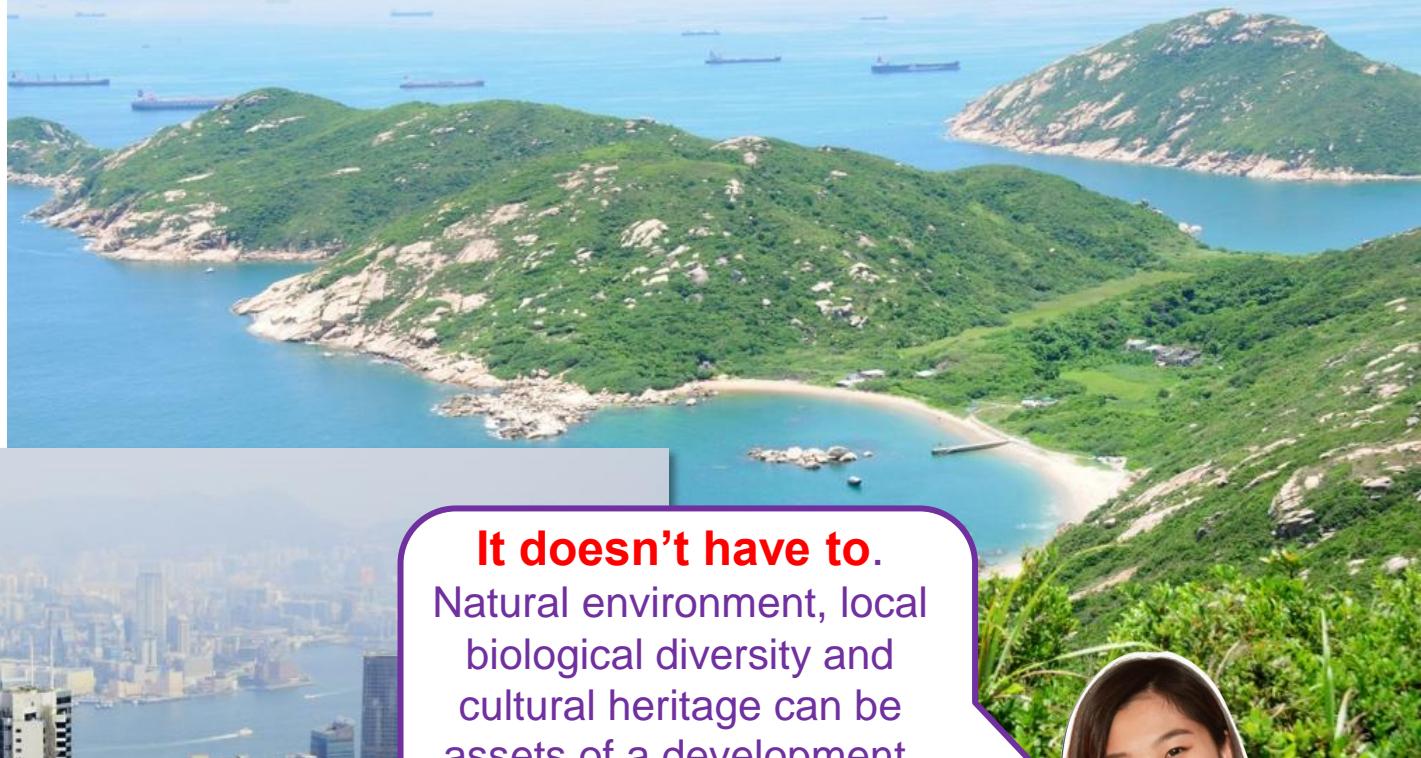


The Baroque on Lamma

Where Conservation Thrives on Development

Is development
always in
conflict with
conservation?



It doesn't have to.
Natural environment, local
biological diversity and
cultural heritage can be
assets of a development.



The Baroque on Lamma
Where conservation thrives on development



Lamma Island has human habitation for 5,000 years. During Tang/Song Dynasty, it was the port of entry for foreign ships. During World War II, there was a Japanese military base here.

There were once more than 500 villagers in the 3 villages, but only a few aged residents remain now.

The Baroque on Lamma
Where conservation thrives on development



The Baroque on Lamma
Where conservation thrives on development

In order to develop a conservation-based development, we have undertaken **comprehensive baseline surveys** at the early planning stage.

