
HA LONG BAY



ETH Studio Basel
Contemporary City Institute
Adrian Baumberger, Philipp Wilhelm

Prof. Roger Diener, Prof. Marcel Meili
Mathias Gunz, Vesna Jovanovic, Rolf Jenni,
Christian Mueller Inderbitzin

Spring Semester 2012

DRAFT
© ETH Studio Basel

VII.

HA LONG BAY

WORLD HERITAGE SITE UNDER PRESSURE

You haven't seen Vietnam if you haven't seen Ha Long Bay

Structural Difficulties

Label - Between Protection, Pollution and Hype

EXPANDING THE COASTLINE

Natural Borders

Coastline Evolution

Construction of new Land

THE PUZZLE OF HA LONG CITY

City Centers

Hongai: City Extension

Marina: Between Transition, Reserve and Speculation

Tuan Chau: Vision and regional Driver

SHIFTING OF MATERIALS

Red Soil: Flattening the Landscape

Limestone: Quarrying for Construction Industry

Coal: Carving out an entire Landscape

The Miner's City

CHANGING LANDSCAPE IN A CHANGING SOCIETY

Giving up the first Sector ?

From S to XL

Land Grabbing

A FRAGILE BALANCE

ETH Studio Basel

Contemporary City Institute

Adrian Baumberger, Philipp Wilhelm

Prof. Roger Diener, Prof. Marcel Meili

Mathias Gunz, Vesna Jovanovic, Rolf Jenni,

Christian Mueller Inderbitzin

Spring Semester 2012

DRAFT
© ETH Studio Basel

WORLD HERITAGE SITE UNDER PRESSURE

Ha Long Bay is a coastal region in the Gulf of Tonkin. The bay area is famous for nearly 2000 picturesque carst hills emerging from the sea. "Ha Long" is a sino-vietnamese expression for "descending dragon". According to the legend, the landscape was created by a family of dragons which spat out jewels and jade that turned into islands and islets. The goal was to form a barrier to protect Vietnamese people against invaders. According to science, the carst formations are a result of geological and chemical processes over millions of years. In 1994 the bay area was listed as a UNESCO World Heritage Site (WHS). Since then, the number of visiting tourists increased. The center of following development itself concentrates in Ha Long City, where tourism is not the only economical basis.

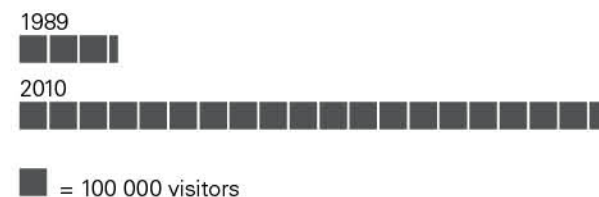


DRAFT
© ETH Studio Basel



You haven't seen Vietnam if you haven't seen Ha Long Bay

Ha Long Bay is Vietnam's most famous tourism destination. In 2010 about 2 million tourists arrived there. As a major attraction they take a boat tour around the bay through the karst hill formations. The bay area itself offers a lot of activities such as visiting caves, renting a cajak provided by inhabitants of the floating villages or simply taking a swim in the ocean.



Increasing Visitor Numbers

In 2010, 2 million international tourists came to visit Ha Long Bay. The comparison of tourist numbers today and short after Doi Moi reforms shows the immense growth of attention the site gained as an international tourism hot spot.



Site of National Identification

Indochine, a French film from 1992 tells the story of a French plantation owner in the colonial 1930ies, and of her adopted Vietnamese daughter, with the background of the rising Vietnamese nationalist movement.



Major Tourist Destination in Vietnam

There are some major touristic fields in which Vietnam tries to play a role in international markets. There are on the one hand classical beach tourism sites along the long coastline such as Danang. On the other hand a lot of national parks have been established since 1986 which are now integrated in strategies of adventure tourism. Additionally there are a lot of cultural and historical sites, which are not only concentrated in the two Deltas of Mekong and Red River but also distributed across the connecting axis along the coastline.

DRAFT
© ETH Studio Basel



Poor Offering on the Mainland

The mainland and city itself offer few touristic attractions. Most western tourists only see the harbour and go on a boat trip directly. Among Chinese tourists, Ha Long City is known for casinos, massages and a hidden red light district.



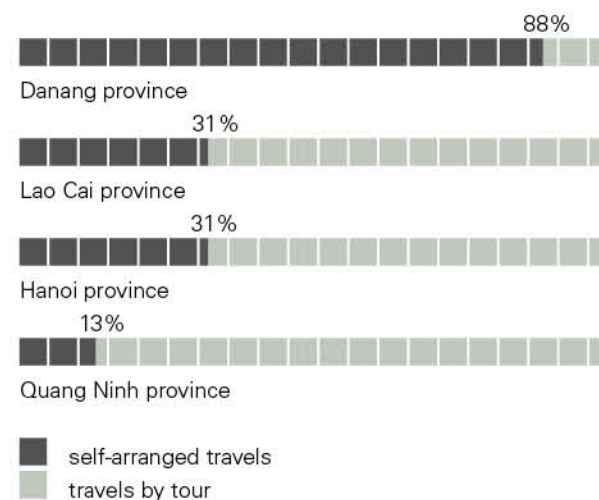
Missing high Price Segment

The tourism top price segment is almost completely missing in Ha Long Bay. Among the potential clientel from Russia or the Arabic states, Ha Long is not yet a known destination, one reason being poor marketing, another one a bad reputation regarding service quality and security.



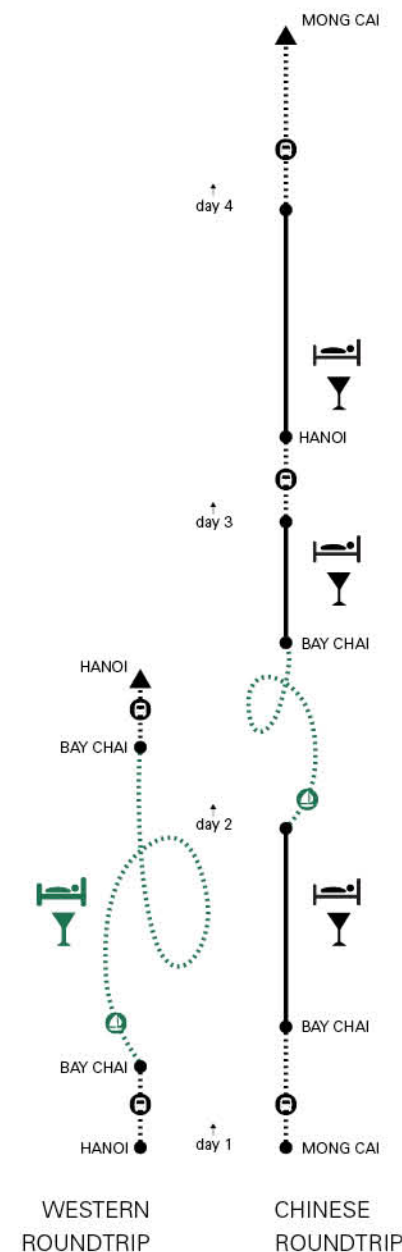
1000 small Companies - or one big?

From the bus company that brings the groups to Ha Long, the boat company, the canoe renting station in the bay (1) to the souvenir and beverage vendors (2): tourist services are mostly in the hands of small companies. Many of them are family or one man enterprises. All these actors are connected in an extremely flexible network. Tourists, who are booking different tours might end up on the same boat in Ha Long after being brought there in several different busses.



No individual tourism

Comparing to other sites visitors coming to Ha Long Bay strongly prefer to book a tour instead of travelling there on their own.



stay and entertainment on the boat
 stay and entertainment on mainland

One dimensional Tourist Routine

Most tourists who come to Ha Long Bay book standard tours in groups. Western groups usually stay on the boats in the bay for the night. Consequently, tourists in Bay Chai are mostly Chinese and other Asians, who stay in Bay Chai overnight, to start their boat tour in the early morning.

26 \$
all tourists

74 \$
international tourists only

Small Revenues per Tourist Visit

Despite the big numbers of visitors, the actual revenues generated by tourism are relatively low in the Quang Ninh province.



Bay Chai Beach Occupation

All tourism infrastructure is concentrated on the southern beach area of the Bai Chay peninsula. Behind the little attractive beach, a hotel silhouette rise.



Seperated Tourism World

Tourism and the traditional city are appear as two separated phenomenas. Big parts of the urban development and all tourism influenced areas are situated inside the buffer zone of the UNESCO Word Heritage Site. This buffer zone is designated to shield the protected WHS. Preservation of WHS and buffer zone oblidge the Ha Long Bay Management Department.

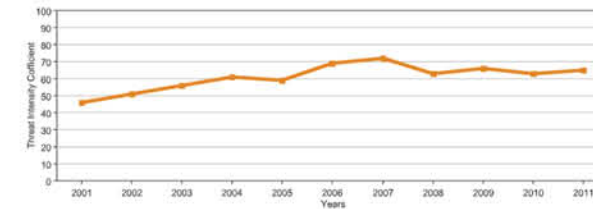
DRAFT
© ETH Studio Basel



- industry site
- port

Label: Protection, Pollution and Hype

The protected area of Ha Long Bay has the size of 1550 km² and includes over 2000 limestone islands. The bay does not only offer a picturesque carst hill landscape but also has a diversified ecosystem. Industrial pollution and rapid development endanger the rich nature. There is a dualism between the protected bay and the unprotected hinterland, where the threats origin. The Unesco label, thought as a protection mechanism, is at the same time a driver for tourism and the general development of the region, thus sharpening the conflicts.



The Unesco Threat Chart

The developments in the region of the World Heritage Site are monitored by the Unesco. The protocols of the yearly congresses on the condition of the WHSs show many complaints about pollution and industrial development. On a threat chart from 0 to 100, Ha Long Bay reaches 65.



Protection limited to the Bay Area

Conservation targets are officially set very high from the national government. A management authority is responsible for the protection of the WHS. In the battle of conflicting interests between economic growth and conservation of nature, its power is very limited though. Furthermore, its perimeter is limited to the WHS itself and its buffer zone, while most important developments lie outside this area. A new regulation dictates that all tourist boats have to be painted white in order to unify their look. As the colorful boats were great foto subjects in the past, this rule seems ridiculous and shows the limited action radius of the protection authority.



Threats located on the Mainland

Away from the tourist sites, industries such as the coal mining, are the motors for the economic growth of the region. Through groundwater pollution and poor regulation, these industries are serious threats for the rich ecosystem of the WHS.

DRAFT
© ETH Studio Basel



Label as Money Machine

The intentions behind labelling are very different from each stakeholder to the other. While the UNESCO itself aims to protect a natural heritage, local authorities and developers use the label as a tourism motor to carry the name of Ha Long Bay out in the world into the international tourism market.

In 2012, Ha Long Bay was officially confirmed as one of the New Seven Wonders of Nature. The public election took place over the internet and via social media. This label is independent from UNESCO. Critiques regard it as purely commercial. The election process was accompanied by massive publicity work from the respective governments.



Hype - Little Dubai

A mostly artificial island is planned to be built in the next years in the bay. It is supposed to become a spectacular tourist resort. The financial structure of the project is yet very uncertain. The hype created around the Unesco label seems to legitimate speculative developments.



Hype - a Label becoming autonomous

The Unesco Label has become a major association with the Ha Long region. Not only for touristic developments but also in the real estate market and even in the industry sector, the label is used and instrumentalized as marketing tool, thus becoming a driver for the whole region.

In the case of tourism, the label blends over the fact, that tourism in Ha Long Bay actually creates a relatively thin economic value.

DRAFT
© ETH Studio Basel

EXPANDING THE COASTLINE

Arriving at Ha Long Bay mainland one immediately recognizes huge flat mostly empty areas. Land that does not seem to belong there, land that is structured by a street system including street lights but land with very few buildings from single villas, modernized tube house typologies, detached highrise hotels and right next to them small tents and shelters with temporal uses. The following chapter deals with such phenomena and describes forces that might be behind them.

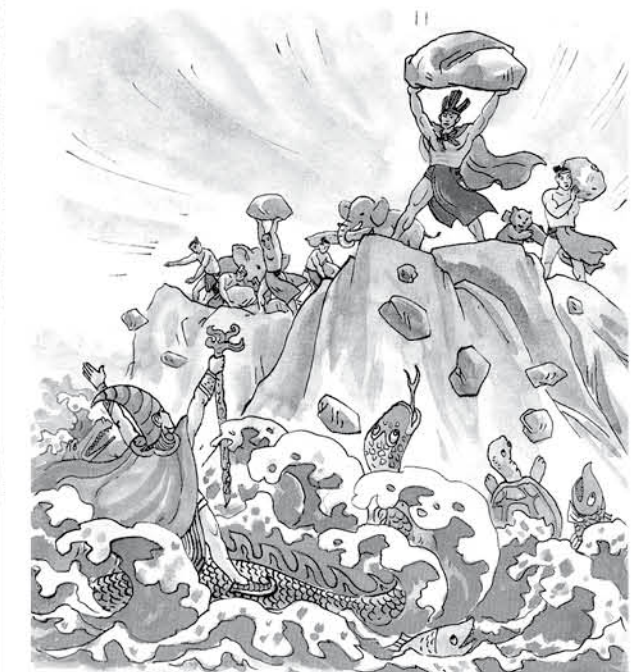


DRAFT
© ETH Studio Basel



Natural Borders

An old topographical map of Ha Long City shows the extreme conditions of a very hilly landscape reaching out from the sea, leaving only a few areas that are flat enough to be urbanized without big landreclamation effort. It is the result of the same natural forces that formed the spectacular landscape which carries the label of a UNESCO World Heritage Site. With a population that doubled since the Doi Moi Reform in 1986, the growth of the city soon reached its natural borders.



The Battle of Land and Sea

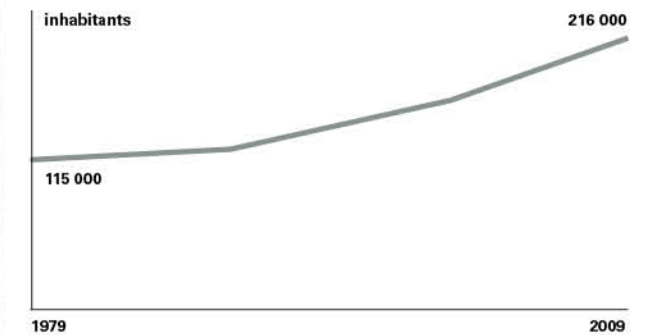
In an old Vietnamese fairytale, the ghost of the mountains, Son Tinh, and the ghost of the sea, Thuy Tinh, both fight for the love of the beautiful daughter of the king. The rainy seasons with the monsons are thought to be reverberations of this anarchic battle. Linked to the myth, the sea was often regarded as a threat in Vietnamese history. For people living at the coast of this thin and long country elongated along the West Sea, it was a common way to extend their land into the sea in order to protect their property from floodings, and to enlarge their area for production.

