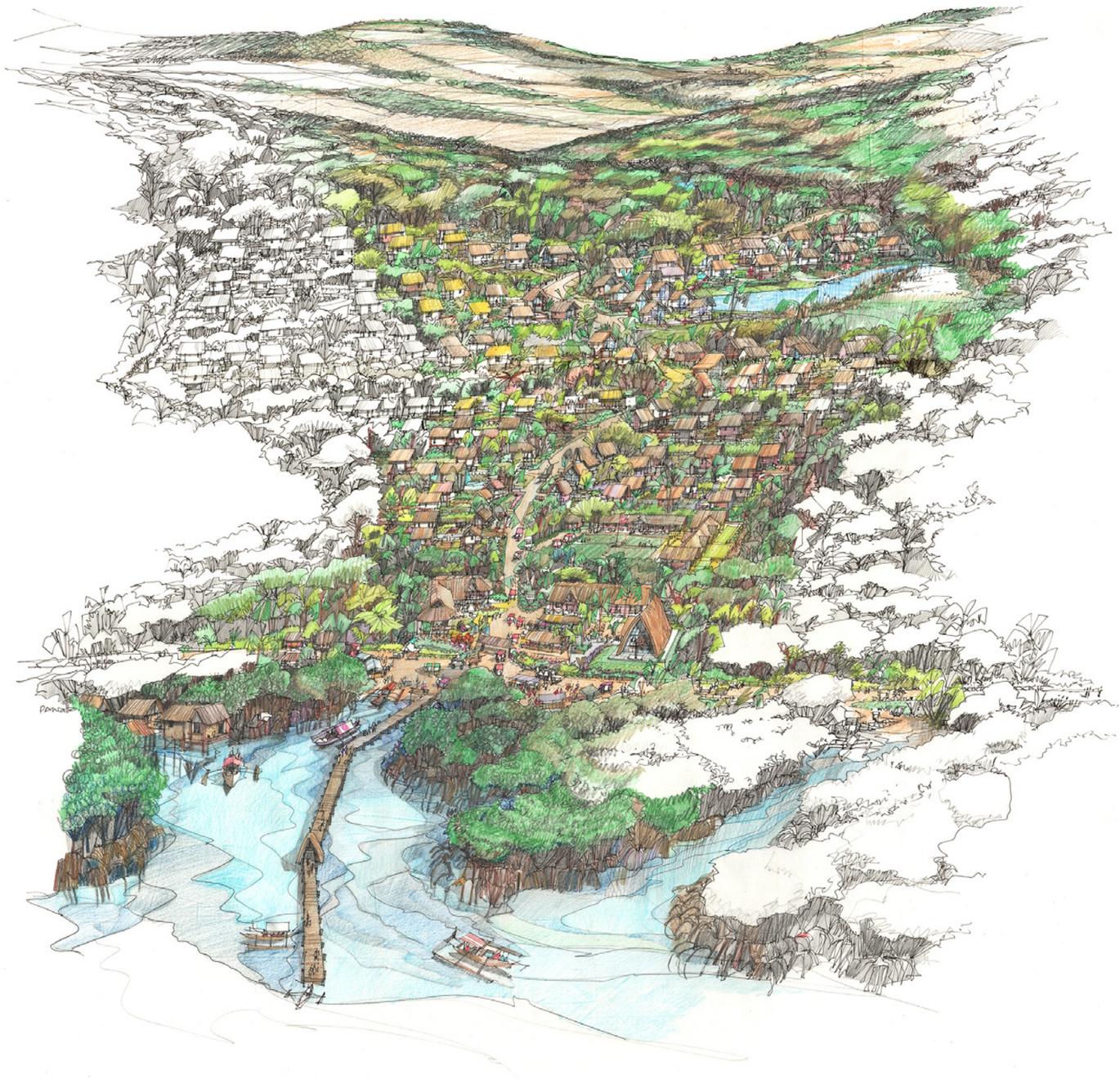


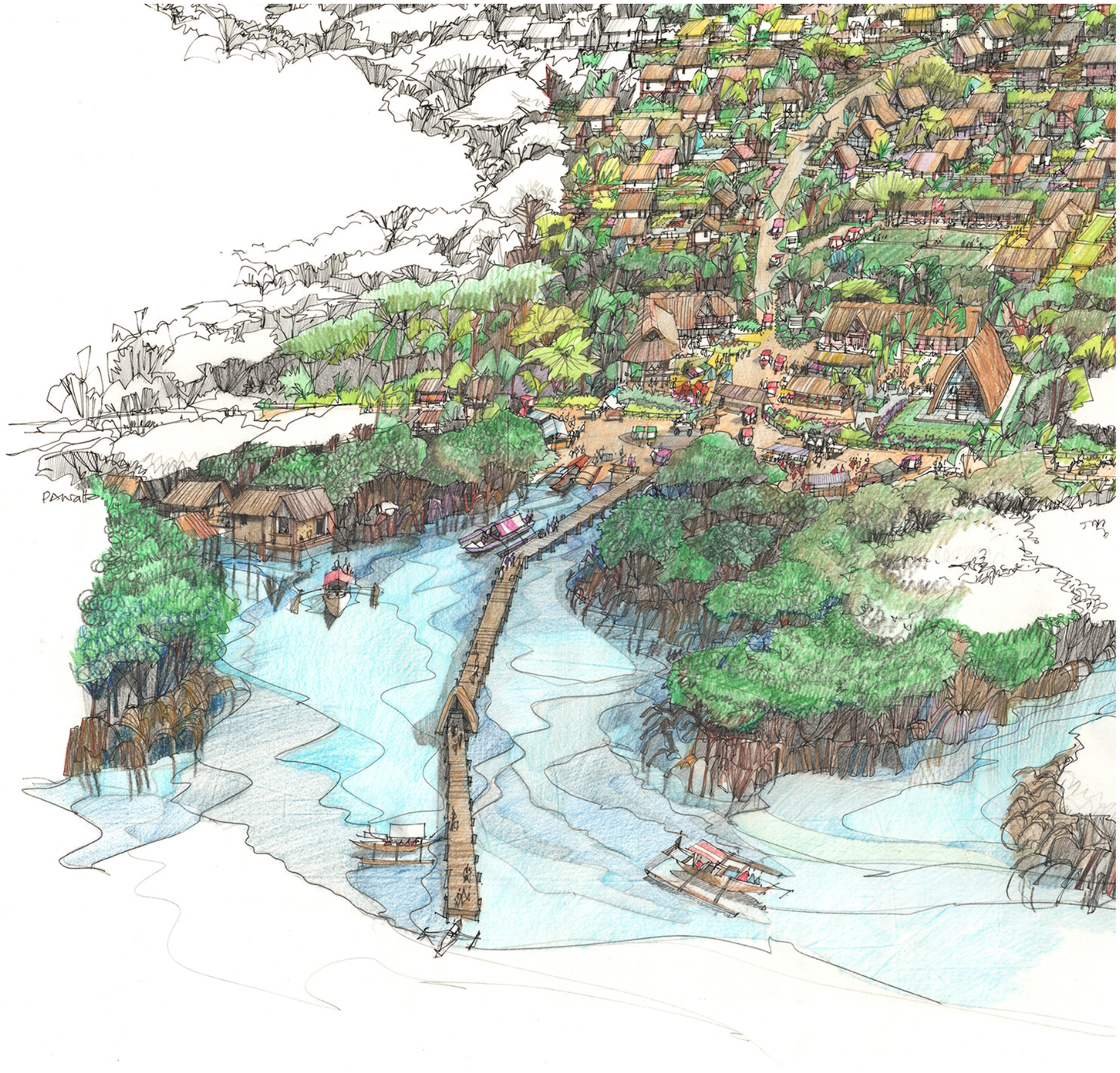
CoRoN ecovillage

Resettlement Project: Coron, Palawan: Philippines

Rebuild Coron Initiative

04 November 2014 | ISSUE No. 2 | Revision A

Contents



Executive Summary

Introduction

Last 8th November 2013, the strongest recorded typhoon to hit landfall coursed its way through the central islands of the Philippines. As Typhoon Haiyan progressed, it took with it peoples' homes, community buildings, and their livelihoods. The success of the early warning messages via TV and radio was clear, the loss of life was minimal; at least those who were accounted for. Due to the archipelagic nature of the Philippine Islands, communities are spread out - and many of these can be informal settlers, looking for work opportunities closer to port towns.

Coron Town is found on Busuanga Island, part of the Calamines Islands, less than an hour's flight southwest of Manila. It is an area gifted with natural beauty and wilderness, home to indigenous tribes such as the Tagbanua. Coron mainly thrives from tourism and fishing, both of which were heavily affected after the typhoon.

A number of private initiatives took off to extend aid and work on rehabilitation. One of these initiatives is the philanthropic gesture of a landowner family in Coron Town to donate approximately 20 hectares of their inherited land to resettle an 'informal' coastal community.

Objectives

- Design a masterplan for the resettled community and the National Housing Authority.
- Engage the settlers and the local government in the planning process.
- Design a 'model home' using available research & solutions, with specific standards built sturdily, made of locally sourced and sustainable materials.
- Engage the settlers in the building process, activating livelihood and feeling of ownership.
- To allow the rehabilitation and protection of important mangrove forests along the coast, currently occupied by the informal settlers.

Goals

The aim of this development is to encourage the people to move to higher, safer ground, with good access to the coast, and allow them to take part in a larger community development.

It is also envisaged that this will be a pilot project which will inspire and teach a more sustainable way of life.

