MSc THESES OVERVIEW LANDSCAPE ARCHITECTURE GROUP

September 2015 - August 2016

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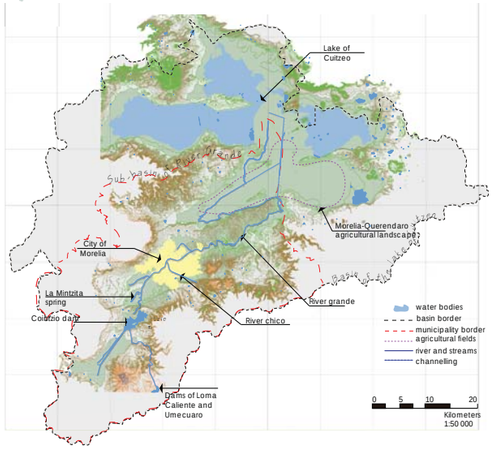
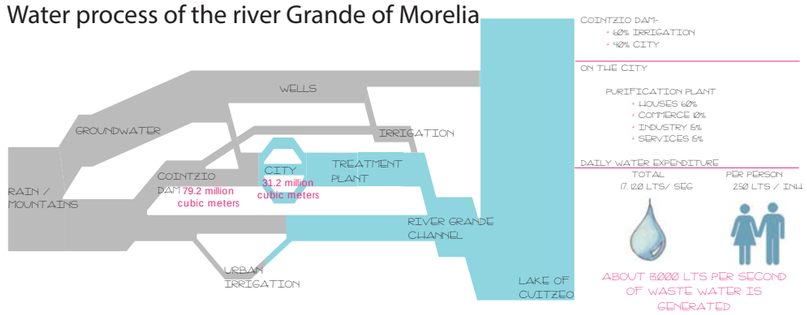
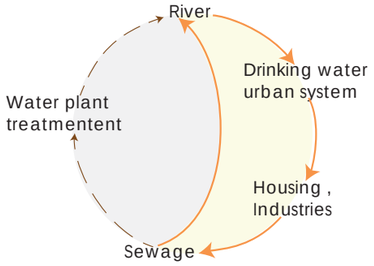
Content

The river Grande of Morelia is the main source of water of the lake of Cuitzeo and has becoming the main source of contamination to the lake.

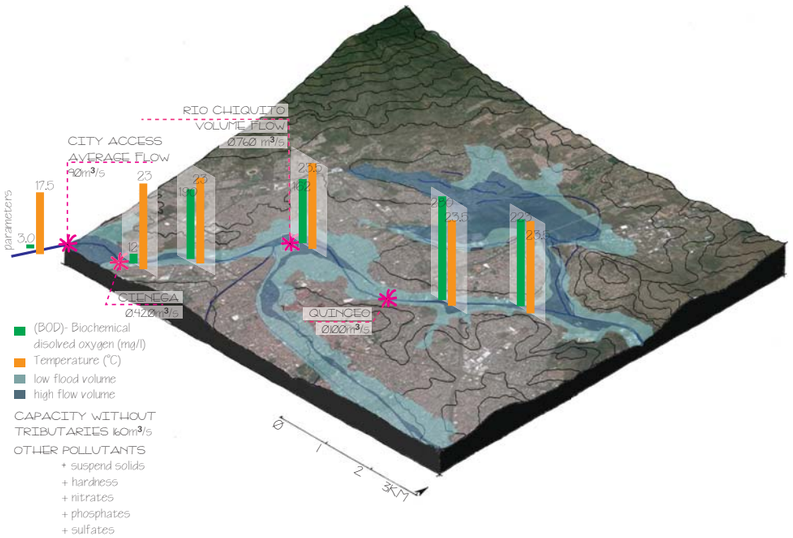


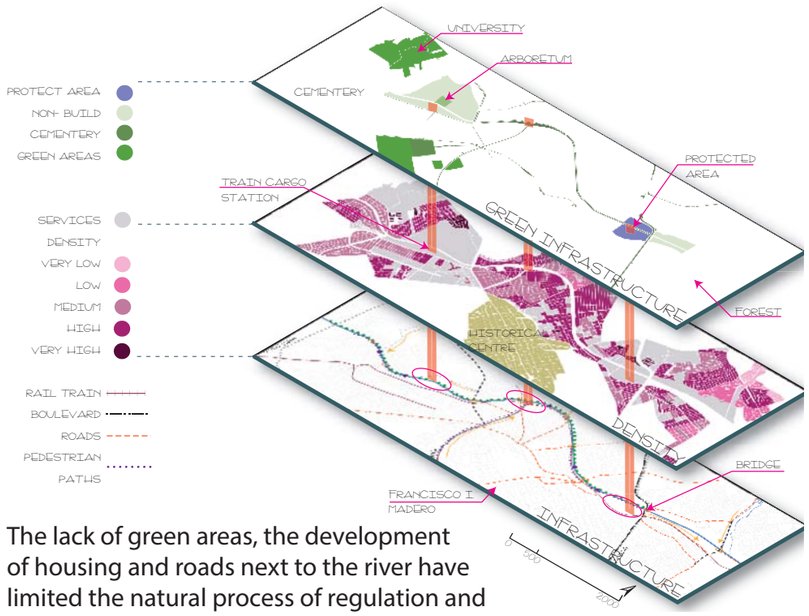
Water process of the river Grande of Morelia



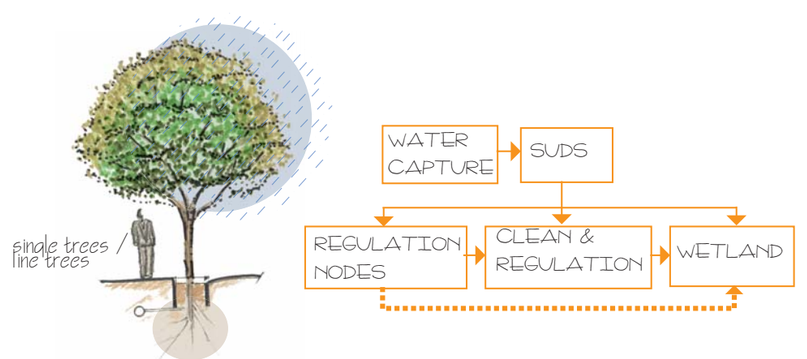


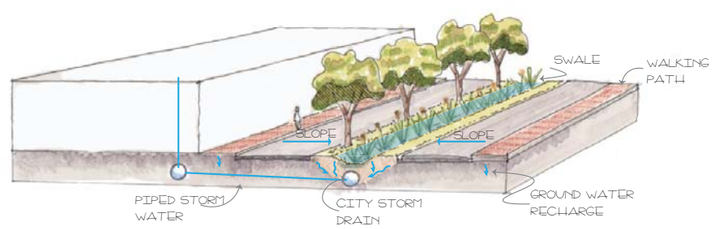
The water management is not complying with the water provision standards, breaking the process of water quality





The lack of green areas, the development of housing and roads next to the river have limited the natural process of regulation and cleaning of the river





Erika Rueda Arbesú
MSc student Landscape Architecture
Dr. Ing. Sven Stremke
Assistant Professor Landscape architecture

Urban river landscape restoration

The case of river Grande of Morelia, Mexico

Abstract

The amount of people living in cities compared to rural areas is increasing. Development plans which not take into account the health of ecosystems, uncontrolled urban growth, and a poor sewage drain structure has resulted in the canalization of rivers and the urbanization of its Floodplains. Creating a risk factor to flooding and a poor structure that allows the natural regulation of the river. Such oversights eventually stop being just a local problem, bringing as consequences problems to a region, including its loss of biodiversity.

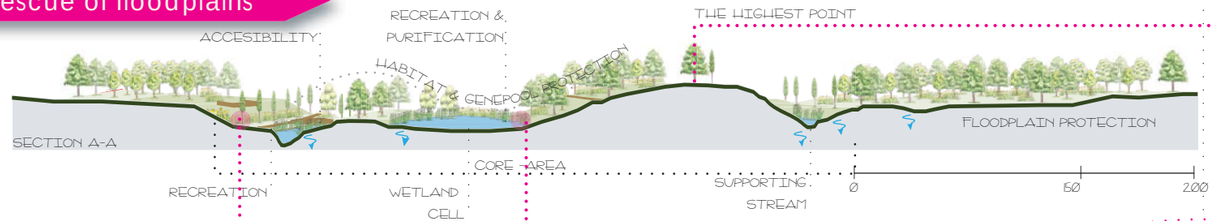
In this thesis the health of a riparian ecosystem is developed through the creation and performance of urban green landscapes. This is done through creating green infrastructure connected with the blue one, and by the creation of ecological systems that improve the water quality of the river. Creating a connection between man-made systems and natural systems.

To ensure the partial restoration of the river was needed, at urban level, the support of systems that could regulate the amount of water and pollution that reached the river. The recovery of floodplains and the construction of wetland allows the natural regeneration of the river and the recolonization of native flora and fauna. Ensuring the health of the river and recovery of biodiversity. The restoration of the river not only brings health to the ecosystem it also promotes physical and psychological health to the inhabitants, by providing several services that are related to well-being.

By applying the “six step framework” methodology in a research-based design, the main problems were located and the selection of a design area was possible. The design of the Morelia ecological park response to the needs that the research introduce.

5 How can design strategies and spatial interventions can enhance the landscape values that benefits the inhabitants of the city of Morelia?

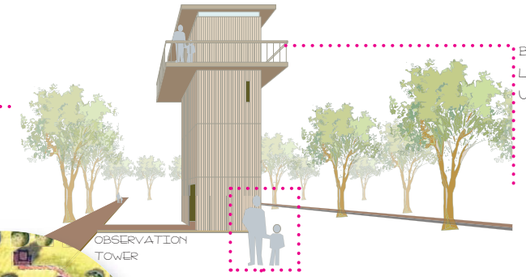
1 Rescue of floodplains



VEGETATION IN TERRRACES TO SLOWDOWN RUNOFF AND PROVIDE FLOODING PROTECTION

WETLAND NATIVE VEGETATION PROMOTES NATURAL REGULATING FUNCTIONS AND THE RE-COLONIZATION ON NATIVE WILDLIFE

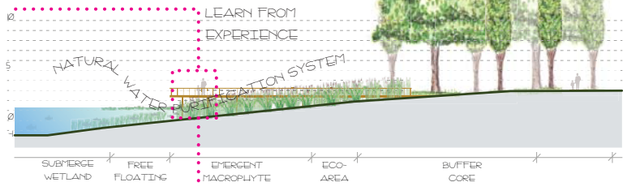
CREATE A LINK AREA BETWEEN SOCIETY AND THE ECO-PARK, AND PROMOTE SOCIAL COHESION

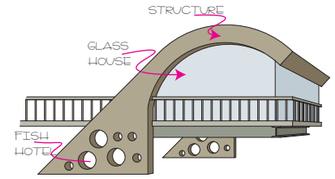


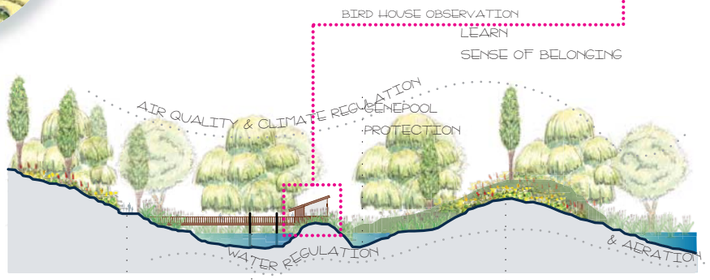
BE PART OF THE LANDSCAPE BY UNDERSTANDING IT

2 Constructed wetlands Core area

Promote nature to the youngest

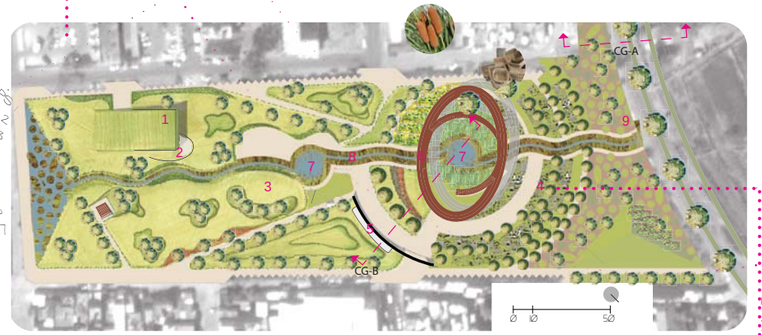






3 Community garden

ART & CRAFT WORKSHOPS
AMPHITHEATRE 2
RELAXATION AREAS 3
URBAN AGRICULTURE 4
COMMUNITY GARDEN PRODUCT STORE 5
OBSERVATION DECK 6
FOUNTAINS 7



PROMOTE URBAN AGRICULTURE AND LOCAL TRADE

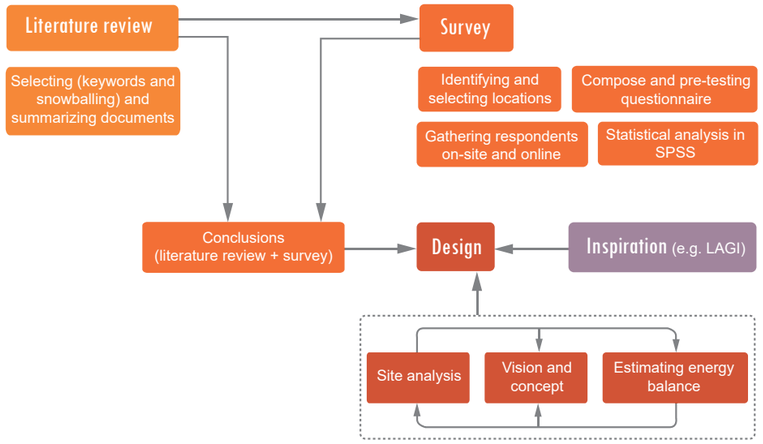
GARDENS TO PROMOTE POLLINATION AND BIODIVERSITY

1 Creation of an ecological park that rescue the floodplain areas and promote the cleaning of water by constructed wetlands
2 Creation of areas to promotesocial cohesion
3 .- Creation of habitat
4. Creation of recreational areas

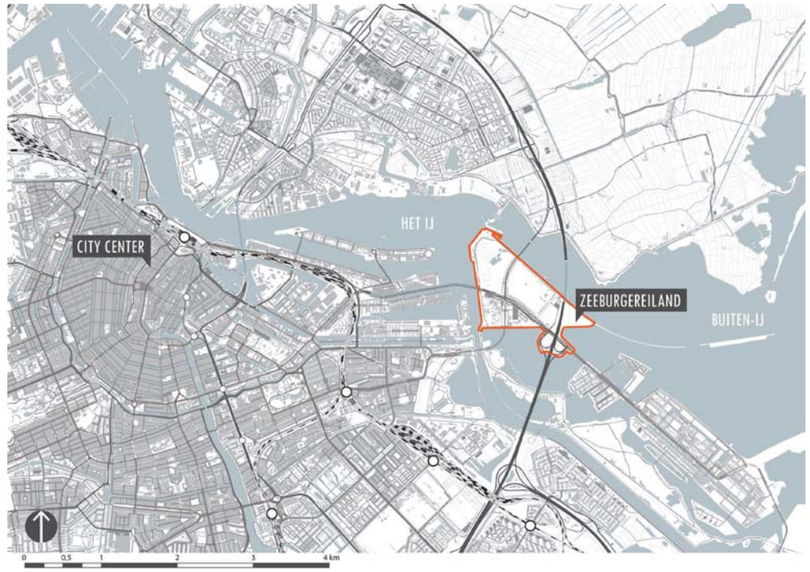
Tom van Heeswijk
1st supervisor: Sven Stremke
2nd supervisor: Rudi van Etteger

Perceiving without grieving

Shaping solar energy for an energy neutral Zeeburgereiland



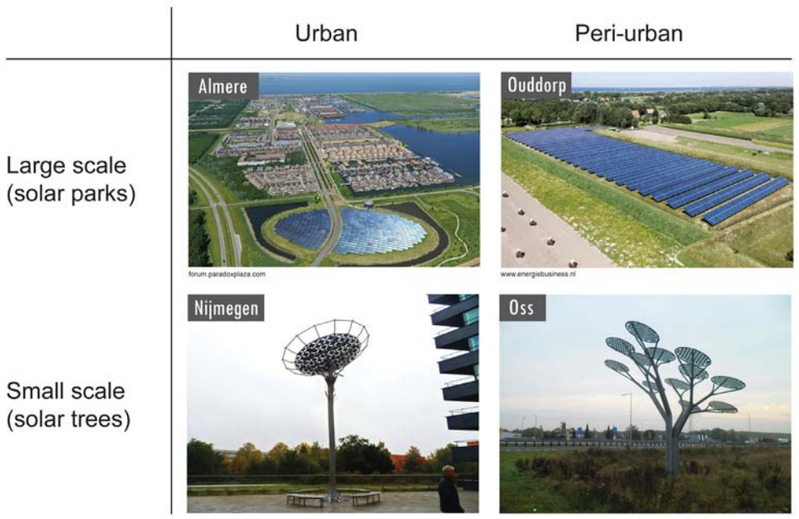
Methodological framework. (1) A literature review, (2) a survey and (3) local site characteristics informed the design for an energy neutral Zeeburgereiland.



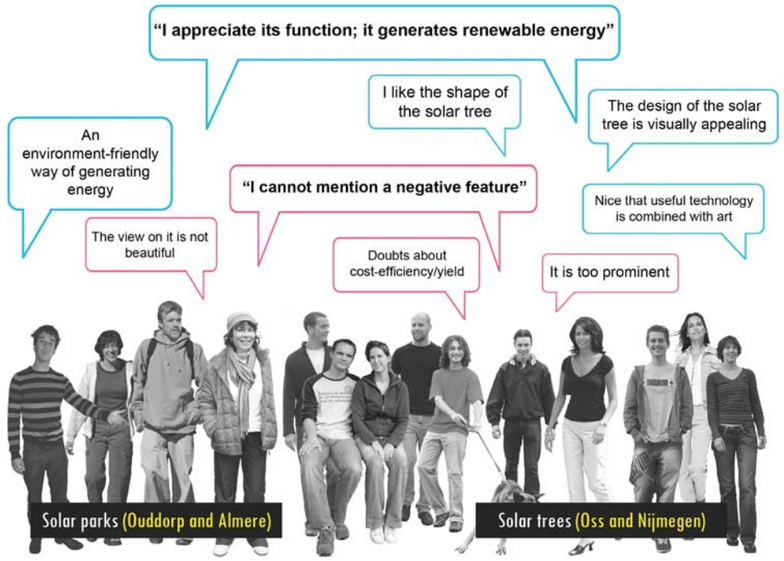
Location of Zeeburgereiland in Amsterdam, where new neighbourhoods for dwelling, working and recreation will be developed, and are required to be energy neutral.

Abstract

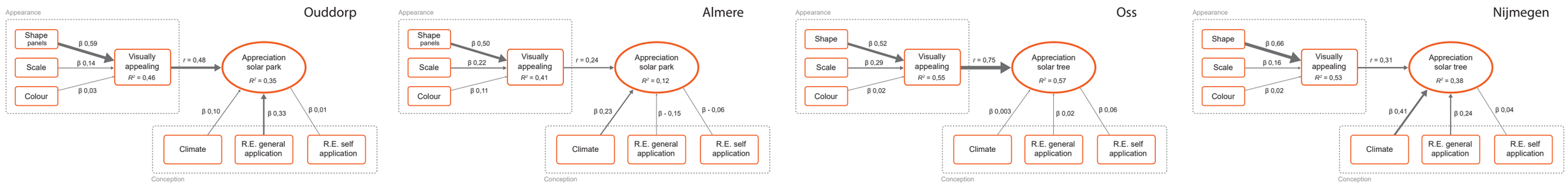
Through depletion of fossil fuels for generating energy with prospective risks of climate change a renewable energy (RE) transition is needed. Amsterdam (the Netherlands) decided that all new construction projects from 2015 and later must be energy neutral by avoiding use of fossil fuels in building-related energy consumption, while increasing energy efficiency. The neighbourhood Zeeburgereiland in Amsterdam is planned as a dynamic and attractive island for dwelling, working and recreation. In order to make Zeeburgereiland an energy-neutral neighbourhood the use of RE is necessary. However there is growing opposition against RE technologies such as wind turbines and solar parks. Such opposition can delay or even cancel RE developments. Therefore social acceptance is a substantial factor in RE developments' success. This thesis tends to find out which physical and psychological attributes influence people's liking and disliking of RE, consequently formulating implications for design that could account for public preference. The objective was addressed with three parts: (1) a literature review, (2) a survey on four solar energy projects in the Netherlands, and (3) a spatial design for Zeeburgereiland's prospective public space that includes RE. In the literature review various physical, contextual, political, socio-economic, social, symbolic, local, personal and environmental attributes were identified, whereas some attributes overlap each other and can be interrelated. In the (qualitative and quantitative) survey subjective evaluations are gathered of two solar parks (in Ouddorp and Almere) and two kinds of solar trees (in Oss and Nijmegen) by means of a questionnaire. Data was analysed with descriptive statistics, independent samples T-tests and multiple regression analysis in SPSS. For solar parks, implications for design focussed on bringing a richer landscape experience to the adjustable edges. For smaller scale solar energy it was considered vital to search for attractive shapes since shape (or silhouette) seemed highly influential in visual appeal. These implications were used in a design for an energy-neutral Zeeburgereiland, tending to account for public preference.



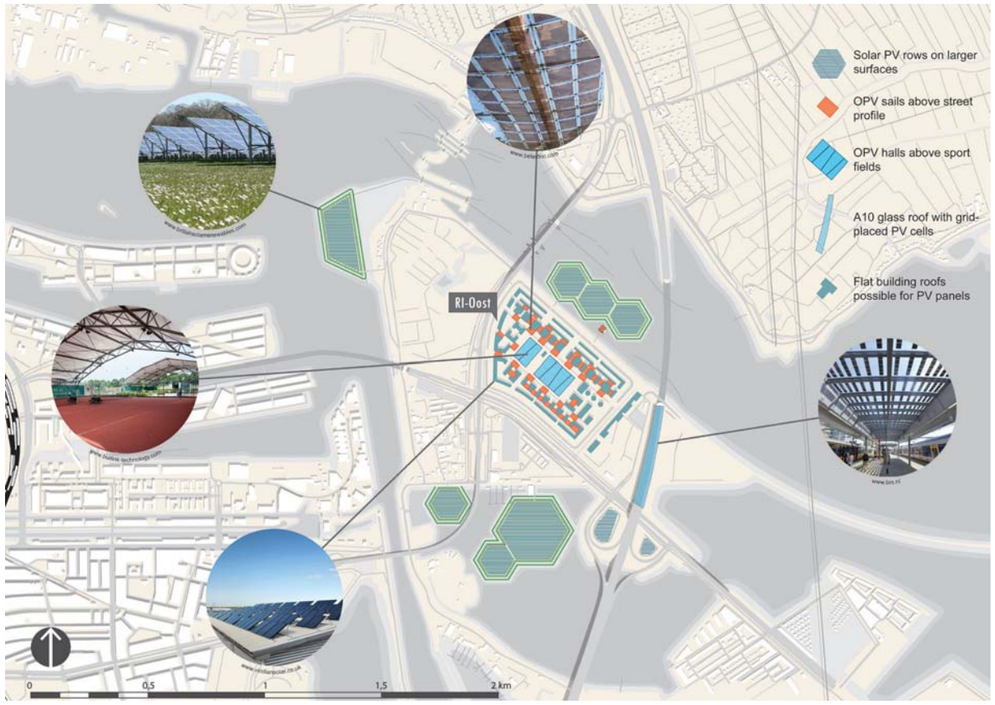
4 Solar energy projects were chosen for the survey. More knowledge of solar energy perceptions is needed (of wind turbines it is already extended), and solar energy has numerous possibilities for further shaping in design, making it an interesting subject for landscape architecture.