Hydrodynamic Impact Assessment

Water Quality Impact Assessment

Sediment Impact Assessment

Sediment Transport Impact Assessment

Marina Fuel Storage Impact Assessment

Fishery Impact Assessment

Marine Ecology Impact Assessment

Terrestrial Ecology Impact Assessment

Birds Impact Assessment

Landscape Impact Assessment

Site Formation and Natural Terrain Risk Impact Assessment

Air Quality Impact Assessment

Cultural Heritage Impact Assessment

Archeological Impact Assessment

Visual Impact Assessment

Noise Impact Assessment

Utilities Impact Assessment

Traffic Impact Assessment

Marine Traffic Impact Assessment and Risk Assessment

Sewage Impact Assessment

Drainage Impact Assessment

Construction Impact Assessment

Operation Impact Assessment

+ **Social Impact Assessment**

海水動力影響評估

水質影響評估

海床沉積物影響評估

海床沉積物移動影響評估

遊艇機油儲存影響評估

捕魚業影響評估

海洋生態影響評估

陸上生態影響評估

鳥類影響評估

林木影響評估

地盤平整及地勢風險評估

空氣質素影響評估

文物影響評估

古物影響評估

景觀影響評估

噪音影響評估

公共設施影響評估

交通影響評估

海上交通影響評估及風險評估

污水排放影響評估

排水影響評估

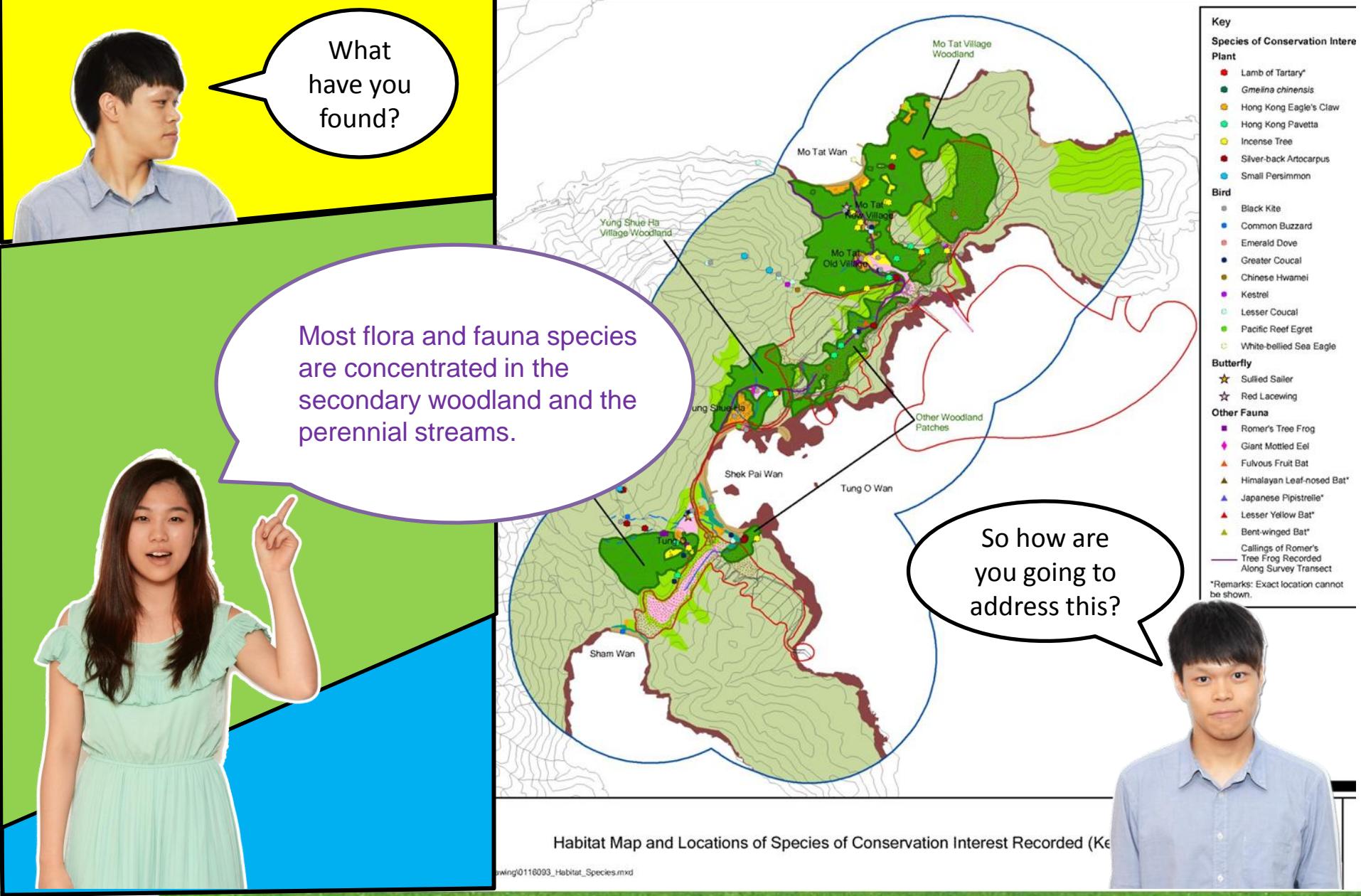
施工期間影響評估

運作期間影響評估

社會影響評估

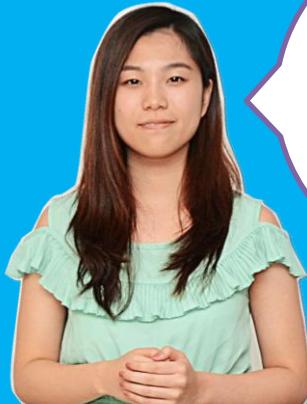


The Baroque on Lamma
Where conservation thrives on development



The Baroque on Lamma

Where conservation thrives on development

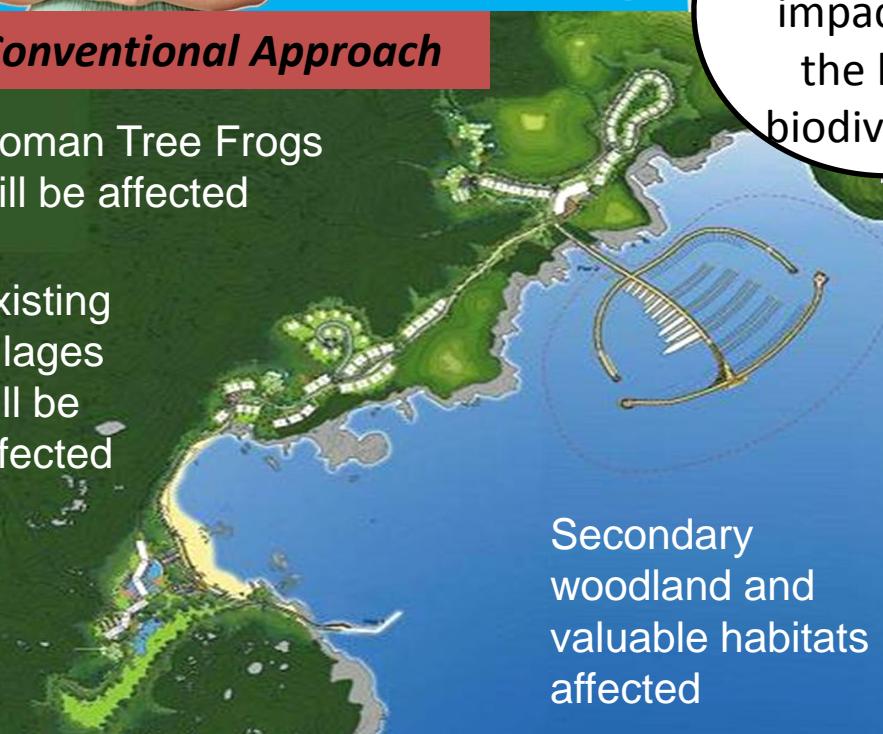


Conventional approach suggests to clear the woodland and compensate afterwards.

Conventional Approach

Roman Tree Frogs will be affected

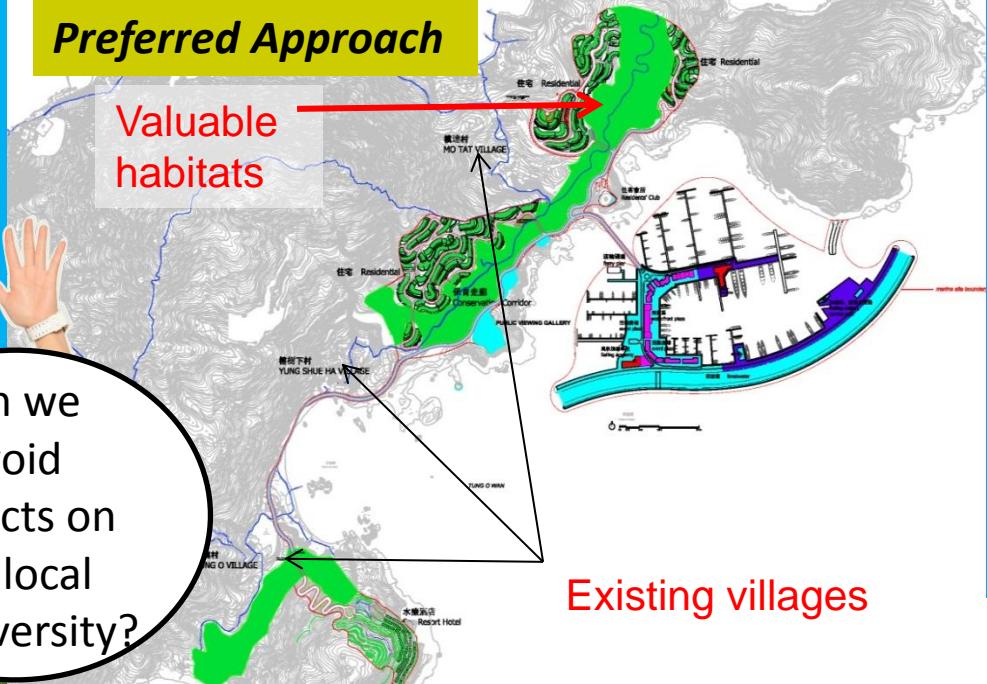
Existing villages will be affected



Can we avoid impacts on the local biodiversity?

Preferred Approach

Valuable habitats



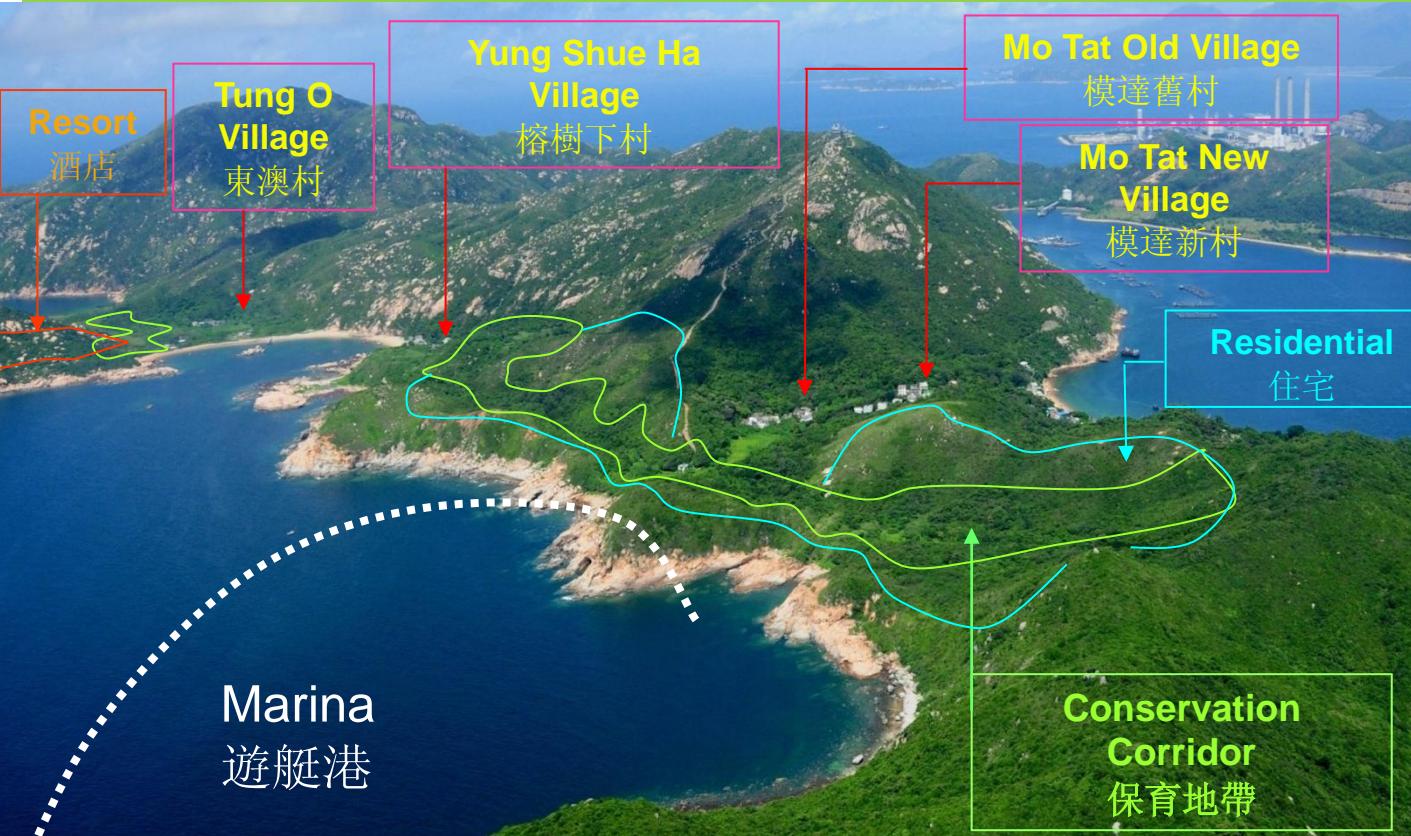
Why don't we think out of the box?