We see this as a long-term project, protecting the natural heritage of Coron, Busuanga, and its immediate communities - while supporting controlled and environmentally-sympathetic development.

Project Team

This project is made possible through a collaboration of both Filipino and International teams, composed of designers, specialists, and engineers, and other volunteers for working on site. Please see Appendix for relevant bios.

We are also consulting experts on:

1. Mangrove Regeneration
2. Water waste management
3. Indigenous flora and fauna
4. Community Negotiations
5. Disaster Relief & Long-term Solutions

CoRoN ecovillage

www.coronecovillage.com

Coron EcoVillage is an initiative that aims to achieve community wealth, learning, and well-being through harmony with nature. Come join us!

The Site

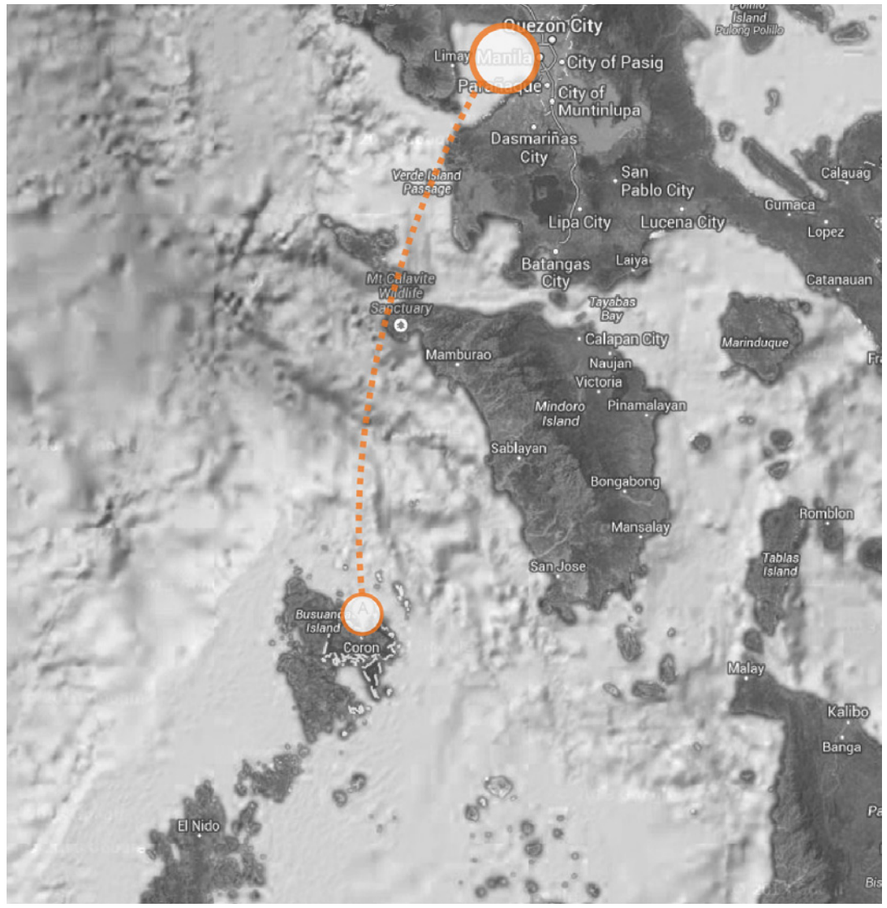
A Disaster Response & Long Term Solution

Palawan is often tagged as “The Last Frontier of the Philippines”. Here, indigenous tribes still roam the untouched forests, in harmony with unique species found nowhere else in the world. Their homes and habitats are currently threatened by unsustainable development and illegal logging. Busuanga and Coron are not immune to these threats, but with the approach to balanced development, there is hope for sustaining this precious area for the future generations.

The site’s land is donated generously by the Heirs of Claudio Sandoval, Heirs of Evarista Sandoval Samson, Erlinda Salas Jovellanos and Heirs of Jose U. Jovellanos. The site is to the northeast of the Coron Town Proper, in a wooded elevated area of mango and cashew tree plantations. Parts of the site are currently being cleared for the construction of a highschool building.

The site overlooks Coron Bay, and has a great view of Coron Island, a unique island dedicated to the indigenous Tagbanua tribe, and popular among visitors for its lakes, small beaches, and wildlife. A Protected Mangrove Forest is situated on the coastline. This forest was heavily damaged by the typhoon, but its presence protected the community that settled on it.

The photos to the right show some of the coastal communities 6 weeks after the typhoon struck.



The coastal village of Bayo-Bayo 1, a line of homes and boats washed away by a 4m sea surge.

Homes destroyed in Sitio Tagum, land that has been previously donated to new settlers of Coron Town.

Site Facts

Area:
Approximately 235,706sqm

Context:
Topography is relatively steep. A small community of about 50 families are already settled in the vicinity. Bordering the site to the west is public land, and to the south is the existing road.

Assigned Zones:
Areas dedicated to Catholic Church and Iglesia Ni Cristo.

A Growing Community & Shrinking Ecosystem

This particular community that has settled in the mangrove forest is growing as the months pass. The homes are being rebuilt, which is a positive outcome - but consequently, the mangroves also do not have a chance to regenerate.

This community settles close to the water because of their fishing livelihood. Most of the people found in this particular settlement are not local to the province; they have come from other islands in the Visayas Region, and even as far as from Mindanao, to seek opportunites in Coron and Busuanga.

Upon interviewing the local Tagbanua tribes-people, who depend on natural livestock, we established that the fisher folk were having more and more difficulty finding fish to sell - but more importantly, they were concerned about feeding their families.

The majority of the proposed site is unbuilt, with some cashew and mango trees from a previously existing plantation. An ecological survey will have to be conducted to study the impact of the development on existing flora and fauna.

International Law: Protection of Mangrove Forests

"The International Union for Conservation of Nature (IUCN) classifies the Philippines as the "centre of the centre" of marine ecosystem diversity. The Philippines is home to about half the world's mangrove species. However, despite Philippine laws that since 1975 have banned mangrove clearing, enforcement has been virtually absent, and mangrove destruction still occurs widely."[1]

From the visit on May 2014, it was determined that **more settlers** have **illegally** built their homes in the area. This has a negative knock-on effect on peoples' livelihood, marine life, and long-term popularity from tourism.

Recognizing that development is inevitable, we see this as an **opportunity** to introduce a sustainable approach to this development.

1 http://www.endangeredspeciesinternational.org/mangrove.html

A fishing family only caught one small fish all morning.

Community settlement in the mangrove swamp floods at high tide. Human and solid waste, plastics, and other non-recyclables get washed out into Coron Bay.


Airport 200m
800 m
400 m
Coron Town
D
C
A
800 m
400 m
Proposed Relocation Site
Sitio Tagum
national highway
B
Current location of
Informal Settler Community
E
Legend
A Sports Ground
B Ferrry Terminal
C Bus Station
D Coron City Hall
E Maquinit Hot Spring
CliftonEmerydesign
Sitio Tagum, Coron, Palawan, Phillipines - Context Plan
140308 L01 02
August 2014
N
0
200m
400m
800m

As mentioned earlier, this particular community generates much of its income through fishing, therefore **good access to the coastal area** to the south of the site is required. Many of the settlers are also tricycle drivers or temporary workers at the port. Women tend to be *sari-sari* store-owners, stay-at-home moms, or laundry women. The actual demographic of this particular area is currently unknown, but the majority of the people are small families with young children. Sometimes, extended families share a living space, and after the typhoon it was observed that there could be between 5-8 people living under one 25-35sqm space, some with small children.

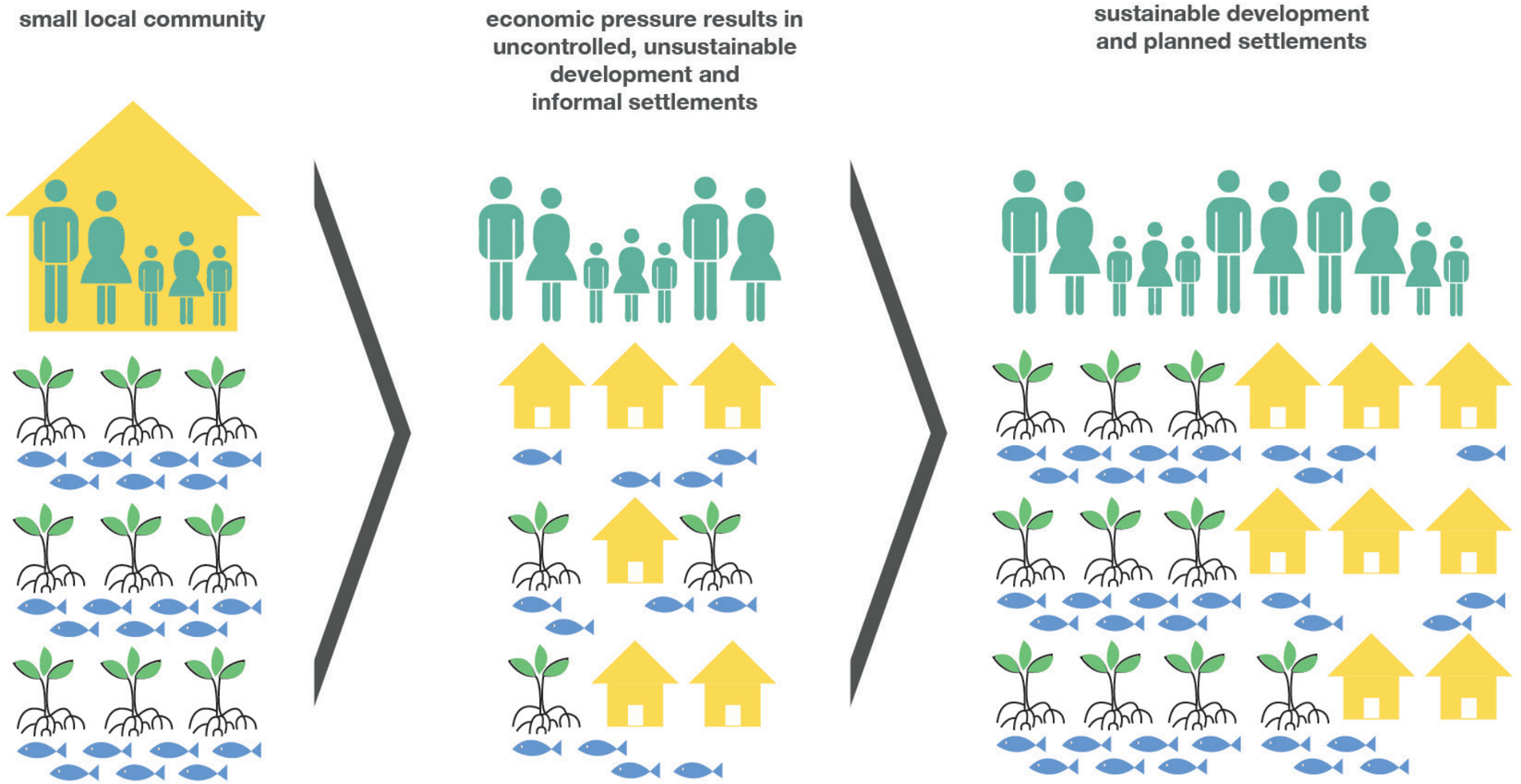
The main mode of transportation is by foot and by tricycle or motorbike. The roads are generally accessible by car, although the number of cars in the town proper are currently quite limited. The roads that link up the spine of land are kept rough as dirt roads.