\+ Most frequent positive feature: the solar energy project generates (renewable) energy;
\- Most frequent negative feature: not able to be mentioned.
Generally the solar trees are found more visually appealing than the solar parks.

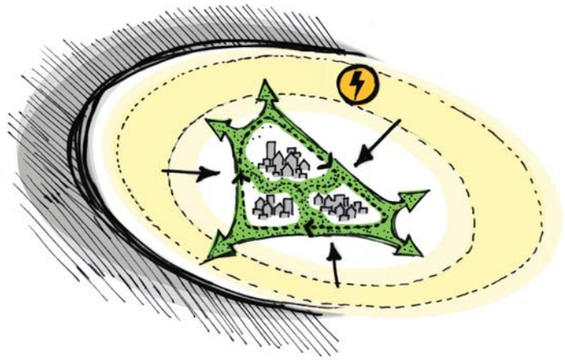


Multiple regression analysis illustrated as path diagrams. Arrows show magnitude of effect from one variable on another variable.

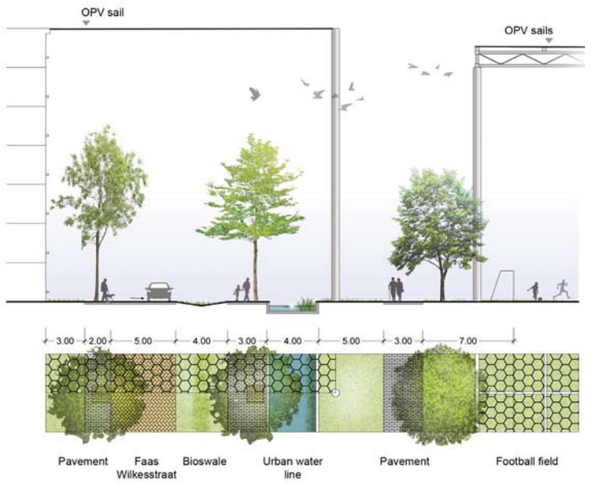


The solar energy landscape consists of 5 typologies. Sub-neighbourhood RI-Oost is further detailed as masterplan. Water around Zeeburgereiland has space for new solar islands, but is not entirely occupied with solar islands in respect to existing water views and ship traffic.

Masterplan of sub-neighbourhood RI-Oost on Zeeburgereiland.

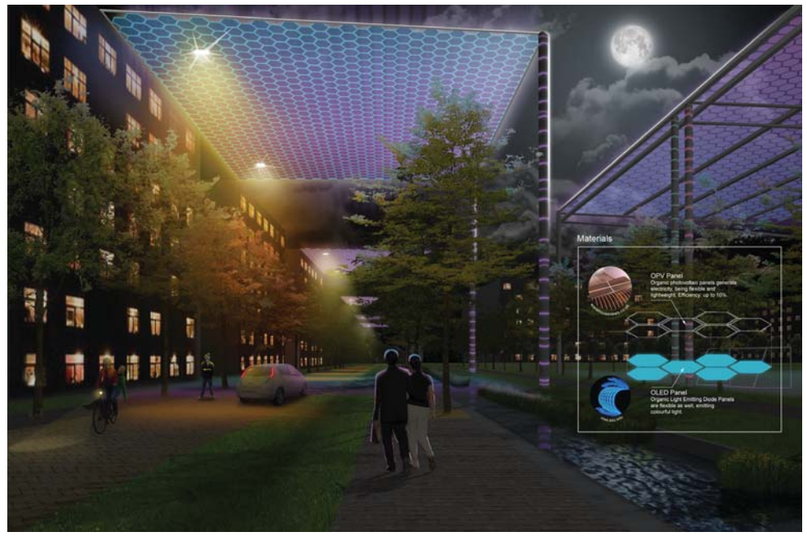


Concept of the design: Zeeburgereiland as calm oasis just outside the city center, with a green linear park through the neighbourhood, and solar energy on large and smaller scale.



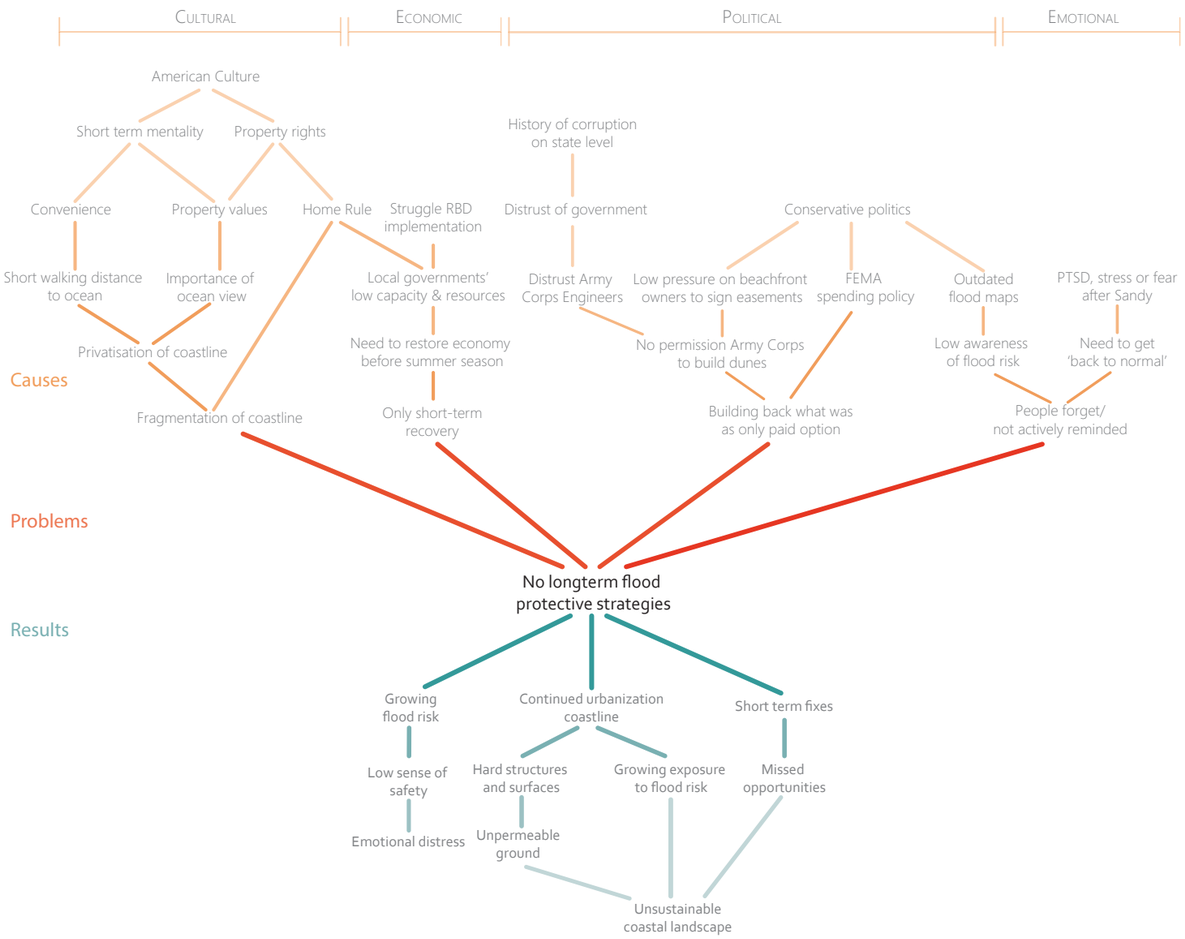
Solar energy will be integrated into public space and leaves enough space for diverse kinds of uses beneath it. Urban water lines and bioswales account for rainwater retention and drainage.

New solar islands on lake Buiten-IJ provide electricty without compromising magnificent water views and ship traffic.

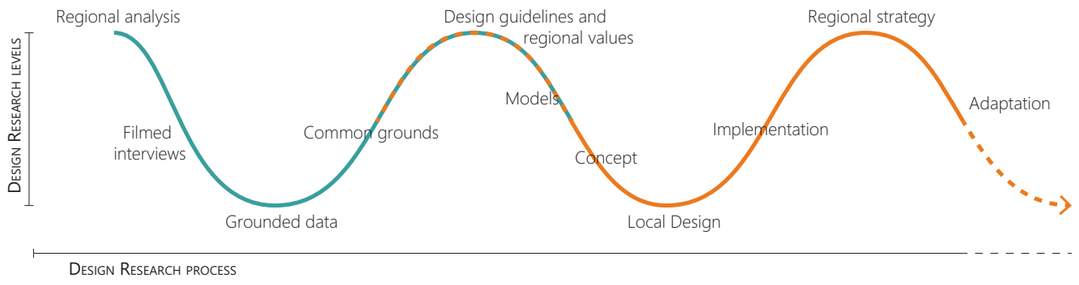


Impression of OPV (organic photovoltaic) sails above the street profiles. Inspired from garden architecture, the essence of a pergola shape is integrated with OPV modules.

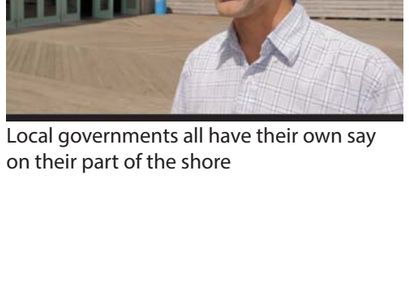
A new restaurant on piles refers to Amsterdam's peat soil conditions and provides an elevated view of the solar island, lake Buiten-IJ and surroundings. People can access the pier any time, subsequently deciding if they want to experience a more elevated view on the restaurant's terrace during opening hours.



Problem tree depicting the reasons why the cycle of storms and rebuild persists: Cultural, economic, political and emotional reasons why long-term flood projection plans are hard to achieve and implement.



Constant scale changes to deal with the paradox of a long-term regional approach in the short-term and individual culture of the US



Oceanfront homeowners want to keap their ocean view over the dunes

NGO pleading for rethinking of the landscape after a storm

Local governments all have their own say on their part of the shore

Marit Noest
Ingrid Duchhart

At The Edge
of the land - of the ocean - of change

Research, Film and Design on the Coastal Landscape of New Jersey after Superstorm Sandy

Abstract

While Ian McHarg already warned about coastal vulnerability of the New Jersey Shores in 1966, Superstorm Sandy reminded the world in 2012 once again about the persistent cycle of storms and rebuild along the Jersey Shore.

Through human-centered research, the thesis focusses on why this repetitive cycle persists in New Jersey, USA. Through academic filmmaking, this norm is challenged by encouraging awareness and discussions about the future of this coastal landscape. Design aims to show an alternative that links a regional and long-term perspective with local and short-term benefits, for the case study of Asbury Park, NJ.

A landscape analysis shows the natural vulnerability of the shore landscape, pressured by extreme urbanization and political fragmentation. Plans to deal with the flood risks, often struggle at the link between regional goals and the individual culture of the US.

The documentary shows different perspectives on how to rebuild to encourage understanding of the complexity of the situation and to spark reflective discussions on current norms.

A discourse analysis of filmed interviews extracted common grounds from all the contrasting perspectives, that form a base for design choices.The reflective function of the documentary was tested though community outreach posters, were participants voted on their favourite rebuilding options after half of them saw a video clip about long- and short-term strategies. After seeing the video, participants voted more often for long-term options with large investments and also voted less divided.

The design for Asbury Park combines the double dune landscape of McHarg with local identity and preferences, whilst also linking to larger regional goals. This is done through constant changing of design and research scales. This way, the design connects local benefits to the larger goal of a paradigm shift towards a more sustainable way of coastal management.

Landscape plan based on all the local preferences and priorities: integrating the long-term benefits of a double dune landscape with short-term benefits for the community

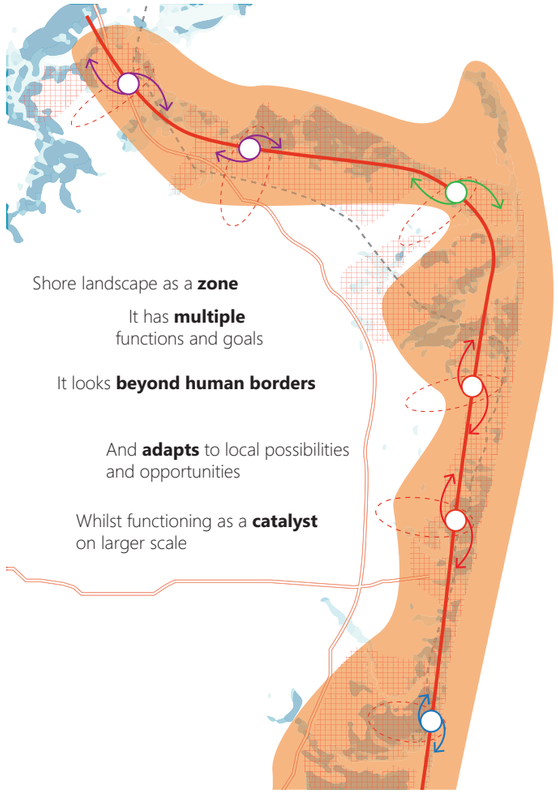
Permeable parking lots could create a strip of urban flood plains along the entire Shore.

Integration of the dune structure with fun character of Asbury Park: Event valleys as a podium for film screenings for example.

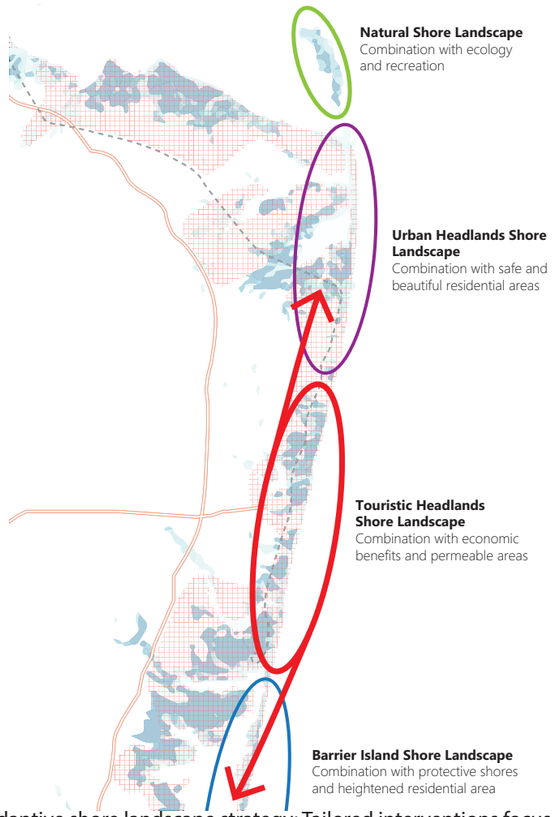
Biking boardwalk through the dune landscape, expoiting views and connecting all the interventions.

Seasonal beach dwellings answer the demand of living with ocean view without limiting natural process of sand drift.

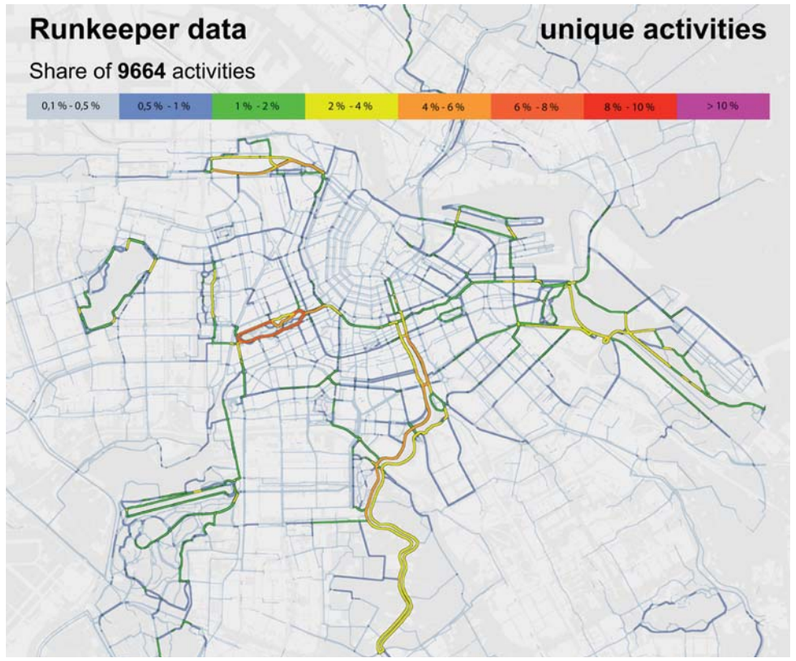
Commemorative dune crossing with crowd-funded construction process as first step towards the new paradigm of sustainable coastal manegement.



Regional concept: Moving from a tight edge to larger Dune Zone. The new way of coastal management is spread along the Coastal Cord, connecting all the focussed interventions



Regional adaptive shore landscape strategy: Tailored interventions focus on high-risk and highly urgent locations work as incentives for larger change.



Thijs Dolders & Mart Reiling

Marlies Brinkhuijsen
Ron van Lammeren (Geo-information science)

Running Amsterdam
Designing a runner friendly city

Abstract

This landscape architectural study aims to develop design principles that improve the spatial conditions of (sub) urban public space for running, thus contributing to designing healthy cities.

To be able to design for this specific active group, it has been essential to gain knowledge of two factors: spatial behaviour of runners and preferred spatial experiences/ spatial requirements that determine this behaviour.

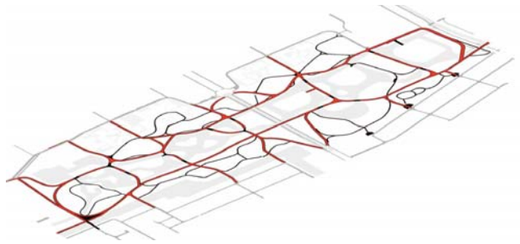
By analysing data from mobile running apps, crowd sourced based data which is a newly available source of data, knowledge on running behaviour was generated on a level that has not yet been possible before. In this study data was analysed from more than 110.000 running activities in Amsterdam, collected from the mobile running applications Runkeeper and Strava. This data includes where and when people have been running.

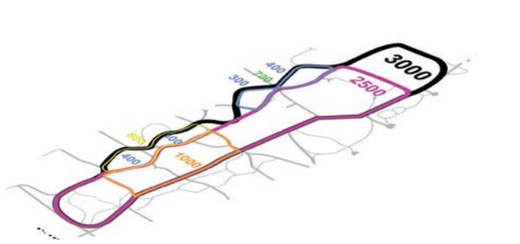
Differences in running locations are studied between: long and short distance runners, during different times of the day (light and dark hours), during different times of the week, during different seasons and during different outdoor temperatures. Based on this data, two locations in Amsterdam South-West have been chosen that showed concerning data patterns.

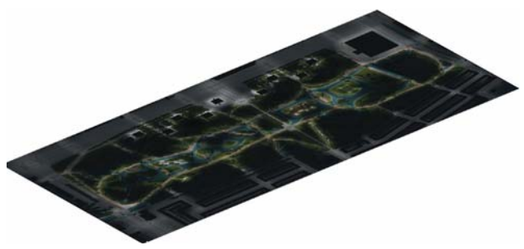
In these regions, results were compared to a series of surveys in which runners were questioned in order to understand what spatial experiences were required to determine their preferred running route. The surveys also gave explanation of negative spatial experiences at the two ‘problem locations’. Through designing, possibilities to integrate these spatial requirements into the two problem areas were explored and visualized. The possibilities to make Amsterdam a more runner friendly city frequently related to creating convincing slow traffic networks: belonging to a recognizable spatial entity, uninterrupted, fine-grained, with clear start/stop locations and integer/certain distances. Also finding a balance between tranquillity and vibrancy, directly relating to (lack of) safety or an (overload of) nuisance, were important design themes.

What goes around

Mart's design focusses on the Rembrandtpark, a park designed in the 70s very close to the city centre but not acting like it. Although the calm character of the park is maintained in this design, with a focus on making it a more safe place for physical activity with an open central running lap adjacent to the water.

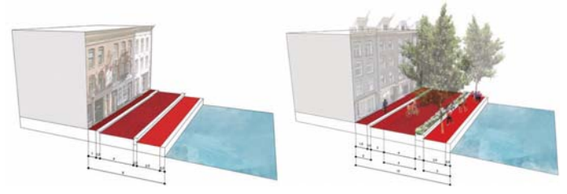


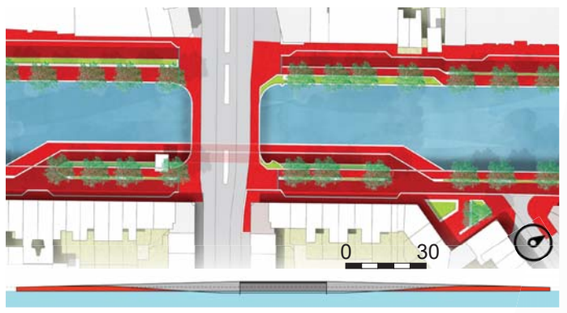


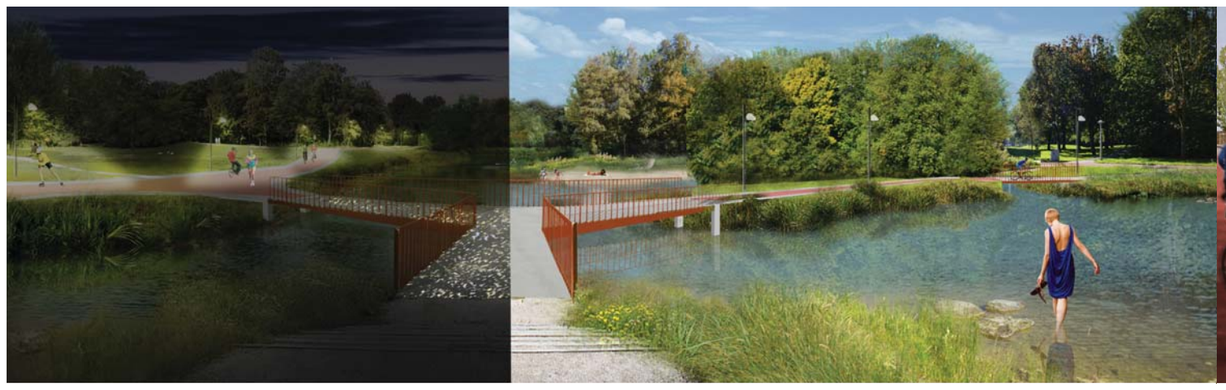


Schinkel promenade

Thijs' design focusses on the Schinkel, an old canal connecting the entire west of the city from Amsterdamse bos till city centre. This makes it the ideal backbone structure for running in the west of the city, although at the moment it is a parking strip and intersected by several big roads. By solving these obstacles it becomes possible to make it a red carpet for runners and other forms of slow traffic.