DRAFT
© ETH Studio Basel



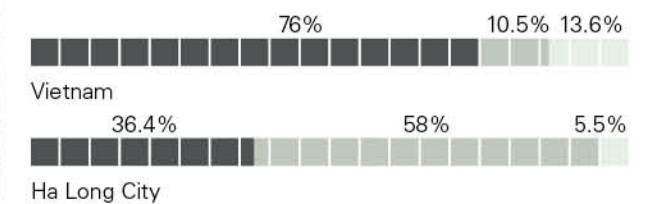
Modifying natural Borders

In order to extend the buildable ground across the natural borders, huge areas along the coastline are being filled up. While small self-made land extensions have a long tradition, this landfills on a very big scale are a relatively new but due to the tradition a commonly accepted phenomenon in Vietnam.



City of Growth

Population in Ha Long City experienced massive growth since 1990 and counted 216 000 people in 2009.



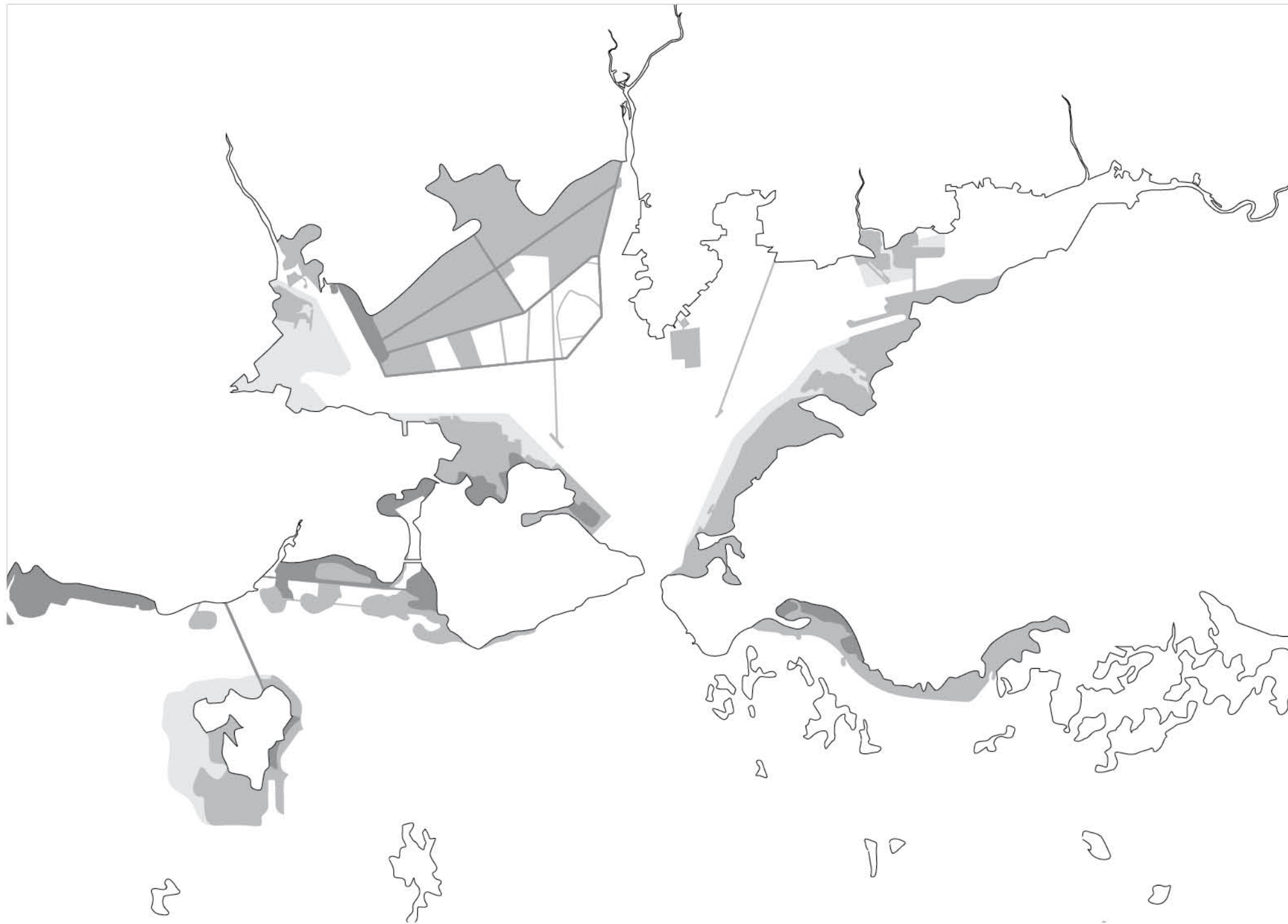
- agriculture
- non-agriculture
- unused

Limited Landuse Possibilities

According to land use statistics the unused area in Ha Long City makes 5.5% of the total area.

DRAFT

© ETH Studio Basel



Coastline Evolution

The comparison of satellite images from different dates shows the modification of Ha Long City's coastline over the last 20 years. There are very few spots where the waterside remained unchanged during this time. Different sites where new land was constructed show very different shapes that indicate the current or future landuse.



1991



2001



2004

DRAFT
© ETH Studio Basel



Residential Promenade Front

Near the existing city center landfilling mostly occurs in order to gain new residential area. The shape of the respective land is on the one hand characterized by a very irregular edge where the old and the new land are inweaved together, on the other hand it shows a very clear border to the waterfront, which is accompanied by a big promenade.



Exchange Platform

At the coast to Ha Long City's lagoon lies cai lan, one of Vietnam's biggest deep water ports. To its north the port is linked to an industrial zone which is partly built on filled up land and which will be extended further into the sea. Industrial zones, especially the port share a clear border with the waterside in order to optimize good exchange with ships.



Holiday Lagoons

In the south of the city where one has a great view over the sea and the carst hill formations, land mainly has been gained in order to develop huge touristic resorts. Here, small lagoons have been shaped in order to bring the sea inside the holiday area, making it accessible and creating a holiday atmosphere.



Controlled Water System

Northwards from Ha Long City a huge area of former wet- and farmlands has been transformed into a controlled water system, partly used for shrimp farming, a relatively new industrialized kind of aquaculture. The system is separated from the sea by a huge dam and again divided into several large basins of which some have been subdivided into mostly square plots for shrimp production.



2001

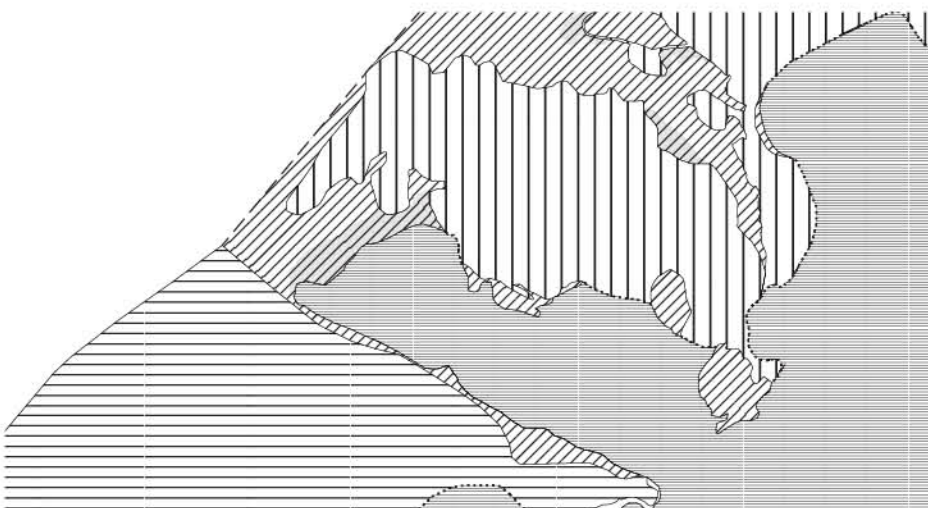


2010

Formal and informal Landfilling

The satellite image of former coastal settlements shows how single houses reached wide into the sea. This phenomenon of self-made landfilling is described by several locals as an old habit. It recently gained more importance as the inhabitants came to know about the formal big scale landfilling plans. They suddenly started again extending their plots as if they wanted to participate in the real estate boom that is expected due to the landfilling development.

DRAFT
© ETH Studio Basel

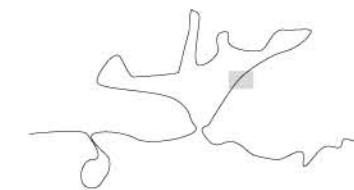


0 100 500m

- original coastline
- current coastline
- - - future coastline
- ≡ old mainland
- ≡ land and infrastructure are already built
- ||| land is still under construction: temporal uses
- /// future land
- remaining mangroves

Construction of new Land

The process of big scale land construction knows not only one, but many different methods to gain new land from the sea, each of them depending on underground conditions. There are some aspects mentionable that partly also influence socio-economic and ecologic processes of the city: A) When new land is under construction, there is always a repression of existing ecosystem components like mangrove forests. B) As soon as an area is filled up but not yet built we often find the new land occupied by several temporal uses such as formal or informal small-trade but even for living.



Mangrove Forest in Distress

Landfilling often literally overruns existing mangrove forests which used to play an important role in the local ecosystem and served as storm protection of coastal areas.



Unbuilt Land: Smalltrade platform

A small craftsmen company installed a production facility on filled but yet unbuilt grounds.



Unbuilt Land: Illegal Coal Washing

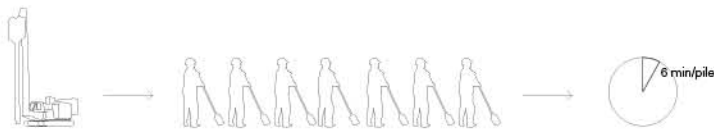
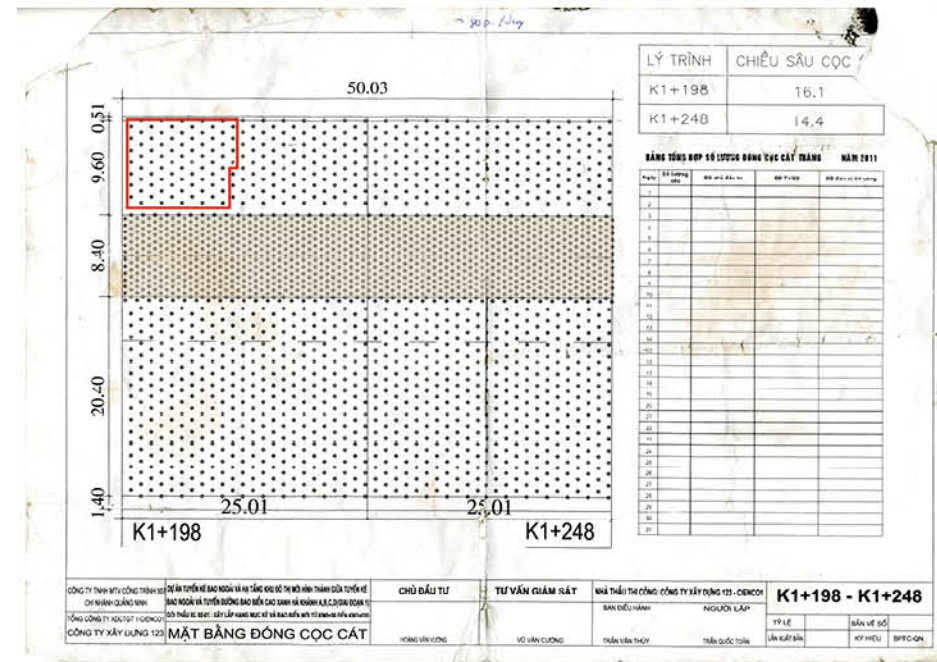
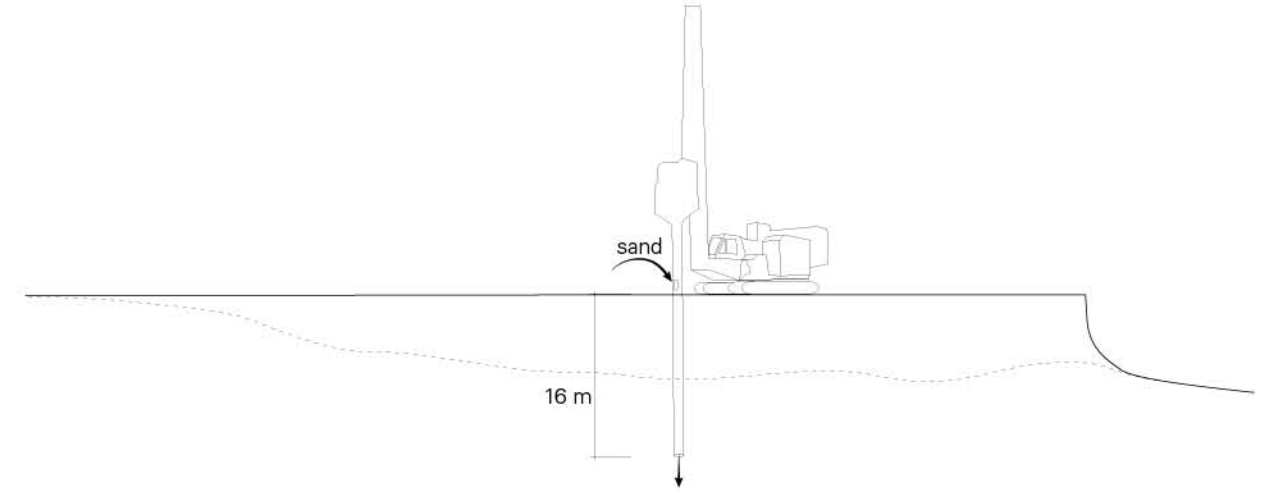
Land which is still under construction is often interinely used. Such temporal uses are sometimes informal or even illegal as in the case of small-scale coal washing where middlemen illegally bail coaly material from the mining area on the new filled but unbuilt grounds. Local people then arrive by motorcycle and filter the coal in order to resell it.



Unbuilt Land: Living Tents for Workers

Some people working on a landfilling construction side come from other provinces and live in small tents right on the construction site. They work in eight hour shifts, seven days a week. Every fourth month they travel back to their province to visit relatives.