There may be plans to have these roads concreted, but this may cause further spread of informal settlers; something that must be avoided to sustainably control the island's resources.

Contextual Issues

- Danger of further destruction and loss of life from future natural disasters / typhoons of a similar strength.
- Loss of habitat and fishing nurseries found in mangrove swamps & mangrove forests - which has a negative effect on fish populations.
- Loss of livelihood for local people due to the decreasing fish population.
- Human and solid waste being flushed or thrown into Coron Bay, which has a number of designated marine sanctuaries (e.g. Siete Pecados Marine Sanctuary and Coron Coral Garden)[1].

1 http://innri.unuftp.is/pdf/Marine%20Protected%20Areas.pdf



Key Project Elements

The People

The current community that is settled within the mangroves need to be part of a wider discussion on the protection of these areas. We will be consulting on the approach to resettling the community with minimal disruption, aiming to gain their support and cooperation with the help of the local government. Our main aim is to **uplift the lives** of those in the community by giving them long-term **stewardship** over the donated land, becoming true citizens of Coron.

The Landscape & Location

The EcoVillage is designed in such a way that the community can be **self-sustaining**. The steep topography allows for elements such as the gravity-fed water system to work, and the unique views make this area an attractive place to live in and visit.

Model Home

The breakdown of model home costs of materials will be determined as this project progresses. It is assumed that **labour is voluntary** and that the residents themselves will be building their own homes, with the help of international and local volunteers. To encourage this, it is suggested that some materials could be sponsored or donated.

We have interest from experts who are studying the characteristics of bamboo, and how this natural material can be used in innovative ways, keeping cost down while using a product that is readily available.

Building Materials & Construction

Our proposals seek to use the existing indigenous construction techniques, but improved where structures could be strengthened and improved for performance such that the homes can double-up as power stores and rainwater harvesters.

Green Energy

Palawan is under threat of deforestation for palm plantations, which will produce palm oil and biofuel. It is scientifically proven that deforestation and an introduction of a singular plant species **causes loss of habitat and biodiversity, eventually leading to flooding, human illness, and extinction of species.**

As a development that wishes to make a minimal impact on the existing ecosystem, and strive to even improve it, we support other means of alternative energy.

Tourism

Part of the requirements of the landowners is that this EcoVillage will be an **exemplar development**, however, planned in such a way that provincial living or ‘back to basics’ remains at its heart. In all respects, this development would encourage to marry aspects of being the **environment’s caretakers with living a sustainable lifestyle**. It is envisaged that this would become part of Coron’s Tourist Trail, enhancing the community’s sources of income, fostering and sharing a natural love for their environment.

Site Opportunities and Constraints

Opportunities

- Linked Existing and Future Developments
- New access roads proposed
- Restoration of Mangrove Forests
- Addition to Tourism Trail
- Rainwater collection & using gravity for reservoirs
- Safer area for future proofing other potential catastrophic events

Constraints

- Steep site topography
- Site currently has limited access
- Current informal settlement: legal issues
- Prevailing winds: Habagat and Amihan determines the location and orientation of the buildings.








CliftonEmerydesign

Sitio Tagum, Coron, Palawan, Phillipines - Site constraints

140308 L01 03 August 2014

Constraints

- Site boundary
- Existing access route
- Existing building
- Area of development
- Sea
- Prevailing wind
- Key view point
- A — Land owned by existing school
- B — Land owned by church
- C — Ferry crossing point

Opportunities

- Potential new access route
- Drainage from reservoir to north of site
- Buffer tree planting demarcating site boundary

1. Link school site in with scheme to create an open frontage and arival point along southern highway
2. Views towards sea. Potential for new link to the eastern side of island (through eco-park)
3. Open up pedestrian link towards Coron town centre
4. Extend jetty from the site down to sea to give villagers access to water without damging mangrove swamps.
5. Frontage onto main road will create commercial opportunities for villagers and a viable market place.

DESIGN

Concept Diagram & Designs

The Cyclical EcoVillage

We recognise the social, economic and environmental issues surrounding the current situation of the informal settler community. Our proposal addresses these issues with simple, achievable solutions through a holistic approach to design.

Social

The Reservoir Water Collection Pools found at the top of the site will provide potable gravity-fed water to the community. This is especially important due to the potential freshwater scarcity in the Calamines Islands. As the water courses down the site, it can provide for a number of activities:

- Potential growing of small crops
- Personal Hygiene
- Drinking Water
- Laundry (small individual businesses)

Economic

The site will allow small businesses to flourish through encouraging the use of the community hub and market area, which is linked to the school and church sites.

Environmental

It is proposed that the 'grey water' is filtered down further through natural reed beds, which is then either reintroduced to the water cycle or reused for crop irrigation, avoiding total dispersion into the sea.

The overall **positive** effect of removing the community from the mangrove forest is that the forest will have the chance to regenerate, allowing fish to have a safe spawning area & nursery. This will have **a positive effect on the fish population and general health of the coral reefs that surround the islands.**

Healthy reefs mean more fish, more fish mean more food, as well as more income from eco-tourism.

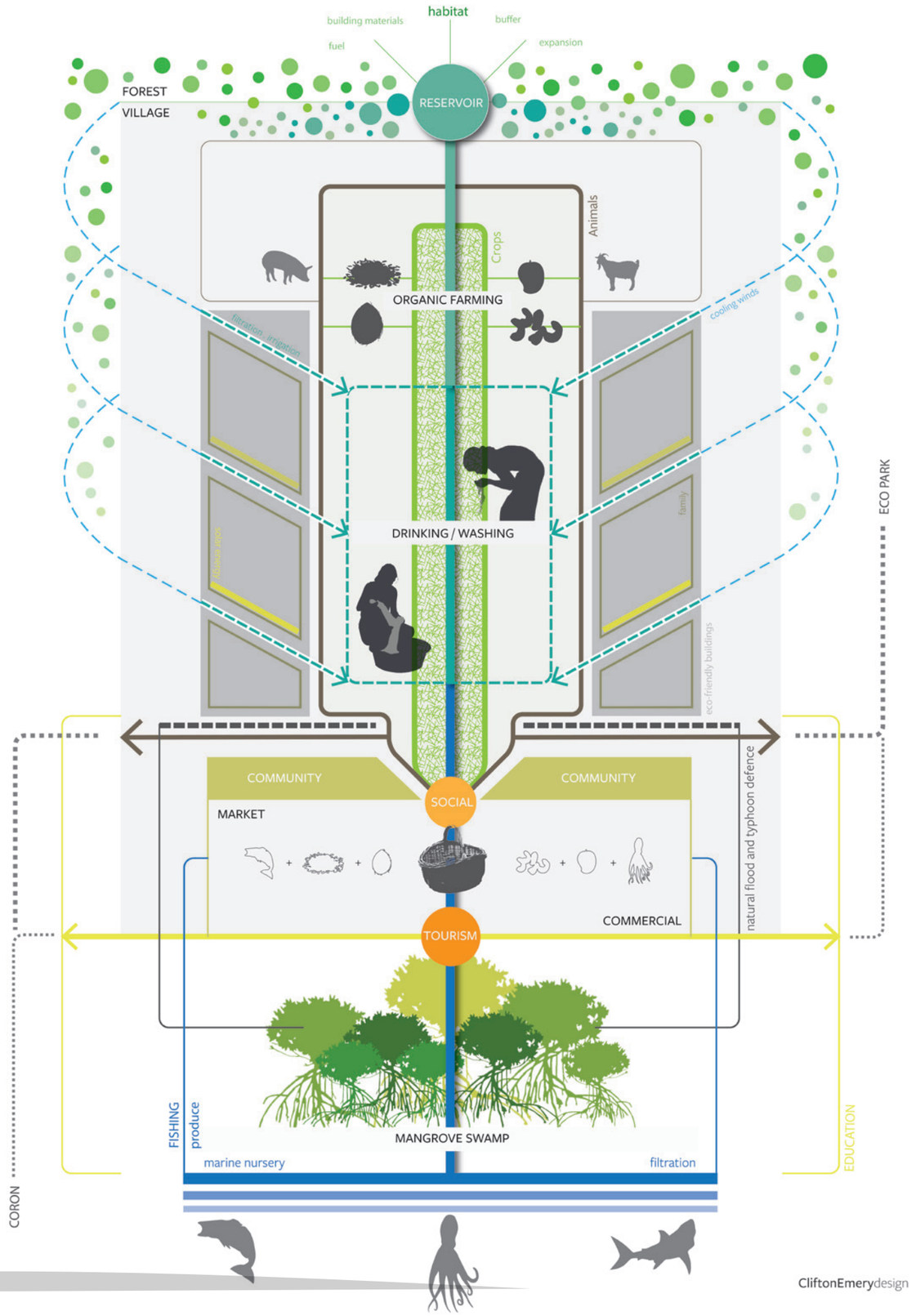
Moreover, it is recognized that mangrove forests are essential in the protection of settlements from damage from typhoons.