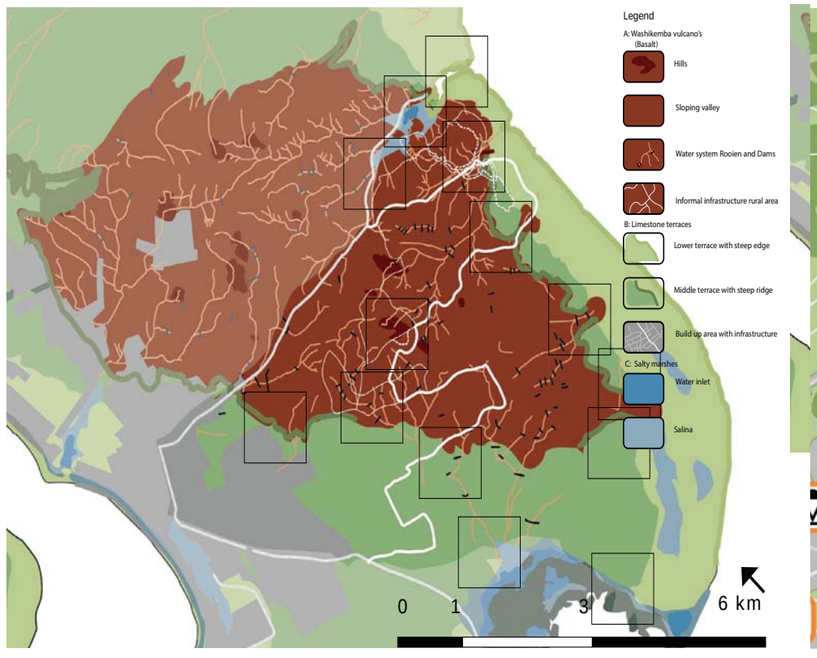




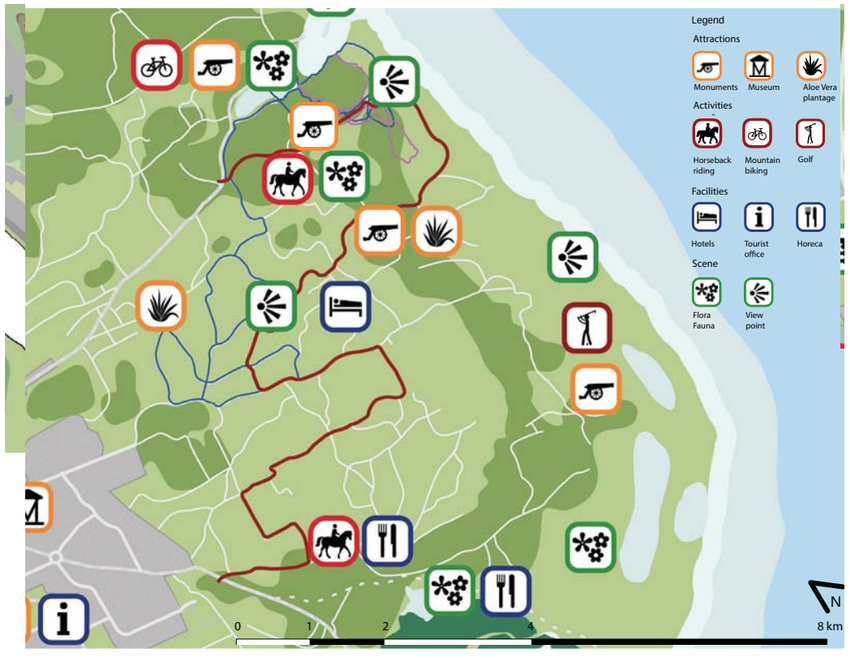
Island Bonaire and project area Washikemba

Result: New touristic map of Bonaire with routing in the Washikemba area

The route connects many interesting points in the landscape



The route connects many attractions of the area



Name student(s) Andrea Hulsebosch
Name supervisor(s) Ingrid Duchhart
Klaas Metselaar

Bara di Karta trail

Tourist route as a catalyst for rural development,
the case of Washikemba, Bonaire

Abstract

Bonaire, wants to differentiate the tourist product by developing the rural landscape of Washikemba in a sustainable manner into a destination for leisure. Therefore the accessibility needs to be improved with the help of new touristic routes that are supported by the local population. In this thesis the dimension of sustainable rural development by ecotourism will be elaborated, in which landscape interventions contribute to sustainable development of the rural area. The research question of this research is: what are the crucial issues to consider in designing a route that stimulates ecotourism development and contributes to the improvement of the landscape qualities in the Washikemba area, Bonaire? Landscape analysis, Google Earth photo analysis, literature research, fieldtrips and interviews were methods used in order to answer this question. The findings were organized with the help of the landscape based design approach, resulting in a trails, which have been implemented in the field. A hike trail in the Washikemba Valley has been further elaborated, resulting in interventions that steer sustainable development. The interventions involve a parking lot, viewpoint and dam that are integrated in a landscape plan that provides recommendations for environmental, economic and social development. Also, an extension of the current route network and integral implementation of interventions by phasing is provided. The final result and answer to the research question are several actions to improve the cultural- social and natural qualities of the rural area of Washikemba in a sustainable manner. For the development of a (touristic) route it is essential to know the location of landscape elements that are interesting for tourists and locals, and to guide users (with routing) along these attractions and points of interest. Furthermore is offering facilities and settings to improve the accessibility and workability of a route and landscape seen as major condition as well.

Current situation route network with location for interventions

1: Design parking

Parking implemented in natural setting

Nature regeneration as a consequence of the water that is retained by the dam

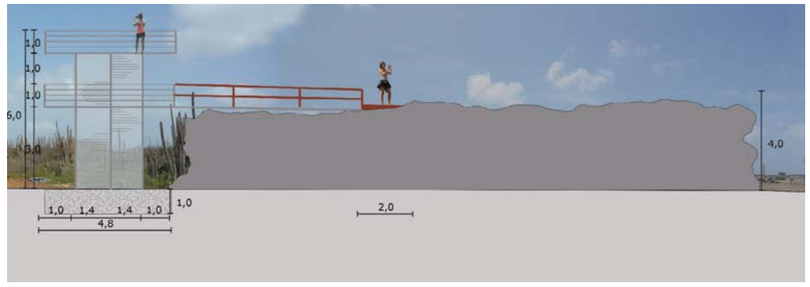
2: Design dam

Dam retains water and inproves the accessibility for users.

Agro tourism: Local farmers can give guided tours and build ecolodges

3: Design stairs to Washikemba plateau

The stairs gives the user access to the plateau



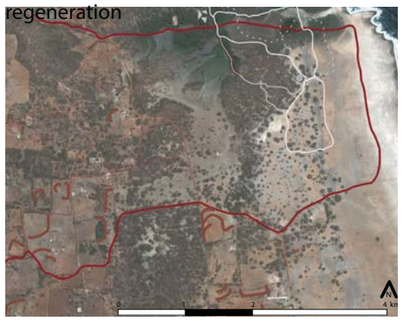
Agro tourism: local farmers can trade their local products

Legend

- Mountainbike route
- Hiking route
- Car route
- Coastal shore
- Informal roads rural outback
- Existing dam
- New dam
- Expansion current hiking trail
- Viewpoint
- Parking

Proposed 3 interventions

Extension of the route network and nature regeneration



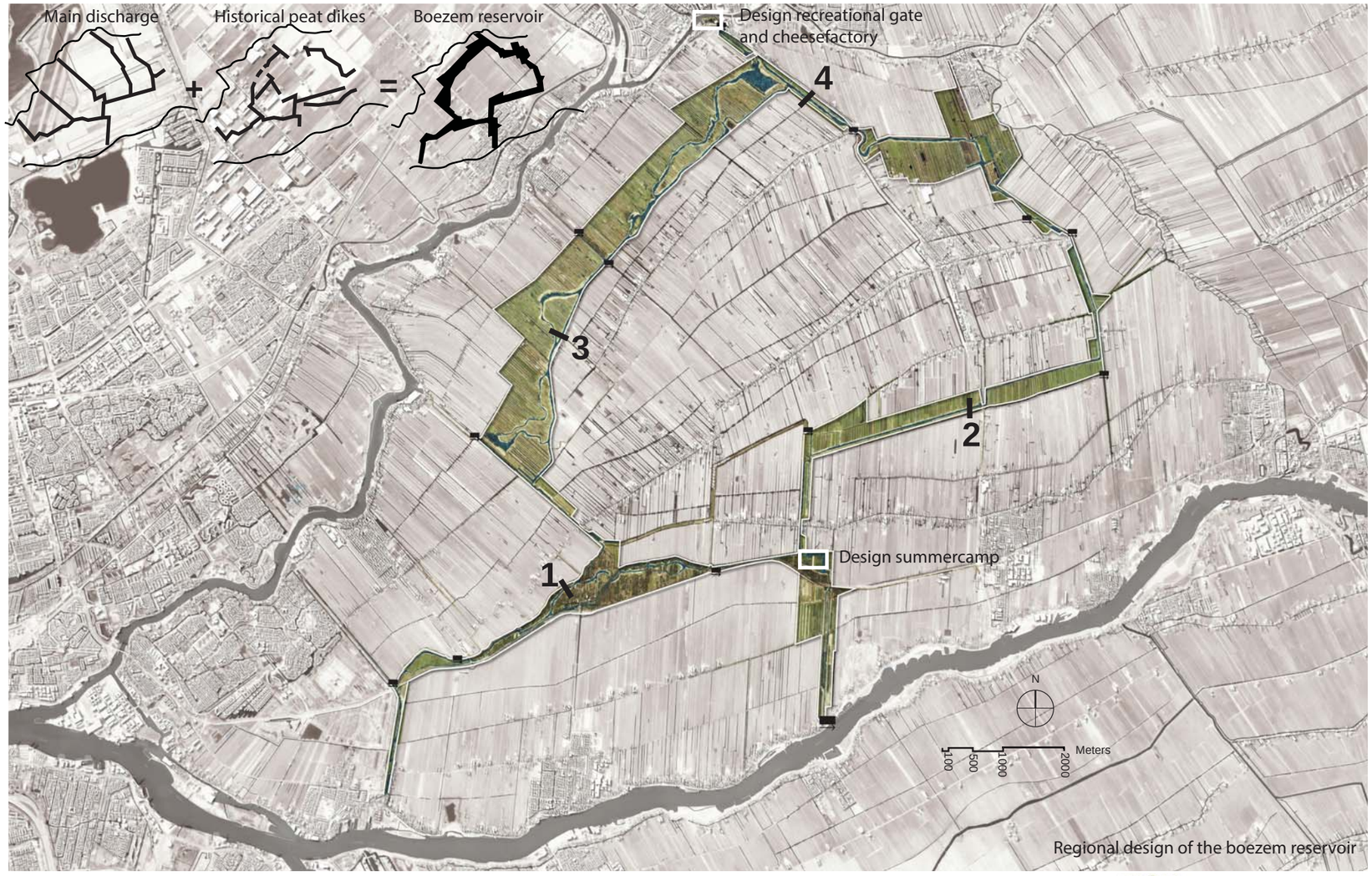
Extending the current dam system

Enlarged the water retention capacity

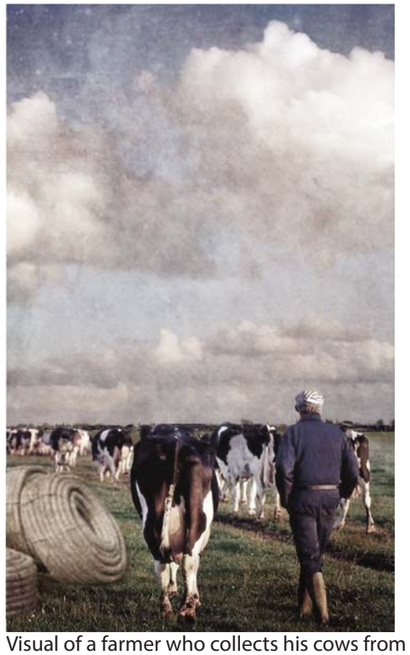
Extends the route network towards farmers

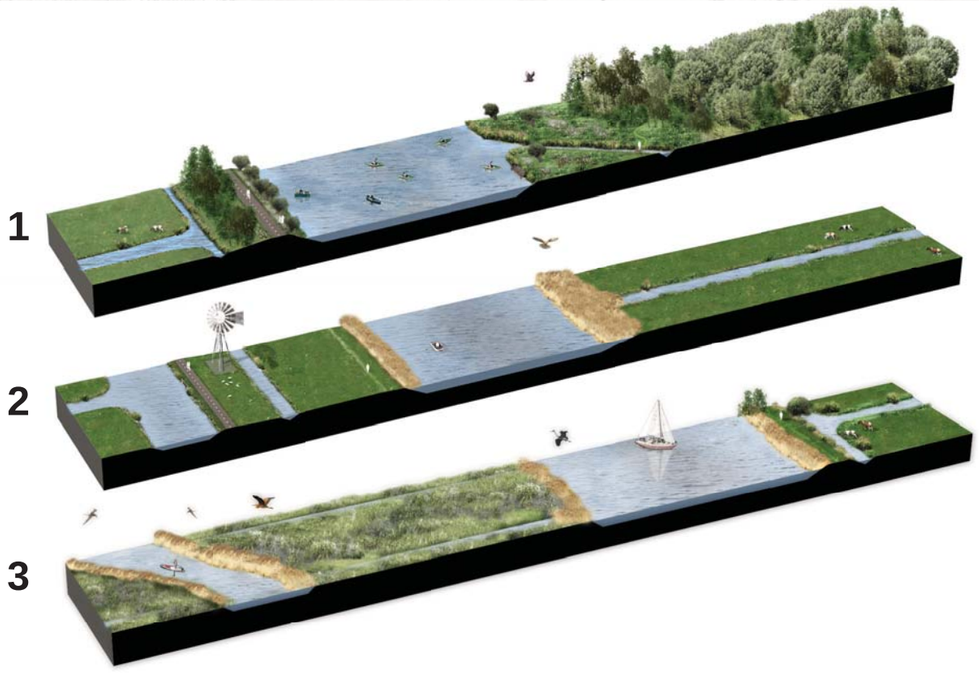
Sander Hermens
Adriaan Geuze

Research by design on a sustainable form of agriculture for the Krimpenerwaard



Regional design of the boezem reservoir


Visual of a farmer who collects his cows from the plots where submerged drains will be implemented



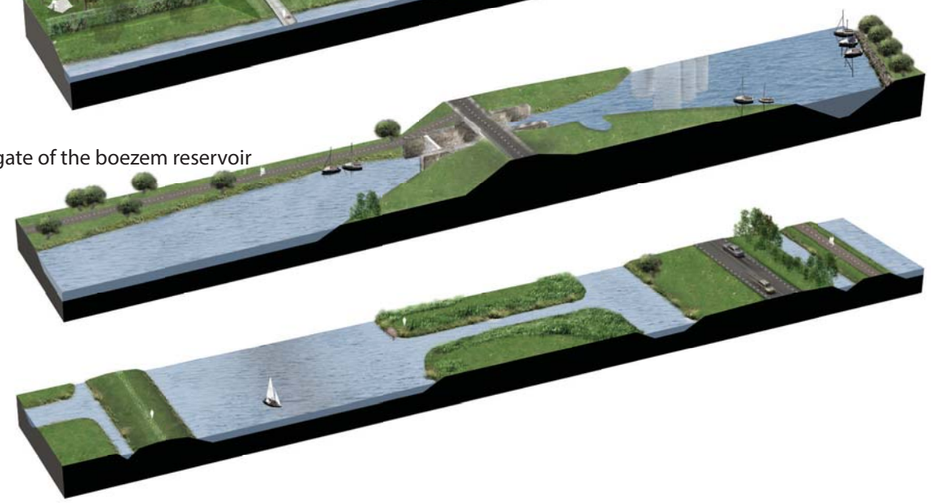
In the unique cultural landscape of the Krimpenerwaard agriculture is struggling. The peat oxidises and the soil subsides a few centimetres a year due to the draining of the soil. The consequences of soil subsidence are big; water management will become expensive and complicated, there are high costs for recovery and construction of infrastructure and the oxidation of peat results in greenhouse gas emissions. Changing the land use however is not the solution because with the disappearance of agriculture also the unique culture historical landscape will disappear. However, the current spatial development in the Krimpenerwaard is mainly focused on realizing new nature. There is hardly any funding available for improving agricultural conditions. This monofunctional spatial development results in high costs, social disruption, and loss of valuable agricultural land. This thesis forms an alternative for this current spatial development in the Krimpenerwaard.

The research by design has shown that large-scale implementation of submerged drains in combination with a boezem reservoir is a suitable sustainable form of agriculture for the Krimpenerwaard. Submerged drains are tubes that are implemented within the peat soil that infiltrate the water deeper in the plots so the rate peat oxidation diminishes with 50%. However integration of submerged drains results in an extra water demand in the summer and water troubles in wet periods. The design of a boezem reservoir in the Krimpenerwaard makes it possible to deal with these consequences and makes the integration of submerged drains on a large-scale possible. In addition, this boezem reservoir that is embedded into the pattern of medieval peat dikes, offers many opportunities for recreation and nature development. Opportunities the regional design can provide for potential users of the Randstad are shown in two detailed designs; a summercamp and a ‘gate to the boezem reservoir including a cheese factory.

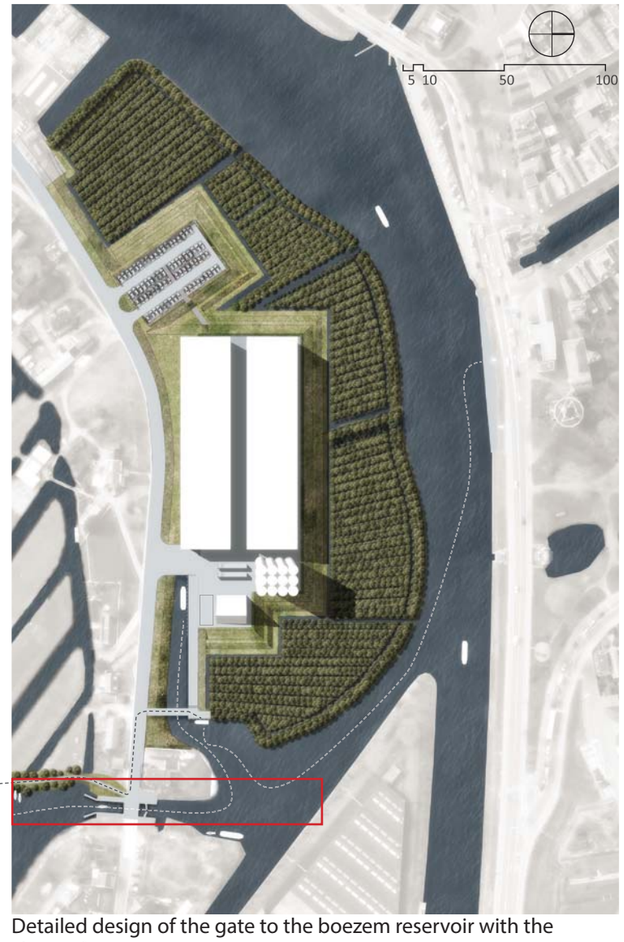
Visual of the summercamp

Section of the summercamp

Section of the gate of the boezem reservoir



Detailed design of the summercamp



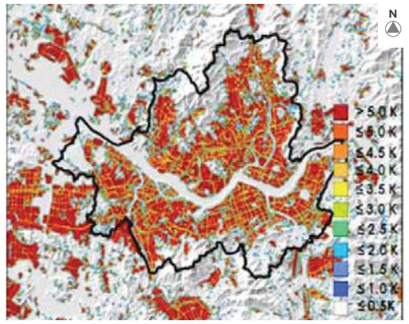
Detailed design of the gate to the boezem reservoir with the cheese factory

Visual of the cheese factory as seen from Gouda

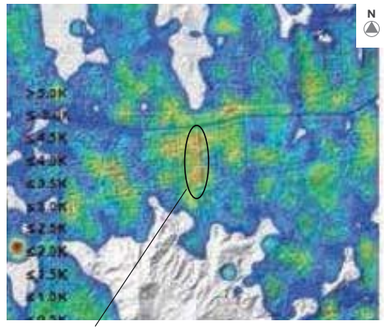
Yesol Park
Supervisor: Sanda Lenzholzer

Adapting and Communicating Urban Climate by Design

'Research through designing' for improving current urban climate adaptation situation of South Korea

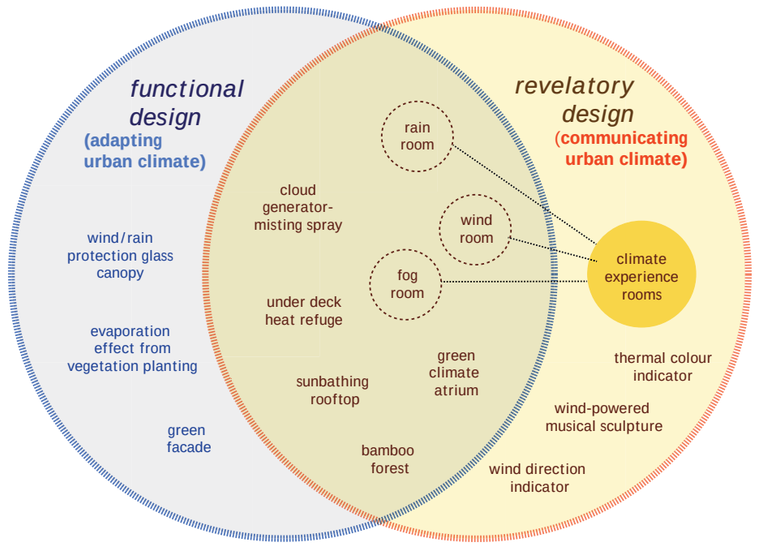


Most parts of inner city areas of Seoul are exposed to the UHI effect

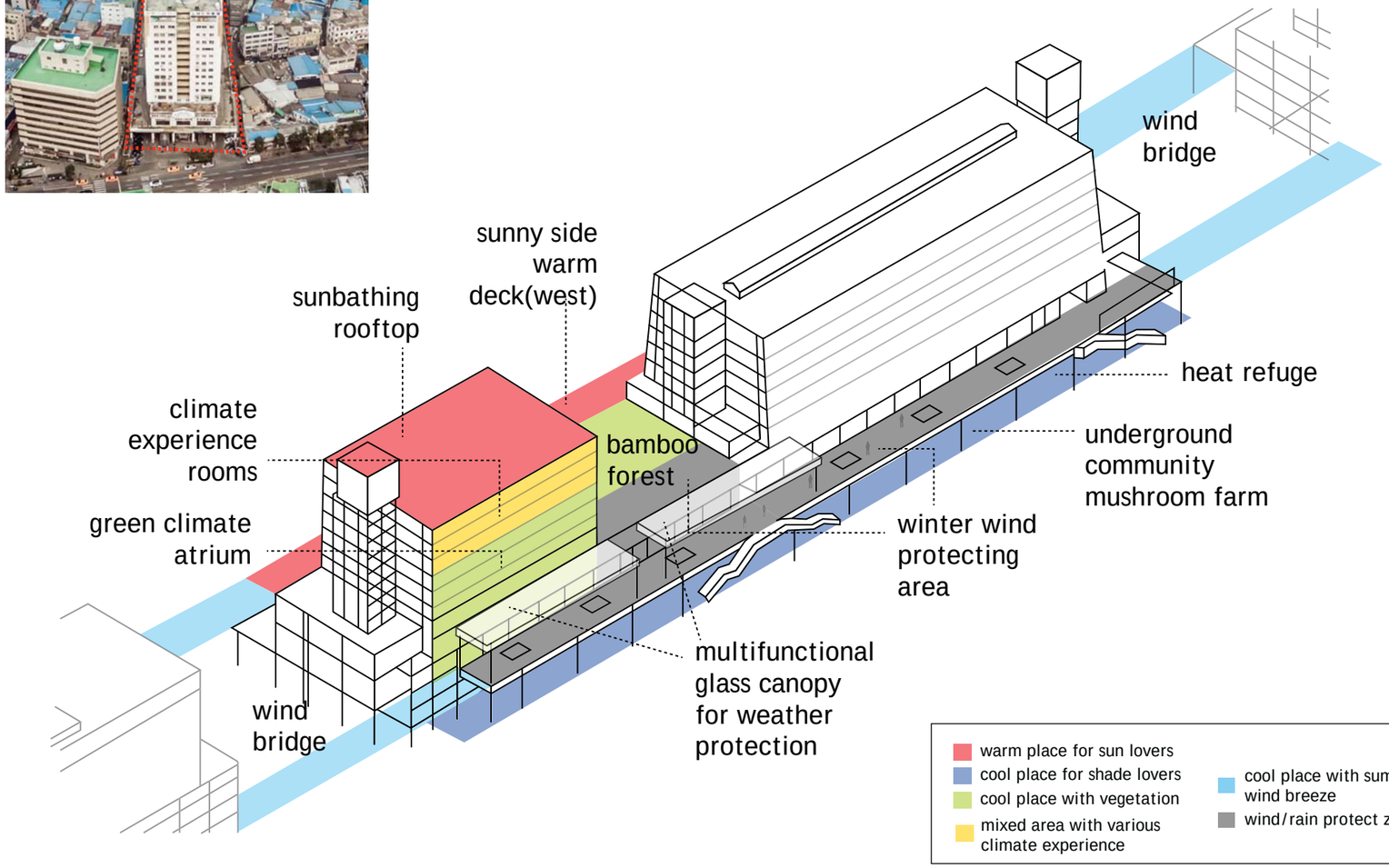


The air temperature of surrounding Seunsangga buildings is particularly higher

Site selection based on climate analysis - Seunsangga Complex, is a 50 meters wide and 1 kilometre long mega structure constructed from 1967 to 1972



Conceptual design strategies; functional design vs revelatory design



Programme and climate experience in the park

Abstract

This master thesis elaborates on how landscape architects can contribute to not only adjusting urban climates, but also communicate issues regarding urban climate adaptation to inhabitants.