DRAFT
© ETH Studio Basel



Densification by Sand Insertion

Before filled up land is ready to be built on, it has to be densified in order to strengthen the ground. For that matter steel hollow piles are inserted about 16 meters deep into the ground. Then workers fill up the pile with sand which then mixes with the ground material.

- work flow per day and engine
- future street

Dense Distribution of Piles

The plan shows the distribution of inserted piles into the ground beneath the planned street along the coastline in the west of Hong Gai. The grid is denser where the future street will be built.

DRAFT

© ETH Studio Basel

THE PUZZLE OF HA LONG CITY

The structure of Ha Long City reveals a story of extending the city step by step, quarter by quarter into the sea, forming a puzzle with different city parts and different characteristics. While in the center of Ha Long, in Hon Gai, the oldest extensions are connected to a dense patchwork, the new extensions show different stages of development. The newer and the more remote an extension site, the more squattered and loose becomes its built structure, up to a point where the reclaimed areas are found empty and their development idle. Where in the past, the central city extensions have been reactions on urban growth, the latest developments seem more like a speculative investment in future land possession.



DRAFT
© ETH Studio Basel



- small roads
- medium roads
- highway QL 18
- city border
- public buildings

Two City Centers

The built areas are mainly concentrated on the two peninsulas of Hong Gai and Bai Chay. Abrupt changes in the structure of the streets reveal a pattern of different quarters. Not only in the remote city parts, but already around the core zone of Hon Gai, extensions with geometric structures are imposed to organic structures following topographic rules. The concentration of public buildings as well as the density of the road network indicates Hong Gai as principle town of the city.



1 Hon Gai Market

The dense and vibrant center of Hon Gai is the social center of Ha Long City. Shops and food offers are found everywhere, on the street, at markets, as well as in plenty of stores and restaurants. The area around the market hall is characterized by neocolonial architecture and uncouted shops in every ground floor.



3 Old Quarters

Some quarters remained untouched of the densification processes of recent years. One and two story buildings are dominant in the small and narrow structure of this quarter near the west coast.



2 Business and administrative Center

Most of Ha Long City banks, insurances and commercial programmes are located in Hon Gai. Also some business hotels can be found, while most tourists stay across on the Bai Chay side of the lagoon. The city's as well as the province's administration are in the center of Hon Gai.

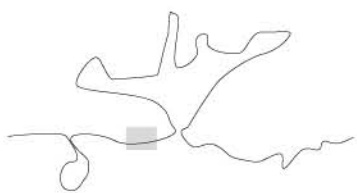


4 Intersection of two Structures

The borders between the different quarters of the city are clearly visible most of the time. The extension areas were each constructed as whole quarters with their own geometries and plot sizes.

DRAFT

© ETH Studio Basel



- hills - forest and villa projects
- backrow - local life and small hotels
- hotel belt - big, mostly international hotels
- entertainment strip - clubs and restaurants
- coast - small beach spots and sea

Bai Chay Cross Section

As the old center of Bai Chay is oriented towards the eastern coast, the south coast could later be occupied by new city layers. Crosswise the coast, the city shows a segmentation into different structure and programmes.



1 Behind the Scenes

Local life is concentrated in the Bai Chay center. Inside the dense, small-scaled structure, an accumulation of street shops and other informal programs is found. This quarter is situated along the hill in the southeast of the archipelago. It stretches out westwards behind the hotel complexes, along the second road, which presumably was the former mainroad, at a time when still forest and wetlands bordered the coast. In the area behind the highrise hotels, the residential buildings mix with small tourism infrastructure, such as cheaper hotels and coffee shops. Also, a hidden red light district and massage saloons are found here.



2 Hotel Belt

The beach road leads to the tourist harbour. On the mountain side, a belt of big and mostly international hotel complexes is located. Consequently, there few public programmes along the street and despite the careful arrangement as a coast promenade, it is found empty at night.



3 Privatized public Space

An entertainment strip stretches along the whole coast of Bai Chay. The biggest part of this area belongs to one private company with Taiwanese background. This company, Royal, subleases the single buildings to different subinvestors. Mostly restaurants, bars and clubs are found. The prices are remarkably higher than in the core city. The area is visibly cleaner and has more facilities, like toilets and waste disposals, than its public surroundings. Once gated, the access to the private zone is free today, but there are behavior rules. The architecture is highly homogenous.



4 Artificial Beach

The Bai Chay beach is built out of sand brought from elsewhere and stored in depots. Frequent rebuilding is required.

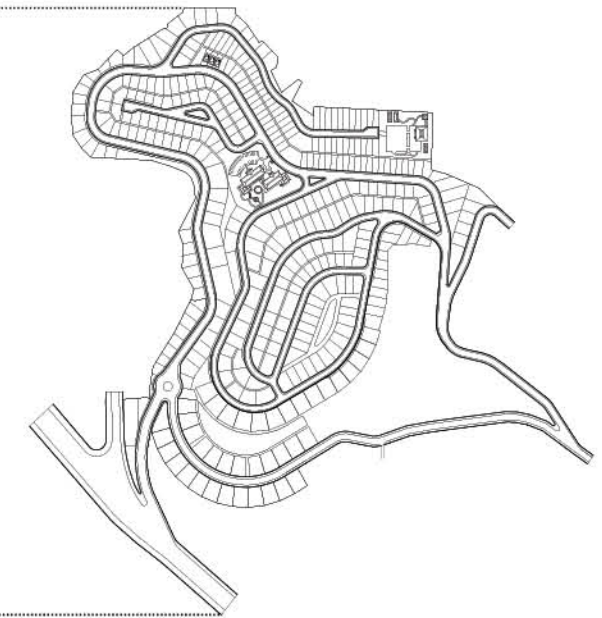
DRAFT

© ETH Studio Basel



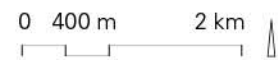
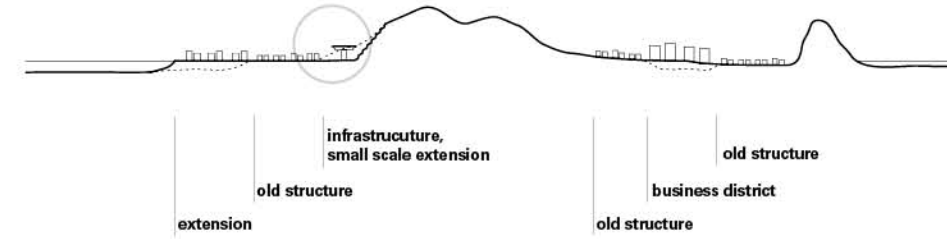
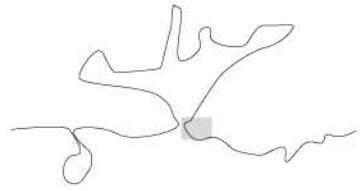
Hillside Villa

High above the other city parts, in the forest coverd hills, new villas are constructed on exclusive spots, carved into the difficult topography - with a stunning view over Ha Long Bay



Carving into the Mountain

The masterplan of a currently planned villa development project on Bai Chay reveals the topographic structure of the hill, while the street system is nearly following the contour line.



- development areas
- city figure 2010
- city figure 2001

Hon Gai: Core City Extension

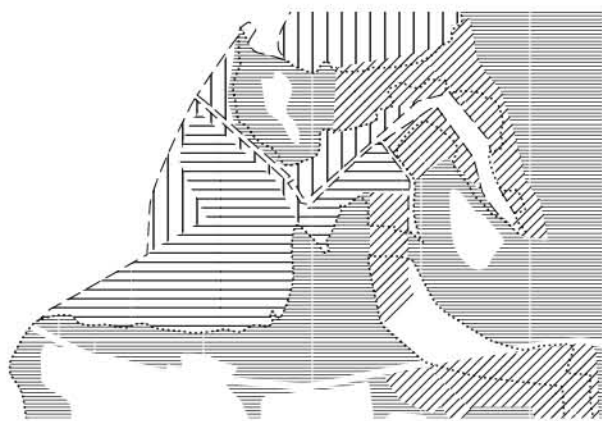
While Hon Gai's growth towards the landside is limited by steep mountains, therefore relatively small-scaled and shaped organically, following topographic rules, the growth into the sea shows itself as vast filled-up areas with geometric structures contrasting from the old city.



The Mountain Side

The branch of the bridge to Bai Chay was cut into this mountain in the center of Hon Gai. Small individual houses cover the slope of the hill, the small and heterogenous structure contrasting from the extensions in the sea.

DRAFT
© ETH Studio Basel



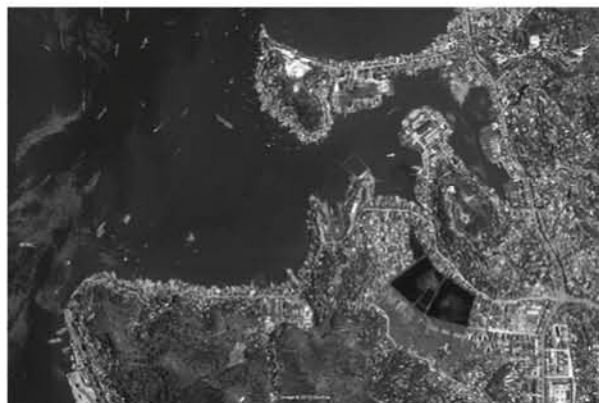
0 200 m 1 km



- ||| development areas
- == latest extension quarters
- /// first extensions quarters
- ≡ core city structure
- original coastline
- current coastline

Piece by Piece

Already in 2001, some of Hon Gai's quarters had been built on reclaimed land. In the time from 2001 to 2010, the former bay was almost completely filled up and new urban quarters were developed. In the quarters further away from the central axes, there is still a lot of unbuilt space and landfilling works are still going on to continue the extension further.



2001



2010



Built and Unbuilt

The extension of Hon Gai is characterized by a variation of built and unbuilt plots. While all plots are said to be sold, many of them remain empty, creating a vast landscape of scattered row-houses. Raw fire walls turn many houses into sculputres.



Temporary Programmes

A variety of temporary programmes can be found in the gaps of the building structure. Small enterprises burn bricks, prefabricated concrete pillars or meld armoring iron.



California Dreaming

A huge avenue runs through the new quarter. The four lanes are bordered by palm trees. While the plots in the back are planned to be built by row-houses, the ones along the avenue are occupied by single villas.

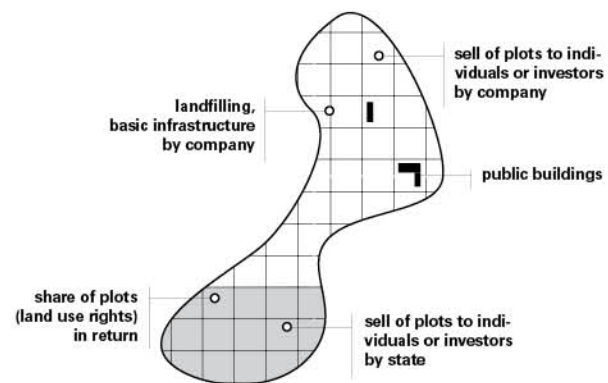
The plots and houses along the main road are always the most expensive ones in all Vietnamese villages, because the ground floors with street access can be used for commercial programs. In the Hon Gai extension on the other hand, there are no public programmes. The villas are surrounded by gated gardens and the broad sidewalk is empty.



Gardens

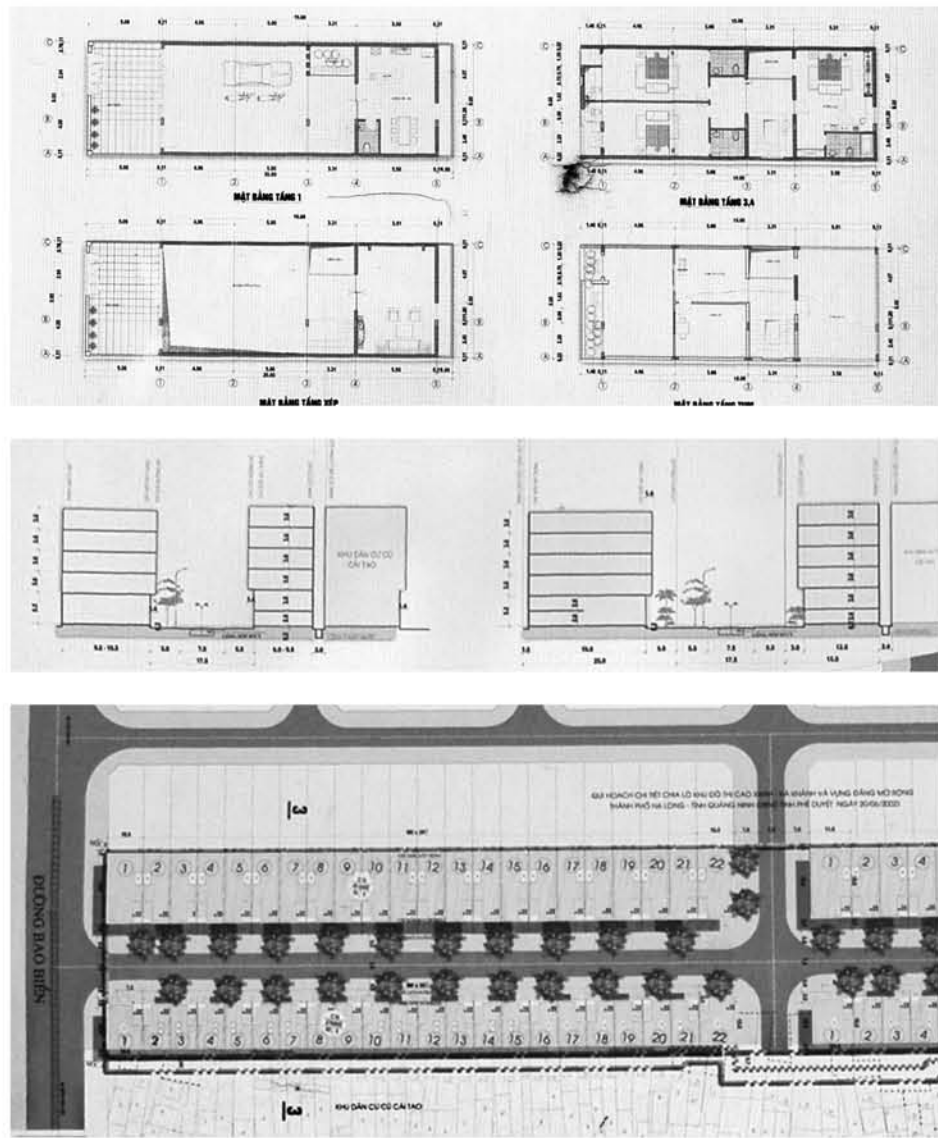
Many empty spaces between buildings are occupied by inhabitants who use their neighbouring plots as vegetable gardens. In other cases, the gaps are overgrown with weeds.

