

Sabang Offshore Reef

Green-Gray Partnership
Project for Philippine Cities
and Municipalities

Puerto Princesa City, Palawan

Ref No: GGI-00-MP-PT-2013

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With support from:



FONDS FRANÇAIS POUR
L'ENVIRONNEMENT MONDIAL

CONSERVATION
INTERNATIONAL





About the Green-Gray Partnership

Climate change can no longer be ignored. The raging waters of typhoons Ondoy in 2009 and Haiyan 2013 are seared in Philippine collective memory. In the span of three weeks in 2020, three typhoons battered the country, inflicting over a hundred fatalities and at least PHP 25 billion (USD 518 million) worth of damage. The Philippines urgently needs to harness nature to uplift communities not just because it's better for the planet, but because making the most of available resources is an economic necessity.

In the last quarter of 2021, just as the Philippines was reining in the pandemic, Conservation International and AECOM began the Green-Gray Partnership Project with eleven local cities and municipalities to kickstart the adoption of nature-based solutions.

Integrating green natural systems into gray infrastructure provides multi-function and cost-effective solutions. Green-gray combines natural elements with hard infrastructure to protect and restore natural processes and create healthier urban environments. The combination allows the creation of natural habitats or system functionality (green infrastructure) in a resilient and optimized manner (gray infrastructure). Many green-gray solutions incorporate wetland and forest habitats. As with all habitat creation/restoration projects, the success of these initiatives depends on an understanding of the ecological structure and function of the target habitats.

Green-gray infrastructure approaches can apply in coastal, freshwater, and terrestrial settings and accomplish a variety of project goals. The typical infrastructure services such as flood management, coastal protection, and improving water quality are delivered alongside other benefits such as safeguarding biodiversity, providing livelihoods, increasing public space, and even financial returns to local communities through carbon credits.

A key reference for this engagement is the *Practical Guide to Implementing Green-Gray Infrastructure* by the Green-Gray Community of Practice, which is led by Conservation International. The guide, published in 2020, provides green-gray case studies and walks

readers through the process of project preparation, design, and implementation. It also defines the critical elements of the green-gray approach:

1. Using science and engineering to produce operational efficiencies;
2. Using natural processes to maximize benefits (i.e. ecosystem services);
3. Increasing the value provided by projects by including social, environmental, and economic benefits; and
4. Using collaborative processes to organize, engage, and focus interests, stakeholders, and partners.

Conservation International selected the pioneer batch of Green-Gray partner cities and municipalities based on the following criteria:

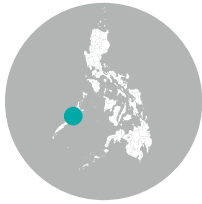
- **Commitment to a Resilient Future** Good track record and strong interest for pursuing a climate-resilient future for their locality;
- **Drivers of Change** Positioned as municipal leaders for a sustainable future for the Philippines;
- **Rich and Diverse Natural Assets** Representation of the abundant biodiversity of the Philippines; and
- **Vulnerability to Impacts of Climate Change** Exposure to the impacts of climate change.

The Green-Gray Partnership Project was meant to equip local governments units (LGUs) with capacities to identify opportunities for the adoption of nature-based solutions and prepare concept notes to rally support for pilots. At the beginning of the project, it was essential to transfer knowledge of green-gray infrastructure through the guide and workshops focusing on case studies. This built a base from which the local governments drew from in order to craft a Statement of Intent and a Concept Design Note (Annex 1), both of which are contained in this document.

This document, containing a high-level design and assessment, may be used by the local governments to seek support for project preparation (in which the concept should be refined with further studies), detailed design, and implementation. Support may be sought from national government, financing institutions, grant giving foundations, and private sector partners.

Puerto Princesa City, Palawan, Philippines Sabang Offshore Reef

Marine biodiversity enhancement to boost the tourism and provide shoreline protection in Sabang Beach, Palawan



Location
Puerto Princesa City,
Palawan, Luzon

Proposed Site
Sitio Sabang, Barangay Cabayugan

Key Thematic Area
Coastal

Key Issue
Coastal erosion

Green-Gray Solution
Coastal Protection through
offshore breakwater

Proposed Implementation
Timeframe
1-3 years

Executing Agencies
• City Environment and Natural
Resources Office,
• City Tourism Office

Project Aim
The proposed Green-Gray Infrastructure Solution aims to protect the currently exposed coastal edge that is prone to erosion and possibly rehabilitate ecosystems in the area as it will be now cleared from the existing community that is within the salvage zone (meaning the 30-meter no build area that serves as coastal buffer). Part of the project goal is to propose a solution to prevent further water contamination due to poor wastewater management of the residential and commercial developments.