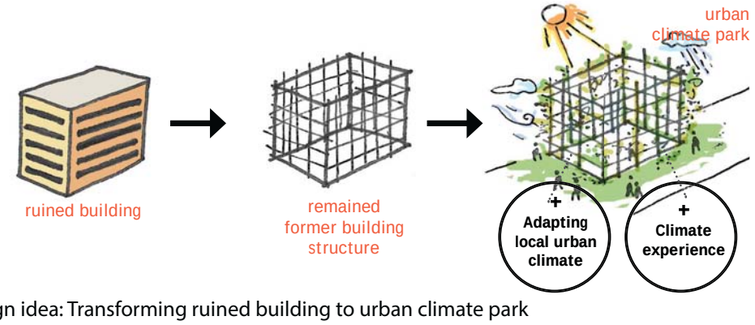
With rapid urbanization, combined with industrialization, South Korea is experiencing extreme and exceptional heat waves, particularly in the urban area. There is compelling evidence that this phenomenon will rise sharply in the near future.

The research aims to understand to what extent South Korean people groups – citizens, politicians, planners, designers and urban climate experts – are aware of the urgency of adapting to this phenomenon, and how far they are prepared to implement efficient adaptation measures.

From a landscape architect's point of view, the study argues that there are two potential implications for design. First, there is a need to improve the urban thermal environment; second, it is necessary to bring people's perceptions and actions vis-à-vis adapting to urban climate up to date.

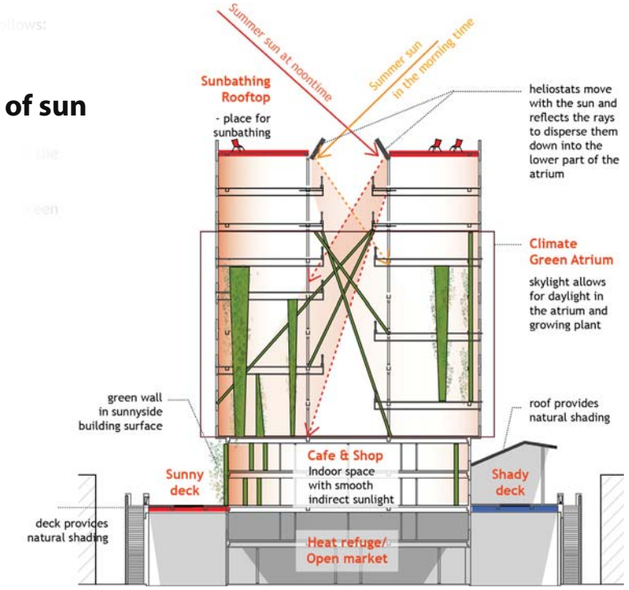
In order to test and prove these arguments, an example of a design proposal has been created considering the context of a specific project site in Seoul. Focusing on the double aspects of 'functional' and 'revelatory' climate adaptation design, this proposal aims to set an example of possible adaptation practices.

The effects of the design are explained through visual impressions of the space and devices used, as well as of the potential climate improvements visitors to the site might experience.



Design idea: Transforming ruined building to urban climate park

1 Influence of sun exposure

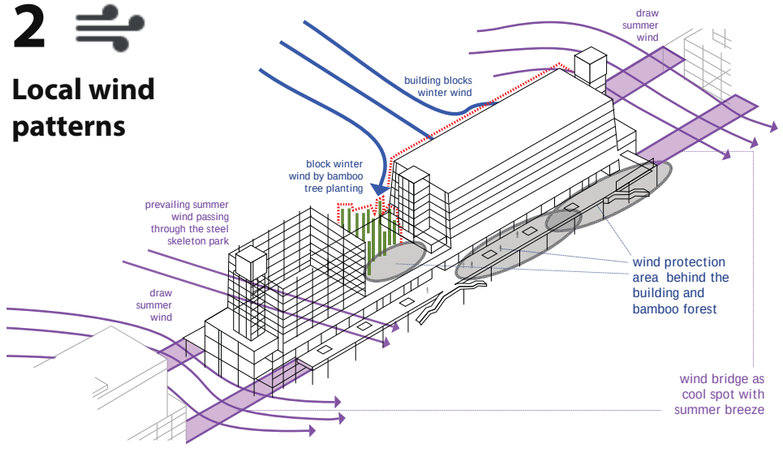


Considering the analysis on influence of sun exposure, various programmes are suggested

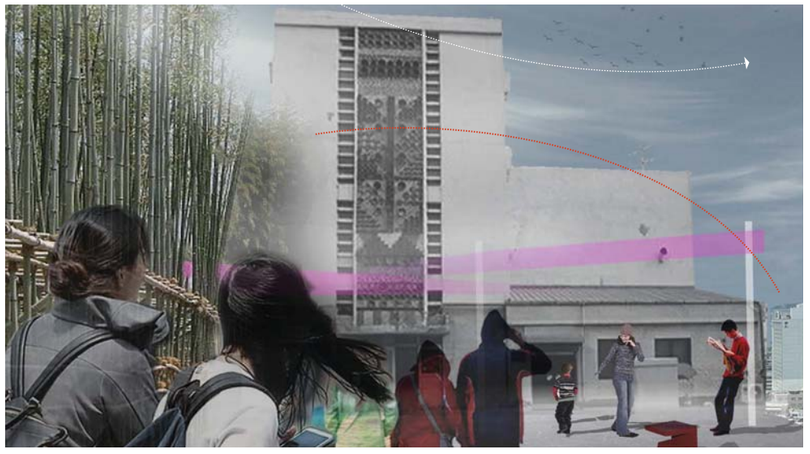
During the summer, people can be realized the presence of the breeze and its cooling effect through the climate revelatory installations in wind bridge area

Green climate atrium offers both cooling effect and novel green experience to visitors

2 Local wind patterns

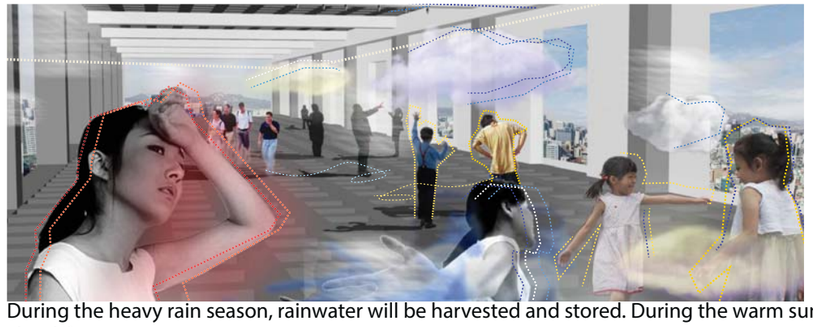


Careful analysis of prevailing summer and winter wind patterns is the basis of the design

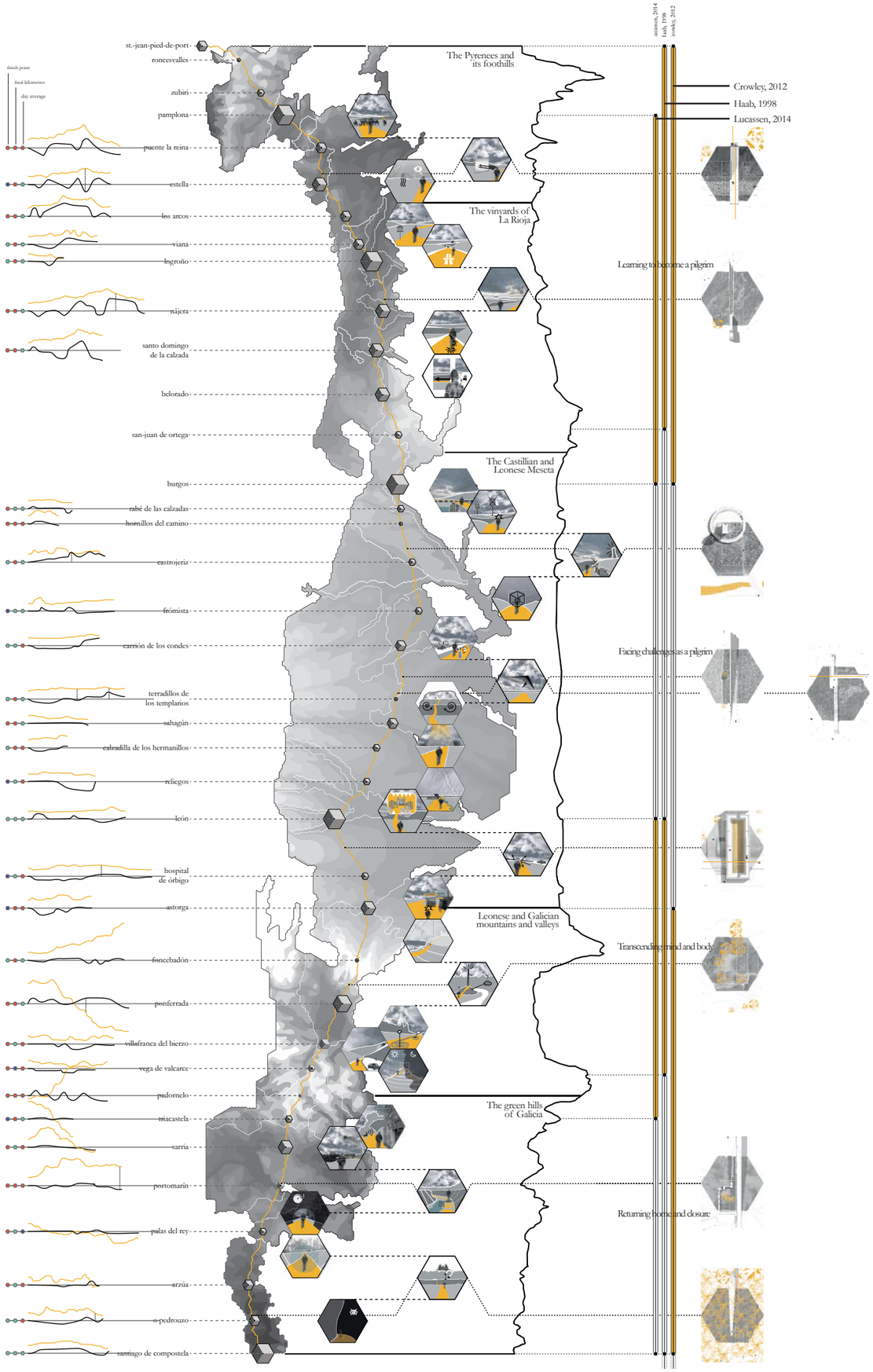


In the bamboo forest area, people will be protected from cold wind nuisance

3 Harvesting & using rainwater



During the heavy rain season, rainwater will be harvested and stored. During the warm summer days the collected rainwater will be used to generate misting/cooling effects in rain/ cloud/fog experience rooms



Within the larger landscape- and experiential structure of the Camino de Santiago the nine stations are located on the places were my individual experience of pilgrimage met the existing landscape of Northern Spain

Pim Lucassen
Ir. Rudi van Etteger
Ir. Niek Hazendonk (Ministerie van Economische Zaken, Landbouw en Innovatie)

Exploring the way
Towards designing a new spirituality on pilgrimage landscapes

Abstract

The religious situation in Europe is changing towards a more plural character; a new spirituality. Current traditional religious infrastructure does not seem to be flexible enough to cope with this change. In the continuing move towards pluralism the more individually orientated phenomenon of pilgrimage is becoming increasingly popular among believers and non-believers. Being the most geographical form of religious devotion it is remarkable that there exists little knowledge on how to design on pilgrimage landscapes from a landscape architectural point of view. Landscape architectural design could play a meaningful role in facilitating new spirituality in pilgrimage landscapes.

In this research the case of the pilgrimage to Santiago de Compostela; the Camino de Santiago, is subjected to two phenomenological methods, of which one includes a first-person experience of the author walking the route. Through a landscape- and diary analysis, aided by an elaboration on *rites de passage*, it is discovered that the landscape types of the Camino Francés form a clear overlap with the experiential structure of the pilgrimage ritual. With this structure forming the groundwork of the design a design-concept is formulated in which the unique individual and general experience of pilgrimage is put forward in a number of small-scale designs along the route. Here experience and landscape intersect.

The nine designs, called stations, are used as a tool to empower unique experiences and strengthen the existing larger landscape- and experiential structures. Inspired by the critical regionalist style the stations adds to existing ecclesiastical- and modernist structures on the Camino de Santiago as a way to transport the pilgrimage into the 21st century new spirituality. As there exists a general experiential structure within the pilgrimage ritual, a similar approach to design can be adopted on other pilgrimage landscapes.

„I DEVIATED JUST A LITTLE BIT, BUT I WAS REWARDED WITH THE MOST BEAUTIFUL SIGHT I HAD SEEN UNTIL NOW“

A station exemplified:

Reward through Deviating
261 KM (station 5)

clockwise:

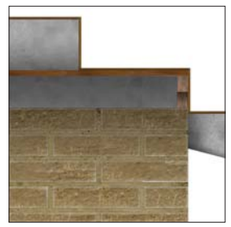
the larger landscape setting positions the station as an alternative route alongside the existing trail

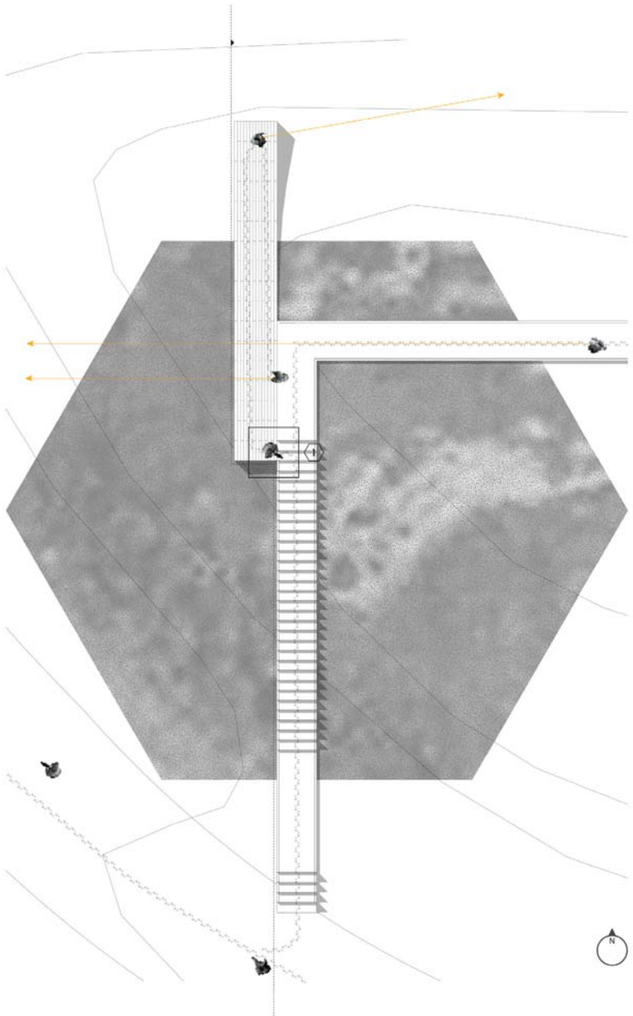
the design's plan view shows the simple and recognisable form-language that is adopted throughout the different stations

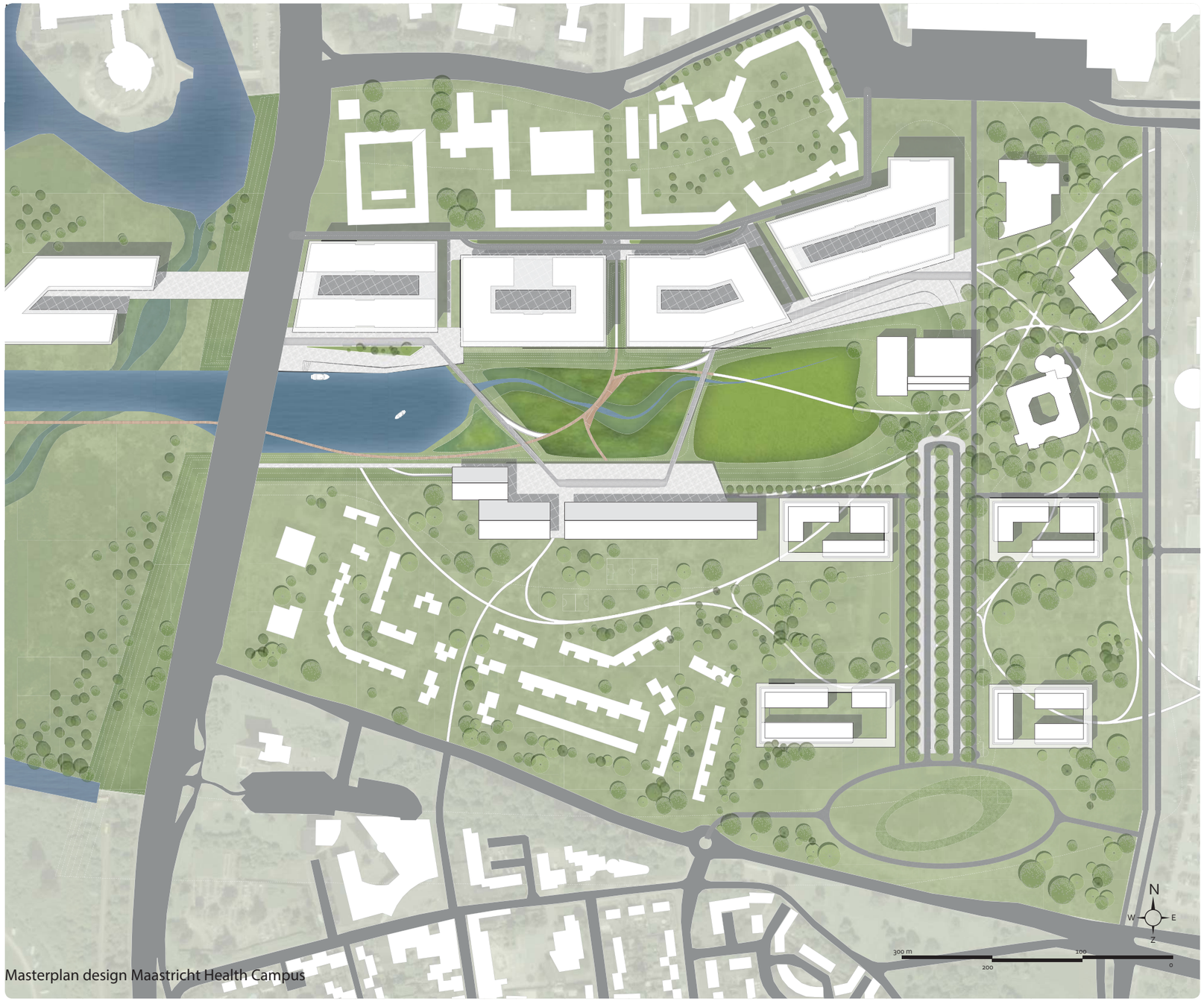
the section shows the elevated vantage point of the station on the top of a ridge

the visual illustrates the pilgrim's view over the large open plains of the Meseta plateau

the material- and construction details exemplifies the use of simple vernacular structures within a larger recognisable style





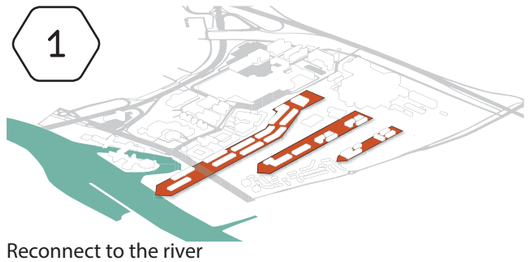


Masterplan design Maastricht Health Campus

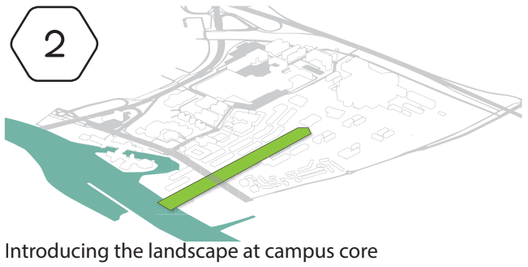
Kevin Knevels
Adriaan Geuze

The campus phenomenon
A design for Maastrich Health Campus

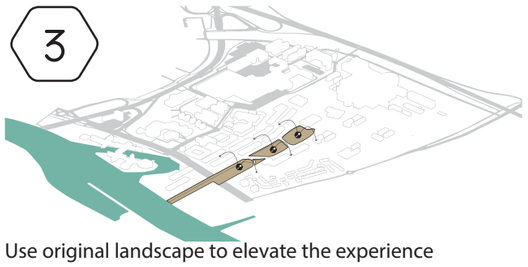
Abstract
The meaning of a campus is under more pressure than ever before. Its description is rather ambiguous and there is no consensus what it should entail. This renders us a landscape designers unable to design a campus. This thesis investigates the campus phenomenon from an overarching and integral perspective, by exploring its main characteristics and abstract campus typologies. This is achieved through a literature study, an elaborate reference study and a typological analysis, these results are integrated and tested through a casus design for Maastricht Health Campus by design scenarios and a cyclic iterative design process. Results have indicated the development of a campus from encompassing `the university grounds` to an overarching design concept. A campus is characterized by a human centered space which supports a vibrant community and motivates knowledge exchange in a beneficial parklike environment. Four campus typologies have been established: the Enclaved Campus, the Urban Campus, the Parkland Campus, and the Multi-cluster Campus. The design for Maastricht Health Campus reconnects it with the surrounding landscape and the culture of Maastricht. It respects the natural landscape and the dynamics of the river in order to create a campus with a strong identity which is characterized by its cozy atmosphere where social interaction, food, leisure, study and work are stimulated and blend together into a coherent setting.