DRAFT
© ETH Studio Basel



Public Private Partnership

Most extension areas are developed in a cooperation model between the government (usually the district government) and an investor. Some of these companies are again closely connected to the state, as in the example of Cienco 5, that develops the Hon Gai extension. This former state owned company grew in the national reconstruction works after the American war.



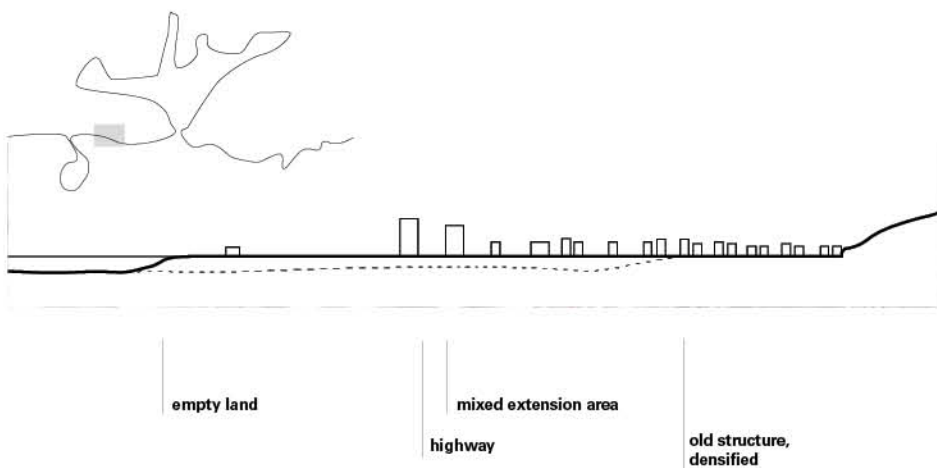
Masterplan

A masterplan defines the programmes of the plots as well as basic typologies. As the construction of the buildings itself is done by individuals, the quarters have different architectural expressions.

Tube Typologies

The street blocks are separated into two rows which are divided by a very small backyard for ventilation. The rows themselves consist of 4 meters wide plots, which can be sold to single owners. The units get their daylight only from the street side.

DRAFT
© ETH Studio Basel



0 200 m 1 km

Marina: Between Transition, Reserve and Speculation

Besides the stunning contrasts between old and extended structures, the site of the Marina project exemplifies extension areas of different development progress. The closer to the old village along the road to the northern Bai Chay, the denser becomes the new structure. The biggest part of the reclaimed area is yet empty - a huge area of land waiting for development.



Abandoned Infrastructure

While the street system and even street lamps were finished, there is not yet a single sign of a building in construction on this site in the south west of the project site.



Activating empty Space

Old road and village seem like a stage setting for the empty plots surrounding the new main road. While street life backstage is dense, in the new areas there are no public programmes except for informal street coffee shops.



Not yet City

Right next to the old village a very loose and heterogeneous accumulation of buildings can be found. Besides some villas and highrise hotels there are still a lot of unbuilt plots which often are temporarily used.



Neighbours have not arrived yet

Wide areas though have not experienced much further development than building up the street system. Solitaire villas begin to rise very slowly from the reclaimed building ground.

DRAFT
© ETH Studio Basel



Shopping Mall on hold

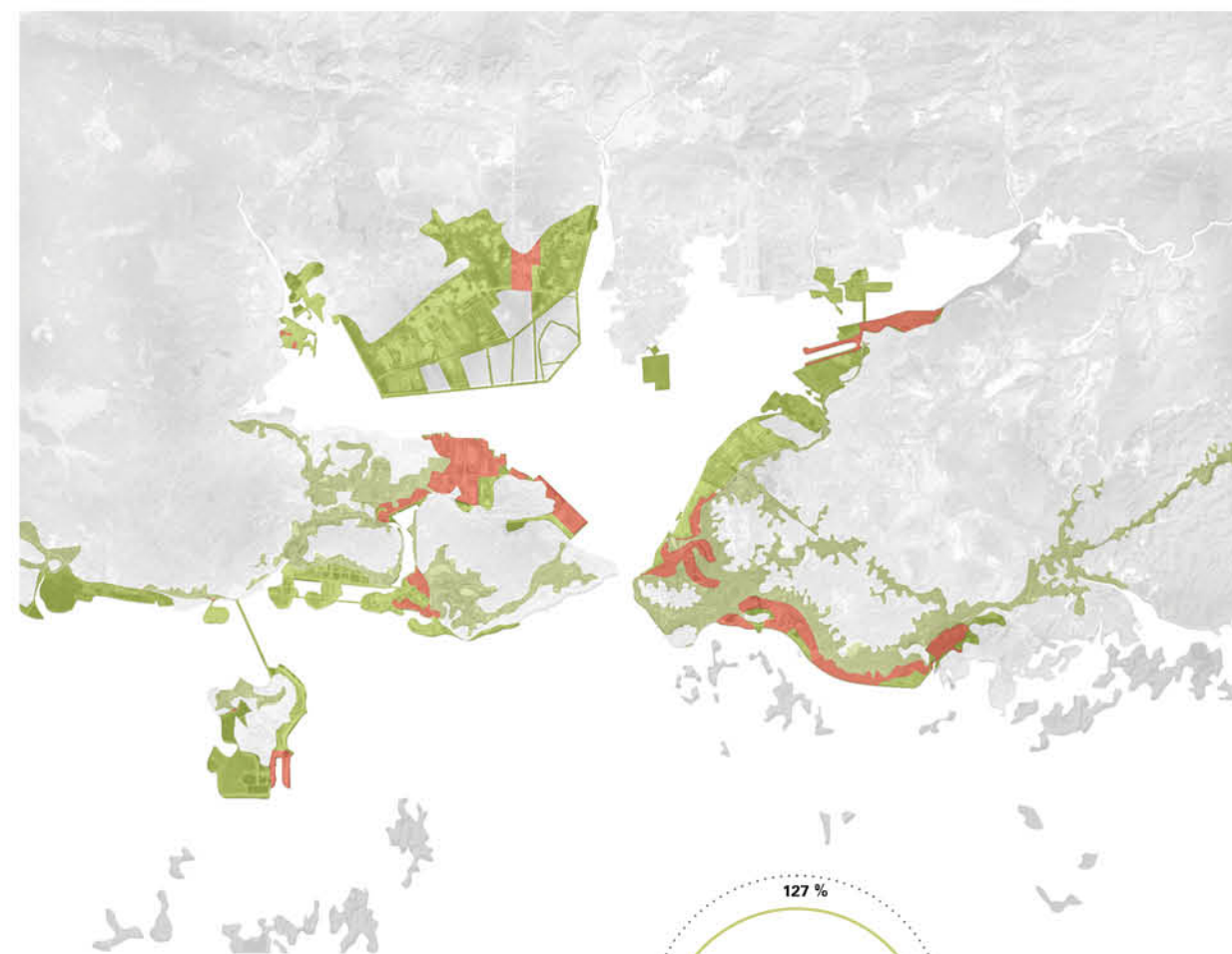
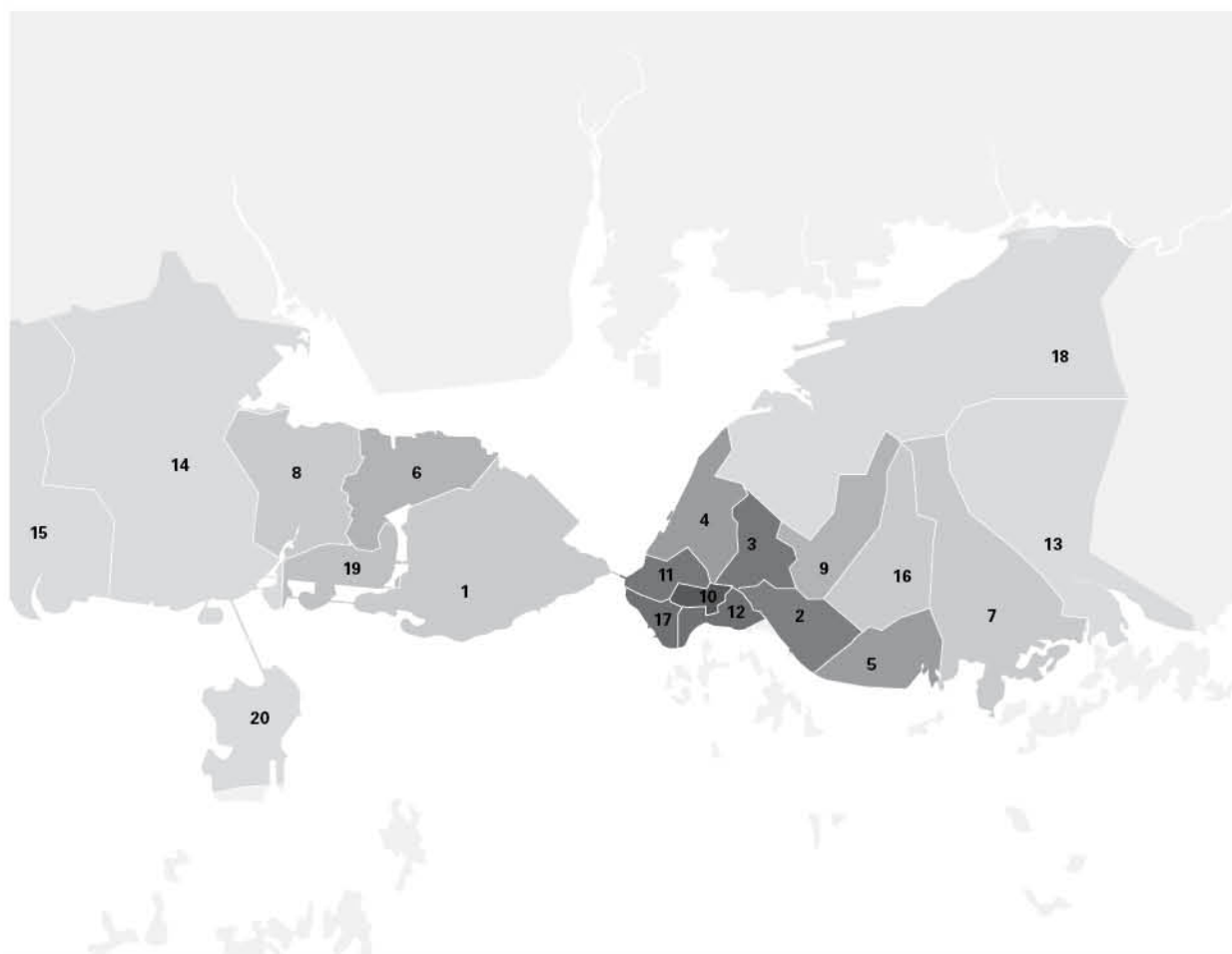
In the coastal area of the Marina project, commercial and public programmes are planned. Many construction sites are idle, some seem to be on the way to turning into ruins.



Plans for a City in the Nowhere

To create "the new financial center" of the Quang Ninh province is the vision of the project developer of Marina, the BIM group. Besides a huge amount of commercial activities, tourism and leisure uses and also residential projects are planned.

DRAFT
© ETH Studio Basel



increasing density



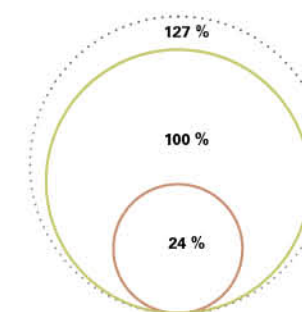
Density as Driving Force ?

The traditional center of Hon Gai remains the densest part of Ha Long. The inner city extension seem to have been direct reactions on shortage of settlement area.

■ city area
■ landfilling area (after 1991)
■ filled-up area with dense built structre

Where a new City develops

With the exception of the quarters close to Hon Gai, only on some insular landfilling sites there is a development towards a city-like structure or a dense use for industry such as in the north of Bai Chay. Most other areas remain unused. The comparison of this map to the density distribution of Ha Long City shows an interesting correlation between closeness to a densely urbanised existing area and the level of city development on the new gained land.



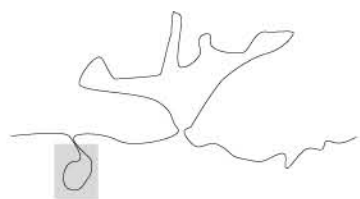
perimeter area 750 km²
 ... area of planned land-filling - 8.3 km²
■ landfilling area (after 1991) - 30.7 km²
■ filled-up area with dense built structre - 7.5 km²

Playing Monopoly Game - Ensuring a Piece of tomorrow's Cake

A huge amount of landfilling area remains undeveloped, although on many sites, almost all plot are sold. That could lead to the suspicion, that people are leasing land as a reserve, speculating that land use law will be further liberalized and that then the plots may be owned by its current leaser.

DRAFT

© ETH Studio Basel



Tuan Chau: Vision and regional Driver

In the south of Ha Long City lies a small islet called Tuan Chau from which one has a stunning view over the sea and the fascinating carst hill landscape. Tuan Chau is planned to be turned into a huge Island Resort with hotels, appartments, two new harbours and business and commercial programmes. While currently only the small harbour part is close to be completed, Tuan Chau is regarded as visionary project, supposed to stimulate tourism and urban developments in the whole Ha Long region.



0 100m 1 km

Slow Progress and Risks

The latest aerial foto of Tuan Chau doesn't yet come close to the vision. Yet there are only few finished construction projects to be found. They are all located around the harbour basin in the south-eastern corner of the island. Critics regard the projects as economically highly risky. The owner tries to promote the project in rolling kind of planning. That means he first builds a part which he then can sell to invest in further construction.



Expensive Dream

The prices to buy a building or appartment are very high.

| | |
|----------------------|--------------------------|
| Villa: | 2'000'000 - 4'000'000 \$ |
| Front row appartment | 600'000 - 800'000 \$ |
| Back row appartment: | 300'000 \$ |



Repetitive Structures

The masterplan for Tuan Chau contains a lot of different accomodation typologies. Besides single villas and highrise hotels there are very long repetitive rowhouses located along the southeastern harbor. In contrast to traditional rowhouse structures, this buildings are not an accumulation of single plot houses but are built at once by a single owner. Not empty plots but the completed appartment as a whole are sold. In contrast to the plots in the city extension of Hon Gai, only very few appartments are said to be sold already.