"Mangrove forests also benefit people: they protect coastal communities from increasingly severe storm surges and help to mitigate climate change by absorbing huge amounts of carbon dioxide."[1]

Concept Plan (next page)

- Linked Existing and Future Developments
- New access roads proposed
- Restoration of Mangrove Forests
- Addition to Tourism Trail
- Rainwater collection & using gravity for reservoirs
- Safer area for future proofing other potential catastrophic events

1 http://www.aida-americas.org/en/project/our-fight-protect-coral-reefs-and-mangroves-mexico-goes-beyond-national-borders



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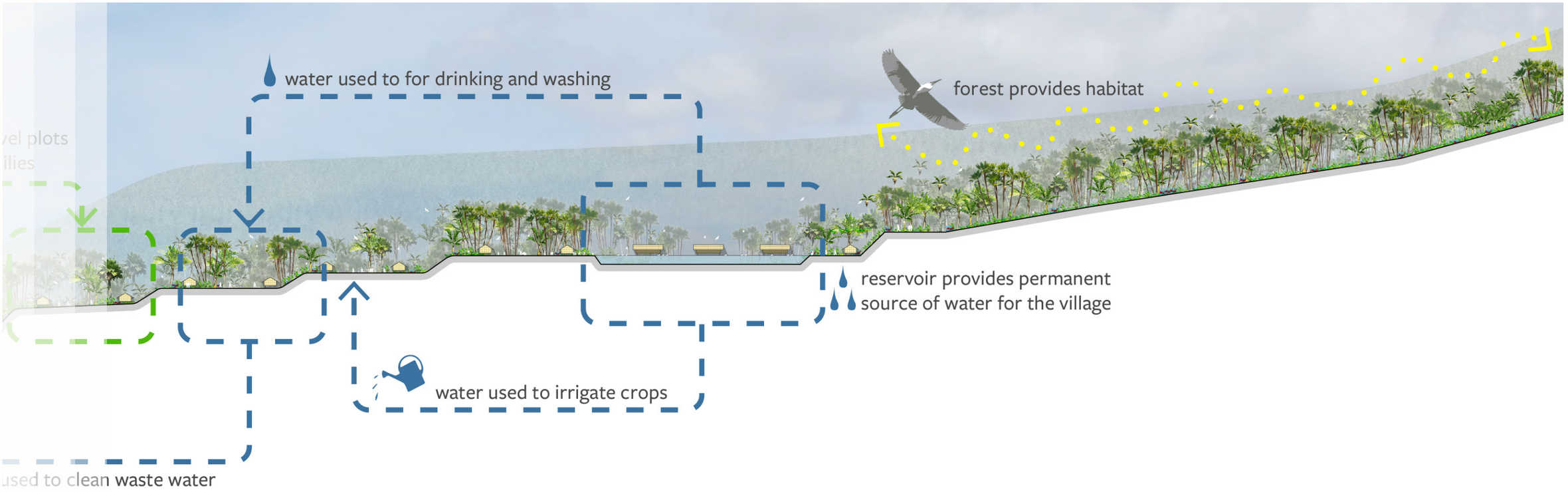
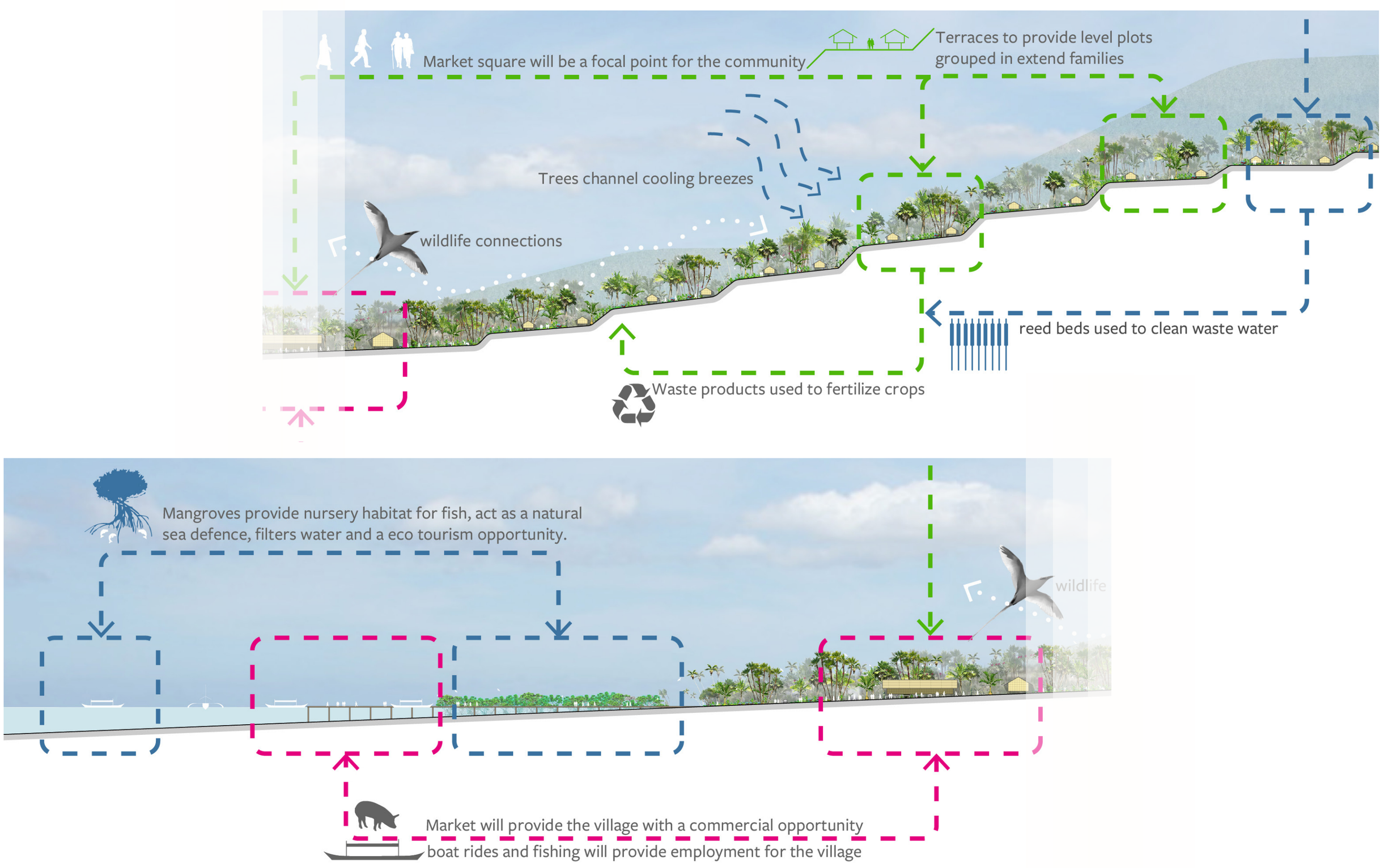
+120m
+100m
+80m
+60m
+40m
+20m
800m
400m
sports complex
housing to be delivered as part of a future phase
Coron town
future 'eco-park'
A
B
C
D
1
2
3
4
5
6
7
8
9
10
11
12
Key
Site boundary
Existing School
Settlement
National Highway
Secondary routes
Legend
A Land owned by school
B Land owned by Iglesia ni Cristo church
C Ferry depature point
D Mangroves
Urban interventions
1 Main access road
2 Main square & market place fronting onto the road - provide the village with a viable commercial opportunity
3 Community building - With Health Centre
4 Local government office
5 Possible future access to eco park
6 Catholic Church
Landscape interventions
6 Terraces to provide level areas 125m2 plots- grouped in extend families
7 Central spine features opportunities for co -operative food growing
8 Reservoir- permanent source of water
9 Water system to irrigate the villages crops and provide sanitation.
10 Tree planting to define site a channel cooling breezes
11 Public open space for social interaction and sports- views to the east
12 Extended boardwalk- safe access the sea for fishermen and tourists without damaging the mangroves
CliftonEmerydesign
Sitio Tagum, Coron, Palawan, Phillipines - Concept Masterplan
140308 L01 03
August 2014
N
0 100m 200m 400m