We can preserve land with high ecological value in-situ and build on lands with lower ecological value?



The Baroque on Lamma
Where conservation thrives on development

This open up a lot of opportunities to create **synergy** between conservation and development.



1. Valuable habitats are preserved in-situ to form a 19 ha Conservation Corridor.
2. Existing village communities are preserved and villagers need not be evicted.
3. There is scope for active conservation, eco-education, eco-tourism and re-farming on abandoned agricultural land.

The Baroque on Lamma
Where conservation thrives on development

Sham Wan SSSI



For example, there is a huge stretch of abandoned farmland at Tung O which can be rehabilitated and could be an ideal site for

a **Marine Ecology Centre** for green turtle and marine ecology studies

a **Nature Education and Activities Centre** for eco-education programs and activities as well as organic farming activities

The Baroque on Lamma
Where conservation thrives on development

Why Marine Ecology Centre?

Sham Wan SSSI

Marine Ecology Centre



Shouldn't we just do nothing? We used to have green turtles come back to lay eggs years ago.

As Prof Cheng from Taiwan once said: “....
we know little about green sea turtles, but
as we know more, we shall be able to
identify at which stage of their life cycle,
they need our protection the most..”

We can organize education programs and
annual releases of young green turtles.
Hopefully, they will start to return in the
future.

In addition, the team of experts can also
help to restore and enhance marine
ecology in southern Lamma and manage
the Sham Wan SSSI.



Ah, hardly in recent years! Stories had it that turtle eggs were food sources during the difficult period of World War II.

Hence not many eggs were left to hatch and much less survive to come back.

In fact, in a lot of countries like , **hatching and research programs** were successfully implemented to revive the green turtle population.



The Baroque on Lamma
Where conservation thrives on development

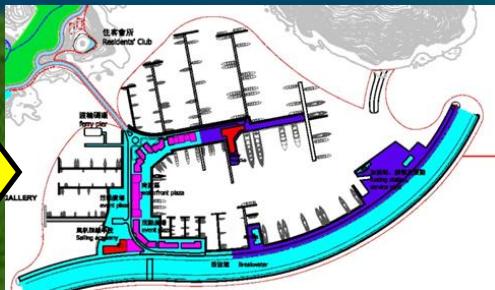
How about the Romer's Tree Frogs ?



Well, the **Conservation Corridor (CC)** is set up to preserve local habitat in-situ, and so Romer's Tree Frogs are safe and will be well looked after by management of the CC.



How about under the sea?



Well, the hard substrate formed by the rock and sandbed has higher ecological value than the silty mud seabed further out.

We have moved the main deck away from these habitats to minimize impact on benthic communities there.



The Baroque on Lamma
Where conservation thrives on development



We should and can do more.

Have you heard of the Eden Project in UK?



Tell me about it.



Immersive and inspiring education programs

Social and environmental projects

Research

Green operations



It is a very successful charity organisation that runs a world famous eco-education and activities destination. Many people from UK and abroad visit it and take part in their diverse programs. We believe there is a lot to learn from them.

The Baroque on Lamma
Where conservation thrives on development



The Eden Project was planned on an abandoned mine. It has glass domes that house exotic species from all over the world! Would you do that in Lamma?



We do not propose doing exactly the same. Instead, we want to preserve HK's indigenous species in the 19 ha Conservation Corridor. We can learn a lot from their rich eco-education programs and with community participation we can form a strong team to develop programs suitable for HK.



Besides, we have the sea surrounding us. The **breakwater** of the marina is going to be a big **artificial reef** that will enrich the marine ecology and fishery resources at southern Lamma.

The Baroque on Lamma

Where conservation thrives on development

There are a lot of potential uses for the water body (35m x 1200m x 10m deep) between the breakwaters.



Caisson for Function, Operation & Utility

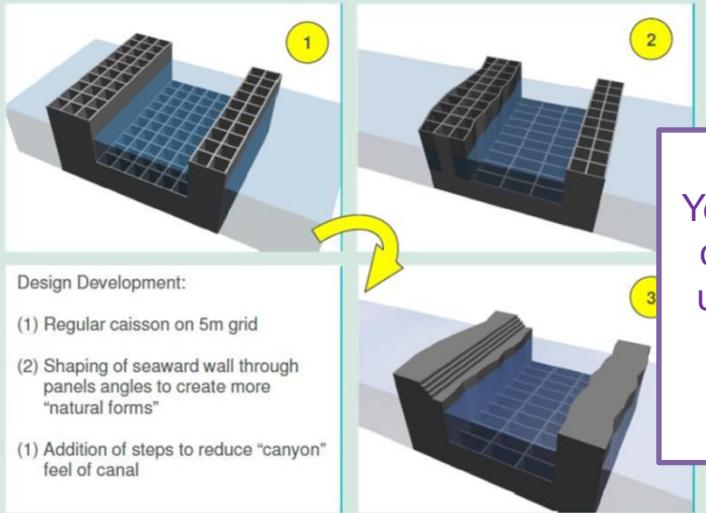
Design Evolution #1

Functional elements of the breakwater are as follows:

- Wave Caisson – 15m long, 10m deep, public access
- Canal, 10m deep, 35m wide, designed for:

 - Protection of coral reef
 - Recreational diving
 - Drift boat launching
 - Kayaking
 - Pedestrian walkways