3,754
Benefitting
Residents
*source:
Census, 2020*

3.8 B
Increase
in Tourism
Revenue

19.1 K
Metric tons
of Improved
Biodiversity

Based only on assumptions and estimates; for verification in next stage



Puerto Princesa Location Map



Puerto Princesa Green-Gray Partnership Project Location Map



Overview

The proposed project involves an establishment of green-grey infrastructure at Puerto Princesa City’s Sabang Beach, which is part of the Puerto Princesa Underground River—a declared Protected Area and UNESCO World Heritage Site. With a focus on sanitation and coastal protection, the identified intervention is consists of two components namely: 1) the construction of communal septic tanks to provide basic level of sanitation to households; and 2) building artificial reef systems to enhance the local marine ecosystem and reduce the exposure of the coastal community from storm surges. Overall, the project is expected to promote sanitation, improve water quality of Sabang beach, and increase the resilience of the coastal community and heritage site.

The Local Government of Puerto Princesa wants to prioritize the protection of Sitio Sabang as it is one of the city’s primary tourist destination. It currently faces several threats such as coastal erosion in specific areas, threat of storm surge that can potentially damage the shoreline and the developments within the area, and the threat of water contamination due to the wastewater discharge coming from the residential and commercial developments in Sitio Sabang.

Sustainable Development Goals (SDG) Targets

<p>6 CLEAN WATER AND SANITATION</p>	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>14 LIFE BELOW WATER</p>
<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>17 PARTNERSHIPS FOR THE GOALS</p>
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>13 CLIMATE ACTION</p>	

Rationale

Sabang Beach is a host to several rural households dependent on fishing and eco-tourism as a direct source of income. As an eco-tourism site, Sabang beach also hosts a few tourism related establishments such as hotels and resorts. Currently, there is no community sewage treatment system in Sabang beach. Only hotels and resorts have individual sewage treatment plants (STPs) while limited houses have septic tanks.

Despite its popularity as one of the Philippine's prime eco-tourism destinations, wastewater is discharged directly to natural waterways. From preliminary inspections, it is apparent that a substantial proportion of sewage (both treated and untreated) is discharged directly or indirectly to nearby creeks and canals. The health risks associated with this system increase significantly as the population density starts to increase. Meanwhile, local marine ecosystems may also be affected by the pollution which could result in degradation of Sabang's marine environment and biodiversity.

Sabang Wharf caters to tourists visiting the Puerto Princesa Underground River—a UNESCO World Heritage Site. The main mode of sea tourist transport is by pump boats (motorized outrigger boats). Sabang also has an extensive old growth mangrove forest which people can tour on paddleboats.

The water quality monitoring from 2019 showed that the total fecal coliform in Sabang measured in MPN/100mL is 3500. Based from the report, this was a result of heavy rain due to typhoon during the conduct of the survey. The surface water on the beach front area was disturbed and carried all chemical materials offshore. Meanwhile, based from the water quality monitoring conducted and published on April 2021, the total coliform 17/100 mL and 11/100 ml fecal coliform which was found to be a decrease from the 2019. The Sabang wharf, which is only 200 meters away from the site was found out to have 430/100ml total coliform and fecal coliform of 79/100mL. Since the monitoring was done post-covid-19 pandemic, because of the one (1) year lockdown of the park, which lead to the closure of almost all the tourism-related establishments in the area, it was expected that the results would decrease.

However, the presence of coliform bacteria is an important water quality indicator and shows water quality degradation and will possibly worsen when not addressed compromising the environment and the human health as well.