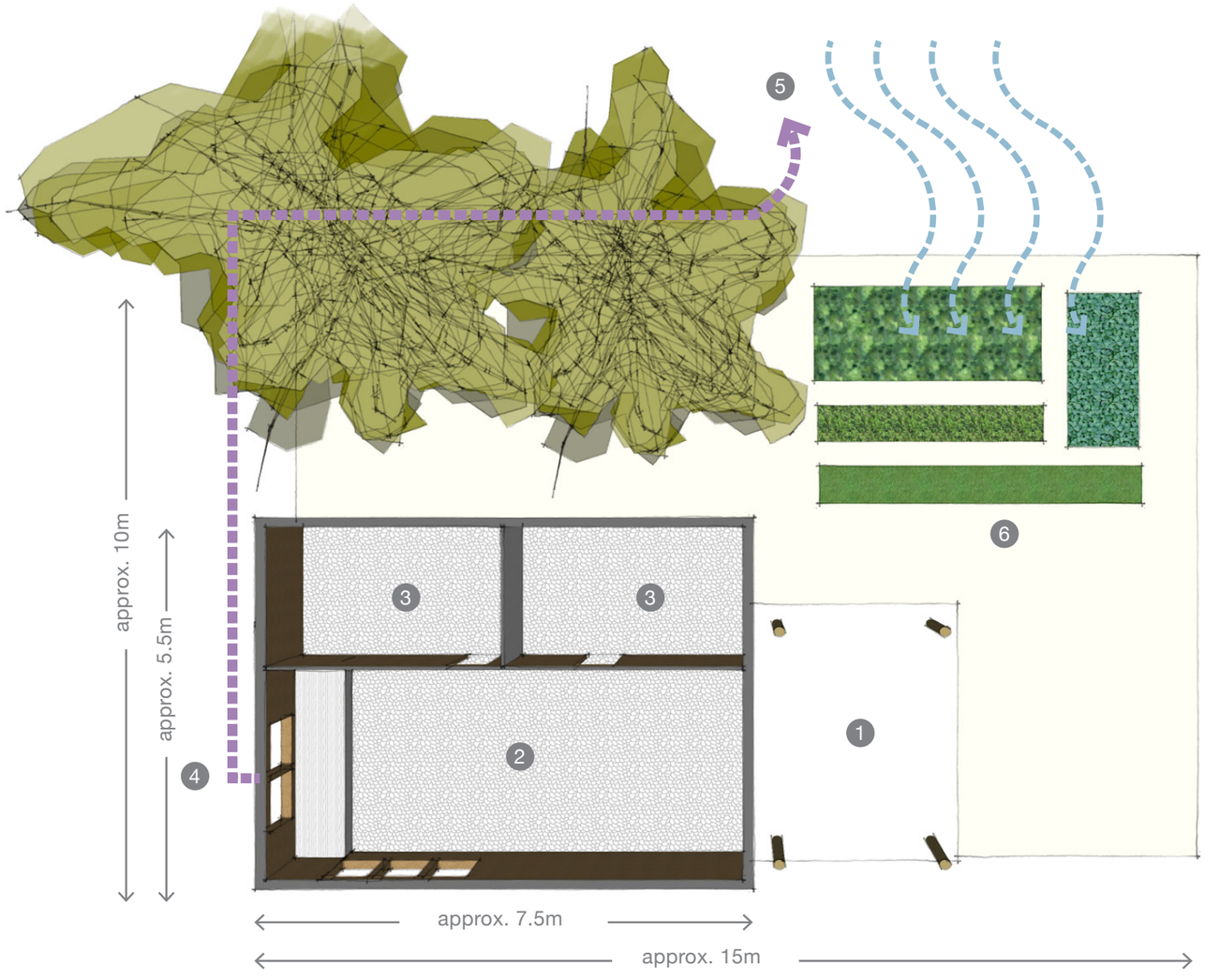
Section Diagram

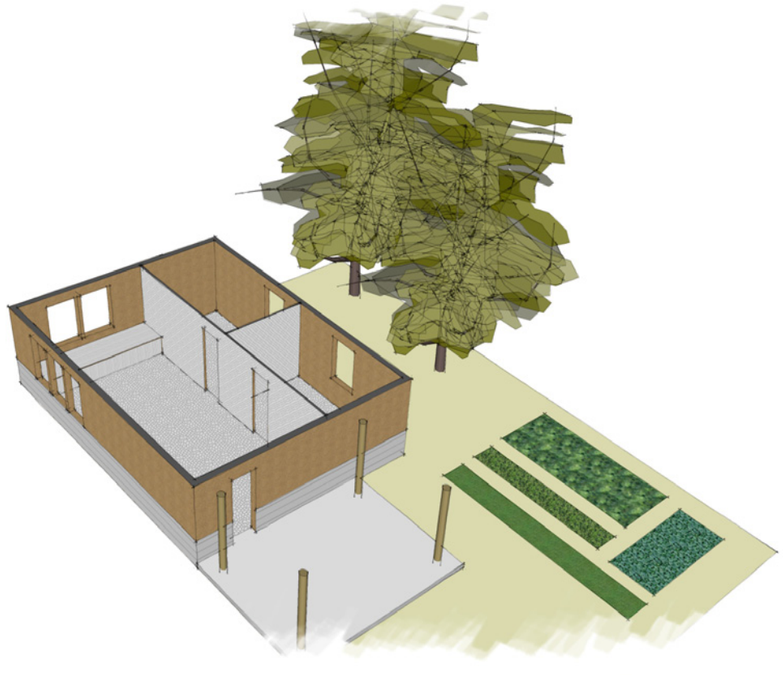
The section below demonstrates how a balance between a community of people and the ecosystem can be achieved without compromising lifestyle and livelihood. In many respects, the better balance enhances lifestyle and healthy living. It was noted that the people in the coastal communities are relatively healthy, fresh food is available to them directly from the sea and nearby market. Children are well-fed and there is a balance between social life and work.

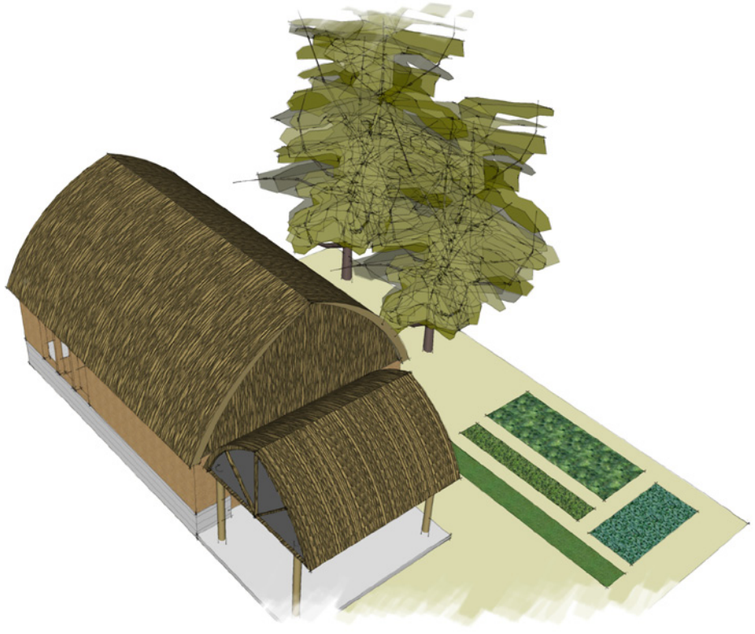



Market square will be a focal point for the community
Terraces to provide level plots grouped in extend families
Trees channel cooling breezes
wildlife connections
reed beds used to clean waste water
Waste products used to fertilize crops
Mangroves provide nursery habitat for fish, act as a natural sea defence, filters water and a eco tourism opportunity.
wildlife
Market will provide the village with a commercial opportunity
boat rides and fishing will provide employment for the village