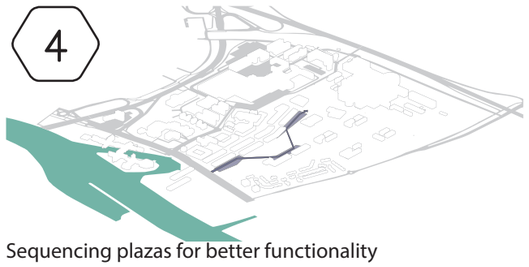
Reconnect to the river



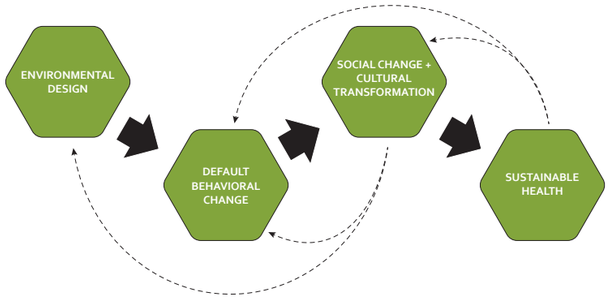
Introducing the landscape at campus core



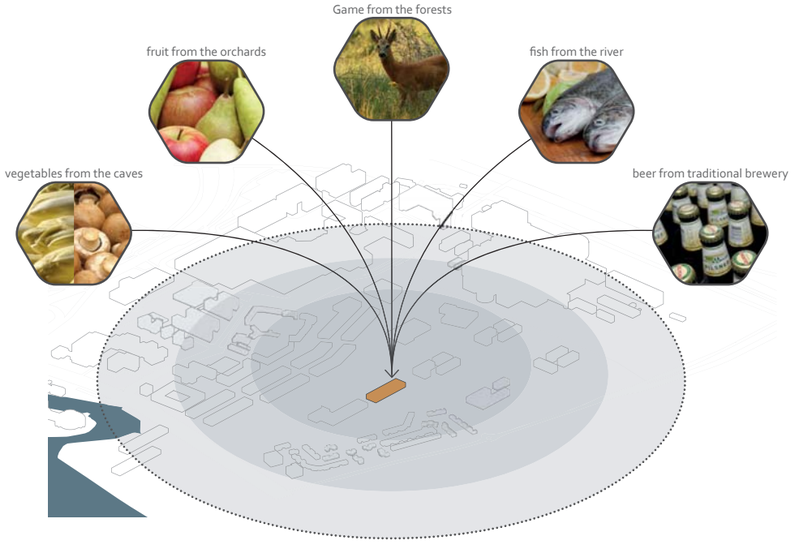
Use original landscape to elevate the experience



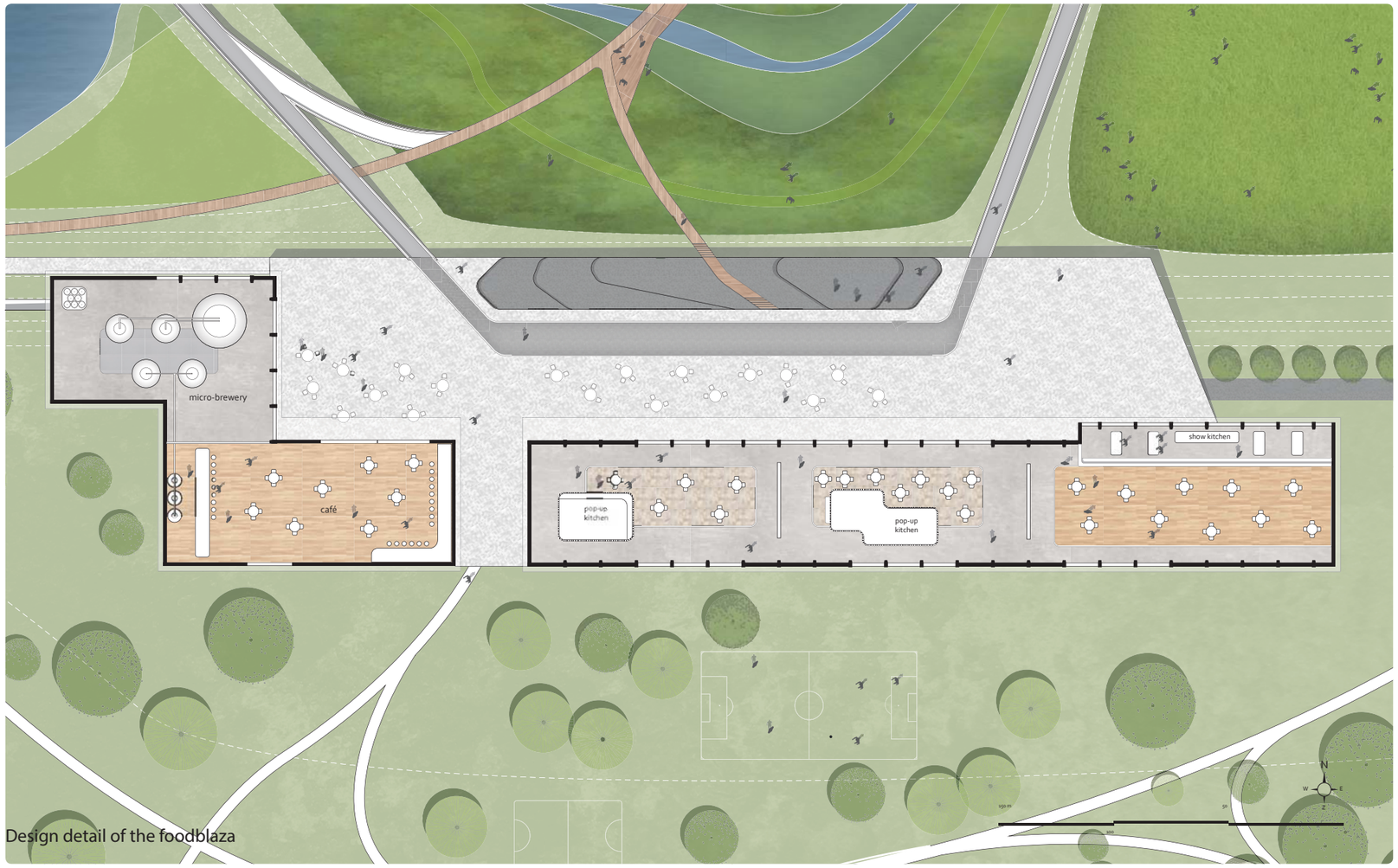
Sequencing plazas for better functionality



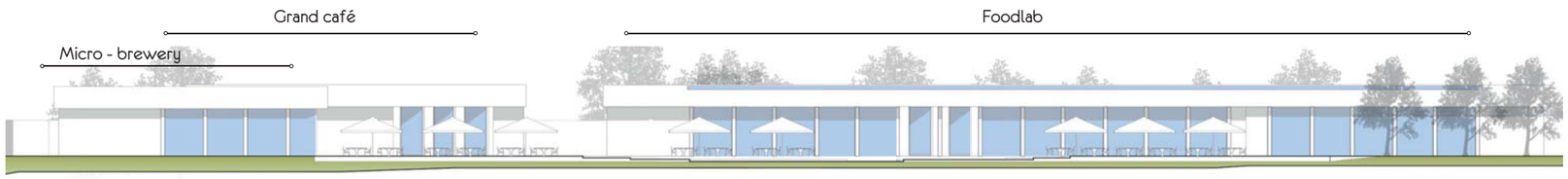
Theoretical framework to introduce a sustainable health into the design of educational environments.



The foodlab as a culinairy hotspot at centre campus with local products and a representative of the burgundian lifestyle.



Design detail of the foodblaza

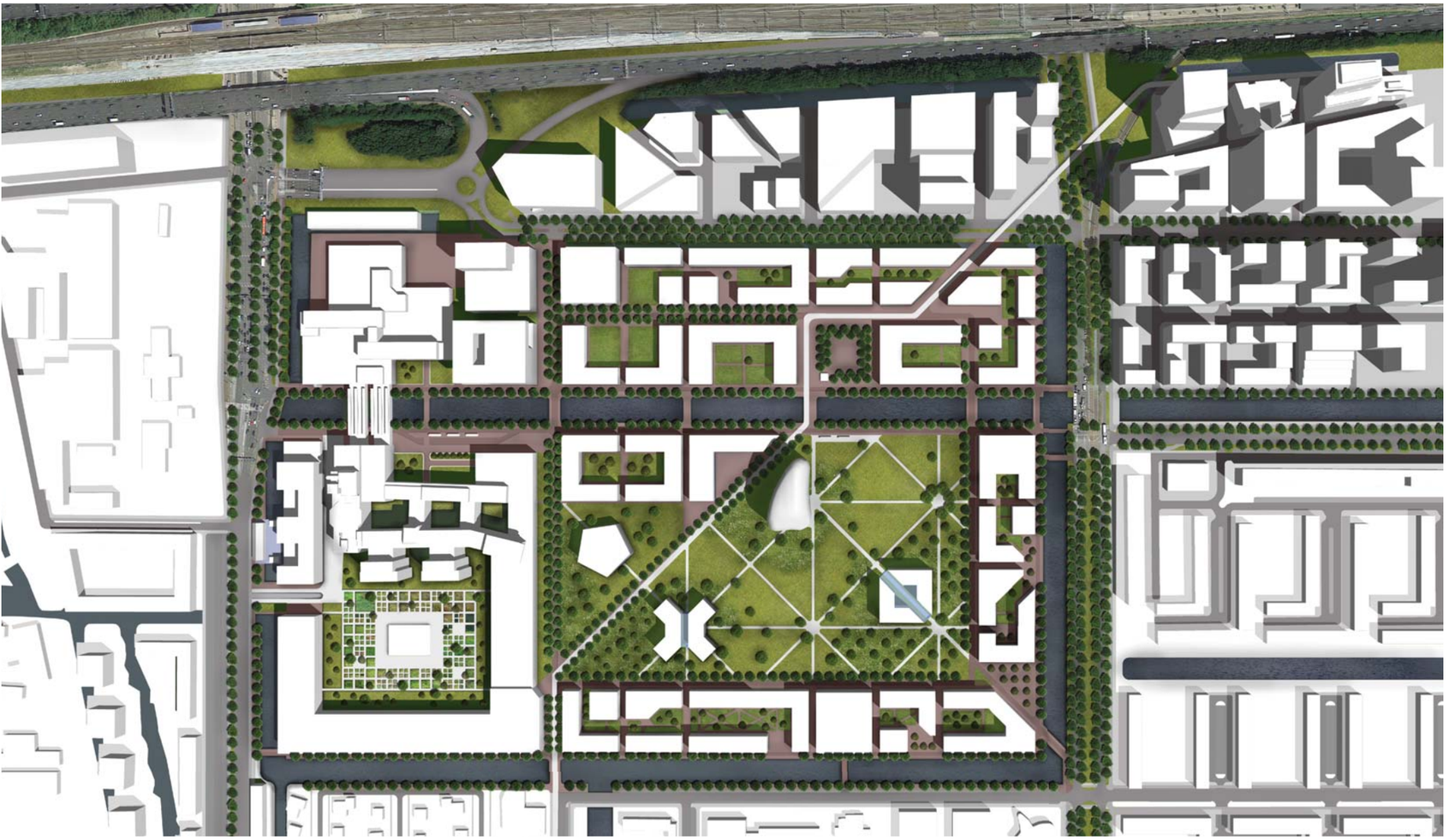


impression on the foodplaza

impression on the highest plateau with recreational grasfield.

Ludo Dings
prof. ir. Adriaan Geuze

The Campus Conundrum
Disentangling an elusive concept by designing the Kuyper Campus



Masterplan of the new 'Kuyper Campus'

Abstract
The meaning of a campus is rather ambiguous and there is no consensus what it should entail. This makes us unable to comprehend and design a campus. This thesis investigates the campus phenomenon from an overarching and integral perspective, by exploring its main characteristics and abstract campus typologies. This is achieved through a literature study, an elaborate reference study and a typological analysis. These results are integrated and tested through the design of the Kuyper Campus by design scenarios and a cyclic iterative design process. Results have indicated the development of a campus from encompassing 'the university grounds' to an overarching design concept. A campus is characterised by a human-centred space which supports a vibrant community and motivates knowledge exchange in a beneficial park-like environment. Four campus typologies have been established: the Enclaved Campus, the Urban Campus, the Parkland Campus and the Multi-cluster Campus. The design reconnects the Kuyper Campus with Amsterdam and integrates a green and human-centred enclave into the dynamic Zuidas district. It respects the small-scale- and introverted character of the VU and creates a vibrant and coherent campus where one can meet, study, work or live in an interesting diversity of several interconnected atmospheres.

Keywords: campus phenomenon, design, conceptual research, typological analysis, VU Amsterdam, landscape architecture.

1. The Enclaved Campus

2. The Urban Campus

3. The Parkland Campus

4. The Multi-cluster Campus

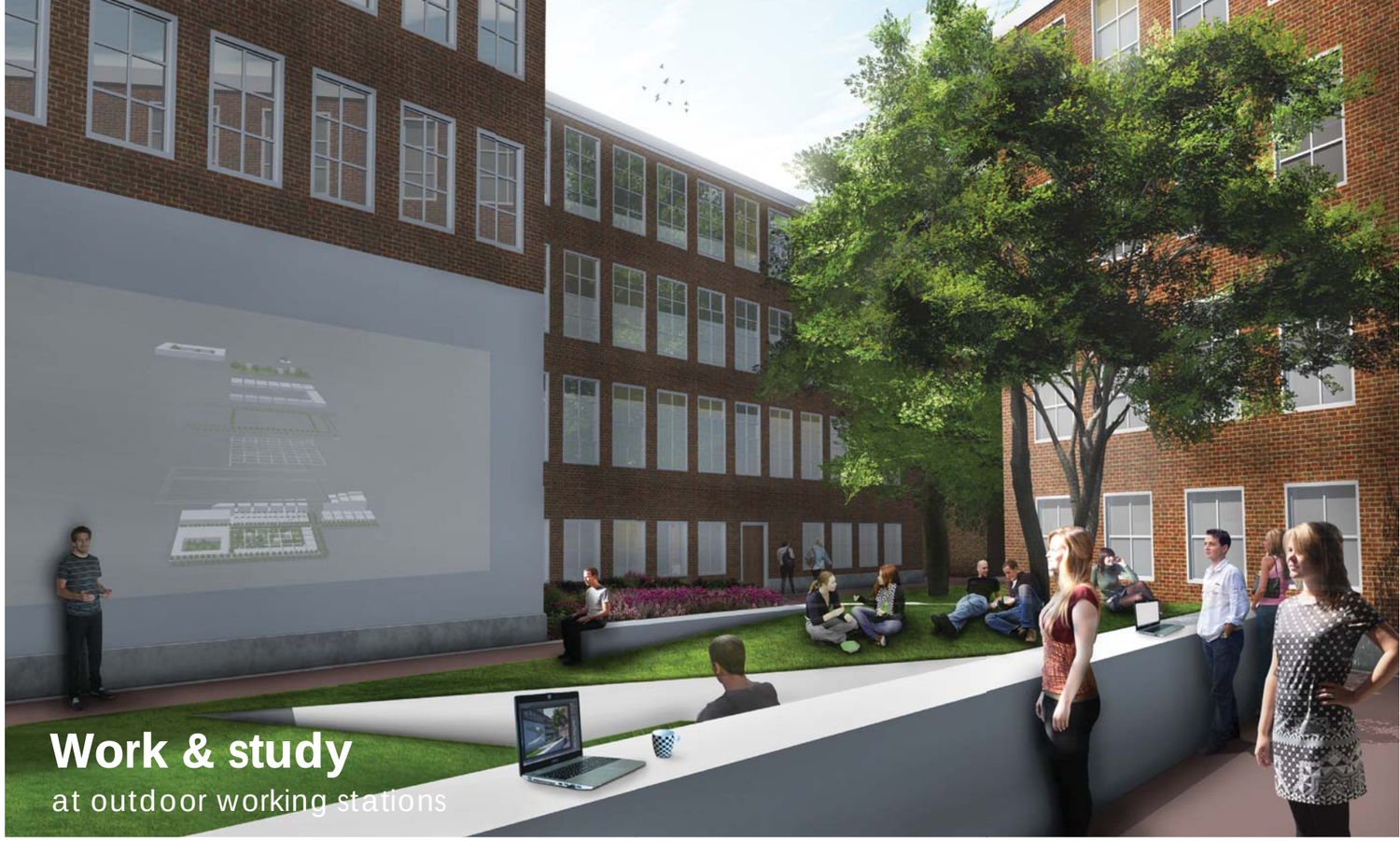
Four abstract campus typologies as derived from research

Five atmospheres / one coherent design

Experience
the vibrant Amsterdam atmosphere

Meet
an international academic community

Relax & recreate
at a park-like environment



Work & study
at outdoor working stations

Enjoy
the outdoors from indoors

Aerial view with the mine on the background, Malmberget in the middle and Gällivare on front.

Malmberget, which literally translates to “Ore Mountain” is a small mining town in Northern Sweden. Since the 1950s an open ore mining pit has slowly eaten away the central part of the town and people were forced to move to the neighbouring town of Gällivare. Several groups of people are involved in and affected by the movement of Malmberget and the mining industry that is active in the area.

The LKAB is a Swedish mining company active in Malmberget. The mining involves explosives, resulting in ground deformations, destabilizing the surrounding area.

Malmberget is part of the municipality of Gällivare. Together with the inhabitants they created a vision for 2030: “New Gällivare, an arctic small town of world class!”

The movement of the town has a large social and emotional impact for the community. People feel attached to the heritage and spatial qualities of Malmberget. The move itself is not that much what they are concerned about, but the link to their history and the history of place is.

The rapid expansion of the mining industry since the late 19th century has hugely affected the lands and the traditional way of living of the indigenous Sámi people.

Nature is seen as undisturbed natural areas that invites for outdoor recreational activities and need to be within walking distance of 1 kilometer from neighbourhoods.

The history of a lively mining town that inevitably has been on the move for the mine might not be forgotten.

The main value of the Sámi culture is living in harmony with nature. There needs to be more awareness of the culture, values and way of life.

The towns Malmberget and Gällivare need to become one strong and coherent unity, enhanced by the fast and slow traffic connections.

On the south facing slopes, where Malmberget is located on, can the sun be experienced. This distinct quality of Malmberget needs to be emphasized and better accessible.

Name student(s)
Gilles van der Heijden & Jules Neefjes
Name supervisor(s)
Paul Roncken

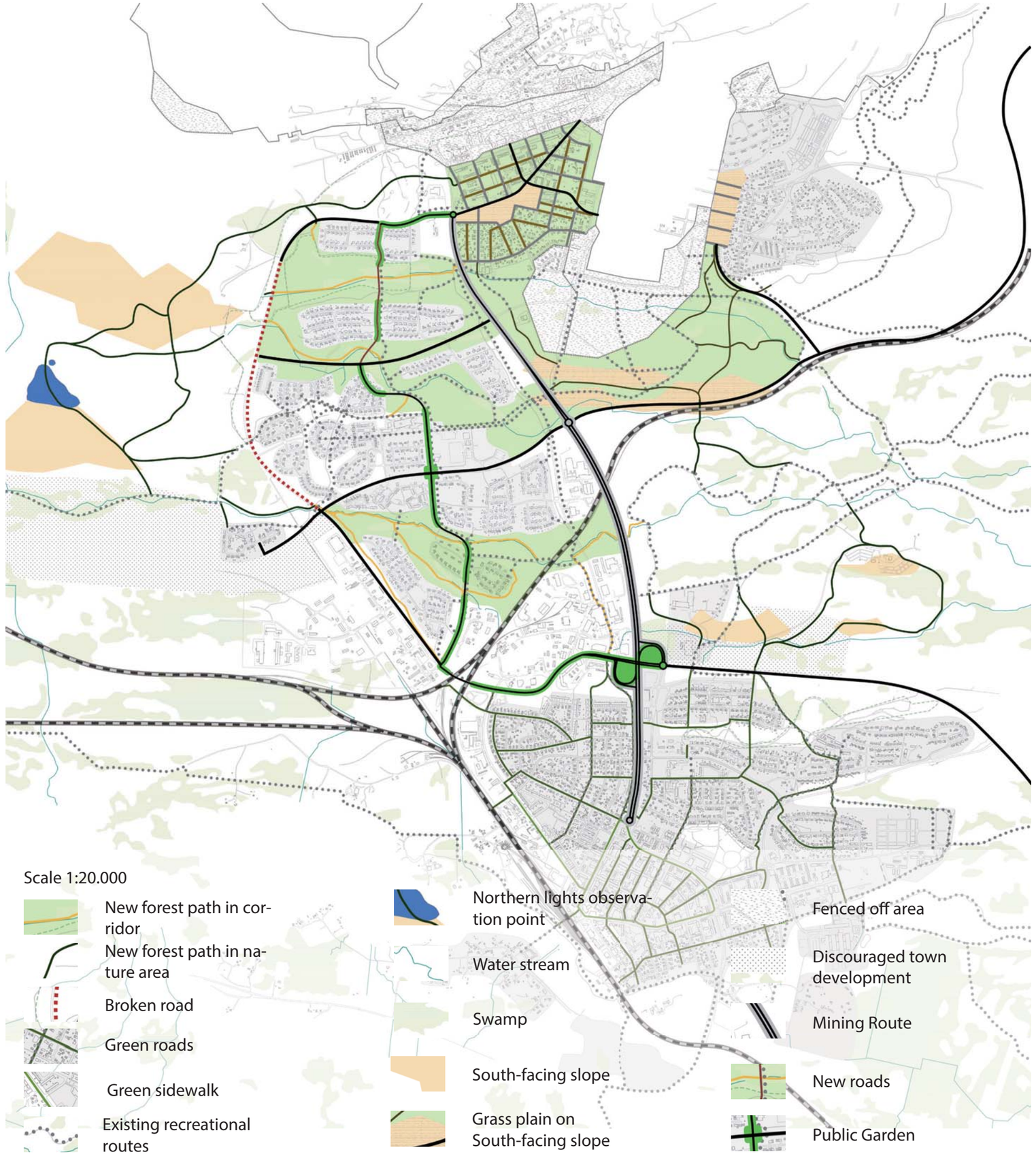
Naturally mOre Malmberget
On mining and the landscape in Malmberget

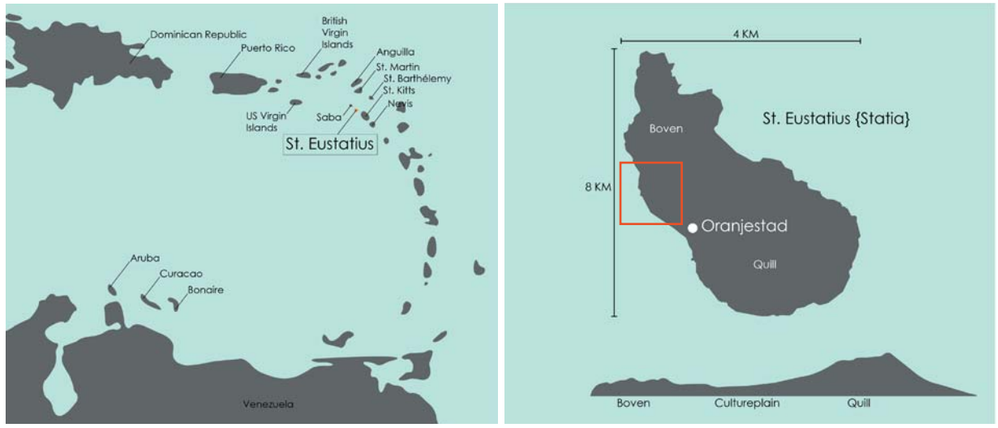
Abstract
The mining industry strongly affects the landscape narrative of local communities. This report shows the case of Malmberget, a mining town in Northern Sweden, where people have to move because it is too dangerous to keep living in the town, as it is too close to the mine. Malmberget is in the middle of a process where houses are being moved or torn down and large areas are fenced off already. The history of the town and the qualities that were there, the landscape narrative, is fading. And people are afraid that it will get lost.
The design is aimed at expressing the narrative that is important to all the involved stakeholders. Therefore, the research that has been done for the design has been focused on what values are important to express in the landscape. Interviews with the stakeholders are conducted, the daily living environment of the stakeholders is analyzed and precedent designs within a comparable problem context are studied. From this, a set of common values, across the different types of research has been found, which has formed the basis of the design.
The design, elaborated in a masterplan, is a network of restructured roads and streets and recreational paths where the important values can be experienced.