DRAFT
© ETH Studio Basel



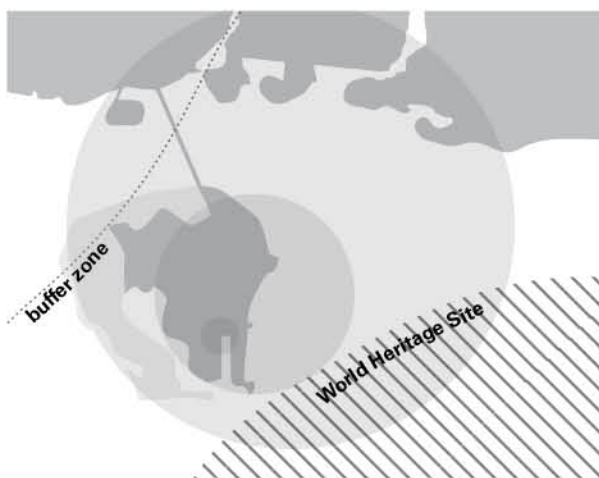
How to become Owner of an Island

There is a rumour that the owner of Tuan Chau islet gained land lease advantages because he built the bridge that connects the Tuan Chau with the mainland. However the bridge is more of a dam as it consists of a long strip of filled up land. This had major influence of the water circulation along the coastline which led to the dying of rich mangrove forests. Landfilling in general destroys a lot of coastal ecosystems.



An Island for a Billionaire

The whole island of Tuan Chau belongs to Mr. Tuyen, one of Vietnam's few billionaires. In various economic branches, he owns 14 companies and 34 factories all over the country. Among people of Ha Long City, Mr. Tuyen is often referred as the King of the Island.



Waiting for Tuan Chau

Once finished, Tuan Chau is hoped to attract huge numbers of tourists, second home owners and new residents. Investors of the big idle development projects on the close mainland are said to be speculating on the island's success as a light tower project for the region. The major part of Tuan Chau Island is located inside the protected buffer zone of the UNESCO World Heritage Site.



A big Sand Box

Building the planned resort means reshaping the whole landscape. Big amounts of material from the island's hills are being removed and replaced in order to form a new artificial landscape with its lagoons. Even though project workers report that all filling material is from within the island, this seems very unlikely, as the planned island would be three times as big as the island's original area. This raises the question of the origin of the material.

DRAFT
© ETH Studio Basel

SHIFTING OF MATERIALS

Considering the mere amount of filled up area in Ha Long City also leads to the question of the filling material's origin. The following chapter can be seen as a discovering trip to different sites where various materials have been removed not only for landreclamation but also for a set of other industries. The observations lead to the conclusion that Ha Long economy is all about shifting of materials.



DRAFT
© ETH Studio Basel



coal mine: mountain soil and rocks



sea: sand



carst hill quarry: limestone



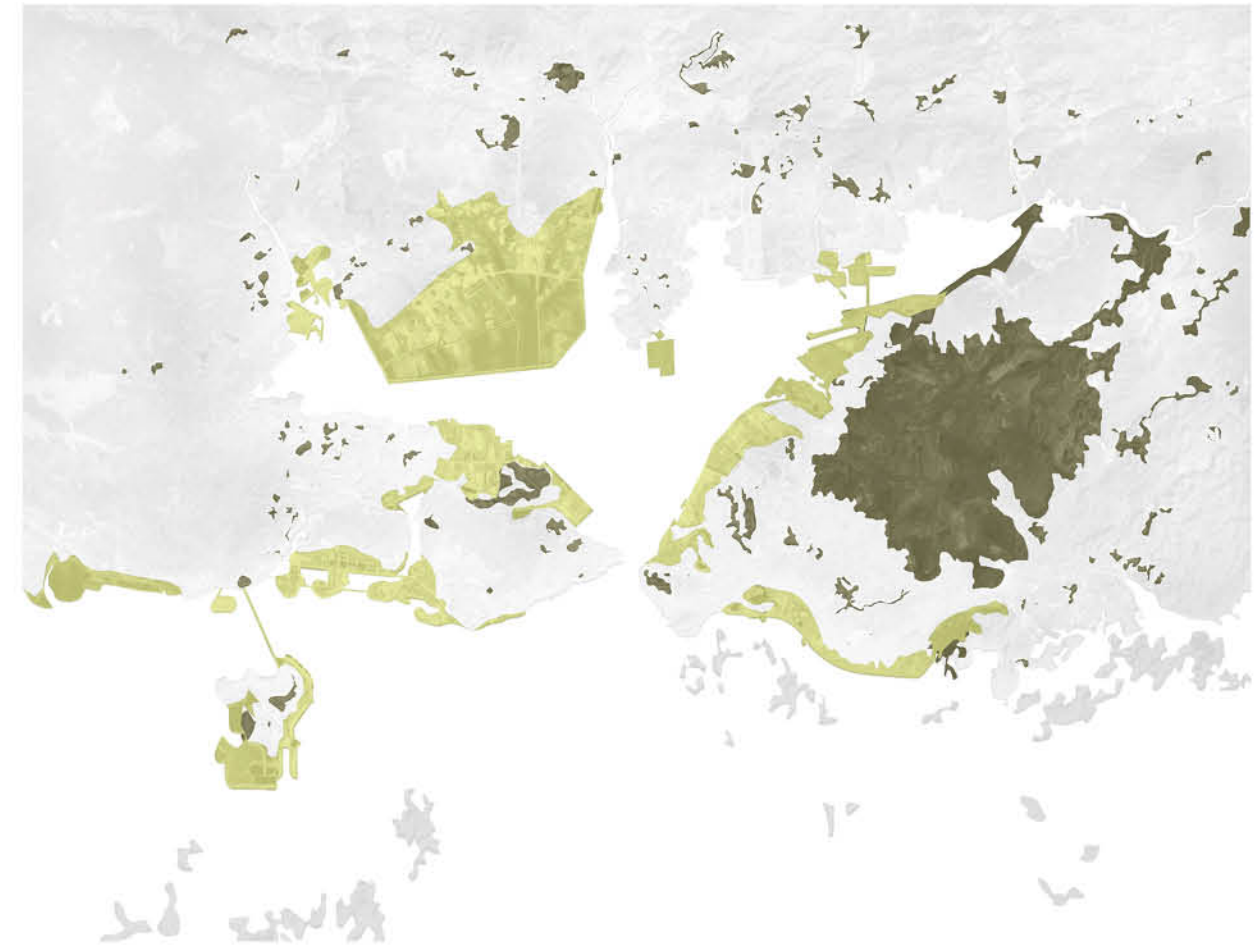
surrounding hills: red soil



coal mine: black gold

Set of different Materials

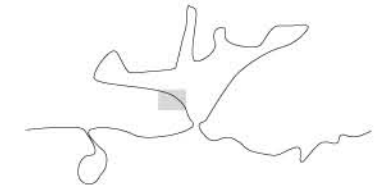
Ha Long Bay with its rich geological history buries a lot of different materials which can be used as an economical resource.



- material exploitation
- landfilling

Various Origins and Destinations

There are many different sites around Ha Long City where materials are or have been removed for very different purposes. The map above gives an idea of how large the degree of removed landscape material is and how the size of removal areas is related to the size of landfilling sites.



2001

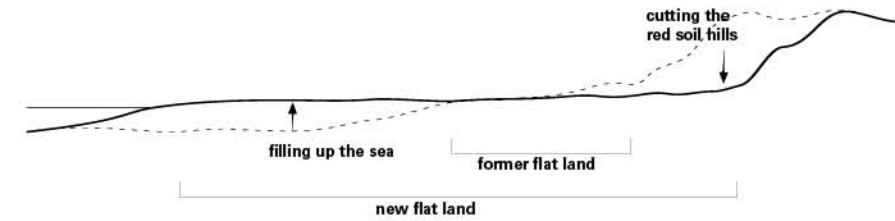


2010



Red Soil: Flattening the Landscape

A very basic observation regarding material shifts not only in Ha Long but across nearly the whole Red River Delta is the cutting of the red soil hills. In Ha Long Bay soil is removed to gain construction land at first and then it will be displaced into the sea or wetlands, gaining land twice.



Settlements carved into Hills

Originally, all the hills in the Ha Long Bay had a cover of green plants. Due to the missing construction ground a lot of hills have been cut to partly flatten the land. The ruptures have their typical red look. Clearly a massive amount of material accumulated that could be needed elsewhere for landfilling purposes.



Infrastructure Projects

Bai Chay Bridge was finished in 2006 by Japanese engineers. The bridge had to be high enough for big cargo ships to enter the lagoon area. In order to make the high bridge safely accessible, a lot of hill material had to be removed.



Limestone: Quarrying for Construction Industry

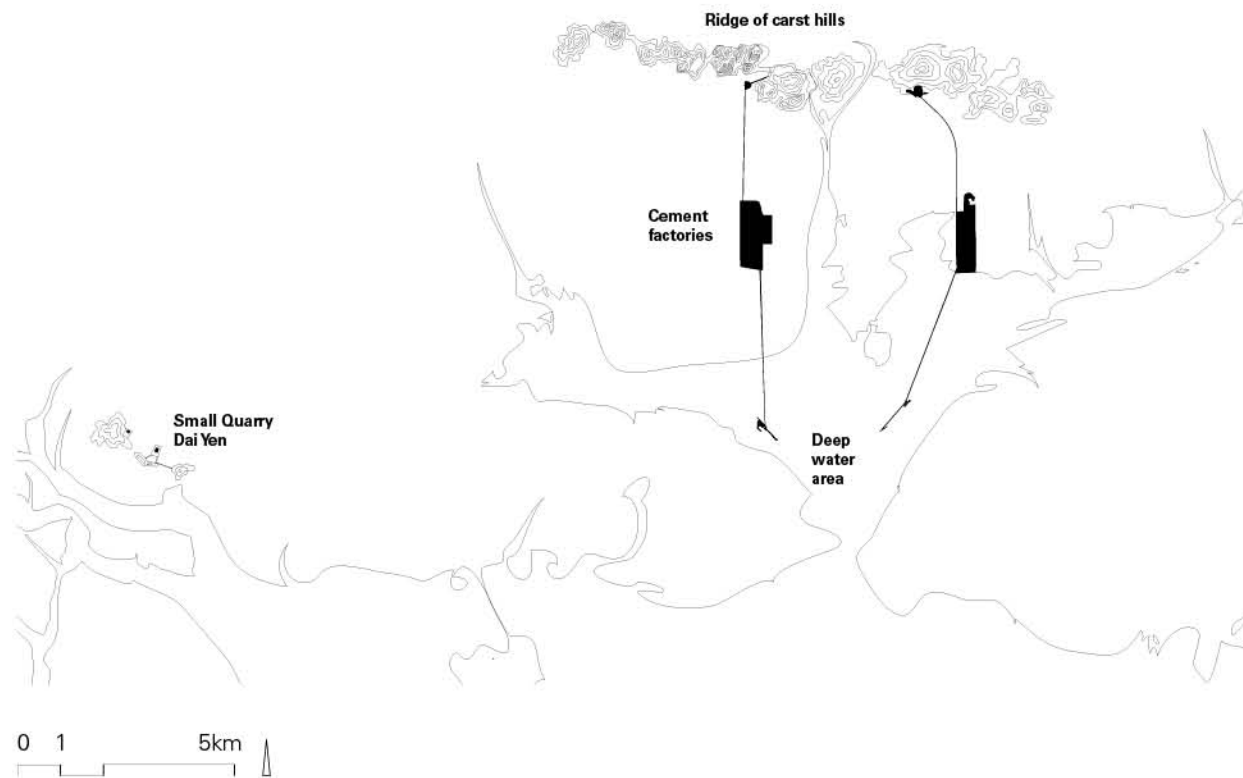
Spectacular carst hill formations do not only emerge from the sea as a tourist attraction but can also be found on the mainland where they are treated more like a valuable resource for the construction industry.



Scrambling the Icon

The stunning and protected carst hill landscape around the Ha Long Bay World Heritage Site is not only a touristic resource.

DRAFT
© ETH Studio Basel



Different Quarry Sizes

In Quang Ninh there are many quarries of very different sizes. In the north of Ha Long City, there are two of four cement factories in Quang Ninh, which run their own industrialized quarries. About 15 km to the west of Ha Long City on the other hand one finds a very small quarry, where only ten people are employed.



Small Quarries

The ten employees at the quarry in Dai Yen run the whole production. The furnace is used to burn the limestone. Main products are limestone and brick raw material as well as rock material.



Manual Production

Twice a year the government delivers explosives to blast a certain amount of rocks from the carst hills. Quarrymen and -women then crush them by hand and hammer. Some of the stones are sold without any further processing. The question remains whether this material is also used for landfilling.

DRAFT
© ETH Studio Basel



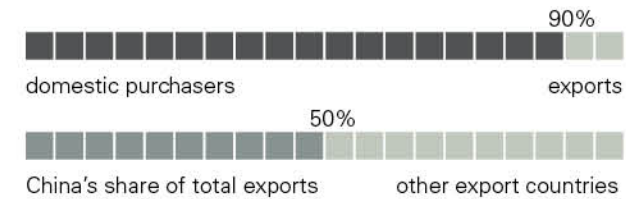
Industrial Production

Thang Long Cement is a Joint Stock Company which owns a cement plant in Quang Ninh province and a grinding station in Hiep Phuoc Industrial Park, Ho Chi Minh City. The most important shareholder is Geleximco, one of Vietnam's first private multi-line industrial conglomerates. The factory itself was put in operation in 2008 and employs over 500 people of which 50% live in Ha Long City. Today, the factory has a production capacity of 6'000 tons Clinker per day, that is equivalent to 2.3 million tons per year.



Cement Made in Ha Long

The factory in Quang Ninh consists of a quarry with a crushing engine on the site. A conveyor belt connects the crusher with the factory, which is located in a gated production area. The plot includes space for administration and even living space for workers. Finally the factory owns a port that lies only 8 km away from the quarry.



Supplying domestic Markets

When the factory took on work in 2008 there was a regulation that forbid export entirely. Due to the high inflation followed by changes in Vietnam's economic situation the government agreed to an export rate of maximal 10%. Besides to China, Thang Long also exports to Africa, Bangladesh and India.