The Comprehensive Land Use Plan 2018-2022 has already identified tourism upgrades needed in Sabang, including:

- Upgrading the wharf for tourists and regular transport use of the residents of Marufinas and New Panggangan
- Visitors pavilion
- Promenade
- Improvement of access road to Paddle Boat tour site and Sabang Waterfalls
- Preservation of tribal heritage through a School of Living Traditions
- Construction and maintenance of sanitary toilet facilities in Sabang



Sabang Wharf as gateway to Puerto Princesa Underground River

Project Proposal

The first step in improving sanitation is the installation of individual household treatment systems such as septic tanks. This offers a basic level of sewage treatment and discharge of effluents to soakage trenches that in turn may percolate into natural waterways (creeks and canals). This also minimizes the health risk at the neighborhood level by keeping all wastewater flow below the surface.

The second step is building an eco-friendly offshore artificial reef system in order to reduce the impacts of coastal erosion caused by sea level rise, strong wave energy and coastal flooding among others at the same time provides habitat for the marine biodiversity and enhance fishery productivity with minimal adverse impact on the environment.

To address the issue at hand the Protected Area Management Board enforces the following:

- Environmentally Critical Areas Network Zones, a graded system of protection and development control, where terrestrial, marine and coastal zones are allocated (Core, Buffer, Controlled Use and Multiple Use Zones).
- City Ordinance 560, the City Zoning Ordinance, provides for the allowable land use inside the Park

Green-gray infrastructure impact

Improving the coastal resilience in Sabang, Puerto Princesa City through green-gray infrastructure may unlock multiple benefits including:

- Improve coastal water quality
- Improve marine biodiversity
- Reduce the incidence of water/sanitation-related disease
- Reduce the impact of storm surges on coastal villages

Ultimately, the pilot can make a case for the municipality wide adoption of nature-based strategies to:

- Promote low carbon and inclusive growth of the tourism sector
- Conserve the ecosystems in the Puerto Princesa Subterranean River National Park



Sabang Beach for improved coastal resilience

Sustainable Development Goals (SDG) Targets



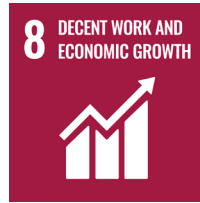
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Support and strengthen the participation of local communities in improving water and sanitation management



Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services



Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities



By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Strengthen efforts to protect and safeguard the world's cultural and natural heritage

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels



By 2030, achieve the sustainable management and efficient use of natural resources

Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products



Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Integrate climate change measures into national policies, strategies and planning

Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities



By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries



Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

Mobilize additional financial resources for developing countries from multiple sources

Adopt and implement investment promotion regimes for least developed countries

Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

Indicative Implementation Arrangements

Precise implementation arrangements remain to be determined at the pre-design preparation phase, but it is foreseen that the project shall be led and monitored by the Protected Area Management Bureau (PAMB) through the Protected Area Management Office (PAMO) with support from the City Environment and Natural Resources Office, City Tourism Office and the Department of Environment and Natural Resources.

Relevant Government agencies are the Department of Budget and Management (DBM). The Masabor na Caraenan Malimpyong Darayunan y ang Sabang Cabayugan, a people's organization, may also be tapped for assistance.

Monitoring and Evaluation Plan

To establish the GGI as an effective solution to substitute conventional infrastructure projects, a set of metrics should be established to evaluate its results:

- Monitoring of flood level along the national road to ensure that the embankment is adequate as a coastal protection.
- Monitoring of the condition of the mangroves along the coast to ensure that the offshore reef is sufficient to protect and ensure the growth of the seedlings.

Due Diligence

This document contains a green-gray infrastructure design concept and high-level assessments. More details are required in order to refine this concept into a robust and detailed proposal; thus, the project preparation phase for this project should include:

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people, if relevant
- Gender assessment and action plan
- Operations and maintenance plan, if relevant
- Loan or grant operation manual, as appropriate
- Co-financing commitment letters

If required, the preparation of this project may include the following studies:

- Diagram of the theory of change
- Economic and financial model with key assumptions and potential stressed scenarios
- Pre-feasibility study
- Evaluation report of previous project
- Results of environmental and social risk screening

Conservation International's Diversity, Equity, and Inclusion (DEI) framework

At Conservation International (CI), we are committed to promoting human rights by reducing equity gaps and facilitating the enhancement of social and environmental sustainability. All of our projects are held to strict social and environmental principles as agreed upon and laid out by internationally accepted standards such as the Community, Biodiversity, and Carbon standard, as well as the Global Environmental Fund (GEF) and Green Climate Fund (GCF) safeguards. However, CI is taking our responsibility to communities and the environment even further with a commitment to tracking and monitoring Diversity, Equity, and Inclusion (DEI) benefits through our Environmental and Social Safeguards System (CISS), a system that exceeds international standards. To achieve maximum socio-environmental and climate benefits plus long-term sustainability of any project, we believe that communities must be at the center and actively participate in the design of any conservation initiative in which we engage. Central to this, CI engages communities in:

1. Developing the project components, including governance, management processes, and distribution mechanisms in a consultative, transparent and participatory manner with relevant stakeholders (Conservation Agreements ensure that all parties are heard and decisions are made jointly).
2. Addressing gender inequality in all of our conservation programming, monitoring, and reporting efforts.
3. Guaranteeing the long-term financial viability of the project through optimizing project implementation while maximizing benefits.
4. Prioritizing non-monetary benefits whenever possible to increase the number of beneficiaries and better guarantee long-term project success.



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ANNEX

Design Note

Statement of Problem and Thematic Area

The LGU of Puerto Princesa is very proactive in protecting Sitio Sabang from any threats both from human-induced as well as climate-induced threats because it is part of a UNESCO World Heritage Area. Currently, the main issue of the LGU is protecting the shoreline from further erosion and storm surge. As indicated by the LGU, there were occasions that they experienced about high storm surges 3 meters high in the past. A portion of the shoreline along the western part of the beach is also subject to erosion as noted by the LGU. The community along this area will be relocated as it is within the 30-meter salvage zone of the beach plus it is at risk from storm surge.

A secondary issue that the LGU wants to address is the impact of the residential and commercial developments to the water quality of the coast. The LGU has identified that most of the old developments along the beach do not have proper wastewater management, which poses threats to the water quality of the coast. The area is developing thus increasing the need to closely monitor and regulate the water quality of the beach.



Residential and commercial developments along Sabang's coast

Project Aim

The proposed Green-Gray Infrastructure Solution aims to protect the currently exposed coastal edge that is prone to erosion and possibly rehabilitate ecosystems in the area as it will be now cleared from the existing community that is within the salvage zone (meaning the 30-meter no build area that serves as coastal buffer). Part of the project goal is to propose a solution to prevent further water contamination due to poor wastewater management of the residential and commercial developments.