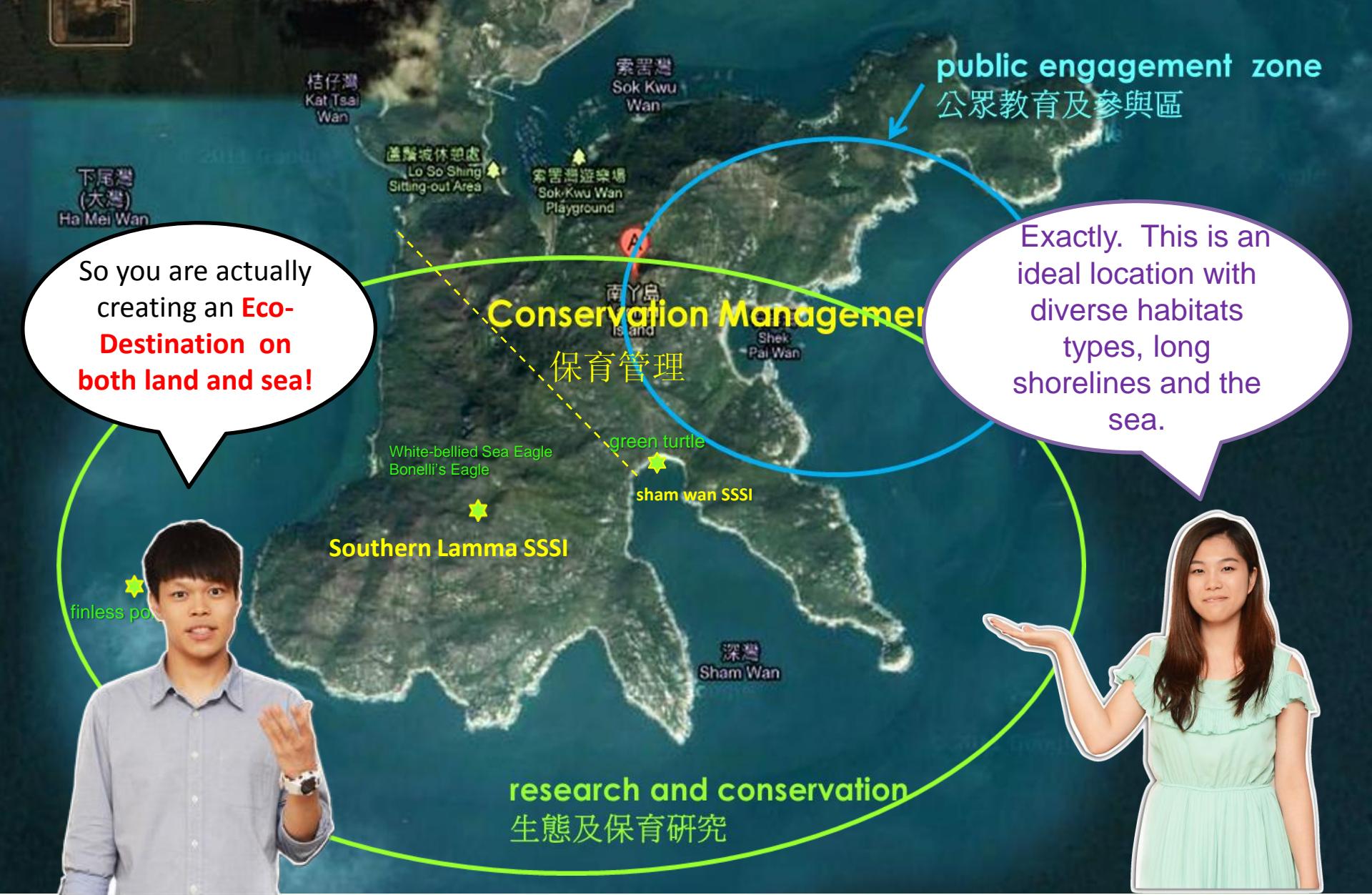
- Marina, 10m caisson – 10m private berths for super-yachts



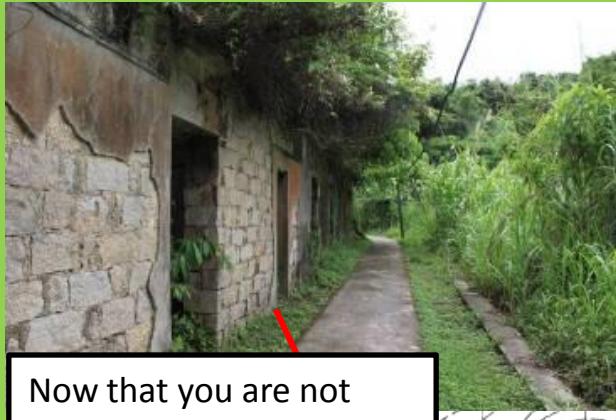
Yes. The breakwater is long. We can have different value added uses at different sections of the breakwater for recreation, exploration and research etc.



The Baroque on Lamma
Where conservation thrives on development

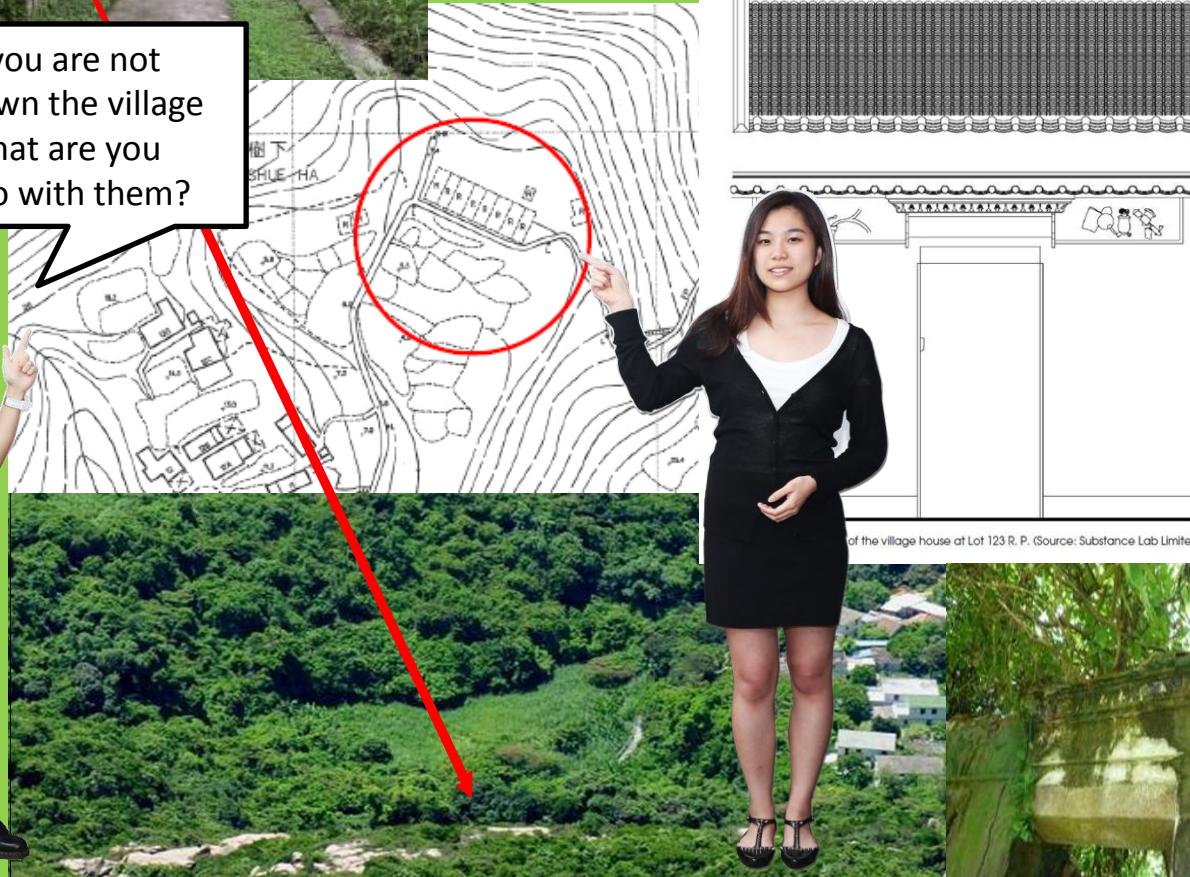


The Baroque on Lamma
Where conservation thrives on development



We have engaged a conservation consultant to study the feasibility of **restoration of the abandoned old village site at Yung Shue Ha.**

Now that you are not tearing down the village houses, what are you going to do with them?



of the village house at Lot 123 R. P. (Source: Substance Lab Limited)

Conservation Management Plan
for Village Houses at Lot 123 R.P. and 124,
D.D. 9 at Yung Shue Ha, Lamma Island

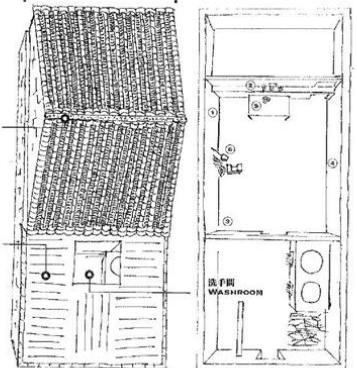


Blow-up of aerial photo 1978 (Source: Survey & Mapping Office)

SUBSTANCE
LAB

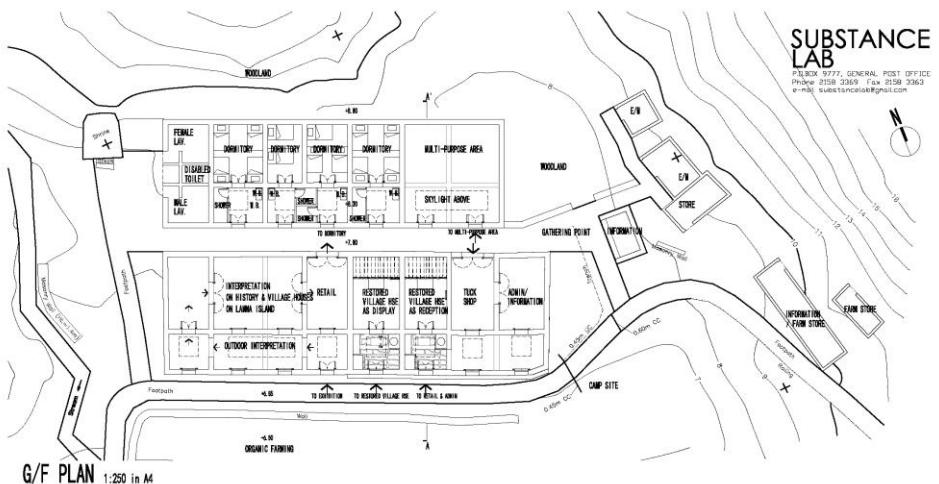
December 2013

Conservation Management Plan for Village Houses at
and 124 at Yung Shue Ha Lamma Island
dated September 2013