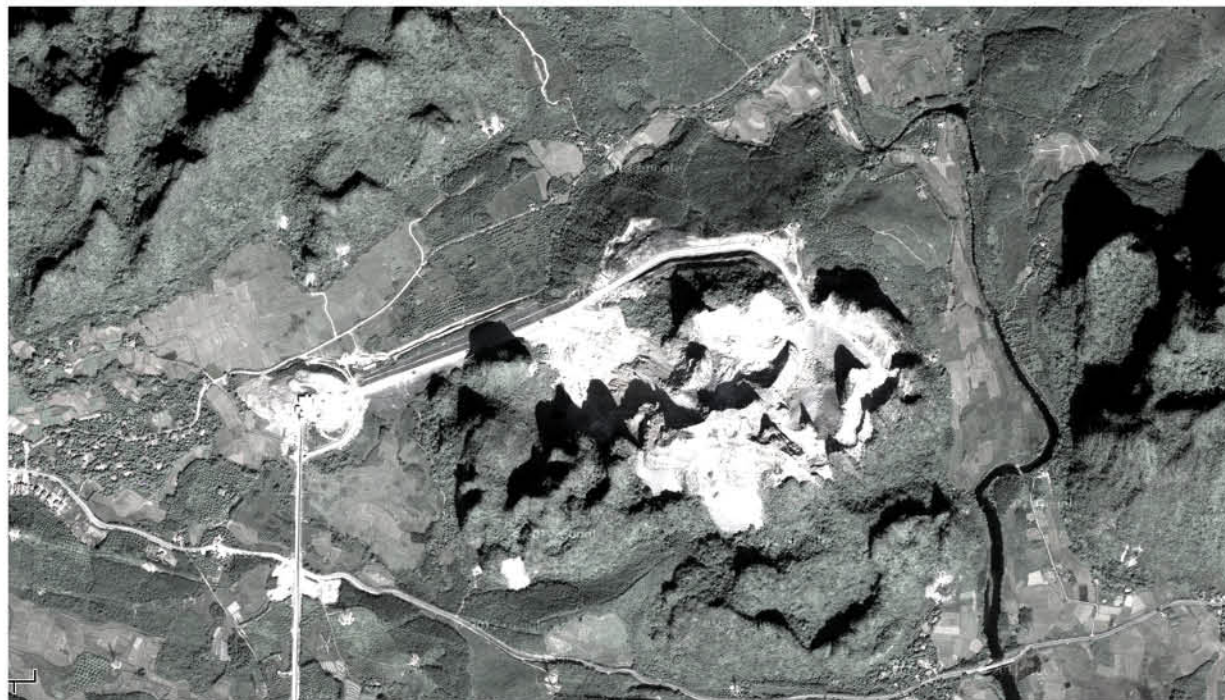
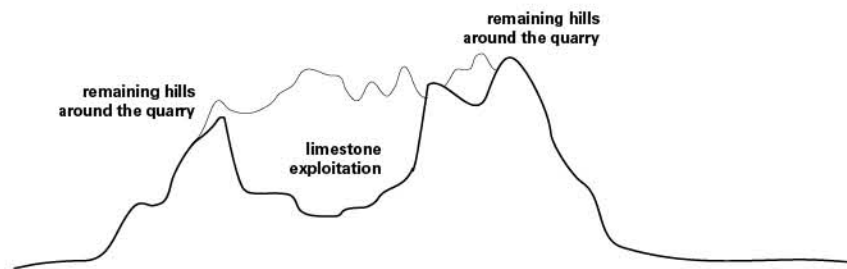
Raw Material from the Back Yard

Right in the north of Ha Long City there is a ridge of carst hills. Thang Long Cement runs a quarry and a crusher where stone material from the hills is mixed with clay to get a homogenous compound. This then is transported to the factory. The conveyor capacity is the limiting factor of production which is why the factory plans to build a second belt in order to increase production.



Direct Sea Connection

The most important transport way is through the waters of Ha Long Bay. Final products therefore are conveyed into deeper water where they are shipped. The port is also the arrival station for different kinds of secondary basic products such as ashes purchased from the coal mining industry which are used to strengthen the cement products.



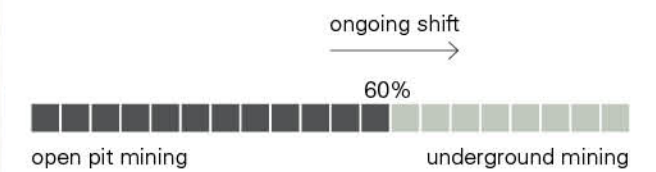
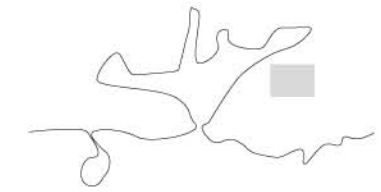
0 100 500m

Gentle Exploitation

Carst formations exploited by Thang Long Cement are only quarried from inside, entering the area from the northern side. Around the quarry a chain of hills remains and prevents the sight of the quarry's dimensions from the bay area which lies about 9 kilometers away.



DRAFT
© ETH Studio Basel



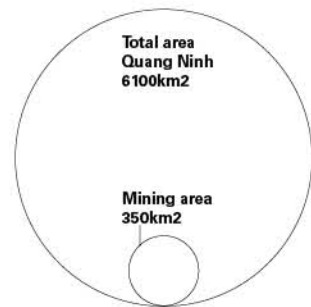
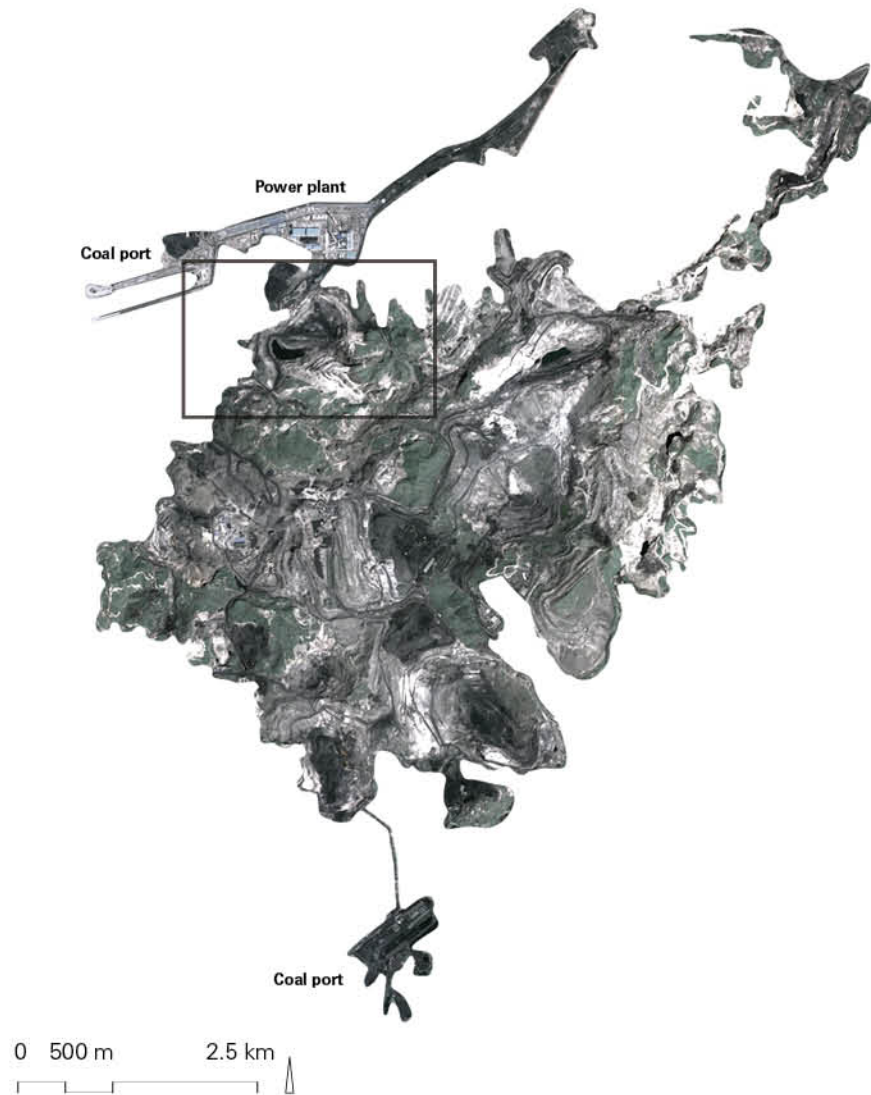
Coal Mining: Entirely carved out Landscapes

The search for large shifts of material leads to the coal mining area in Hon Gai with its huge terraced craters. In order to make coal resources accessible and exploitable, massive landscape transformations are necessary, which produce a big amount of eroded material that needs to be displaced.

Huge Land Transformation

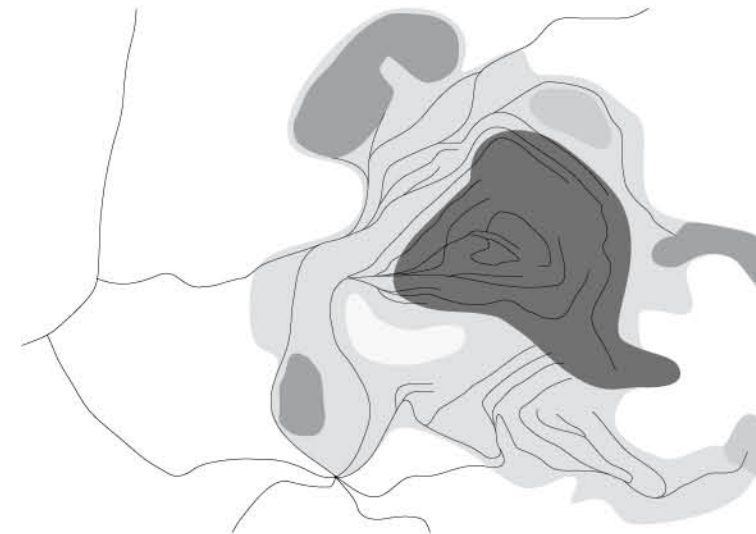
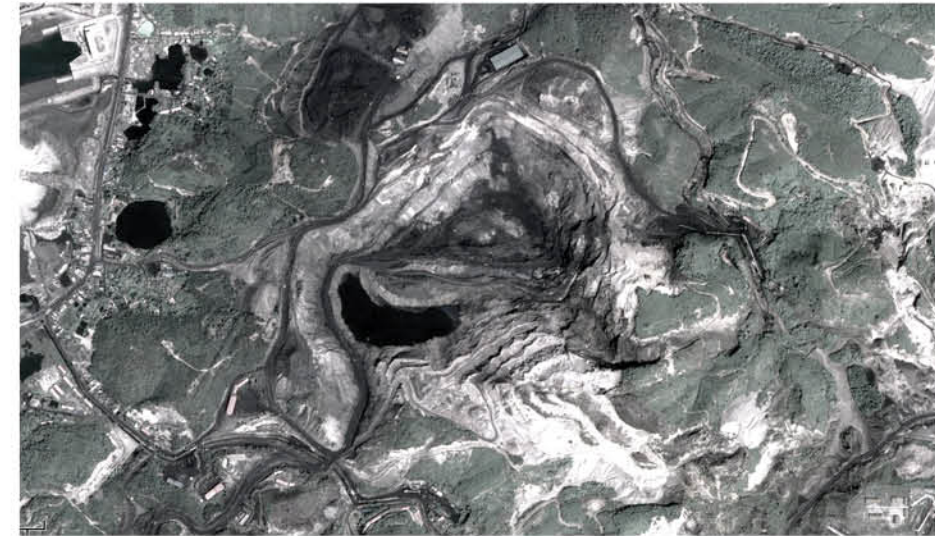
A coal mining area changes the character of a landscape on a long term scale, especially the open pit mining as seen in the picture aside. Currently, a shift from open pit to underground mining is promoted.

DRAFT
© ETH Studio Basel



Huge Land Occupation

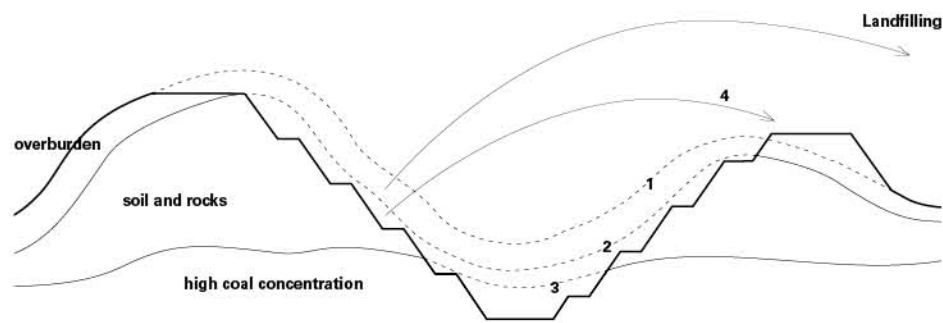
Nearly 5.7% of the total area in Quang Ninh province is covered with coal mining areas. There are three areas in the province, one of them lies in Hon Gai, Ha Long City.



- crater area
- material disposal
- coal storage
- core zone mining

High Efforts for Low Tech Production

Open pit mining in Hon Gai functions as very low tech production. Basically it requires only diggers and trucks to exploit the coal and to transport it from the pit to the storage place from where it is delivered to further processing sites. In return, big landscape transformations have to be done to make the mountain accessible for the machines.



Baring the Hill's Layers

To make the region with the highest coal concentration accessible and exploitable, the once wooded mountains needed to be reshaped. Mountain Top material has to be removed (1) before the slopes are shaped (2). The benches lead excavators to the mining places where they load the exploited coal onto lorries (3). The benches therefore need to give consideration to adequate dimensions and loads. Overburden and mountainous materials need to be displaced. Some of the material is bailed right inside the coalmining area (4). Some time ago it was mandatory to displace all the material inside the coal mining site. It seems that this regulation has been loosened and that there now exists a connection between mining material disposal and landfilling (5).



1



2



3



4

DRAFT
© ETH Studio Basel



The Miner's City

Coal exploitation in Quang Ninh province started around 1840 and endured several political and economical changes. It seems that every political system, from colonial rulership to the communist regime, valued the importance of this economic factor. Consequently mining has become an important factor of the city's economy and therefore of city growth.



Living inside the Mining Area

A small group of workers who are specialized in sounding the mountainous ground for high coal concentrations lives in a tent right next to their working place. They come from another province and provide their service to different mines.



Living near the Mining Area

Right at the eastern entrance to the coal mining area lives a family that runs their shop. Coal mine workers who live between the city center and the coal mining areas are frequent customers in the shop.



The Mining Province

Vietnam's hard coal production highly depends on the production in Quang Ninh province.