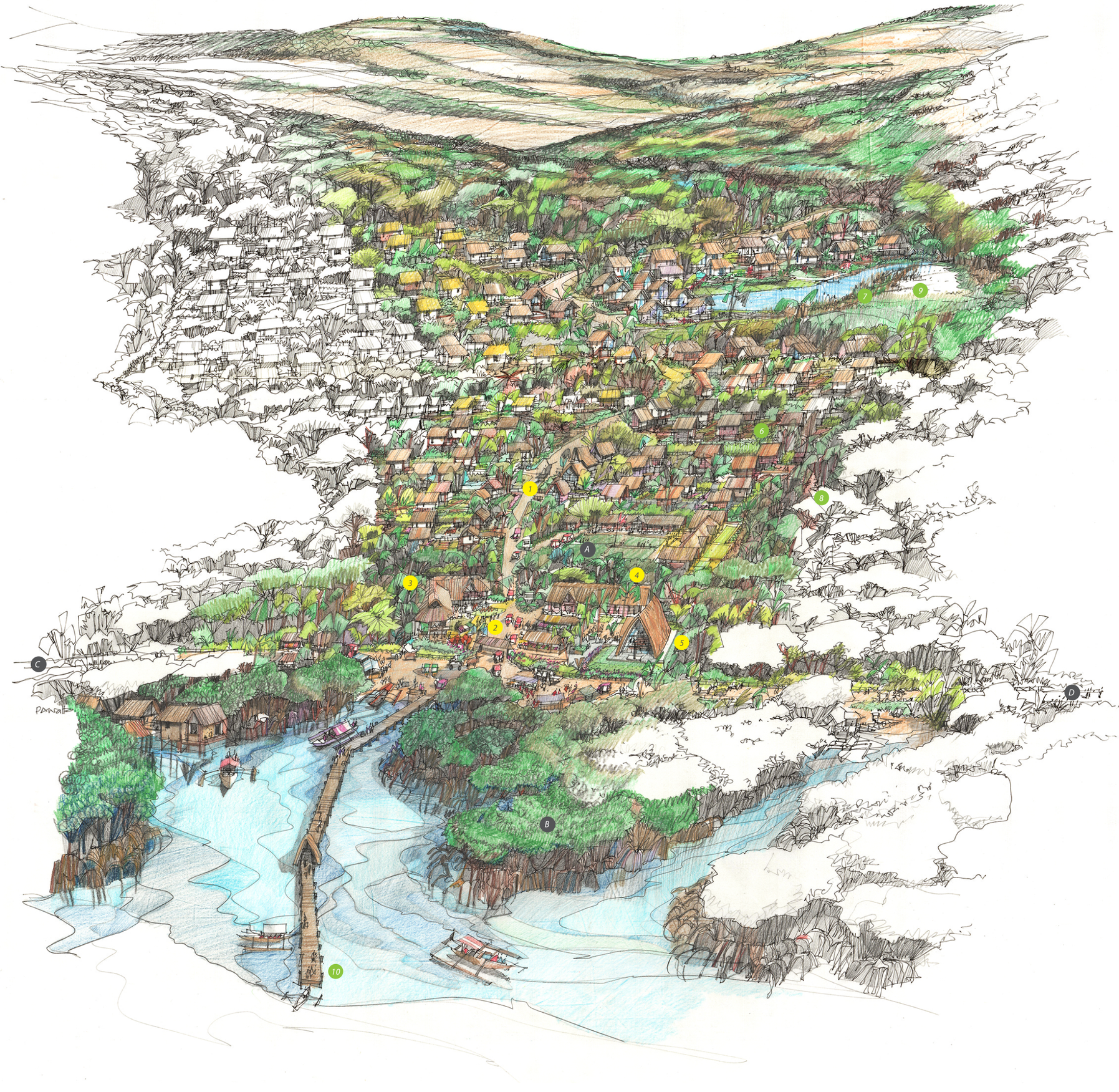
Sample Plot: Design in Progress







1 Veranda
2 Living Area “Sala” and Kitchen “Kusina”
3 Bedroom “Tulugan”
4 Washing waste water outlet
5 Location of secondary reed bed system
6 Irrigation of small crops from filtered reed bed water



Legend

- A — Land owned by school
- B — Mangroves
- C — Road to Coron Town
- D — Road to Manquint hot springs

Urban interventions

1. Main access road
2. Main square & market place fronting onto the road - provide the village with a viable commercial opportunity
3. Community building - With Health Centre
4. Local government office
5. Catholic Church

Landscape interventions

6. Terraces to provide level areas 125m2 plots- grouped in extend families
7. Reservoir- permanent source of water
8. Tree planting to define site a channel cooling breezes
9. Public open space for social interaction and sports- views to the east
10. Extended boardwalk- safe access the sea for fishermen and tourists without damaging the mangroves

CliftonEmerydesign

Sitio Tagum, Coron, Palawan, Phillipines - Perspective

140308 L01 04 October2014

SUSTAINABILITY

Environmental Design Solutions

Waste Water: Reed Bed Treatment

It is understood that 90% of the sewage generated all over the Philippines is not disposed or treated in an environmentally acceptable manner. The degradation of water quality in urban areas is mainly attributed to the indiscriminate disposal of domestic wastewater. The construction of conventional or centralised sewer treatment plants, with high cost for the construction of collection systems, operating and maintenance costs are often considered as the solution for many new developments. Only in highly populated cities is where these systems can be justified as feasible. However, options such as low cost sanitation facilities like an engineered reed bed treatment system is an efficient, innovative technique with low construction and maintenance costs, and should be considered as an option for new developments.

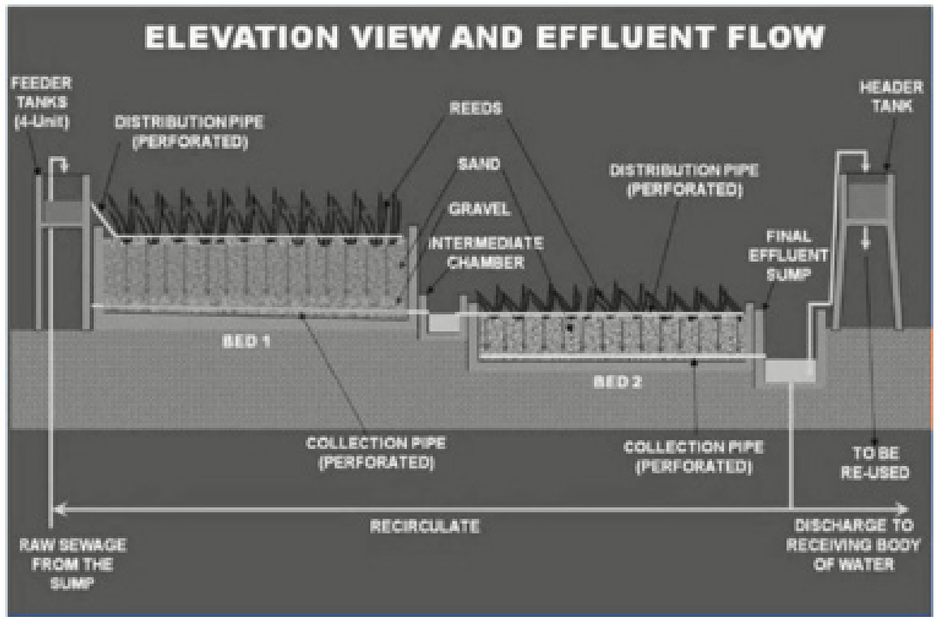
The way in which a reed bed system works is through the use of plants, water and soil in a composite unit generally called a wetland. Ecologists have often referred to these as “nature’s kidneys” for their water cleansing capacity. These natural treatment systems are low in terms of cost investment, lesser to maintain and are ideal for densely populated rural or suburban areas.

The root system of the reeds grows vertically and horizontally, opening up the bed to provide a hydraulic pathway. Within the rhizophere, large populations of common and unique, aerobic and anaerobic bacteria reside, which affect the biological breakdown of the organic components of the wastewater. Any suspended solids in the sewage are aerobically composted in the layer above ground of straw debris formed from dead leaves and stems.

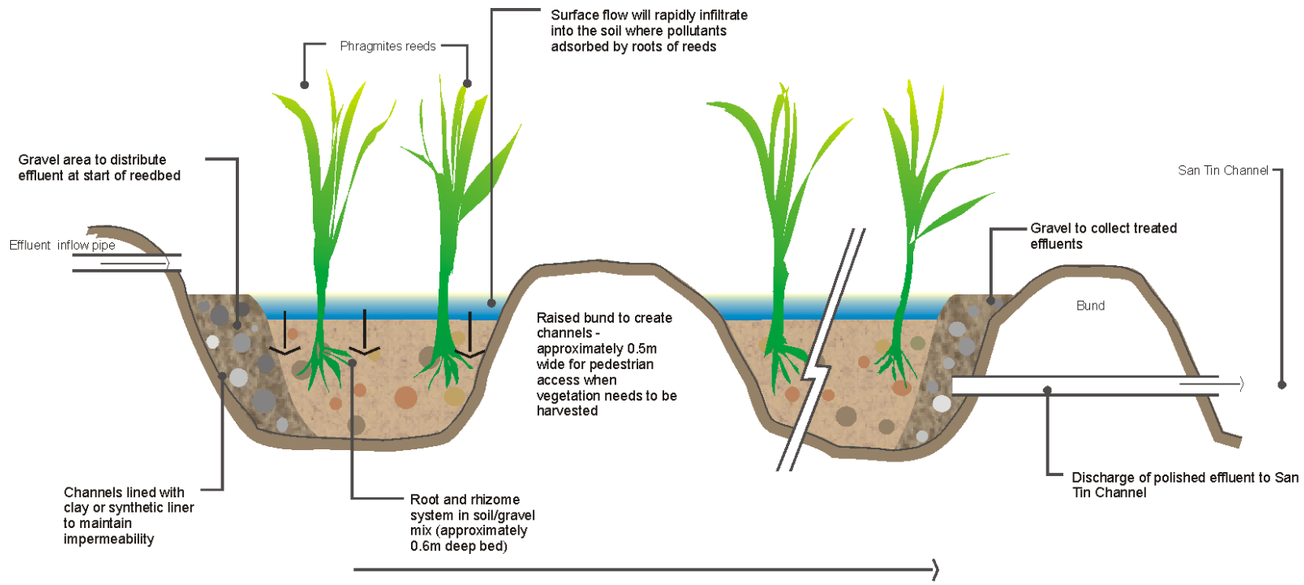
No mechanical aeration is necessary as it is substituted by plant respiration. The low energy requirements in operating and maintaining the system is a major advantage. An area of 1-5m2 per person is estimated for the system.

Gravity flow through the system affords a no-cost operation of the system; this is ideal where the topography permits. Where it is flat, a pump may be needed to provide a lift to the liquid. This is not envisaged for this site, situated on a sloping site.

There have been a couple of Engineered Reed Bed Systems in the Philippines (Nasugbu, Batangas and City of Bayawan) where plants such as Phragmytes karka and Phragmytes australis have been installed. These have been efficient and with higher ambient temperatures, a fast metabolic rate of microbial systems in the rhizosphere has been seen.