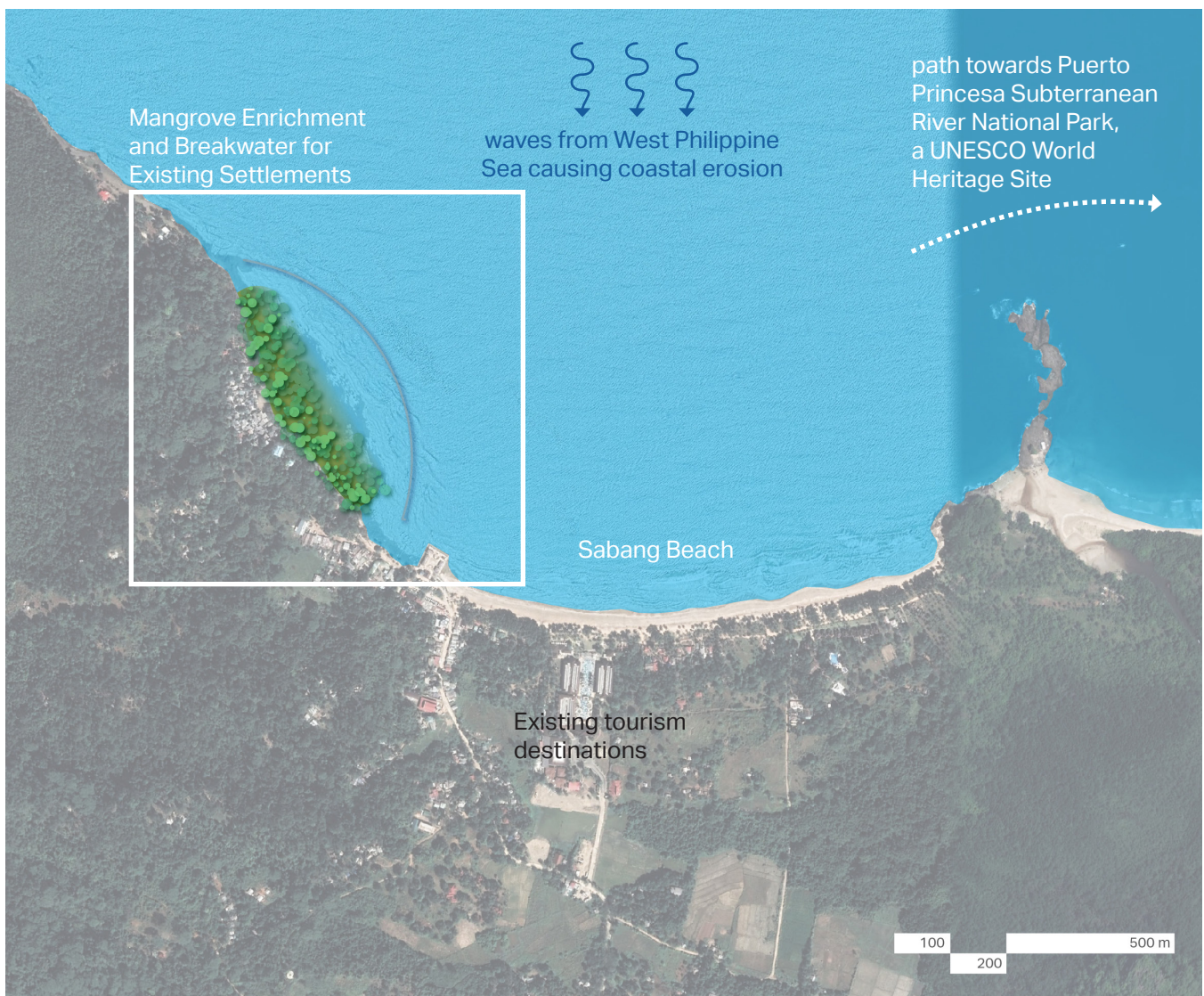


Sabang's coastal edge for protection against erosion

Green-Gray Infrastructure Strategy

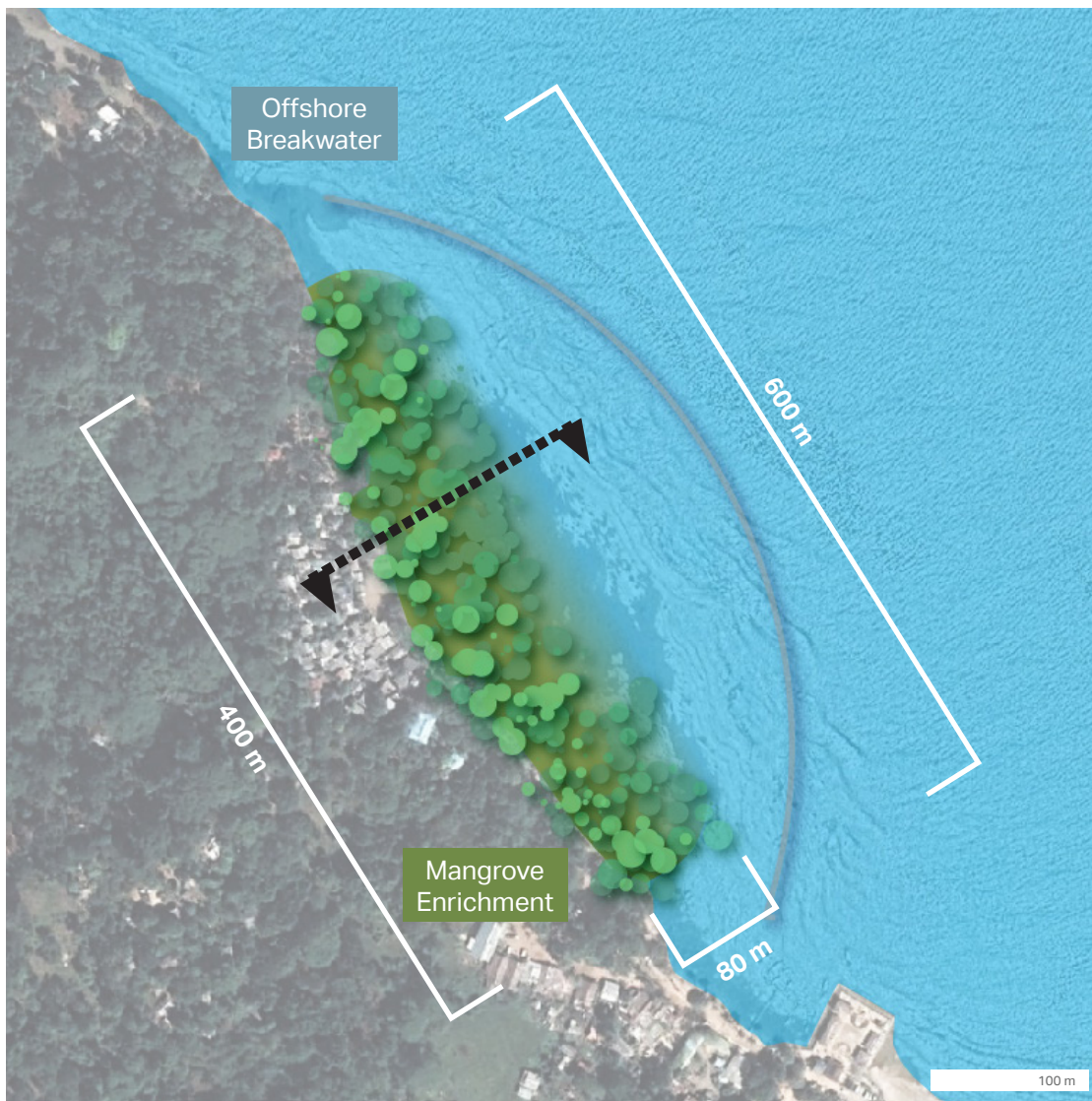
The identified area at the western part of the shoreline is proposed to be enriched with mangroves and potentially a beach enrichment as well because it has been historically eroded. The mangrove enrichment area will approximately add at least a 20 to 30-meter buffer for the seedlings to grow that eventually will contribute to sediment accumulation in the future. A proposed offshore breakwater will be included protect the mangrove seedlings from waves, assist in accumulating sediments prior to outplanting, and provide supplemental barrier from coastal hazards