Connections with nature, the complete experience of nature, the possibility to roam around in nature and the sun are core-aspects that come to expression in the concept for the design. As well as connectivity with Malmberget and its history, which will be expressed in thematic routes connecting Malmberget and Gällivare.
The natural connections and thematic routes connect the towns and enhances the unity of them.

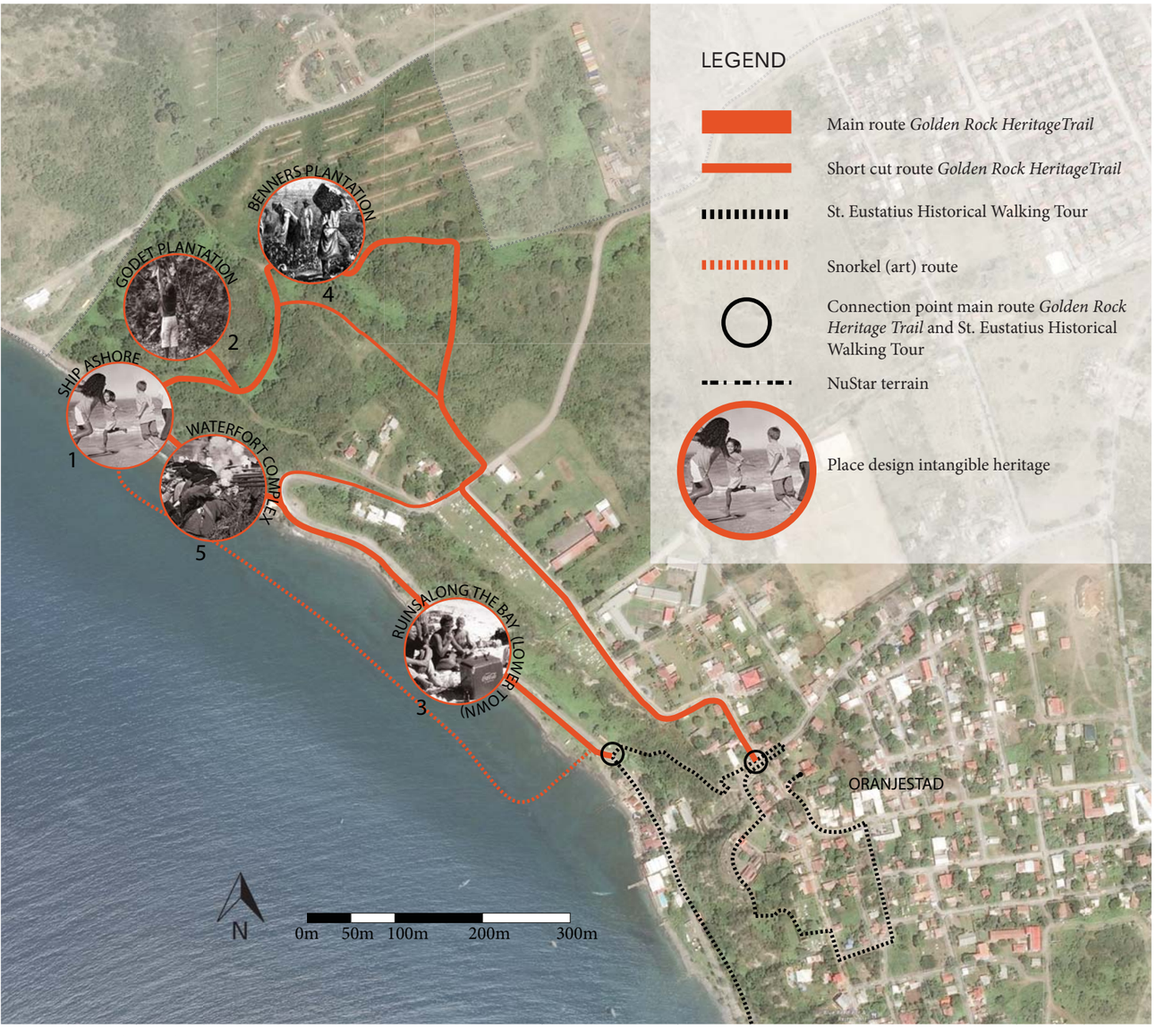
The two layers together form the masterplan, the location of Malmberget will be the ecstasy where both layers meet in the mining-park. Here the importance of nature and history will be shown side-by-side.

The mining park also ensures that the eastern part of Malmberget will not become a separate entity, it will function as a natural connection between Gällivare and east Malmberget. (see next page for the masterplan)





St. Eustatius: a small island situated in the Caribbean



Masterplan Golden Rock Heritage Trail

Marieke van Zuiden
Ingrid Duchhart

Heritage Trail from Below

A landscape narrative based approach to heritage trail design, case Golden Rock Heritage Trail, St. Eustatius

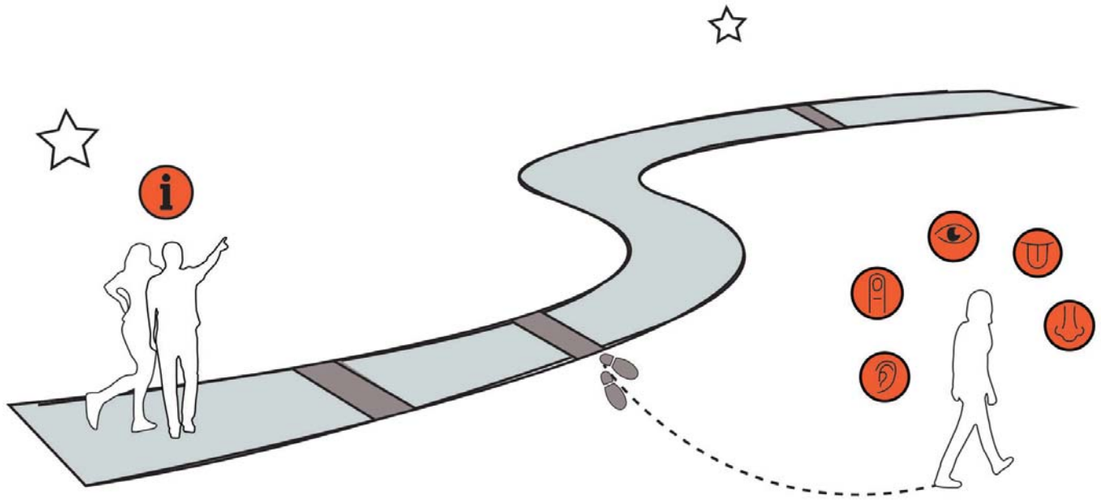
Abstract

Worldwide heritage management focuses on tangible heritage, which also applies to heritage trail design. However, besides tangible heritage, incorporating intangible heritage in heritage management is important for maintaining community identity and has great social significance (Pocock *et al*. 2015; Byrne *et al*. 2001). In the *Proposal for the Golden Rock Heritage Trail* at St. Eustatius plans are described for making a heritage trail that aims at developing tourism at the island by showing the tangible heritage remains to the tourist. The tangible heritage local people do not relate to, which is a conclusion from previous research (Leonardi 2016). This thesis aims to find a different approach to designing the *Golden Rock Heritage Trail* at St. Eustatius incorporating intangible heritage.

The notions tangible and intangible heritage are translated to the landscape narrative research method that is used for finding the intangible heritage underlying the *Golden Rock Heritage Trail*. Local people do not relate to the tangible remains, but are attached to their personal memories of the past, experiences and current use attached to the places of the *Golden Rock Heritage Trail*. Historical experts mostly relate to the stories attached to the tangible remains of the Golden Rock past.

The design for the *Golden Rock Heritage Trail* lets the visitor experience the intangible heritage stories by giving the possibility to step into the footsteps of the intangible heritage stories that are made visible through spatial design. Besides intangible heritage stories the tangible remains are also incorporated in the trail by giving information on the history of that specific place.

Maintaining community identity requires incorporating intangible heritage in heritage trail design which is possible through a landscape narrative approach based design making visible intangible heritage resulting in the heritage trail from below from a bottom-up, local-people centred approach.



Design concept - Step into the footsteps of the different intangible heritage stories, or get information on the tangible remains along the route by scanning the QR-code on the route. Example of the main route containing the two different tiles: information tile for tangible heritage and the tile that points the visitor off road into the footsteps of the story.

(3) Step into the footsteps of the picnicker in Lower Town, sitting in the shade, gathering with friends and family and having a barbecue or a picnick.

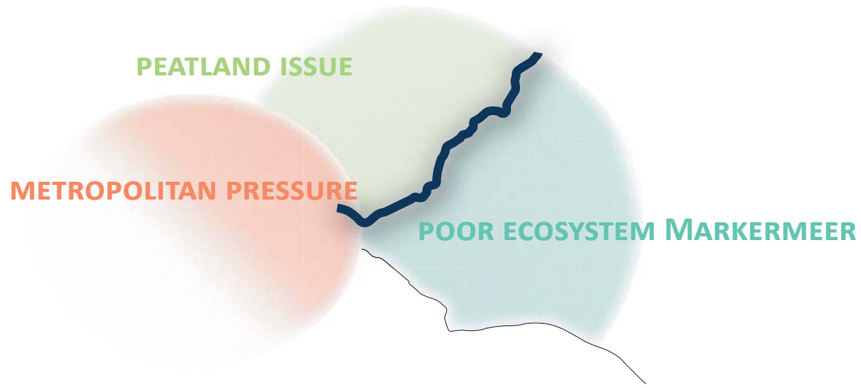
(1) Step into the footsteps of the slider off sandybank: slide off the ramp of the boardwalk that leads up to the structure of the ship ashore, as a reference to the ship that came ashore during a hurricane in the past, with a viewpoint over the Caribbean Sea.

(4) Step into the footsteps of the slave and plantation owner, in the working area (the sugar distillery), the slave village or the sugar cane field and the living area of the plantation owner, by viewing the former accentuated structures of the plantation buildings.

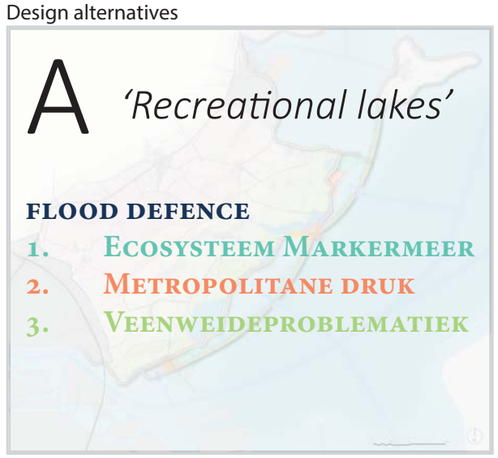
(2) Step into the footsteps of the fruithunter of the past, and the former self-sufficient life when all the food came from the island. Learn about the different crops of the past and now, from colonial crops to the crops that are still cultivated nowadays, combined with a terrace, restaurant and places for lounging and enjoying the view.

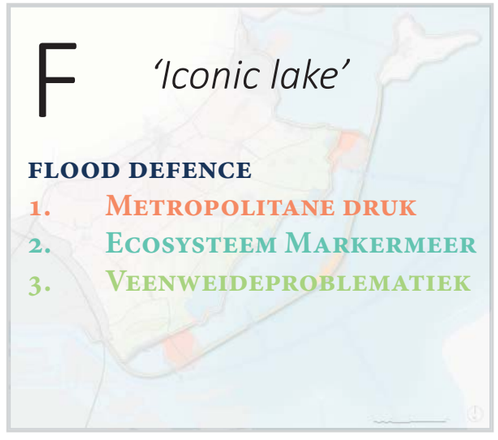
(5) Step into the footsteps of the pirates and the buccaneers of the colonial times and enjoy the view over the harbor and the Caribbean Sea, imagining the whole harbor to be full of merchant ships in the Golden Rock period.

Context and location of dike

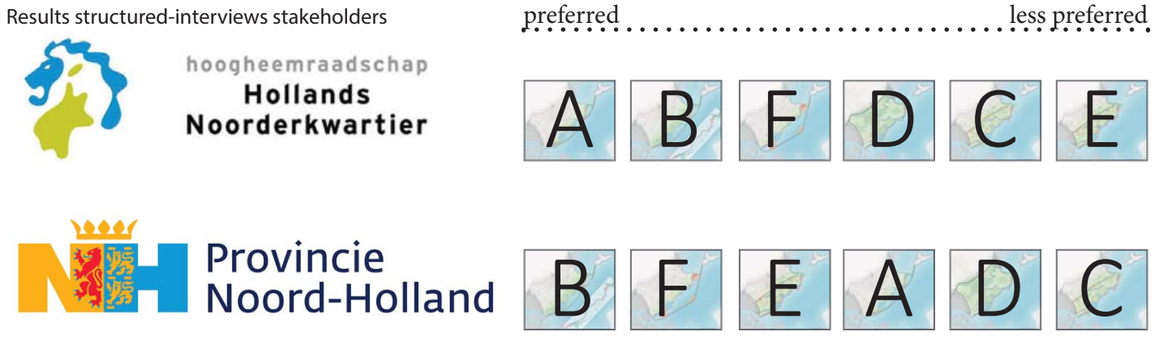


Design alternatives





Results structured-interviews stakeholders



Mariska van Reijn
Ingrid Duchhart
Martijn Franssen (Witteveen+Bos)

From Dike to Dike landscape

integrating spatial problems into designs for dike enforcements
case: the Waterlandse Zeedijk

Abstract

In the Netherlands dikes are enforced within the National Flood Protection Program (Hoogwaterbeschermingsprogramma). Because of governmental budget cuts the design of the program has changed; 'lean and efficient' is now an important financial requirement. In practice, these requirements result in a sectoral approach rather than an integral approach to dike reinforcement projects.

In the MSc research the added values of an integral dike enforcement design, which specifically integrates spatial issues from the surroundings of the dike, is researched for the case the enforcement project of the Waterlandse Zeedijk (Netherlands). The added values are determined by comparing the sectoral enforcement design of the Waterboard with a designed integral enforcement design.

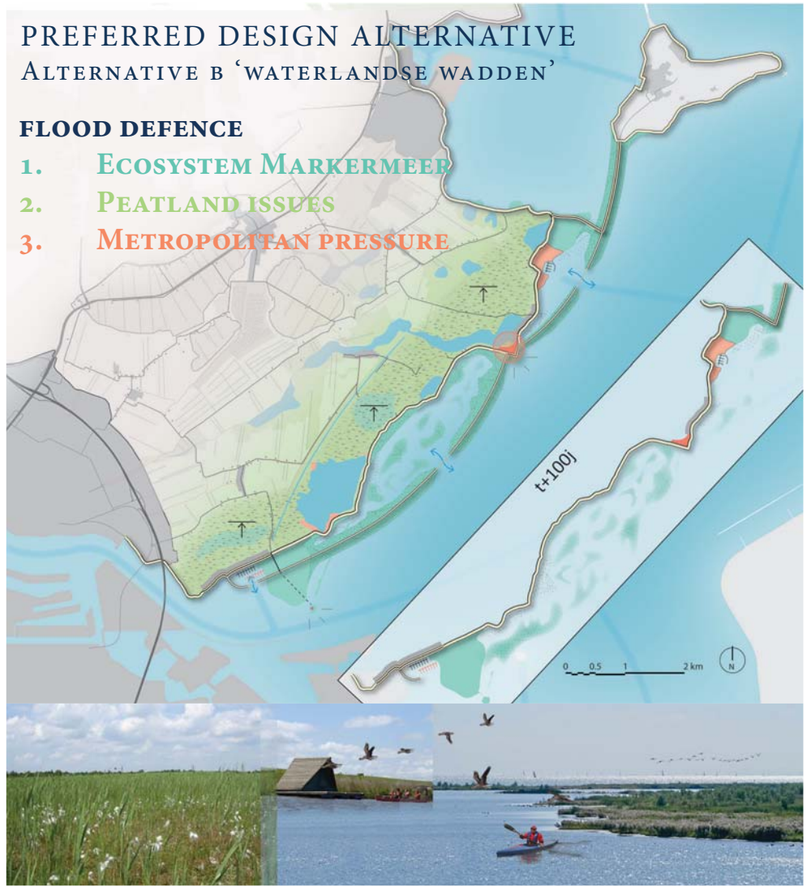
Six design alternatives have been made using ranking; each alternative has a different order of priority of the three problems. The stakeholders have chosen the preferred alternative. The preferred alternative is elaborated into a detailed landscape plan . The landscape plan shows a flood protecting dike landscape for the year 2100.

The final research step was an analysis and comparison of the sectoral and integral design using a cost-benefit analysis and multi-criteria assessment. The integral design, which has a scope that covers the whole dike landscape, turned out to have multiple added values compared to a sectoral design, which has a scope that covers only the dike itself. The integral design contributes optimally to solving spatial issues of the surroundings of the dike, which is more flexible, which can be easily enforced in the future, which preserves better the cultural heritage, which is more innovative and will generate new knowledge, which has more public support from the stakeholder and costs less.

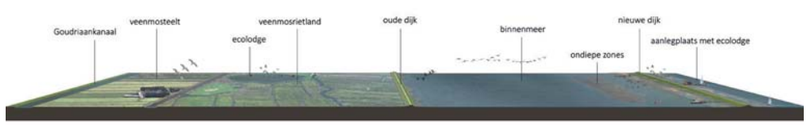
PREFERRED DESIGN ALTERNATIVE
Alternative B 'waterlandse wadden'

FLOOD DEFENCE

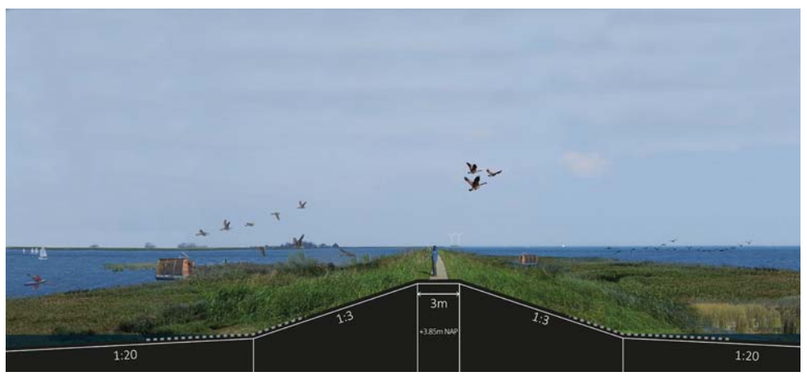
1. Ecosystem Markermeer
2. Peatland issues
3. Metropolitan pressure



Preferred design alternative B and collage



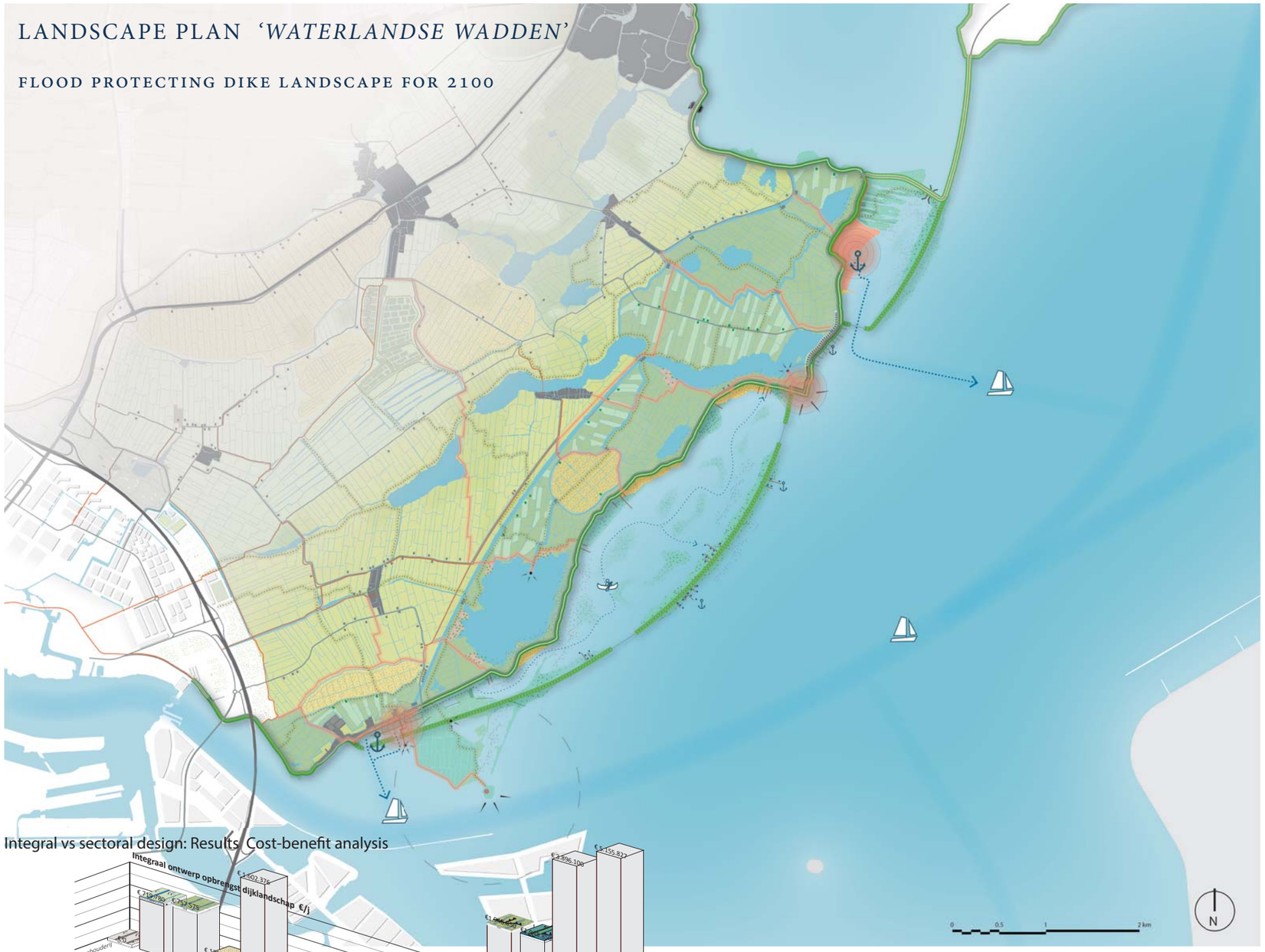
Isometric view dike landscape of integral design



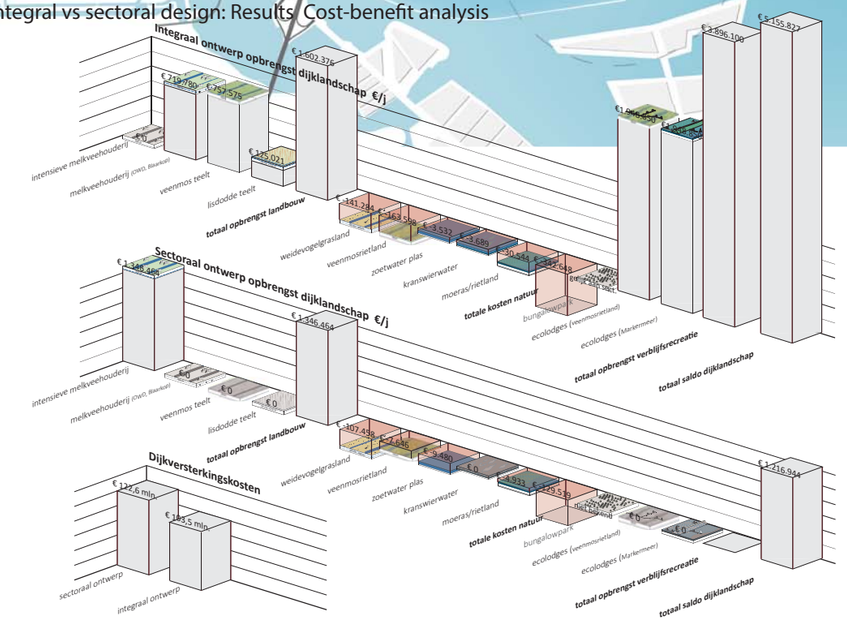
Visualisation new dike

LANDSCAPE PLAN *'WATERLANDSE WADDEN'*

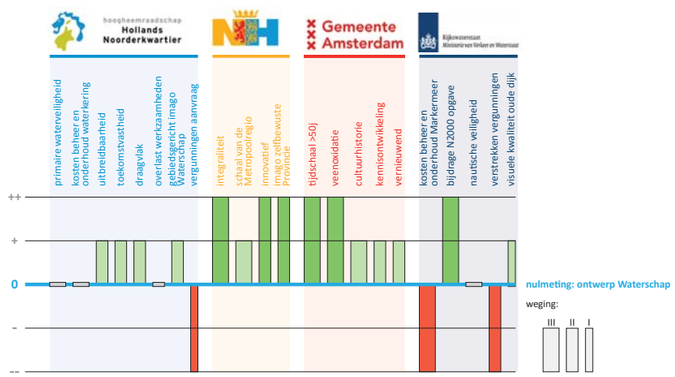
FLOOD PROTECTING DIKE LANDSCAPE FOR 2100



Integral vs sectoral design: Results Cost-benefit analysis



Integral vs sectoral design: Results Multi Criteria Assessment



The Landscape System - of the Galveston Bay and Coast

Helena Van Boxelaere
I. Duchhart

Realised with the support of Stichting NHBOS:
STICHTING N·H·BOS
ter bevordering van de landschapsarchitectuur

Move On

Research-through-drawing for flood resilience at the Galveston Coast, TX

Abstract

In 2008, Hurricane Ike frightened the Upper Texas Coast and reminded the coastal region of its vulnerability to storm surge flooding. As a result, a coastal barrier with floodgates and a set of dikes was proposed to protect the region. However, the barrier gives little concern to the preconditions set by the landscape system as the barrier islands are confronted with more threats than storm surge flooding alone. In this thesis, an alternative strategy for flood resilience at the barrier islands has been explored based on a profound analysis of the landscape system by research-through-drawing. Freehand drawing has been used as a method to handle and internalize large amounts of information. By concept mapping 70 freehand drawings that represent the landscape system, guidelines for flood resilience have been explored and translated into an alternative strategy.