Layout plan of a stone house at Mo Tat. (Source: Cheng & Chow, 2008, p.49-50)

The Baroque on Lamma
Where conservation thrives on development



G/F PLAN 1:250 in M

SCHEMATIC SECTION AA' 1:250 in M
MASTER LAYOUT PLAN FOR VISITOR CENTRE AT YUNG SHUE HA TSUEN, LAMMA ISLAND 2013 1121



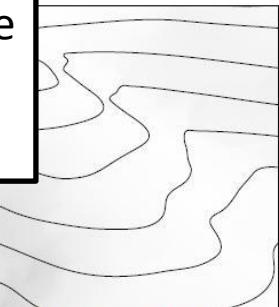
They recommended to restore the original layout and architectural style of the “old” Yung Shue Ha Village. The restored buildings can become a **Visitors’ Center to display Lamma settlement history and serve as the base to explore the Conservation Corridor.**



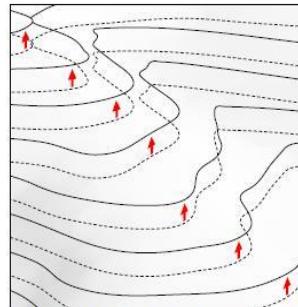
The Baroque on Lamma
Where conservation thrives on development



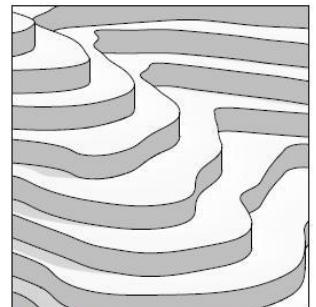
What about the residential buildings?



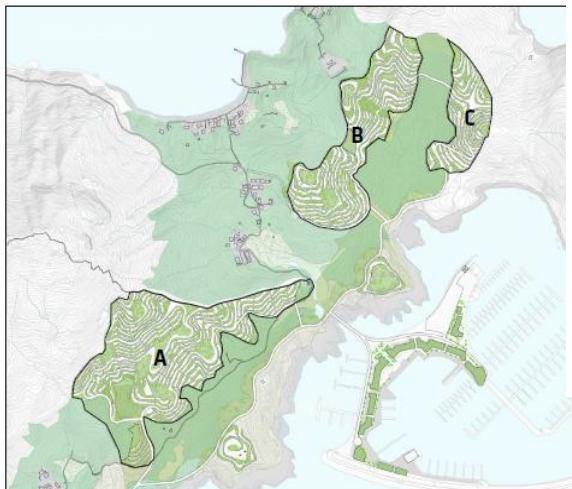
The architectural approach is based on the potentials of hilly landscape...



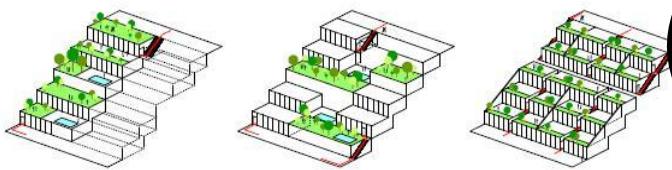
By lifting each contour line four meters vertically...



A new building envelope emerges from the slopes.



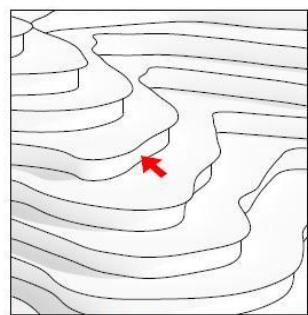
A B C



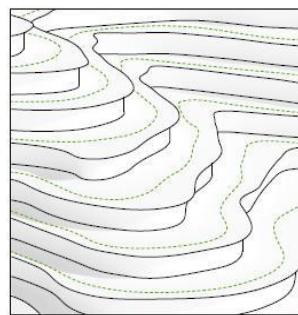
TOWNHOUSES

VILLAS

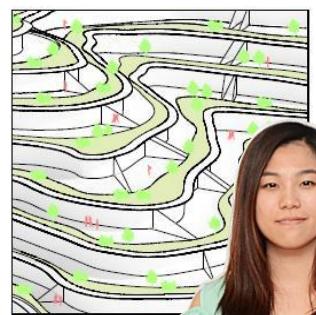
APARTMENTS



And moving the facades inwards a new cantilevering rooftop providing natural sun shading is created.



The two meter contours of the landscape define a new zone of green.

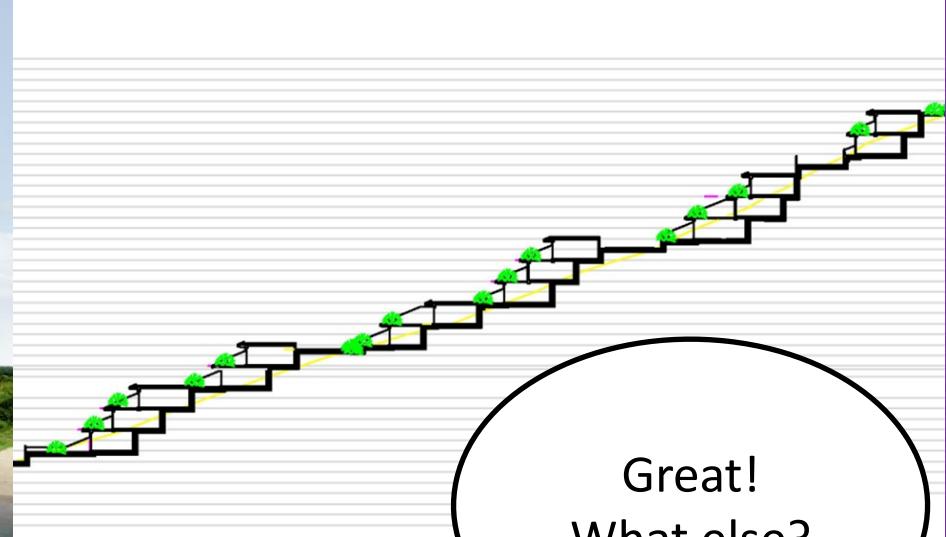


All creating unique locations, terraces and breathtaking surroundings of Lamma Island.



Our design consultant, BIG from Denmark, came up with a simple yet effective solution to blend the buildings into the natural landscape - to follow the contour and step back at each level.

The Baroque on Lamma
Where conservation thrives on development



Great!
What else?

The Baroque on Lamma
Where conservation thrives on development

- HEAT
- ELECTRIC
- OXYGEN
- RAINWATER
- HYDRO
- DRINKING
- WASTE
- WASH
- BIG

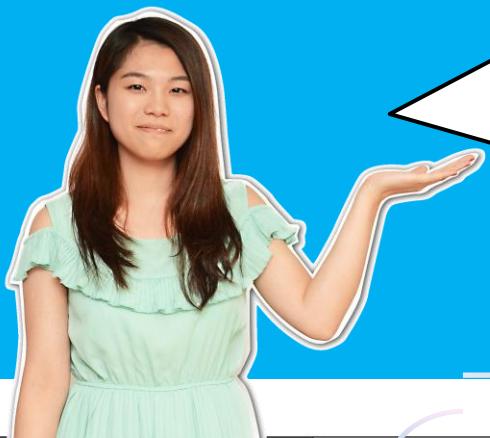


We are creating a low carbon community at The Baroque on Lamma. We commissioned Messrs Ove Arup and Partners to study and recommend an **Integrated Sustainability Strategy** for the development.

So what are the recommendations?