such as storm surge and wind waves. The offshore breakwater is proposed to be made from artificial reefs that will also provide additional area for marine biodiversity to flourish. Due to the wave action indicated by the LGU with a height of 3 meters during strong typhoons, a temporary offshore infrastructure such as a bamboo fence is not recommended as it will not be able to withstand the force of the indicated waves. Further studies shall be required to confirm this information to provide a more accurate infrastructure design for the breakwater.



Puerto Princesa GGI Concept Strategy Plan

With regards to the issue of wastewater management, a household level intervention is proposed using a low-impact compost toilets or individual septic tanks that will address the issues regarding wastewater being discharged to the coast. Since there are only a very limited number of identified households and commercial establishments that do not have proper wastewater management, it is better to focus the solution at the household level. New developments should be properly regulated to have individual sewer treatment or septic tanks.

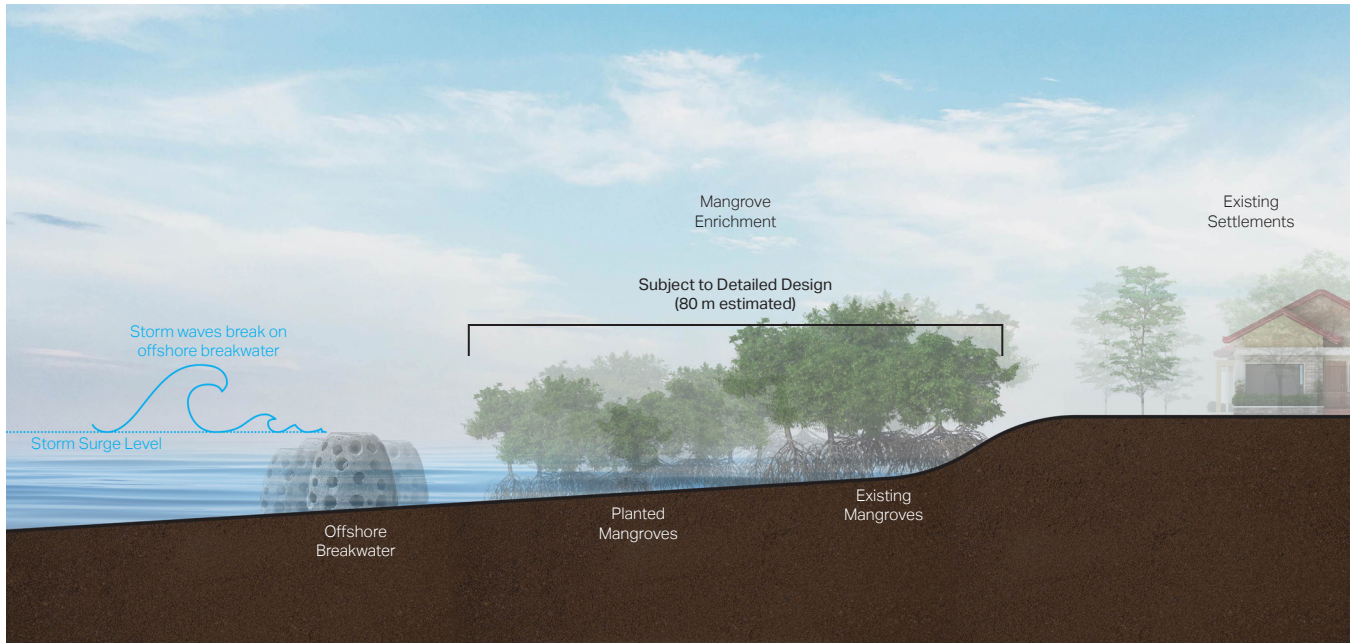


0.6 km
total length of
breakwater

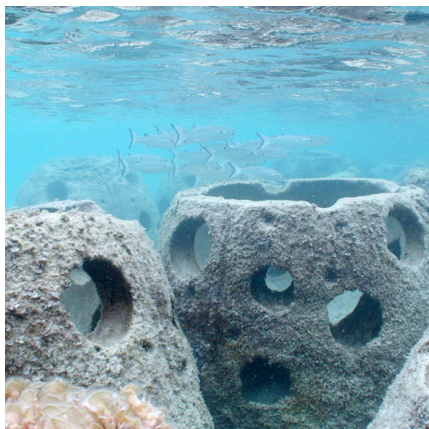
3.8 ha
total land area
for planted
mangrove

Puerto Princesa GGI Concept Strategy Blow-up Plan

Green-Gray Infrastructure Concept Strategy

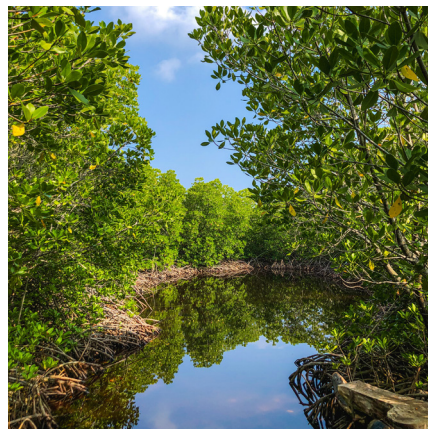


Puerto Princesa GGI Concept Strategy Section



Offshore breakwater

Reef-balls or similar materials to be used for the offshore breakwater to protect mangroves



Mangrove enrichment

Due to their interconnecting roots and branches, mangroves reduce wave energy. In comparison, they only have a minimal impact on storm surge which penetrates the mangroves.

Benefits of a GGI Solution

The proposed GGI solution will provide coastal protection for the areas prone to erosion. Aside from this, the main purpose of the project is to protect the overall natural asset of the Barangay. The mangrove enrichment area and offshore artificial reef will be additional tourism destinations that will provide locals with more livelihood.

Integrated Holistic Approach

The proposed GGI Solution is a pilot project that is envisioned to be potentially scaled-up or replicated to the other parts of the city. Whilst, the proposed solution is addressing the key issue at hand, it is important to note that addressing the root cause of the problem is essential.

The LGU should also provide a better wastewater management plan for the whole Barangay to ensure that there will be no issues regarding the water quality along the coast. Such regulation can cover a centralized or district level sewage treatment plant or close monitoring of all developments to comply with regulations that deals with wastewater. Development of a drainage master plan should be a priority of the LGU.