As a result, the strategic design for the Galveston coast distinguishes between to 'hold on' and to 'let go'. For the city of Galveston, safety is improved in combination with urban renewal. In contrary, the barrier islands are facing a decrease in liveability and a transformation is suggested to decrease development while increasing natural attraction including recreational facilities. At the same time, slowing down the negative effects of the landscape processes with soft measures such as sand nourishments, wetland restoration and dune protection creates more time for the transformation. As a result, the alternative strategy initiates long-term thinking and balances between landscape preconditions or opportunities. It is not a ready-made solution, but an invitation to reconsider flood protection in a wider frame from a different perspective.

PROBLEM RELATED:

The Galveston Bay region and coast are facing more flood-related problems and issues than the hazard of storm surges.

- Climate change and sea level rise
- Irreversible land subsidence
- Declining water quality
- Degradation of natural ecosystems
- On-going development
- Risk concealing flood insurance
- Limited flood risk and environmental awareness

CONTEXT RELATED:

- The barrier islands are young and dynamic. Physical processes such as sea level rise and landward retreat question the future liveability
- Gulf side: The dune systems protect the inner islands, but the protective capacity is pressurized by its users.
- Bay side: The bay side is shielded by wetlands and offers natural and recreational opportunities. However, wetlands are slowly dissapearing.
- The city of Galveston is facing similar risks. However, the historic and touristic town has more stakes for improvement of its flood defence.

OPPORTUNITY RELATED:

Suggested interventions to move in line with the landscape system of the region:

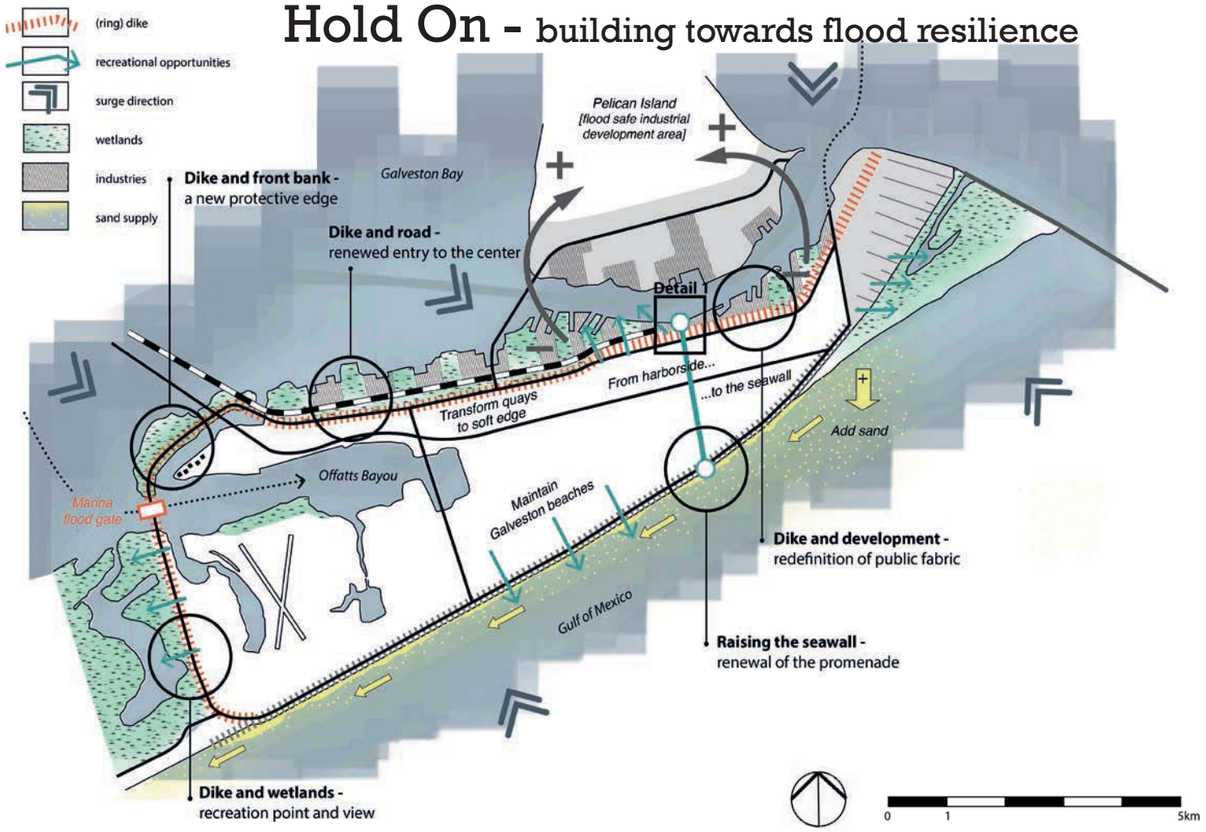
- Make room for sea level rise and landward retreat
- Supply and catch sediments
- Reuse dredge spoil for building
- Re-establish oyster reefs
- Expand wetlands for water retention
- Use storm events as transition points
- Stop rebuilding in flood prone areas

Research conclusions

Research-through-drawing: a method for understanding and internalization

Landscape-based-design approach, studying connections between the layers

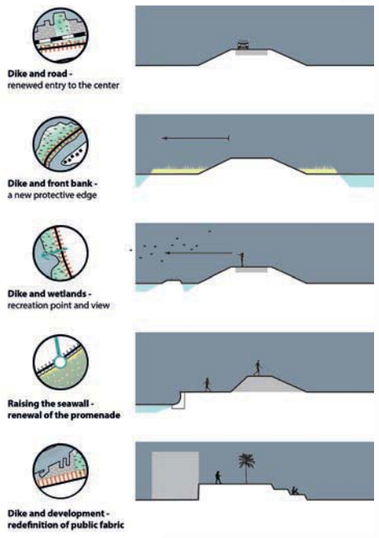
Hold On - building towards flood resilience



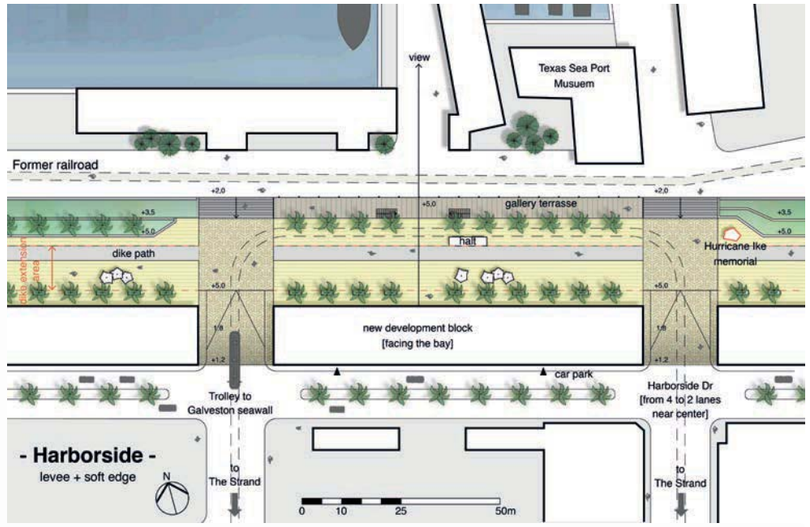
Masterplan of Galveston, TX

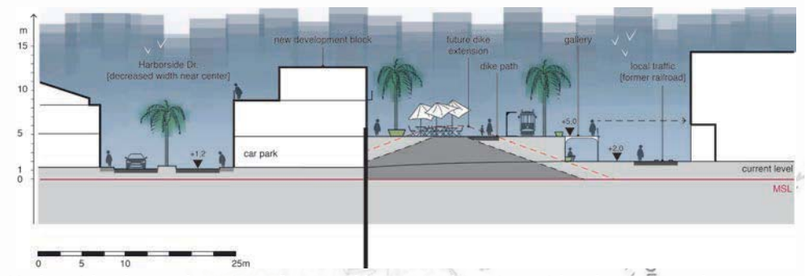
HOLD ON APPROACH:

- A custom design approach combines flood protection with improvement of spatial quality in the city.
- Interventions include future adaptation measures to increase the protective capacity over time



Typology of dikes around Galveston





Harborside plan and section of a new dike in combination with urban renewal

LET GO APPROACH:

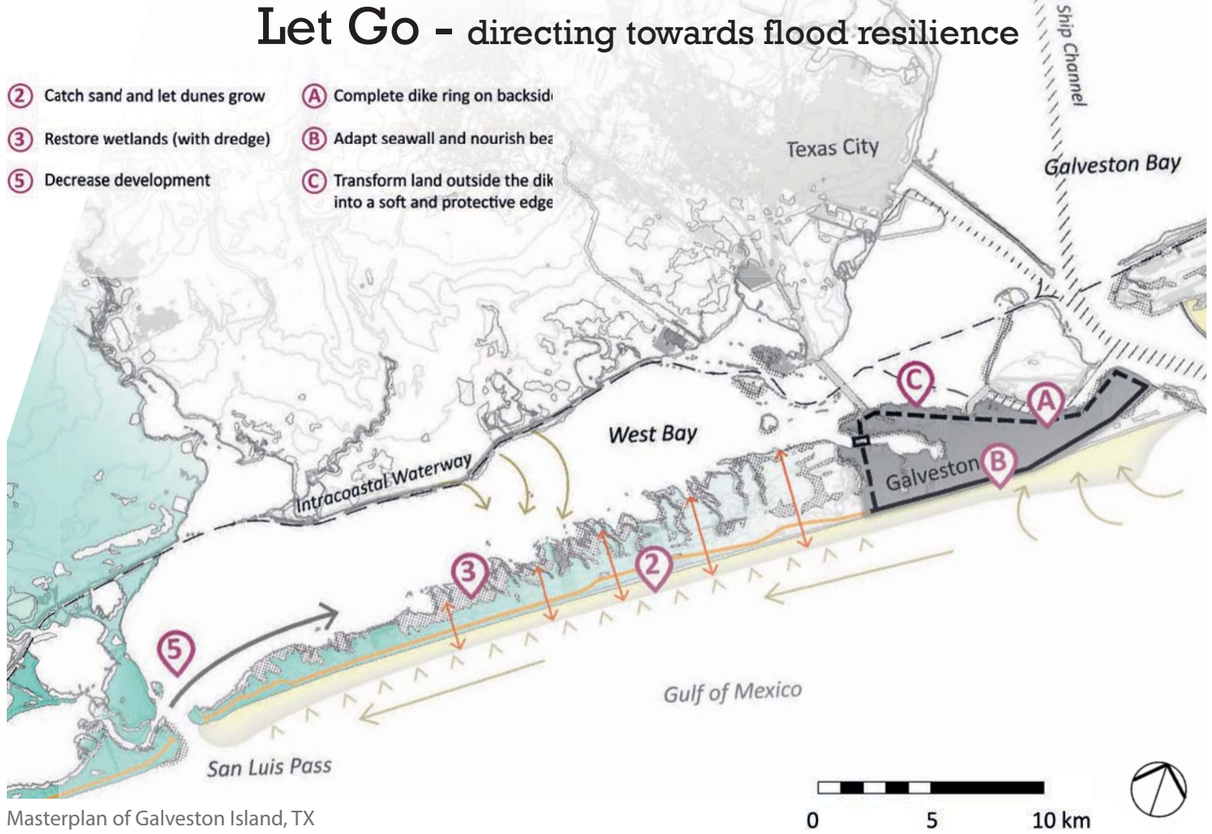
- Soft interventions slow down the negative effects of the physical system
- The island use is transformed from residential to natural and recreational

Residential transformation after a storm

Natural/ recreational transformation after development decreased

Soft measures at the bay and beach

Let Go - directing towards flood resilience



Masterplan of Galveston Island, TX

Floor van Gils
ir. Paul Roncken

Double Dutch

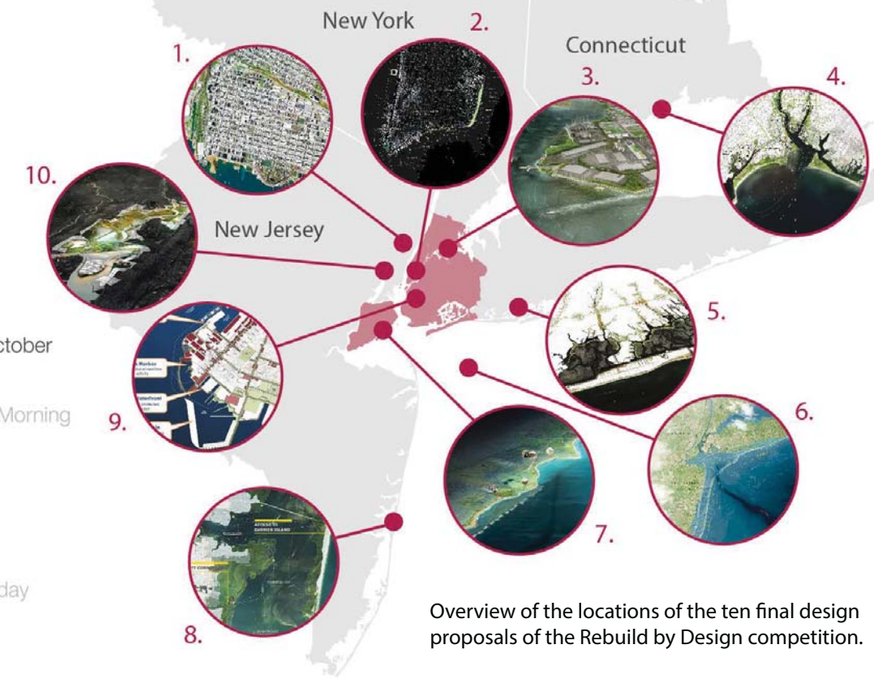
An exploration of the 'Dutch Approach' in Rebuild by Design

Abstract

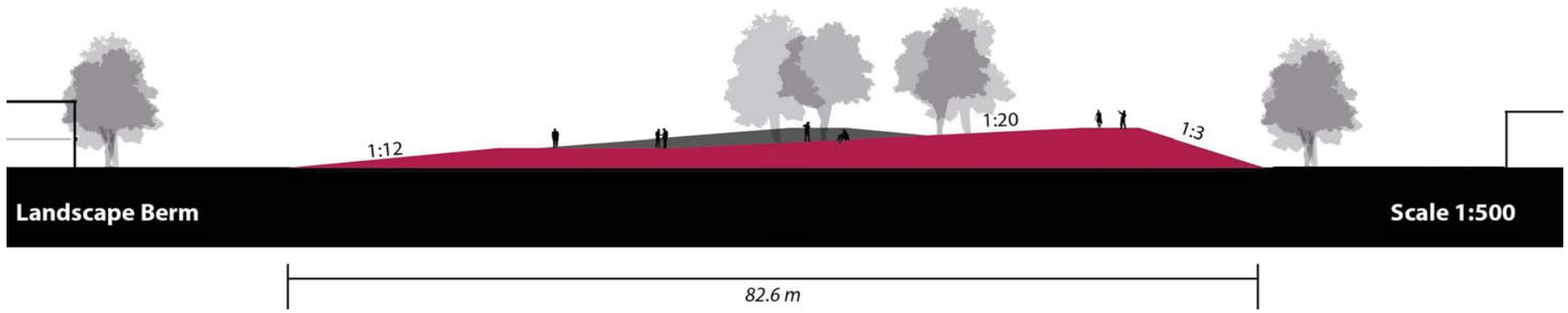
On the 29th of October 2012, Hurricane Sandy hit the East Coast of the United States, resulting in major wind and wave damage and extensive flooding. As a response to Sandy's devastation, the Rebuild by Design competition was launched in June 2013. Drawing on the 'Dutch Approach' that combines landscape architecture and water management, the goal of the multi-stage regional design competition was to promote innovation by developing regionally-scalable but locally-contextual solutions to increase resilience in the Sandy-affected region.

The aim of this research was to explore what the 'Dutch Approach' can contribute to ongoing attempts to tackle coastal defence and increase long-term resilience. By means of a content analysis of the ten final design proposals of the Rebuild by Design competition input was generated and tested through a research through designing process in Red Hook, one of the Brooklyn neighbourhoods hardest-hit by Sandy. The ten final design proposals ranged in scale and scope and the results of the analysis showed that the teams took an integrated and multi-layered approach combining flood prevention with opportunities for economic development, providing a range of co-benefits to the community. Flood protection measures ranged in objective, type, and location from in-water, to shoreline, and upland interventions. Different flood protection measures were tested in the specific context of Red Hook resulting in a strategy with upland interventions using the existing elevation for the creation of a landscape berm. It was concluded that the 'Dutch Approach' provides a way for ongoing attempts to tackle coastal defence, to transform the problem of flooding into an opportunity to create innovation, add economic and environmental value, and increase the long-term resilience of coastal cities and communities. Areas identified for further research included the perceptions of the 'Dutch Approach' by the design teams and the implementation of the pilot projects of Rebuild by Design.

Hurricane Sandy storm track with the hardest-hit states New Jersey and New York highlighted.

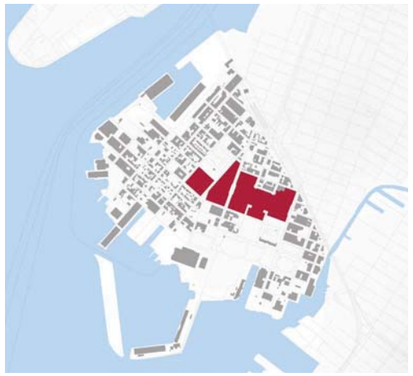


Overview of the locations of the ten final design proposals of the Rebuild by Design competition.



Cross-section of the proposed landscape berm with indications of the steepness of the slopes.

Storm surge inundation in the New York metropolitan area and New York City.

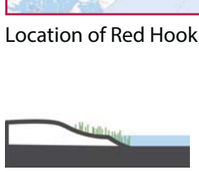


The Red Hook Houses, Brooklyn's largest public housing development (Photo credit: Willis Arnold).

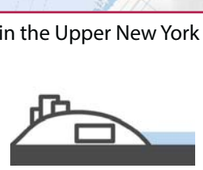
Red Hook is separated from the rest of Brooklyn by the Brooklyn Queens Expressway (Photo credit: Michael Lombaert).

On locations where there is not enough space for a landscape berm, a floodwall is proposed which can be used as a public art project visualising the high water line during Sandy.

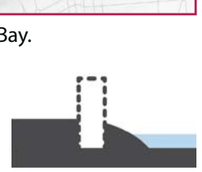
Location of Red Hook in the Upper New York Bay.



Constructed wetlands



Multi-purpose levees

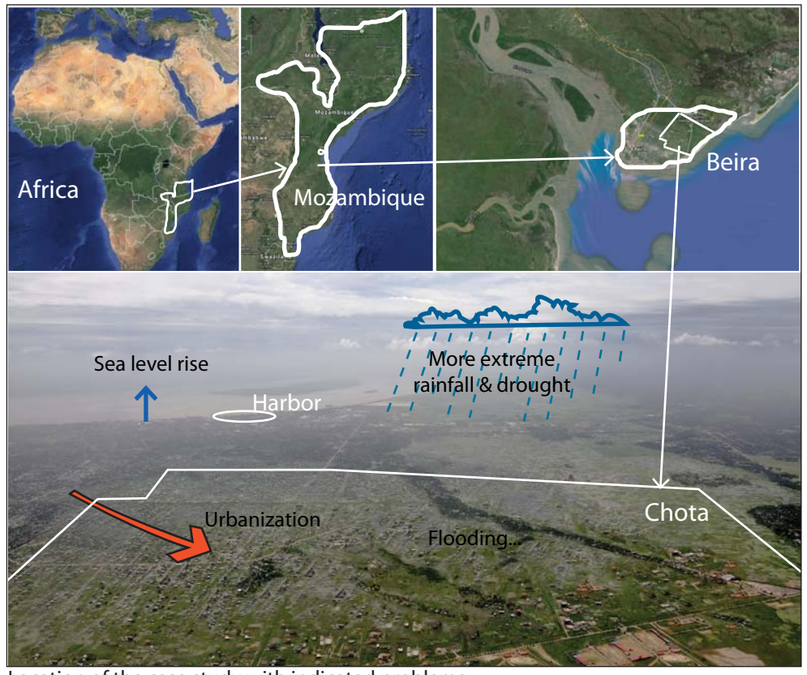


Deployable barriers

Red Hook was hard hit by Hurricane Sandy. The neighbourhood is not served by any subway. Recent new developments including the Fairway Market, Brooklyn Cruise Terminal, and IKEA store have led to revitalization of the neighbourhood.

Apart from the flood protection measures there is a need to design streets on the human-scale to connect people to the water.

Because of the low-lying geography of Red Hook, a landscape berm situated more inland is proposed connecting the higher grounds of the neighbourhood as well as floodwalls on locations where there is not enough space for a landscape berm.