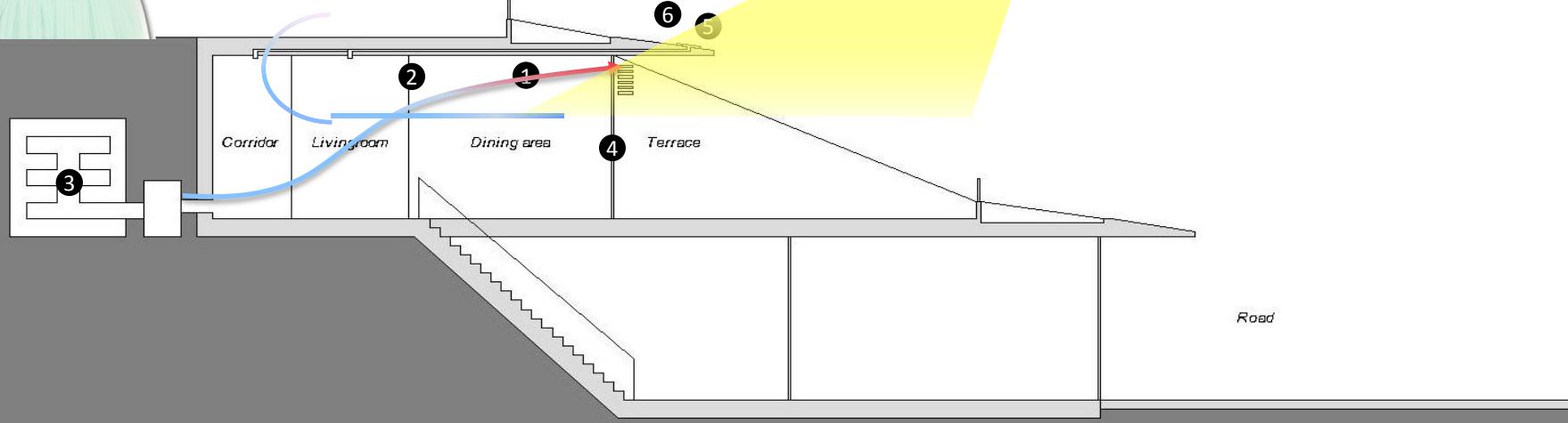


The Baroque on Lamma
Where conservation thrives on development

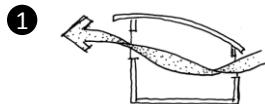


First, we reduce energy consumption in the first place by **adopting passive design measures**:

- Natural ventilation
- Reduce use of air conditioning
- Utilize geothermal mass
- Minimize solar gain
- Natural daylight

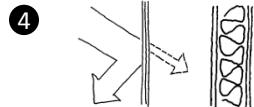
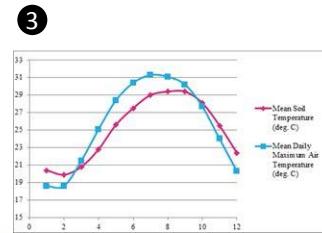


NATURAL VENTILATION

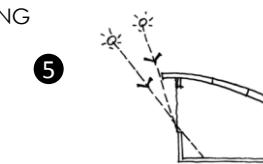


NATURAL VENTILATION

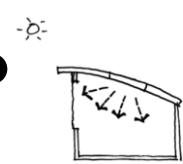
HEATING / COOLING / LIGHTING



HIGH PERFORMANCE FACADE



OVERHANGSHADING



FIBER-OPTIC DAYLIGHT

The Baroque on Lamma
Where conservation thrives on development

Solar panels along the overhanging eave of residential building can provide sufficient hot water for the residences.



Second, we maximize the capture of renewable energies.

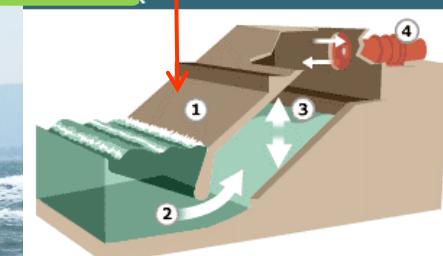


Wind Energy

Different wind capturing turbines to capture wind energy onsite.



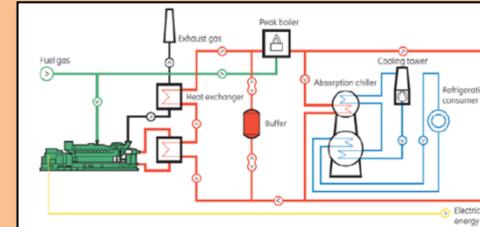
Tidal & Wave Energy



- ① Wave capture chamber set into rockface.
- ② Tidal power forces water into chamber.
- ③ Air alternately compressed and decompressed by "oscillating water column".
- ④ Rushes of air drive turbine, creating power.

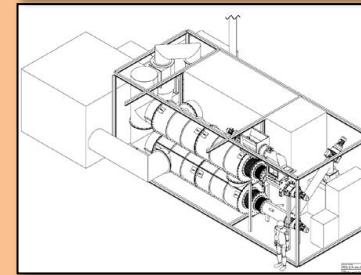
The Baroque on Lamma
Where conservation thrives on development

Wasted kitchen oil will be collected from marina area and hotel and converted to bio-diesel either on-site or off-site to be reused as clean fuel for tri-generation plant for district heating and cooling in the project site.



Third, we are looking into other means.

Non-recyclable waste generated onsite can be incinerated to produce energy.



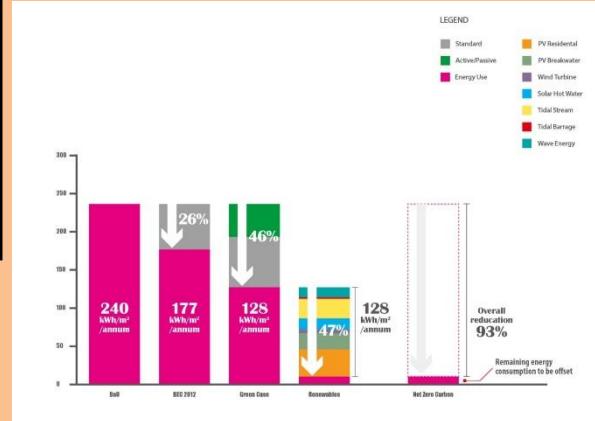
The Mikania is an invasive species and their fast growing nature is a threat to local biodiversity. We are currently studying the possibility of turning it into an energy source.



Wasted oil from yachts can be another energy source.



All in all, we can substantially reduce our reliance on fossil fuels.



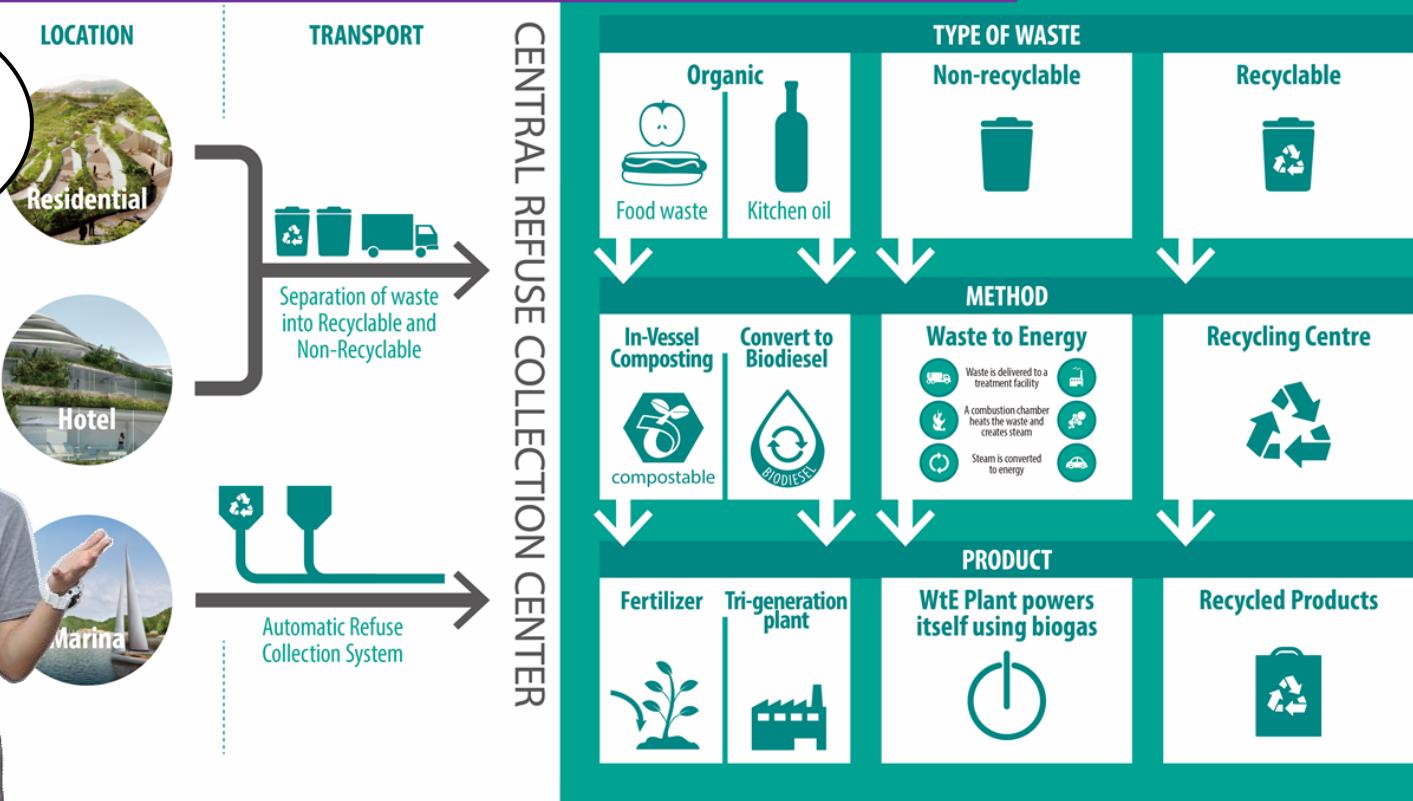
The Baroque on Lamma
Where conservation thrives on development

