the years to come.



Tubbataha at a Glance

In the Philippines, Tubbataha is the largest marine protected area, constituting 68% of the total no-take zone of all MPAs combined. Here are other fascinating facts and figures:

Expanded World Heritage Site

UNESCO World Heritage Commission expanded the TRNP World Heritage Site

332 sq km

in 1993 to the current size of

970.3 sq km

on June 26, 2009

DREAM DIVE SITE

Ranked among the eight best dive sites in the world by CNN travel website www.cnngo.com, 2012

US$100

New conservation fee, starting 2017. Original fee was USD65 (PHP3,000)

PHP 6M Total tourist revenues collected in 2015

TRNP's highest collection to date

1st MPA with Embeded Moorings

Tubbataha is the only MPA in the country with embedment moorings, installed using the Halas System acquired through a P3M donation by Petron Foundation in 2008

10-Year TRNP Management Plan

Tubbataha Management Office produced the TRNP Management Plan for 2011 to 2021 based on the TRNP Act

28 YEARS August 2016 marked 28 years as a Natural Marine Park under effective management

US$ 1.3 million

OR

Php 58 million

amount paid by US government for coral damage caused by grounding of USS Guardian in the South Atoll on January 2013

1,750 Total number of tourists who visited TRNP in 2015

On board **12** boats, they made a total of **129** trips

10 Nautical Miles

A buffer zone surrounding the park.

Established by the TRNP Act in 2010, it increased TRNP's coverage by 3,565 sq km

US$ 100,000.00

Fine ordered by a judge on each of the Chinese poachers whose fishing vessel, Min Ping Yu, ran aground the North Atoll on April 2013. Captain sentenced to 12 years in prison, 11-man crew sentenced 6-10 years

M.E.A.T. HIGHEST RATING

Management Effectiveness Assessment Tool, used to evaluate MPAs in the Coral Triangle; TRNP got the highest rating for management effectiveness in 2014

2015 CERTIFICATE of EXCELLENCE tripadvisor

Excellent Dive Destination

Recognized with a Certificate of Excellence by international travel website TripAdvisor in 2015

The future of Tubbataha

Protecting the natural beauty and wealth of the sea is a lifetime commitment. To ensure that generations continue to enjoy the splendor of Tubbataha's treasures, management must maintain its vigilance, passion, and excitement for a destination that has become a source of Filipino pride.

References

Alarcon R, Dejucos J, Pagliawan R, 2014. Cagayancillo Biophysical Survey, Tubbataha Management Office and WWF-Philippines, unpublished

Cola R, Dygico M, 2015. Socio-economic and MPA management system assessment for Cagayancillo municipality and options for developing private sector financing, WWF-Philippines, unpublished

Dygico M, et.al. Achieving MPA effectiveness through application of responsive governance incentives in the Tubbataha Reefs. Marine Policy (2013), http://dx.doi.org/10.1016/j.marpol.2012.12.031

GIS-PCSDS, 2015. ECAN Map of Cagayancillo, unpublished.

Jontilla JB, 2009. Assessment of various marine ecosystems in selected sites of Cagayancillo, Palawan, WWF-Philippines, unpublished

Jontilla JB, Dygico M, 2008. Fisheries Survey of Cagayancillo, WWF-Philippines, unpublished

Ledesma M, Sabater M, 2004. Monitoring variations in the community structure of various ecosystems in Tubbataha Reef National Marine Park and other associated reefs along the Cagayan Ridge, WWF-Philippines, unpublished

Mogato M, Dela Cruz E,Macfie N(ed.), Reuters, Apr 1, 2016. Philippine rice farmer killed as drought protest turns violent: demo leader. http://www.reuters.com/article/us-philippines-farmers-idUSKCN0WY3SV[July 30, 2016]

Office of the Sanggunian-Cagayancillo, 2009. Section 5: Location and boundaries of MPAs, Resolution No. 11-5-2009: A resolution amending the municipal ordinance No.1, Series of 2004, "An ordinance establishing marine sanctuaries/reserves in the municipality of Cagayancillo and regulating the use or activities within the marine sanctuaries/reserves".

Philippine Statistics Authority, 2010. http://nap.psa.gov.ph/activestats/psgc/listmun.asp [July 30, 2016].

Philippine Statistics Authority, 2016. https://psa.gov.ph/content/populationregionivbmimaropabased2015censuspopulation [August 8, 2016]

Tubbataha Management Office, 2015. A primer on Tubbataha Reefs Natural Park, 5th edition.