Implementation Period

A timeline of 1-2 years is estimated to prepare, implement, and construct this GGI solution. Due to lack of data and information readily available, additional studies and scoping work shall be required to validate and collect more information regarding the key issues identified by the LGU and the assumptions that have provided during the concept design stage. The proposed project timeline shall cover the following phases:

1. Pre-design Phase

3-5 months;

This will include all the necessary study, scoping and data collection needed to establish, verify, and gather information required to proceed with a detailed engineering design.

2. Design Phase

2-4 months

A detailed engineering design shall be required to fully develop the conceptual design after using the verified data to accurately design the infrastructure according to the required specifications to address the key issue.

3. Implementation Phase

12-24 months

This will include the compliance to the required regulations/standards, seeking of approval of concerned agencies, and observance of due diligence. Upon obtaining the necessary approval and permits, the construction of the infrastructure or implementation of the prescribed program shall be done.

4. Operation, Maintenance and Adaptive Management

periodical

This shall include periodic monitoring of the infrastructure, maintenance and repair if required, evaluation of the impacts to surrounding communities, rehabilitation and retrofitting if required.

Facts and figures

1.

AECOM launched when a handful of employees from design and engineering companies shared a dream of creating an industry-leading firm dedicated to making the world a better place.

2.

AECOM became an independent company formed by the merger of five entities. While our official founding was in 1990, many of our predecessor firms had distinguished histories dating back more than 120 years.

3.

Since then, more than 50 companies have joined AECOM and, in 2007, we became a publicly traded company on the New York Stock Exchange.

4.

As the world's trusted infrastructure consulting firm with an unrivaled heritage delivering design, planning, engineering, consulting and construction management solutions.

AECOM in the Philippines

Established in 1996, AECOM in the Philippines has grown into a 200+ strong team of planners, engineers, environmental scientists, geologists, landscape architects and technical management specialists driven by a common purpose to deliver a better world.

Creating Sustainable Legacies

We are leading the change towards a more sustainable and equitable future by partnering with our clients to provide solutions that help them achieve their environmental and social value ambitions and advancing sustainable business operations to help prevent the worst impacts of climate change.



47,000 people



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Work across seven continents



2 Million Work Hours Awards



Revenue \$13.2 billion in fiscal year 2020



100% Rating on Corporate Equality Index / Best Places to Work for LGBT Equality 2021

Accolades

- ENR rankings No 1
- Environment Firm
- Transportation Design Firm
- Facilities Design Firm
- Mixed-Used Buildings
- Education Buildings
- Aviation
- Highways
- Chemical Remediation
- Top 10 Military Friendly company 2020
- Military Friendly® Top 10 Company
- Military Friendly® Top 10 Supplier
- Diversity Program
- Military Friendly® Top 10 Employer
- Military Friendly® Top 10 Spouse Employer
- National safety council: 155 Perfect Record Awards
- Achieved a minimum of 12 consecutive months without a recordable injury or illness.
- For each award, achieved a minimum of one million consecutive hours without an injury or illness that resulted in days away from work and zero fatalities.



Bogota, Colombia (C) Conservation International

Since 1987, Conservation International (CI) has worked to spotlight and secure the critical benefits that nature provides to humanity.

Combining fieldwork with innovations in science, policy and finance, we’ve helped protect more than 6 million square kilometers (2.3 million square miles) of land and sea across more than 70 countries. Today, with offices in more than two dozen countries and a worldwide network of thousands of partners, our reach is truly global. But we couldn’t have made it this far without you. Your contributions support our work to protect nature for the benefit of us all.

CI’s work in Asia-Pacific began in 1989 with a pledge to protect some three dozen of the Earth’s biodiversity hotspots, including the Philippine archipelago and the Sundaland rainforests of Southeast Asia.

Since then, our focus in Asia-Pacific has expanded across the region to include other ocean and forest areas considered critical to human well-being. We help improve food security, support innovative financing for conservation projects and establish protected area networks that encompass essential ecosystems.

CI’s unique combination of experience with ecosystem conservation and restoration, community co-design, and stakeholder leadership allows us to advise and lead [green-gray initiatives](#) around the world in collaboration with local, regional and national governments and engineering partners.

Priorities

- **Stabilizing our climate by protecting and restoring nature**
- **Doubling ocean protection**
- **Expanding planet-positive economies**

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of \$13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at [aecom.com](https://www.aecom.com) and [@AECOM](https://twitter.com/AECOM).