There are three main processes:

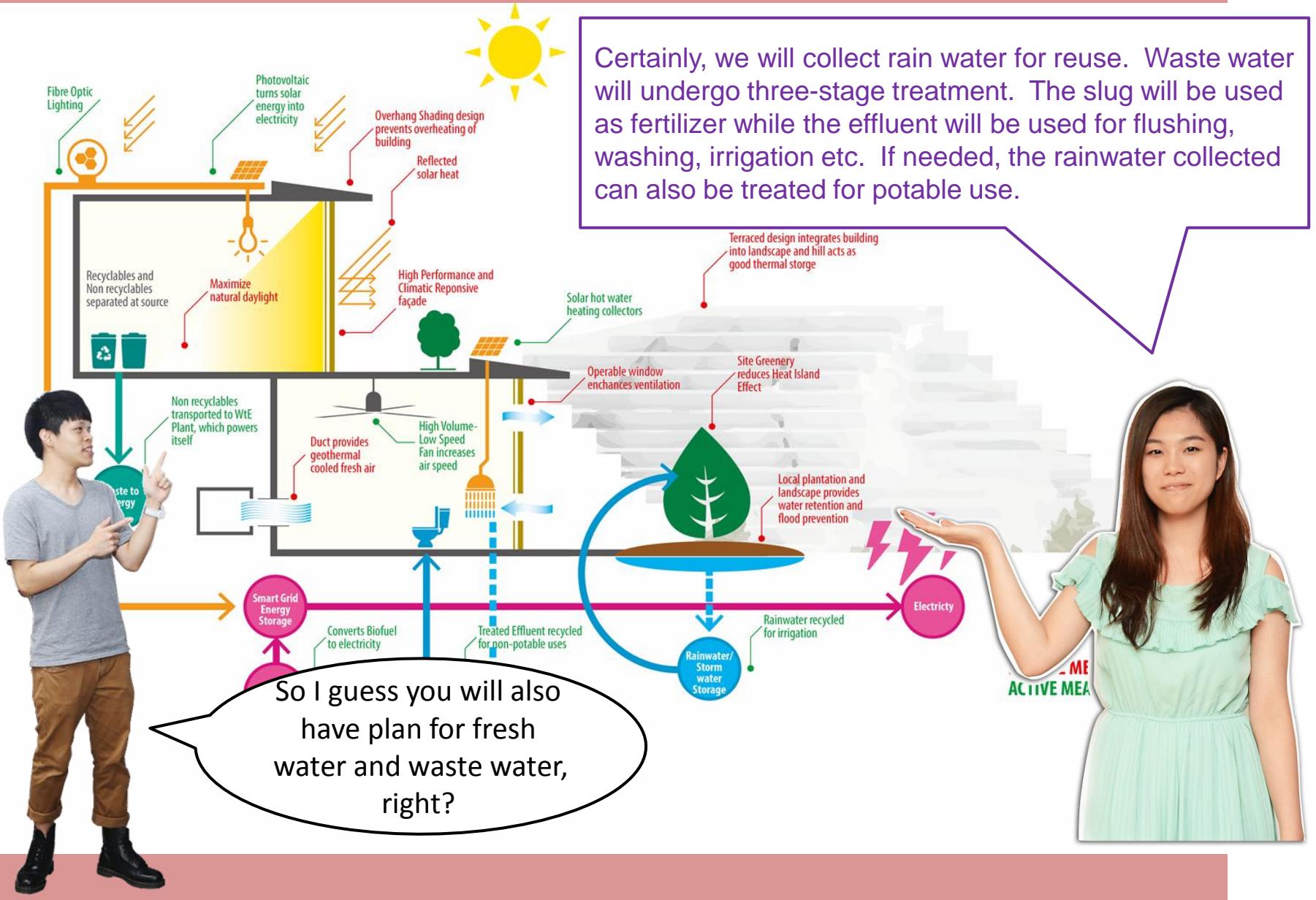
1. Recyclable waste will be sorted for recycling;
2. Organic waste will be composted for fertilizer, fish food or other uses such as energy cubes;
3. Where possible, non-recyclable and non-organic waste will be incinerated for energy, and so can yachts' waste oil.



Fantastic! So how do you deal with the wastes?

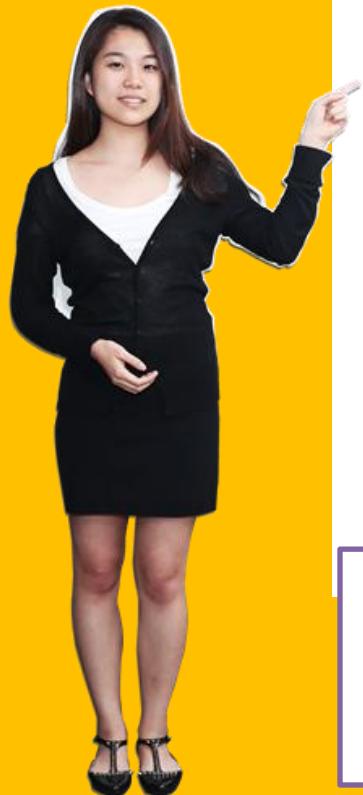


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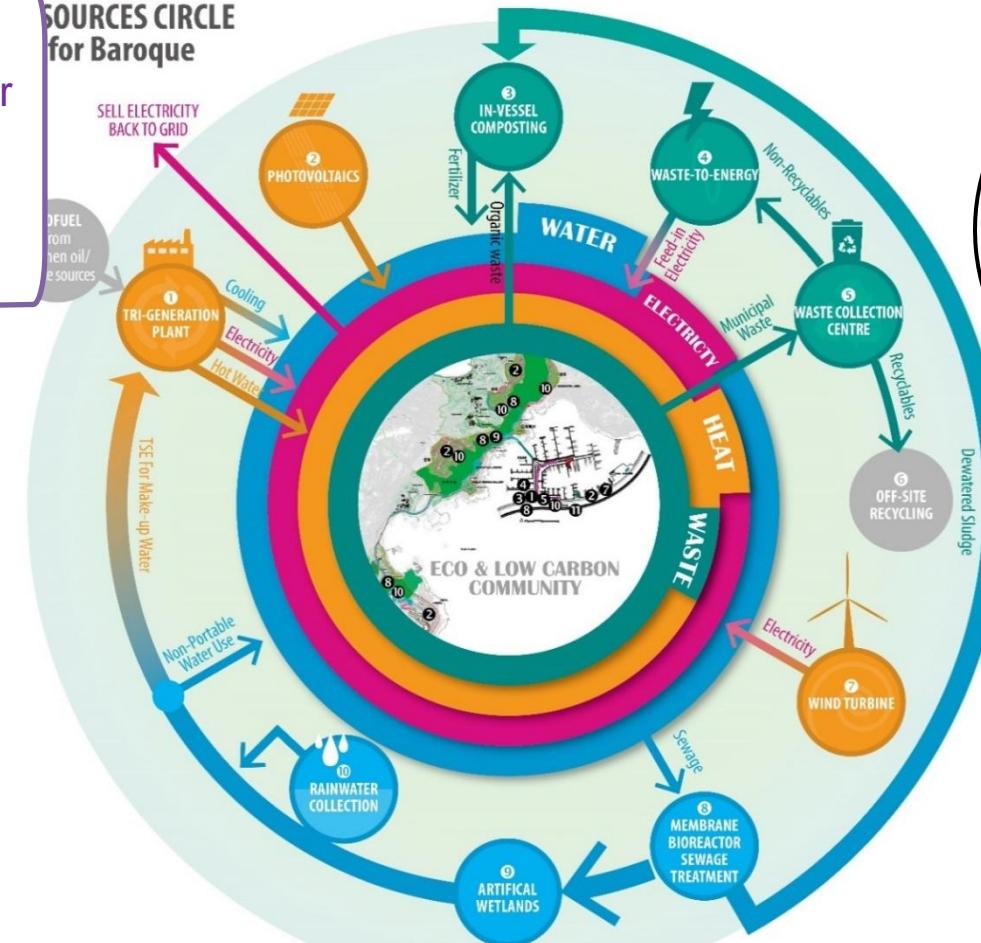


The Baroque on Lamma
Where conservation thrives on development

So this is a summary of our integrated sustainability strategy.