- Domestic energy production
- Cement and fertilizer production
- Export (i.e. Japan, China)

Usage of the Coal

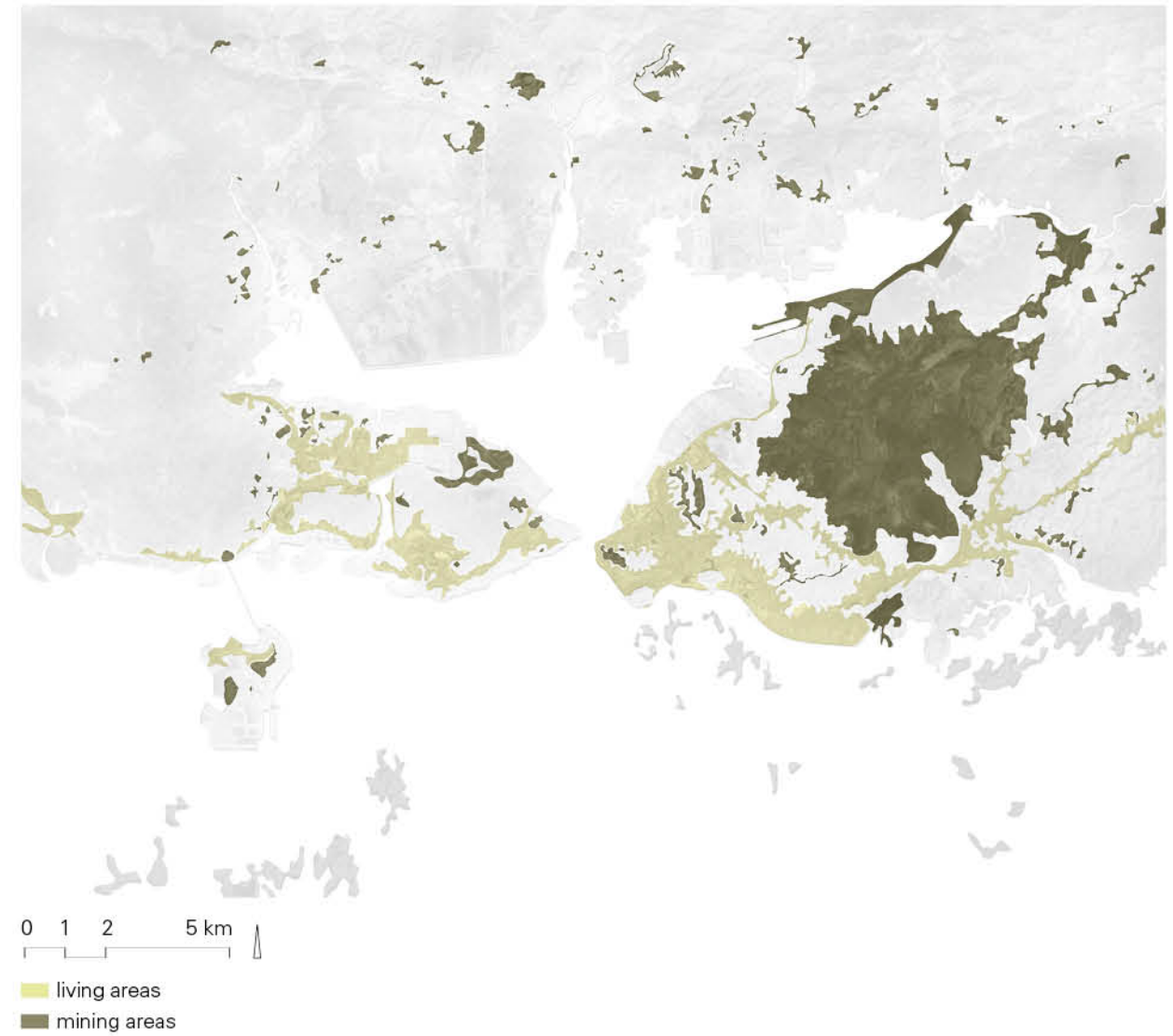
In 2008 coal production in Quang Ninh province reached 42 million tons, which were used mainly in domestic power plants.

DRAFT
© ETH Studio Basel



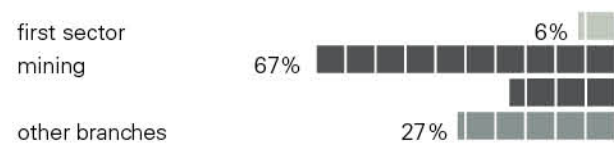
Closeness of Mining and Living

The specificity of Ha Long Bay mining lies in its closeness to the city. It almost seems that the city and its mining area are bond together for good or for evil.



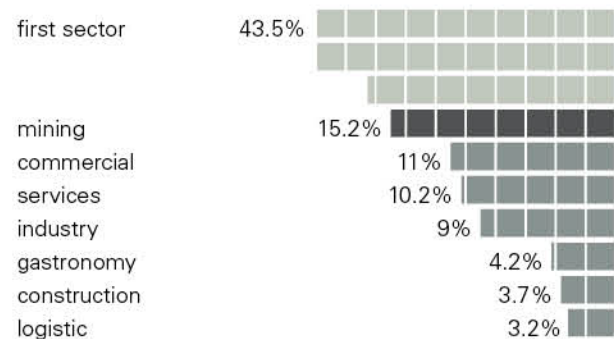
Convergence of Mining and Living

The settlement is developing along the roads that lead into the coal mining area. The borders of the two areas of dwelling and mining seem to converge more and more.



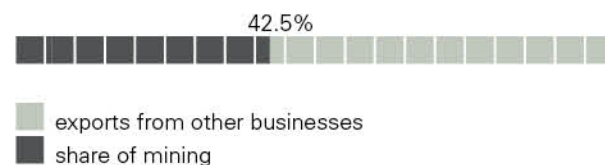
The biggest Source of Income

The coal mining industry takes over the lion's share of the province's GDP by generating 67% of the total income. The first sector only contributes 6%. This stands in great discrepancy to the numbers of workers in this sector. That leads to question of what had happened to the first sector.



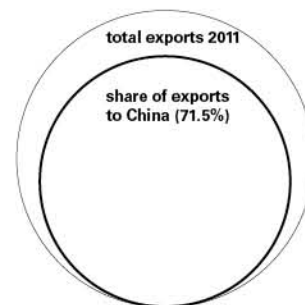
Where do People in Quang Ninh work?

Over 50% of the people work as farmers, fishers or foresters. 15.2% of all employees in Quang Ninh work in the mining industry. With 4.2% working in hotels or restaurants, it becomes obvious, that the tourism sector is not nearly as important as the coal mine industry.



The biggest Export Product

In 2011, coal exports made 42.5% of the total exports from Quang Ninh.



Strong Dependence from China

In 2011 71.5% of the total exports went to China.



Where does the money go?

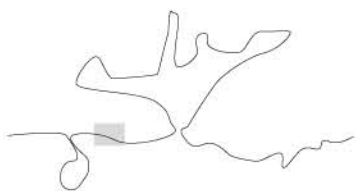
Its owner runs the Crown Hotel more as a hobby than for living. The money to invest he earned in the coal mining industry. It can only be guessed that there are large financial flows from the coal mines to tourism industry. However it would explain why a lot of hotels have been built although the demand for staying on the mainland is still very low.

CHANGING LANDSCAPE IN A CHANGING SOCIETY

Ever since the Doi Moi reformation in 1986 there is a big shift in the size of planning projects. Suddenly its not the single small plot that is developed by its owner but huge areas that are planned as a whole. One could speak of a big redistribution of land and its development from single plot owners to very big actors on very big areas. There seems to be a lack in between, a lack of wealthy and decent growth. Instead one gets the impression thhat there is a common silent agreement to big developing. The aspect can be shown best by describing the changes in land use with focus on the first sector.



DRAFT
© ETH Studio Basel



2001



2010



2001

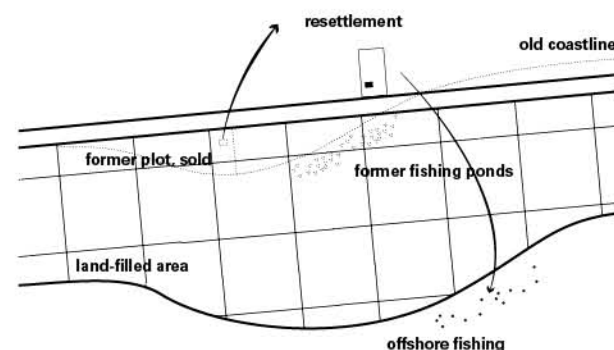


2010



Giving up the first Sector ?

Even if there seems to be low demand and pressure on the development site of the Marina project, small-structured agriculture land is crowded out. Further, the huge landfilling destroys rich fishery ponds, the former livelihood basis for many locals. Inhabitants usually get high compensation payments for giving up their grounds and consequently are often positive against the developments. While at first everyone seems to be a profiteer, the speculative developments come at the prize of giving up selfsufficiency. Despite, there seems to be a silent agreement towards big developments.



Separation from the Coast

Farmers or fishermen that own plots on a big development site sell their land dangled by big compensation sums. As there are said to be plenty of well-paid jobs in the industry or in the service sector, only few locals are willing to sitck to the first sector.



Oysters collection

This man kept on his job to collect oysters, even though being cut-off from the sea by a landfilling development. His average income of 5 mio VND per month - a bit over 200 \$ - is quite high. There seems to be no big concurrence.



New Job in the City

Many farmers move their livelihood activity more and more to the city center. A common way is to buy a scooter with the compensation money amd to become informal motorcycle taxi driver. No license is required and no taxes are raised.



From S to XL

At the northern coast of the Ha Long lagoon, huge aquaculture plots for shrimp farming have been built. The whole site is said to have been bought and developed by only four different investors. Most parts are not operational and left abandoned today. The new giant structure contrasts with the surrounding left-overs of farmland and small-scale aquaculture plots built by individuals. The confrontation of the two scales exemplifies the shifts in scale as well as in the actors structure of land possession. There seems to be a lack of the middle-scale. Possibly, the narrow boundaries of the command-economic past prevented a decent or “healthy” growth and consolidation of the structures. Privatisation steps in recent years, on the background of big acts in politics and in economics being bound together by the socialist past, an explosion of the structure sizes might follow. Interestingly, similar shifts can be observed in the fields of the tourism industry. While small family companies are still the dominating actors, a whole island is controlled by a single owner.



Family Business

Traditional oysters collection is a simple craft, placing sticks with shells into the shallow water and waiting for the oysters to enter them. The area was occupied in a loose and flexible system, in a ‘first come first serve’ princip.



Empty industrial Plots

A combination of lacking skills and economic incentives is said to be the reason why this plots for industrial shrimp production are abandoned.



Patchwork Landscape

Industrial and self-made aquacultures, landfilling for industrial development, agriculture land and loose village structures form a fragmented landscape and fascinating patterns.

DRAFT
© ETH Studio Basel



Land Grabbing ?

Huge empty farms give an impression of little pressure to keep shrimp plots in operation. Building and buying large plots might be an elegant way to occupy and reserve land for industrial or residential developments in the future. On this billboard next to the Thang Long factory and the huge controlled basin area, some development is already announced. In a masterplan from the city government, developments along and inside the aquacultures area are planned.

A FRAGILE BALANCE

A complex network of different actors is involved in the territorial transformation processes of the Ha Long Bay area. They're all part of a fight for land, resources and access to the water. While some obvious conflicts arise, as between the heavy industry on the hinterland and the use of the bay as nature and tourism paradise, these processes surprisingly seem to coexist and sometimes even benefit from each other. On the other hand, there is a strong dependency from limited resources like coal, limestone, the nature itself or unpredictable drivers such as foreign trade. And because of the strong interdependencies, future difficulties in one process might affect many others. It seems as if the recent economic and urban growth of the region masked structural problems. As this growth to certain points is based on a veritable hype, the region finds itself in a fragile balance.