Schematic Diagram of the constructed wetlands system in Bayawan City.
Source: City Engineering Office, Bayawan, Batangas, Philippines



Reed Bed Diagram by KCR for the Lok Ma Chau Spur Line in Hong Kong

Rainwater

The weather in the Philippine islands has two distinct types; a wet monsoon season and a dry, hot season. The Southwest Monsoon season brings a prevailing wind which blows from the Southwest out of the Indian Ocean and brings a lot of warm, wet air. This wettest part of this rainy season is generally June to October. The average monthly precipitation in August can be in the region of 550mm.

With a provision of large amounts of fresh rainwater during several months of the year, as well as lesser amounts during the rest of the year, it would be useful to have rainwater butts fitted to down pipes from the new housing roof tops. The water collected can then be used for household activities such as washing. The rainwater will also top up the reservoir situated to the higher slopes above the village.

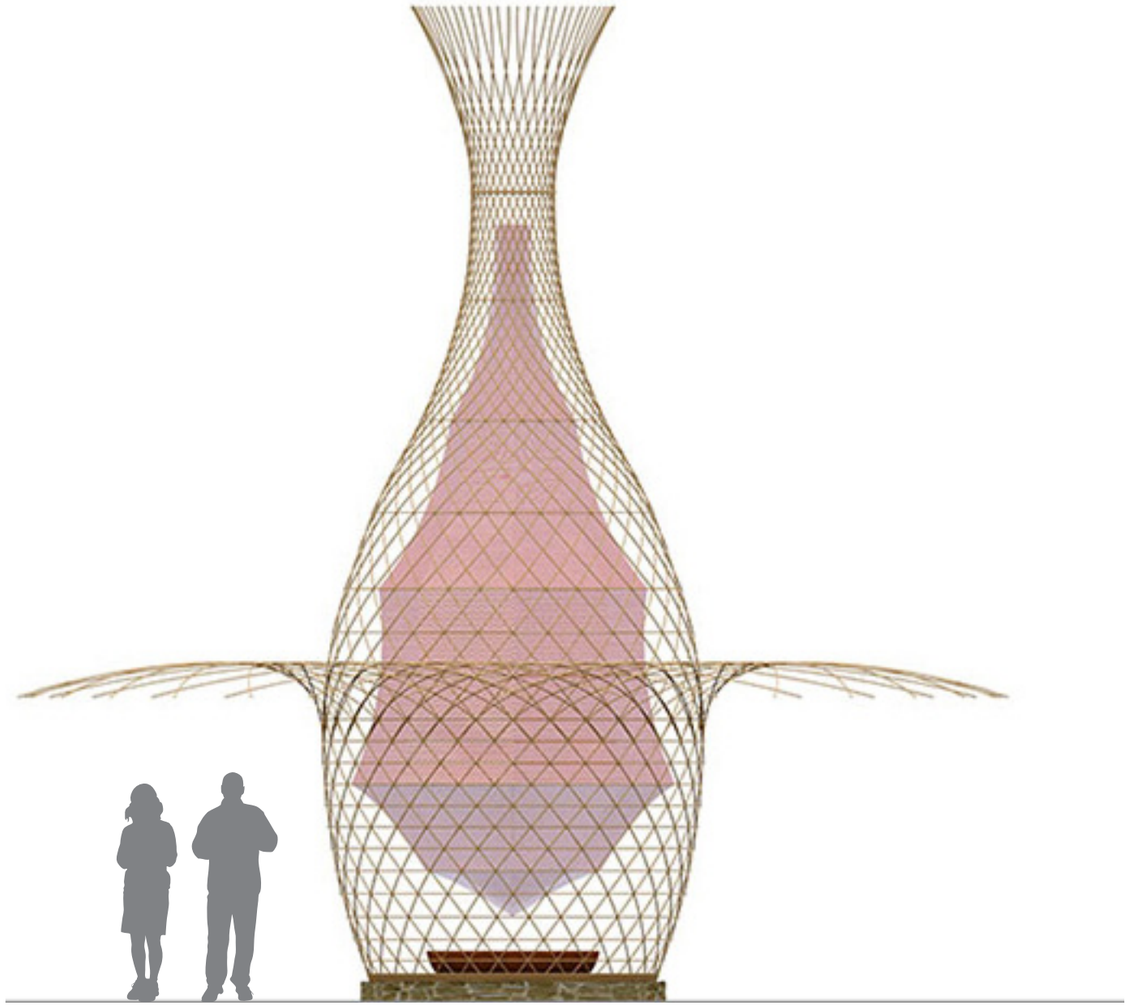
During the drier seasons, a few 'warka[1]' frames can be installed. Initially developed for dessert countries like Ethiopia, the WarkaWater tower model made of natural materials can be used to harvest clean drinking water from the air using condensation.

"Weighing only 60 kg, 'Warka Water' can collect up to 100 litres of drinking water per day."

Energy: Photovoltaics

Over the past two decades the energy sectors of Southeast Asian Countries have developed significantly with energy demand doubling between 1990 and 2007. The Association of Southeast Asian Nations (ASEAN): Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam (collectively identified as ASEAN-6). In 2007, ASEAN-6 represented more than 95% of energy demand in Southeast Asia. Given their large populations and robust projected economic growth, these six economies are projected to account for more than 80% of energy demand growth in the medium term to 2030 (IEA, 2009).

The otherwise hot, sunny climate conditions of Coron are a great source of solar energy which should be captured and used as a reliable and free energy source. Photovoltaic panels can be fitted to roof tops to capture this and used to directly convert sunlight to electricity for the village. The photovoltaic market in the Philippines is still small but gaining momentum with cumulative capacity totalling in excess of over 5MW with larger capacities being added and a 10 year road map for expansion to an installed PV output of 2GW by 2023. A feed in tariff (FIT) was started in summer 2012 which paid PHP9.68/kWh (US$0.24/kWh) at that time. There are a number of schemes which have been set up in the Philippines, and it would be suggested that this development could be another one.



A Warka Water Tower by Italian architects Arturo Vittori and Andreas Vogler

1 "The Warka name comes from the Ethiopia's language, meaning a large fig tree, which traditionally is a symbol of fertility and generosity."

http://inhabitat.com/nature-inspired-warkawater-towers-use-condensation-to-collect-drinking-water-in-ethiopia/

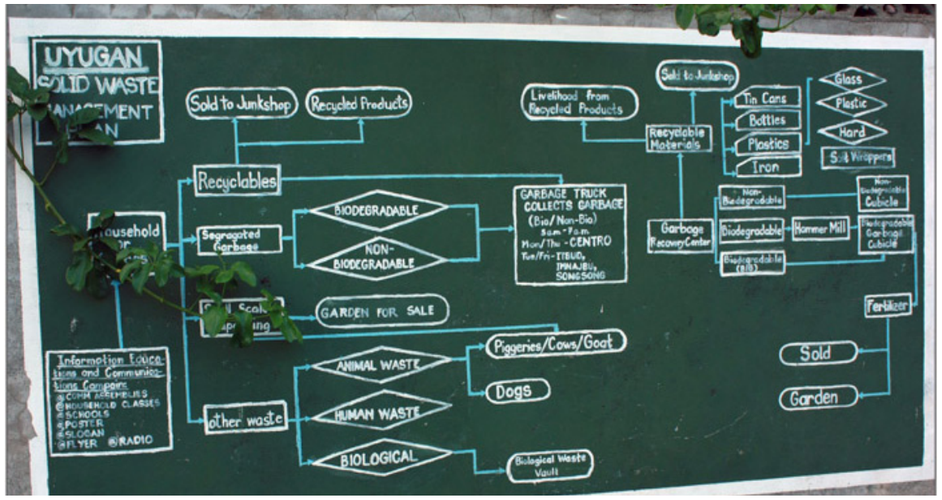
http://www.revolve-water.com/warka-water-italian-project-ethiopia/

APPENDIX

Micro Case Study

Barangay Uyugan, Batanes (Northern Luzon)

We do not have to look far for solutions. Batanes, a province to the northernmost part of the Philippines is a great example to follow with regards to the community's pride in their own surroundings and how they manage their waste. Moreover, this region is subject to very strong storms and typhoons, as well as colder temperatures. Their building methods are like no other found in the Philippines, yet these homes suffer minor damage, which is then easily and cost-effectively repaired.



Barangay Uyugan Waste Management System:
This diagram is found on the main street, with simple rice sacks below to show segregation. Passers-by would study it. Bins or rice sacks were located frequently throughout the street, and litter was disposed of properly.

Clean streets of Barangay Uyugan:
The community prided themselves in their surroundings, and they managed their own waste according to the system.

The system used for roof construction is much more robust than the regular type of construction generally seen in Coron's communities. A roof-making workshop may be a good solution to building sturdier roofs.

Programmes & Linked Initiatives

Mangrove Regeneration & Education Programme:

Some of the community we are aiming to resettle are currently in a mangrove site. It is known that mangroves are essential to the life cycle of marine animals, especially fish. Mangroves are nurseries for young fish, which is probably not appreciated by the settlers on the land, despite the fact that many rely on the bounty of marine life to live.

Waste Management Programme:

Coron currently has a loosely enforced “no-plastic” policy. Most vendors pack their goods in paper or biodegradable plastic. Unfortunately, this has yet to be enforced more strictly because plastic bottles as well as other plastics from food items are still available and unavoidable. Providing a recycling unit for the community to segregate their waste is the best solution. Coordination and collaboration with the local government on waste disposal and management will be necessary.

Tulong Balik Eskwela (Helping Children Back into School)

Headed by Nerissa Piamonte, TBE partnered with the Rebuild Coron Initiative to gather supplies, sponsorship, and donations to help children go back to school after the damage brought by typhoon Haiyan. TBE purchased school supplies and wet weather gear in their 2nd wave of donations last July.