SOURCES CIRCLE
for Baroque



Yes. We will become a platform for **research and tests** of low carbon technologies by institutes and SMEs. The breakwater, in particular, offers unique opportunities for seawater related technologies.

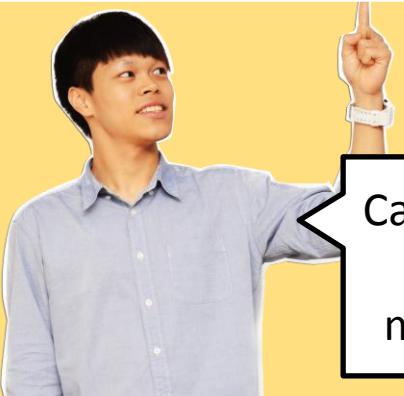
Wow! You are not only promoting eco-education and eco-tourism, you are actually showcasing a low carbon community!



The Baroque on Lamma
Where conservation thrives on development

Market Place @ Marina

Restaurants, fast foods, shops, kiosks, clinics, community halls, offices, boutique hotel, hostels, police & fire services, outdoor event spaces etc .



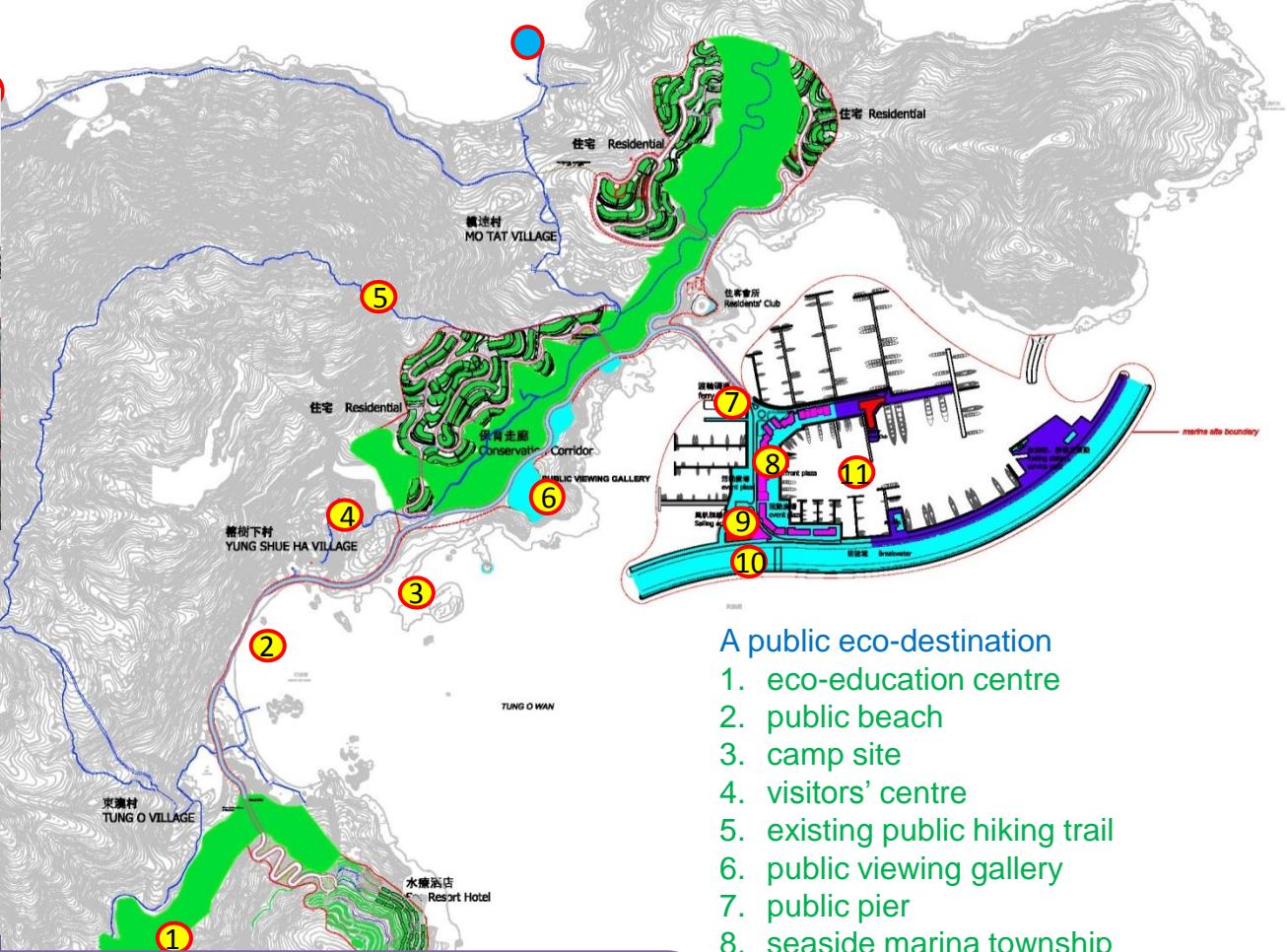
Can we go
to the
marina?

Sure. The waterfront plaza at the marina will become the "town center" and "market place". Everyone can come by boat, ferry or from other parts of Lamma. We are also considering to recreate the old HK harbor-front here!



The Baroque on Lamma
Where conservation thrives on development

So this is not just another rich men's garden after all!



Not at all. There is **a lot for the general public to enjoy** and explore, e.g. the marina and the breakwater, the Conservation Corridor and related facilities, the coastal walk and viewing gallery, the beach, etc.. They can come for sailing training too.

A public eco-destination

1. eco-education centre
2. public beach
3. camp site
4. visitors' centre
5. existing public hiking trail
6. public viewing gallery
7. public pier
8. seaside marina township
9. sailing academy
10. water activities centre
11. visiting yachts berths

The Baroque on Lamma
Where conservation thrives on development

Revitalize Lamma. Energize HK



How can locals benefit from the project?



No local villagers will be displaced.
They can stay to share the economic revitalization.

There will be job and business opportunities. Communal facilities and amenities will be much improved, as will the public transport.

HK will have a world class **Eco-destination and a showcase low carbon community.**



The Baroque on Lamma
Where conservation thrives on development

Our project concept is in line with Government long term objectives.

Promote
Yachting and
Maritime
Tourism

Fantastic!

Socio-
Economic
Development

Take
forward the
“Convention
on Biological
Diversity”

Undertake
Cultural
Heritage
Conservation

Objectives

Adopt
Low Carbon
Sustainability
Strategy

Promote
Eco-Tourism
and
Eco-Education



The Baroque on Lamma
Where conservation thrives on development

A Low Carbon Eco-Destination

- Marina**
500 Berths
Yacht Club,
Sailing Academy
- Spa-resort Hotel**
120 keys
- Residential**
850 units
- 19 ha Conservation Corridor:**
Conserve local biological diversity and cultural heritage

We hope this will be a **prototype** that can evolve into a planning model that helps **to build a better and greener Hong Kong.**



The following consultants have helped to develop this **“think out of the box” idea for HK:**

AGC Design Ltd
Bjarke Ingels Group (BIG)
BMT Asia Pacific Ltd
Ove Arup & Partners
Eden Ventures Ltd in association with Waters Consulting Limited, Urban Design & Planning Consultants Limited and Bright Green Solutions
Environmental Resources Management (ERM)
Larry Tam & Associates
Mott MacDonald HK Ltd
Rider Levett Bucknall
Townland
URS Scott Wilson
Urbis Ltd
Capella Hotel Group