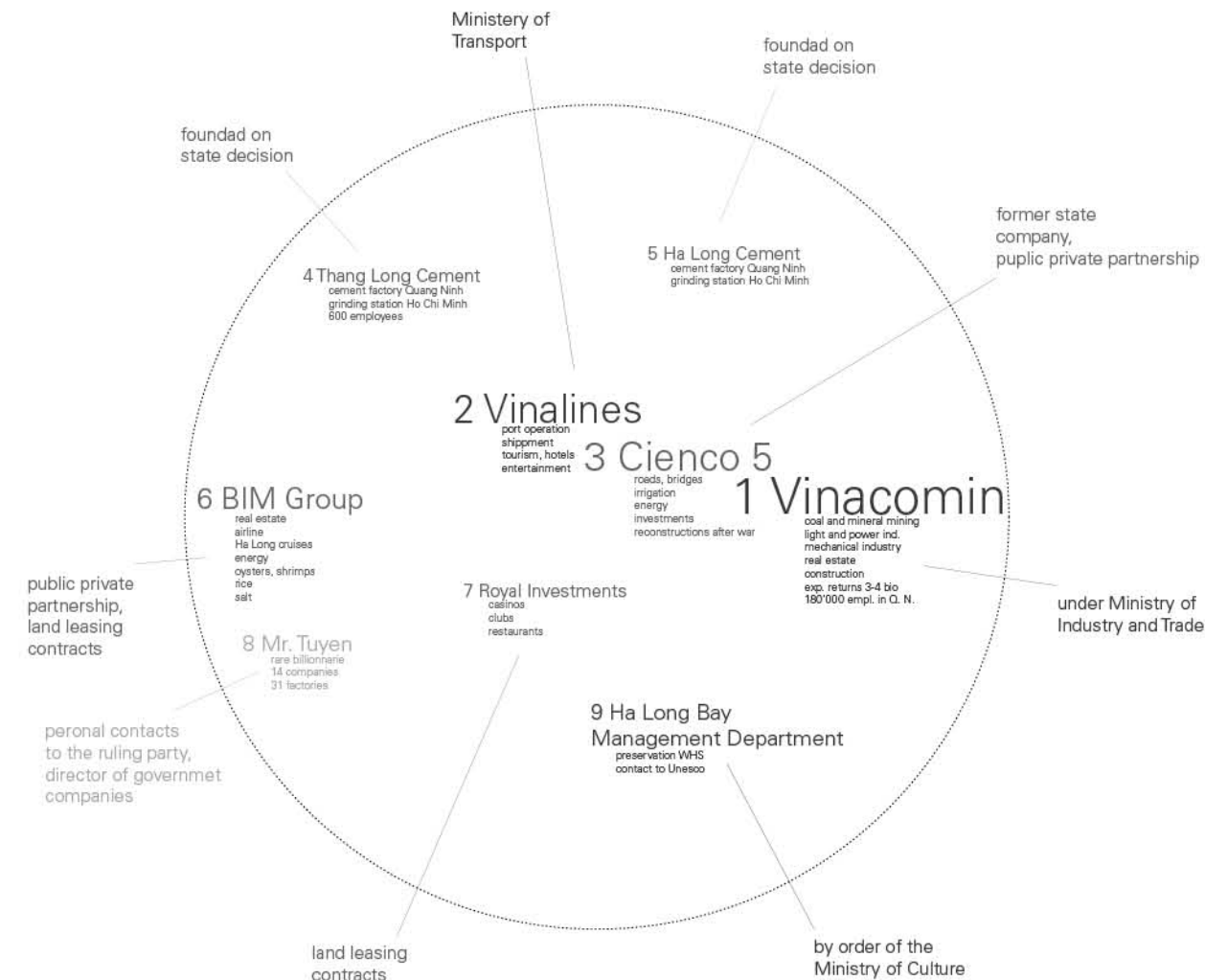
DRAFT
© ETH Studio Basel



- State owned company
- Joint-stock company
- Individual investor

Topography of Powers

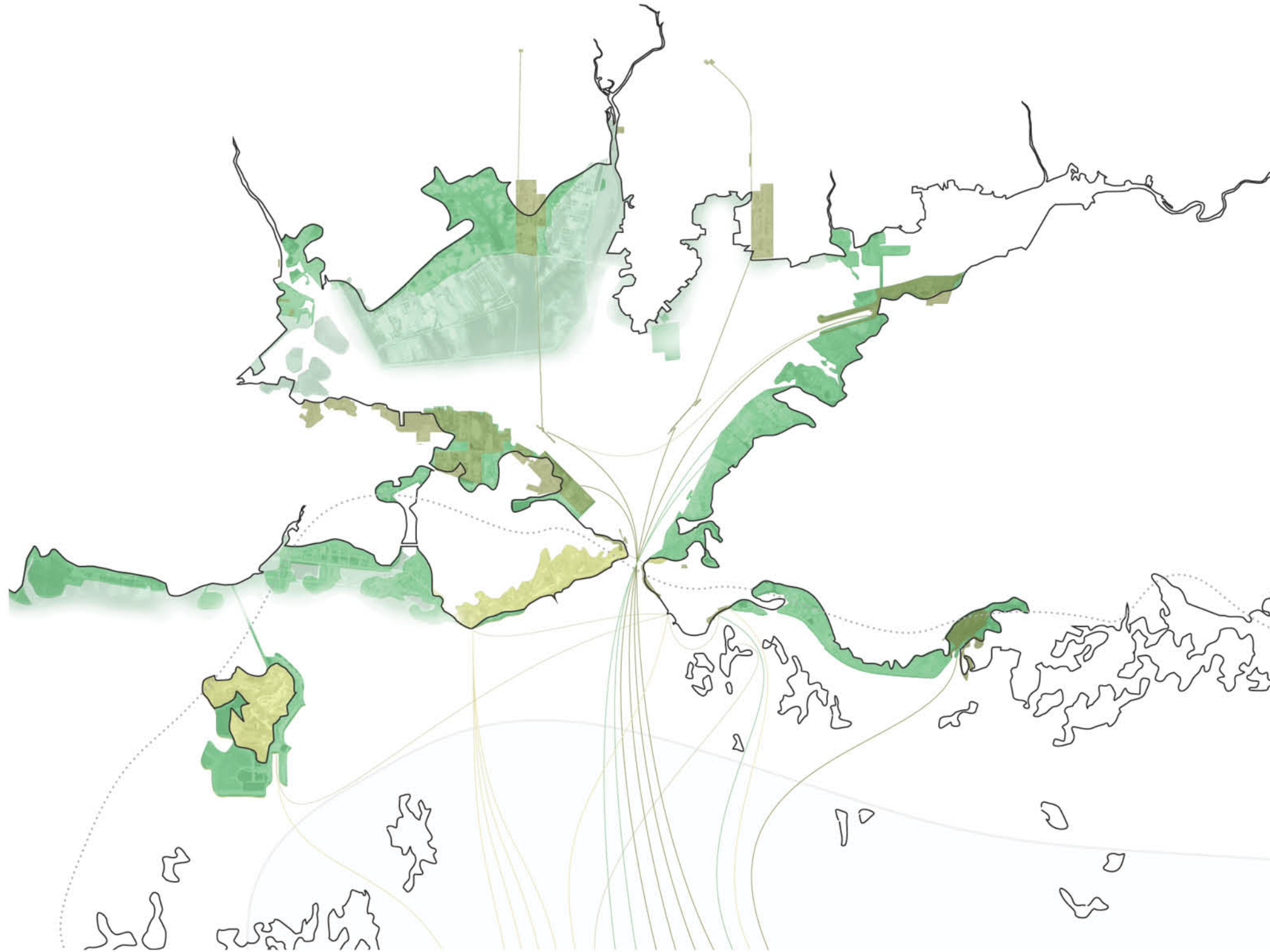
In Ha Long Bay there are very large areas planned or controlled as a whole and mostly carried by single investors up to a certain stage of development. The range of companies reach from state owned over joint-stock companies to individual investors. The map shows also, that the influence of the World Heritage site protection organization does not include the very big developments. And even where the bufferzone is touching big developments, there seem to be very low regulations, such as in the case of Tuan Chau Island where a whole landscape is being transformed.



From Command Economy to State-controlled Market Economy

Even if there are also private investors involved, the arm of the state seems to reach very far. Be it that the state is partial owner of a joint stock company or that a private investor is part of the ruling party. Furthermore, there is still a big control mechanism through governmental land ownership. Therefore, even private investors have to cooperate for example in public private partnerships.

DRAFT
© ETH Studio Basel

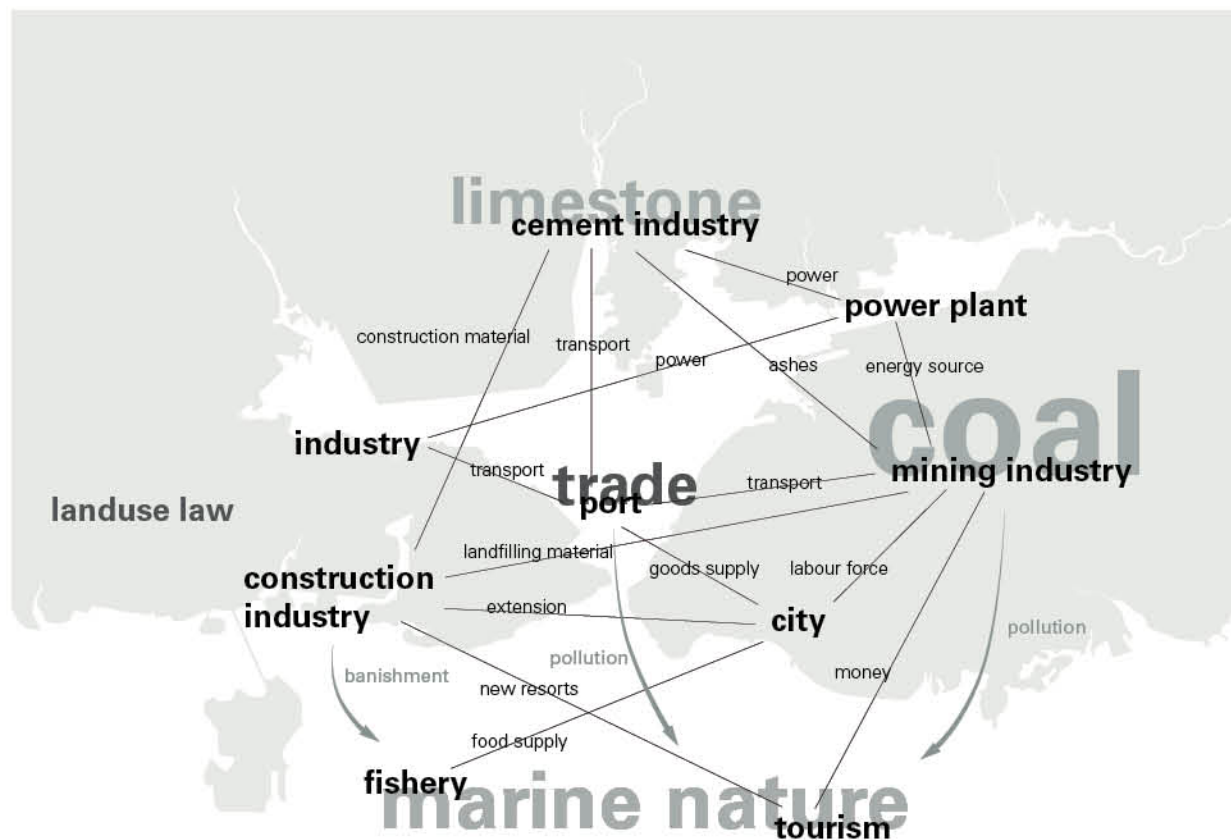


- area mainly influenced by tourism
- area mainly influenced by industry
- area where landfilling occurred
- area where aquacultures takes place

Contested Coastline

The coastal area is a space where interests and conflicts are concentrated. The Ha Long Bay is not only the most important resource in Vietnamese tourism but also is the key link in the complex socio-economic chain of the region.

DRAFT
© ETH Studio Basel



Multiple local Dependencies

The economy of Ha Long Bay forms a dense network of interdependencies. Especially the different industries cultivate intimate business contact what together with the existence of a deep water port seem to make it attractive for further industrial investment. Furthermore, Suspicions are raised that the money from coal mining flows at least partly to the tourism sector. There are not only supporting relationships between the different phenomena but also a lot of opposing threats. There is at first the fact of the ongoing repression of the first sector which loses more and more land for industrial and residential development. A second example is the tourism industry which suffers from a continuing pollution of its main resource.

Limitations and Conflicts

The dense network of dependencies between the different stakeholders in Ha Long Bay leads also to the question of the long term economic development. There are a lot of external factors and internal conflicts which limitate the basis of different economies with analogical influences on other branches.

DRAFT
© ETH Studio Basel

SOURCES

BOOKS

Stefan Loose Travel Handbücher, “Vietnam”

Tom Downs, (2007), “Hanoi & Halong Bay Encounter”
Lonely Planet Publications Pty Ltd

PAPERS

Anna Strandman. (2000),
“ Conflict of Interest Between Coal Mining Industry and Tourism in Ha Long Bay - A Cost-Benefit Analysis”
<http://econserv4.econ.umu.se/mfs/anstra.pdf>

Genia Findeisen. (2011),
“In den Kinderschuhem; Vietnam – Reiseland mit Potential für den Massentourismus?”

Wantanee Suntikul, Richard Butler, David Airey,
“A Periodisation of the Development of Vietnam’s Tourism Accommodation since the Open Door Policy”

Luc Hens et al. (2001),
“Land Cover Changes in the Extended Ha Long City Area, North-Eastern Vietnam during the Period 1988-1998”

Katrin Brömme, Harro Stolpe, Stefan Möllerherm (2006),
“Power to the People - Ein Land reich an Ressourcen will Kapazitäten ausbauen”

Nguyen Dinh Duong, Edd Nierynck, Tran Van Y, Luc Hens,
“Land Use Changes and GIS-Databased Developments for strategic environmental Assessment in Ha Long Bay, Quang Ninh Province, Vietnam”

MAPS

Input Material from the Office for Land Use Planning and Urban Development of Ha Long City

INTERVIEWS

Various Hotel Managers and Tour Guides, Hanoi, Personal Interviews (22 and 23 March 2012)

Kathrin Brömme, RAME, Hanoi, Personal Interview (23 March 2012)

Bui Thi Thu Hien, Coordinator IUCN, Viet Nam Office, Hanoi, Personal Interview (23 March 2012)

Tour Operator, Bhaya Tours, Ha Long City, Personal Interview (25 March 2012)

Nguyen Huu Phuong, Deputy General Director, Thang Long Cement, Ha Long City, Personal Interview (28 March 2012)

Planning Authority of Ha Long City (anonymous), Ha Long City, Personal Interview (31 March 2012)

Kurt Walter, Group General Manager Hospitality Division of Apple Tree, Hanoi, Personal Interview (1 April 2012)

INTERNET

<http://whc.unesco.org>
<http://www.iucn.org>
<http://www.quangninh.gov.vn>
<http://halongcity.gov.vn>
<http://www.investinquangninh.vn>
<http://www.vietnamecotourism.com>
<http://www.vietnamtourism.gov.vn>
<http://www.wttc.org>
<http://teeic.anl.gov/er/coal>
<http://www.ssamarine.com/>
<http://viethung-ip.com.vn>
<http://thanglongcement.com.vn>
<http://hsc.csu.edu.au/>
<http://maps.google.com>
<http://www.bing.com/maps>
<http://www.wikipedia.org/>

IMAGE CREDITS

All graphics and photos by Paul Ernheim, Hermine Tuzzi and students of ETH Studio Basel FS12, except where noted.

P. 4, 74
postal card scans

P. 5
<http://camilledelafrancophonie.blogspot.com/2011/06/lindochine-un-film-de-regis-wargnier.html>

P. 7
<http://news.ninemsn.com.au/glanceview/148785/twelve-dead-in-vietnam-boat-accident.glance>

P. 8
<http://www.seereisenportal.de/>

P. 13
<http://whc.unesco.org/en/list/672/indicators/>
<http://www.vietvaluetravel.com/blog/2011/01/16/junk-or-junk/>

P. 14, 37
<http://nature.new7wonders.com/archives/wonder/halong-bay>

P. 19
<http://ricebowlandchopstick.blogspot.com/p/legends.html>

P. 42
http://viethung-ip.com.vn/?mod=view&cat_id=27&parent_id=11&lang=_en

P. 47
Information brochure: “HALONG MARINA”

P. 50
Information brochure: “Tuan Chau International Tourism and Recreation Complex”

P. 52
<http://pti.edu.vn/main/vi/gioi-thieu-pti/623-dao-hong-tuyen-tuan-chau-ha-long.html>

P. 79
http://www.greentrail-indochina.com/index.php?option=com_content&view=category&id=119:ha-long-hotel&layout=hotel&Itemid=79

P. 20, 23, 25, 26, 33, 34, 37, 38, 40, 44, 58, 64, 66, 70, 71, 82, 85,
google earth plus

P. 01
<http://www.bing.com/maps>

ACKNOWLEDGMENTS

PERSONS

Nguyen Thi Thuy Linh, Hanoi
Nguyen Khoa, Ho Chi Minh City
Nguyen Son, Hanoi
Tran Quoc Thai, Hanoi
Huy Man Quang, Hanoi

INSTITUTIONS

National University of Construction and Engineering, NUCE, Hanoi

DRAFT
© ETH Studio Basel