Next Steps

Infrastructure & Waste Management Coordination

We will be consulting civil and environmental engineers and research teams on the best feasible solutions for the EcoVillage infrastructure. It is envisaged that simpler forms of waste and water systems will be installed, having less environmental impact and minimal cost.

How You Can Help:

We are seeking support from the local community and the Philippine Government, both at a municipal and nationwide level. We believe that this gesture to help improve the lives of a small community in a local province is possible through partnerships with the private and public sector, and can be replicated in several other similar communities.

We are also seeking support on promoting renewable energy, balanced biodiversity, protection of the marine environment, and education coupled with stewardship for local people.

Contact:

If you are interested in following the project’s progress, or would like to pledge support please contact us at:

www.coronecovillage.com

Project Head: Kara de los Reyes
contact@coronecovillage.com

The Team

Kara de los Reyes

BSc (Hons) MArch PG Dip Arch RIBA

Project Head, Director: Little Bim Studio Ltd.

Kara grew up in the Philippines, exposed to coastal and agricultural environments, and the variety of experiences they offered. She completed her Architectural Degree and Masters in Architecture at University of Wales, Cardiff and continues to work in the United Kingdom as a consulting Architect specialising in BIM (Building Information Modelling/Management). Kara's main interest is connecting with people, learning their passions and helping them achieve their aims, whether it be in architecture, humanitarian initiatives, or simply in pursuing further interests. She is passionate about the environment, and encourages good design that can help people minimise or prevent negative impacts on ecosystems.

She is currently pursuing Philippine projects as Head of Philippines in collaboration with AWW Inspired Environments. She has also previously taken the role of Sponsor Liaison for TEDxBristol2013, an event attended by over 1,000 people, culminating talks on Technology, Entertainment, and Design. She also holds a position in the Bath & Bristol committee of the Royal Institute of British Architects. Following the effects of Typhoon Haiyan in Coron, Palawan, she founded the Rebuild Coron Community, and is leading the Rebuild Coron Initiative: Resettlement Project as a volunteer. She is determined to find sustainable solutions to the rapid development in the Philippines, especially in areas of particular environmental interest, such as Coron.

Daniel Evans

BA (Hons) PG Cert Urban Design

Urban Designer & Landscape Architect: Clifton Emery Design Ltd.

Daniel was born in Tehran, Iran and grew up in Hong Kong. His father's work as a civil engineer and extensive travel formulated his early years and instilled an interest in design and the environment. Since completing university, he has worked for a number of UK based architectural and landscape practices for the last 10 years in both the UK and abroad. He has also worked on a number of award winning projects including the Gardens by the Bay Project in Singapore. Daniel now heads up the Bristol Studio for Clifton Emery Design.

Landscape design is a core requirement in any building project or urban design and cannot be seen as a kind of add on to the architecture. In particular, when sustainable architecture needs to reduce energy consumption, to provide better ecological values and to make the outdoors accessible, attractive, free from pollution and pedestrian friendly the skills of a landscape architect are needed. Within all his projects he enjoys the challenges of place making with locally distinctive identities in which people and nature can co exist.

On hearing about Kara's project he was keen to help, feeling that he could draw a lot of parallels with his own experiences and the Philippines. He is lucky enough to have the support of his colleagues and looks forward to working alongside the rest of the team on the Rebuild Coron Project.

Lori Boulter

BSc (Hons) BArch (Hons) ARB

Landscape Architect: Clifton Emery Design Ltd.

Lori completed a dual degree in architecture and landscape design at the University of Sheffield in 2009. Since then she has been fortunate to gain experience in a broad range of projects both in the UK and abroad, working from early conceptual stages through to the construction phase. This experience has instilled in her a strong understanding of the importance of inspirational, design led schemes that are also practical, and implementable from the beginning.

She has a keen interest in the close relationship between buildings and the landscape they reside in, and how a high quality and clear spatial design can enhance user experience, whilst respecting and working with existing site characteristics and available local materials as a core element.

The range of design opportunities that complex sites, such as that in Coron, open up for originality is an exciting prospect allowing the creation of a real sense of place that reflects the character of the island and connects the residents with the nature and important ecosystem around them. Lori looks forward to helping out on such a worthwhile community project whilst learning more about this beautiful part of the world along the way.

Fleur Baguley

BSc (Hons) BREEAM AP AIEMA

Principal Sustainability Consultant

Fleur has a background in Environmental Science and has eight years of experience in the environmental and sustainability industry. Having grown up in the Cotswolds surrounded by countryside and the outdoors, her passion for the environment led her to completing an Environmental Science degree at Lancaster University. Following graduation, she has been working within the consultancy industry and on large construction projects where her knowledge has assisted with the completion of various environmental assessments such as BREEAM, Code for Sustainable Home, LEED and Ska Rating. Furthermore, her knowledge of waste and water management has enabled numerous strategies to be developed for various businesses and project schemes and her passion for the environment extends to her attendance at various conferences and seminars to further her knowledge on the most recent updates in the field.

The variety and range of projects from education to healthcare to domestic, has enabled Fleur to gain an extensive insight into design and a broad width of knowledge on subjects such as energy, pollution and management. Having recently been based within an architectural practise, Fleur's knowledge of design along with her inspirational colleagues have furthered her passion and strength in this field. She has a strong desire to help community projects and is hoping to undertake a volunteer project rescuing turtles in either Costa Rica or Asia in the near future.

Main Sponsor Representatives

Timothy David Ambrose Good

Chairman (Matthew Good Foundation UK Reg Charity 1143550)
www.matthewgoodfoundation.org

Tim is a Director of John Good & Sons Shipping, one of the oldest family-owned shipping businesses in the United Kingdom. He is also Chairman of The Matthew Good Foundation, which was named after his elder brother, who passed away suddenly running a marathon for charity in June 2011. The Foundation, which previously existed as a brainchild of Matthew and Tim, now focuses on providing funding support for employee-based charitable interests. Within a few days of Haiyan hitting the Philippines, MGF provided funding directly to relief efforts on the ground.

As an avid extreme outdoor sport enthusiast, Tim is passionate about protecting the environment and educating people about the effects of our everyday decisions. He is currently involved in local projects for the Avon Wildlife Trust, looking into the regeneration and restoration of the Avon Gorge in Bristol - both for tourism and ecology. He has also previously supported other restoration and cultural causes such as investing in the Bristol Ferry. Much of his time is dedicated to The Institute of Race Medicine, an international initiative to create best practice for emergency services during major marathons through sharing of expertise across the globe, being the group's Co-Founder and on the advisory board.

Richard Francis

Director & Architect (AWW Inspired Environments)

AWW is an award-winning United Kingdom Architectural Practice championing a collaborative approach to creating exceptional built environments. We work across all sectors, both in the UK and internationally. Our current work in the Philippines has given us an intimate understanding of the country, its culture and working environment. Aboitiz have appointed AWW as architects for the $47M waste to biofuel development at Lian, Batangas. Working with Aboitiz's technical partner Gazasia, AWW is responsible for masterplanning and architectural design of this, the first of several intended waste to biofuel projects in the Philippines.

AWW is looking to invest in collaborations with local architectural practices to contribute to the fast expanding development enjoyed by this thriving economy. With live projects to support us we are pursuing opportunities in Manila for a 500 bed iconic hotel, sustainable masterplanning in Malvar and Clark Green and nationwide healthcare projects.

We are delighted to support Kara's commitment to an exemplary regeneration of the typhoon-hit areas of Coron and believe we have the expertise and experience necessary to make a real contribution when the projects proceed into detailed design and construction stages.

Glossary of Terms

Barangay	Filipino Term for a 'Community' or 'Village' under leadership of a 'Barangay Captain' who holds office under the Municipal Mayor, and is voted in democratically by the people.
'Dayo' / 'Dayuhan' / Informal Settler	Settlers that come from other parts of the Philippines (commonly Southern Luzon and Western Visayas, with some vendors from Mindanao). These settlers are not land owners. 'Dayuhan' literally means 'Foreigner'.
Sitio	Site or location, in this context used to determine areas of mango or cashew plantations.
Tagbanua	Local indigenous tribal people of the Calamines Island Group. They occupy and control the protected reserve across Coron Town, called Coron Island.

Notes & Acknowledgements

This document is by all means an evolving piece. We are currently continuing to gather information to support the development of the brief, and will be working closely with the landowners as well as the local government.

This project would not be possible if it weren't for the generous contributions of people across the world who have given time, donations, and other forms of support to the Rebuild Coron Initiative. We especially acknowledge and are grateful for the enthusiasm of the Heirs of Claudio Sandoval, Heirs of Evarista Sandoval Samson, Erlinda Salas Jovellanos and Heirs of Jose U. Jovellanos to engage international expertise in the pursuit of guiding and achieving sympathetic and sustainable development to their hometown.

Special Thanks

Andy Chaggar (International Disaster Volunteers) for his enthusiasm to support this initiative

Tim de los Reyes for the logo and branding of Coron EcoVillage

Gregory Chatfield for creating the 3D site model

Phil Watts of Clifton Emery Design for the amazing artist's impression of the Coron EcoVillage

Dr. Francisco de los Reyes III (Professor, NC State University) for extending his help and knowledge on water waste management

Gazasia Ltd. for their generous donation in 2013 towards this and the linked initiatives

Reef-World International for endorsing this project

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Prepared For: Clients & Stakeholders

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littlebim
bim | architecture | collaboration

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