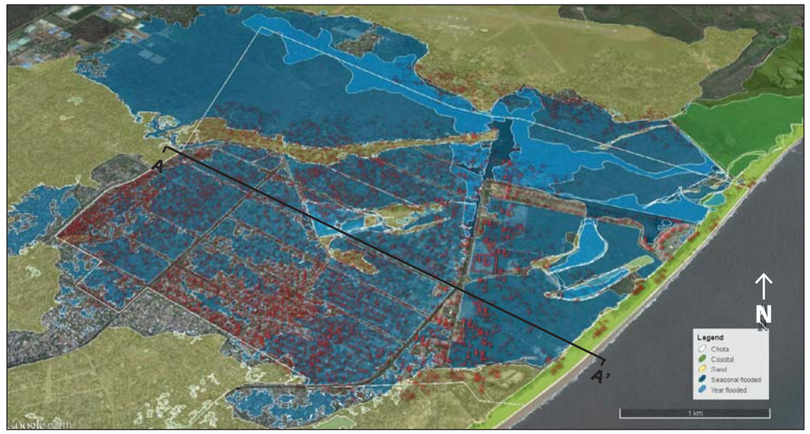


Location of the case study with indicated problems.


Field study on the bike

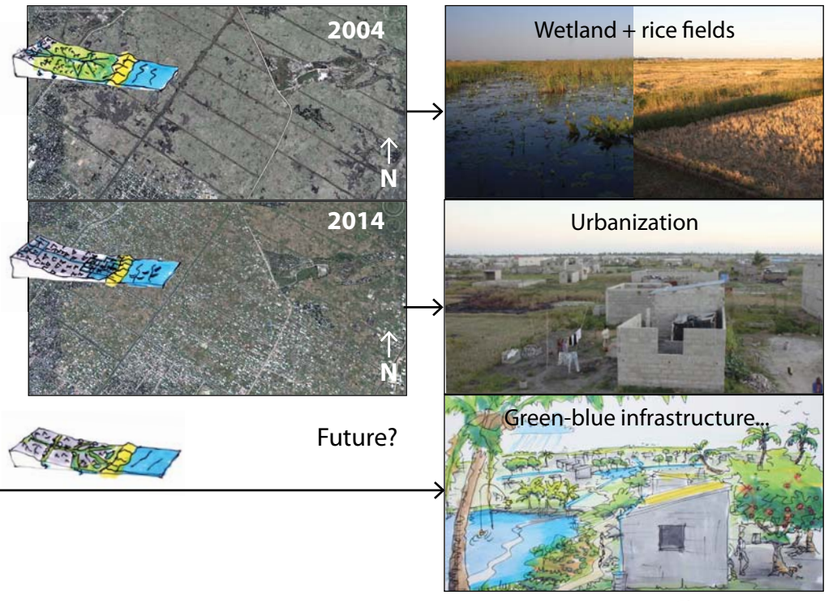
Troublesome with flooding

First soil drilling in Chota

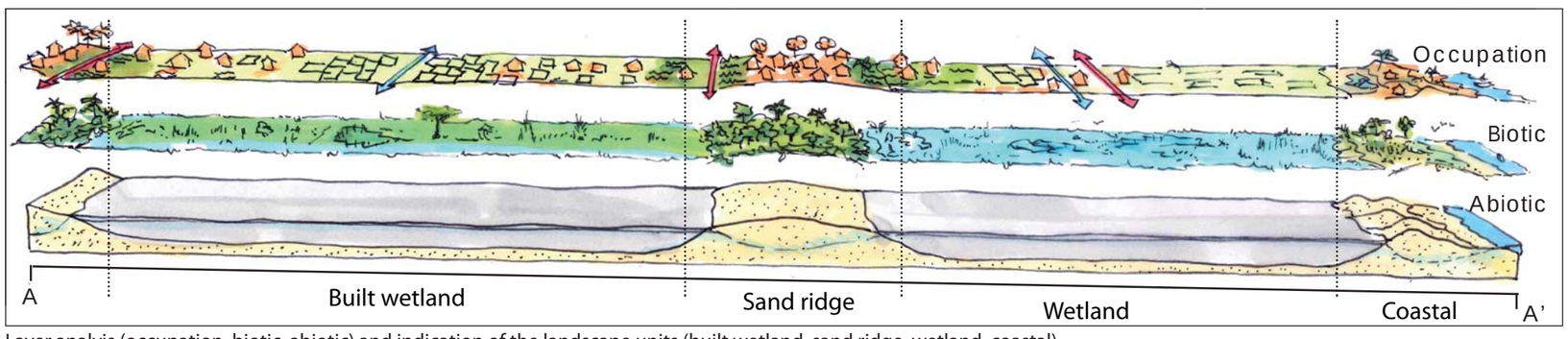


Indication of sand ridges (yellow), flooding (blue) and houses (red).

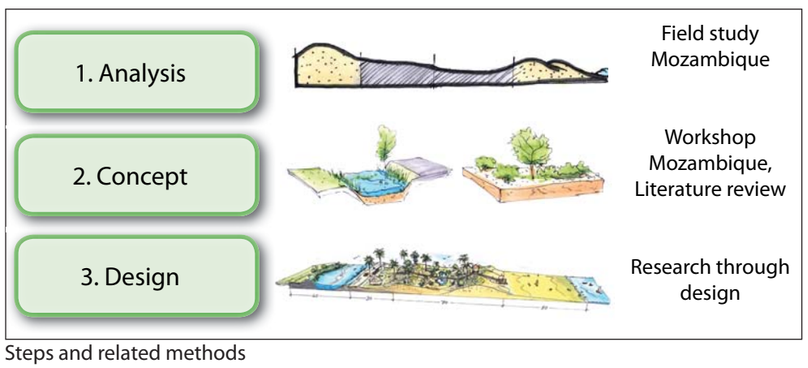
Green-blue infrastructure framework (concept)



Change in time...



Layer analyis (occupation, biotic, abiotic) and indication of the landscape units (built wetland, sand ridge, wetland, coastal)



Steps and related methods

Cor Simon
dr. ir. Ingrid Duchhart: Wageningen University
dr. ir. Robbert Snep (& ir. Carmen Aalbers): Alterra Wageningen UR

Green-blue infrastructure as a tool to reduce flooding

A landscape-based design - and ecosystem approach for Beira, Mozambique

Abstract

Great parts of Beira, a delta city of Mozambique, overflow in the rainy season. Especially in the district of Chota the flooding causes nuisance, (economic) damage and waterborne diseases. Chota becomes quickly urbanized by the expansion of Beira city, which increases flooding and hampers climate change adaptation.

The goal of this thesis is to explore the potential of green-blue infrastructure to reduce its flooding and improve the liveability. A two month field study, one week workshop and a landscape based and –ecosystem services design is done for Chota.

Results from the field study show that Chota is mainly a clayey wetland where rainwater gathers from other parts of Beira. During heavy rain, the canal is not capable to drain the area well, so that water stream into the houses. From the participative workshop a set of green-blue measures were selected including trees along roads, improvement of the canal and retention ponds. Drawings in photo's proved hereby as a great discussion tool. The green-blue measures are designed into profiles that form the principle for each structure of Chota (road, canal, gardens, plots, dunes). The profiles together form an integrated green-blue infrastructure nested in different scales, which would absorb and drain the area and provide many other ecosystem services (e.g. wind break, recreation and food).

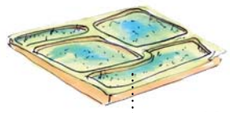
Although the green-blue infrastructure design needs more in detail research and calculations, it seems to have great potential. The concept is in favour by the residents because it's natural, simple and multifunctional. The question is if green-blue infrastructure can be succesfull in their more organic way of planning. It is in any case recommended to integrate green-blue infrastructure planning by the start of each new urban development before there is no space left for green and blue spaces.

Drawing in photo ideas from the workshop

Spaces to protect:

Keep infiltration capacity on sand ridges

Preserve rice fields along canals

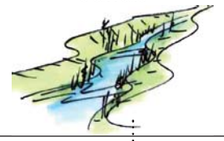


Conserve water and green

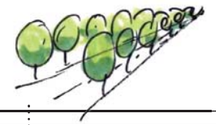
Protect dunes from treading

Spaces to create:

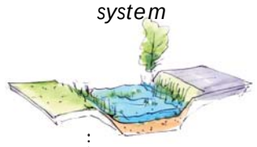
Widen and deepen canals



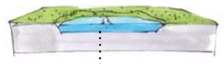
Plant trees along roads and canals

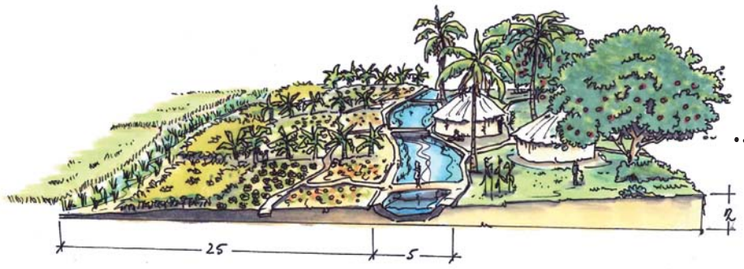


Make tertiary canal system

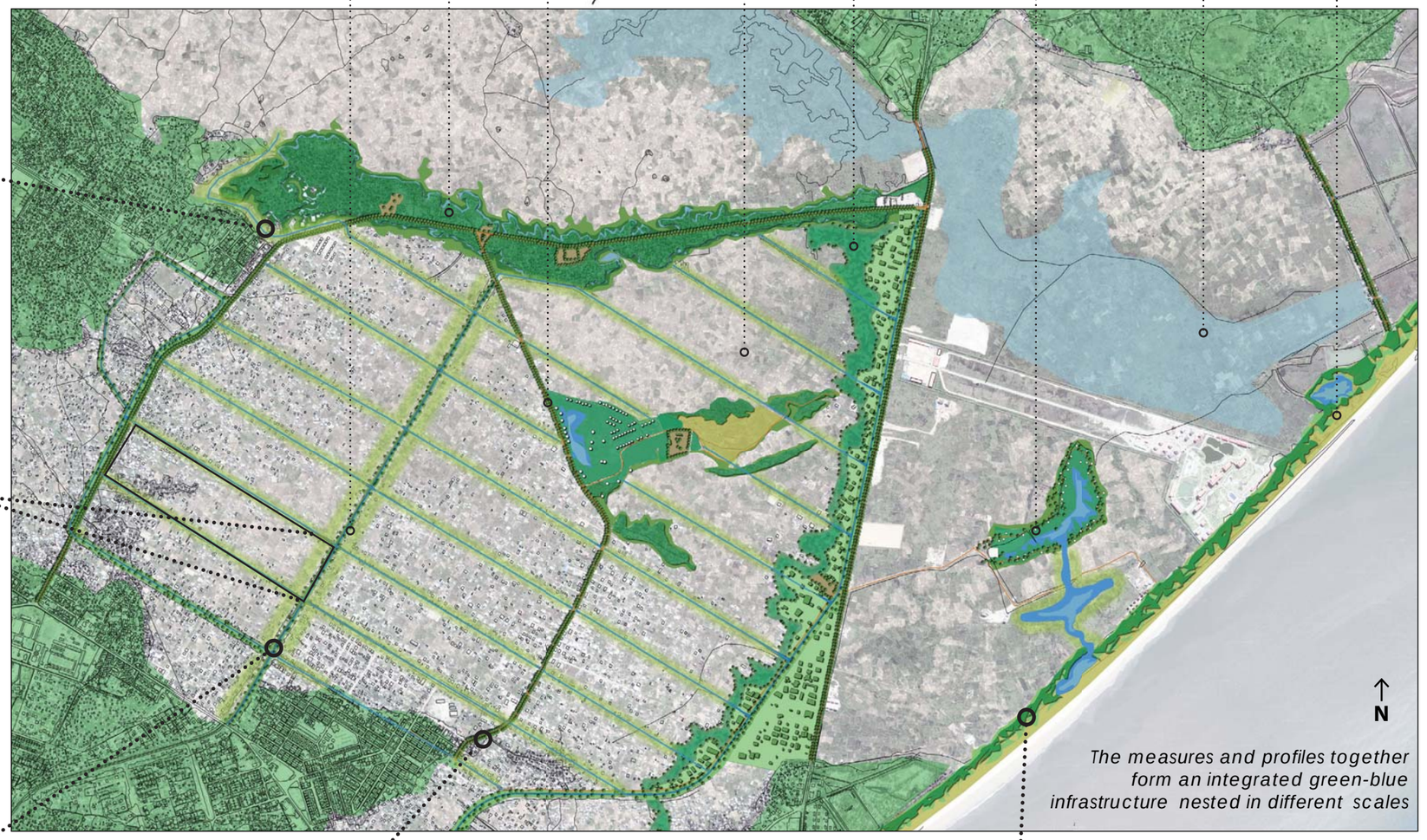


Construct ponds spread over Chota

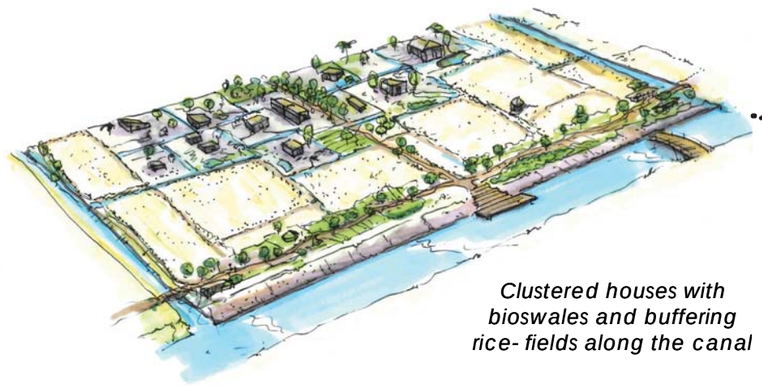




Gardens on the flanks of the sand ridge

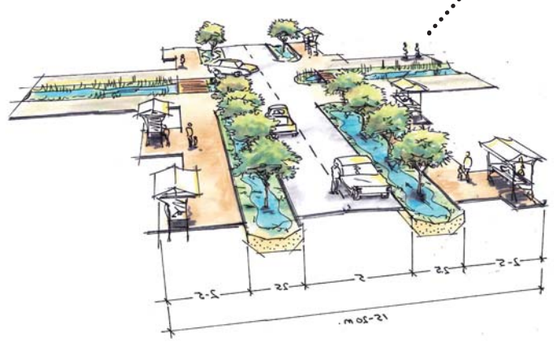


The measures and profiles together form an integrated green-blue infrastructure nested in different scales

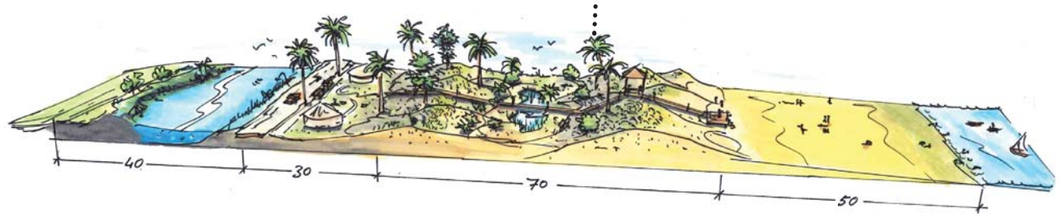


Clustered houses with bioswales and buffering rice- fields along the canal

Widened canals with green and recreation alongside

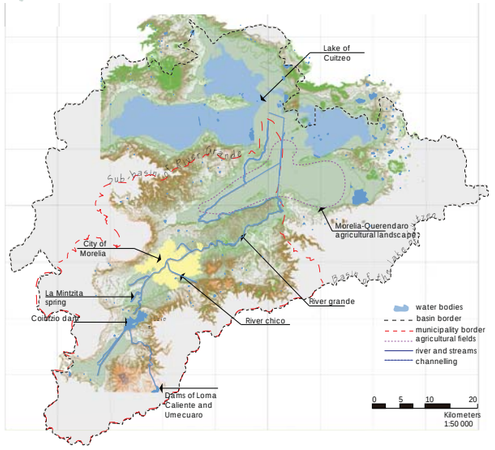


Improved roads separated by bioswales

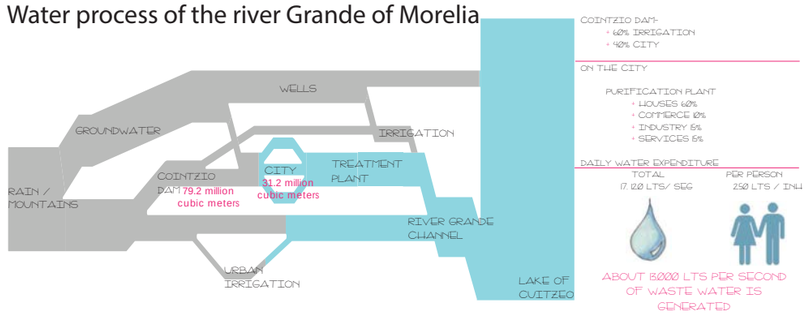


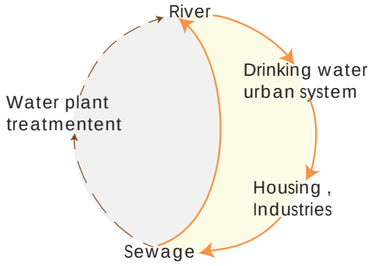
Protected dunes with fish pond inlands and recreation on the beach

The river Grande of Morelia is the main source of water of the lake of Cuitzeo and has becoming the main source of contamination to the lake.

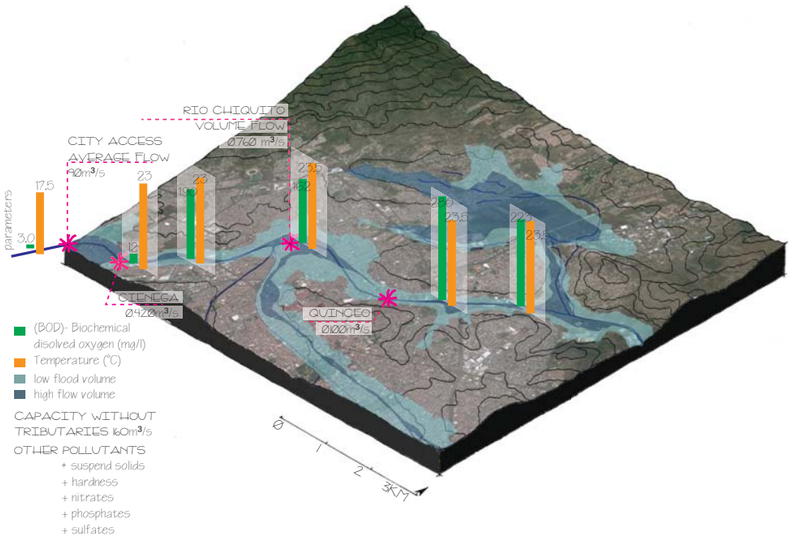


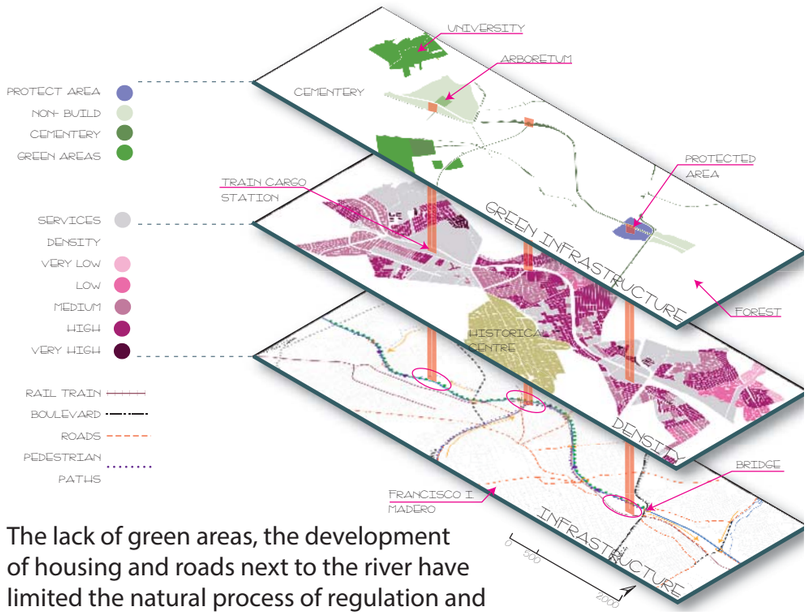
Water process of the river Grande of Morelia



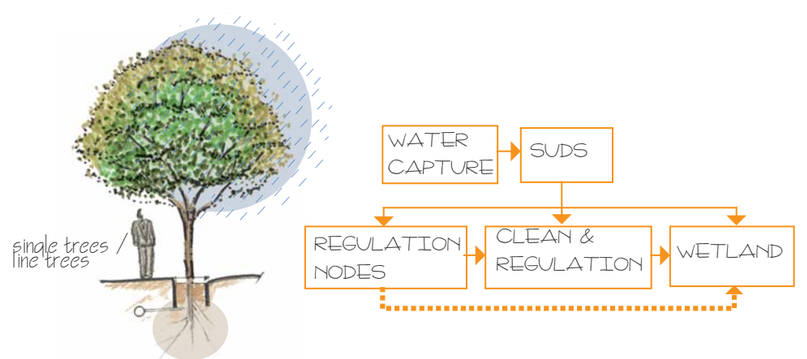


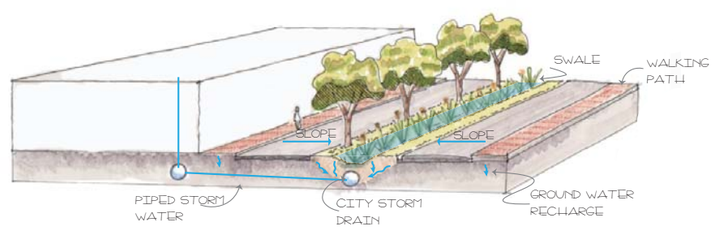
The water management is not complying with the water provision standards, breaking the process of water quality





The lack of green areas, the development of housing and roads next to the river have limited the natural process of regulation and cleaning of the river





Erika Rueda Arbesú
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Urban river landscape restoration

The case of river Grande of Morelia, Mexico

Abstract

The amount of people living in cities compared to rural areas is increasing. Development plans which not take into account the health of ecosystems, uncontrolled urban growth, and a poor sewage drain structure has resulted in the canalization of rivers and the urbanization of its Floodplains. Creating a risk factor to flooding and a poor structure that allows the natural regulation of the river. Such oversights eventually stop being just a local problem, bringing as consequences problems to a region, including its loss of biodiversity.

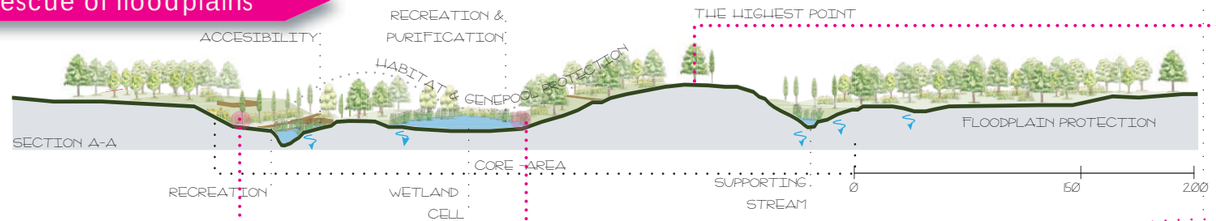
In this thesis the health of a riparian ecosystem is developed through the creation and performance of urban green landscapes. This is done through creating green infrastructure connected with the blue one, and by the creation of ecological systems that improve the water quality of the river. Creating a connection between man-made systems and natural systems.

To ensure the partial restoration of the river was needed, at urban level, the support of systems that could regulate the amount of water and pollution that reached the river. The recovery of floodplains and the construction of wetland allows the natural regeneration of the river and the recolonization of native flora and fauna. Ensuring the health of the river and recovery of biodiversity. The restoration of the river not only brings health to the ecosystem it also promotes physical and psychological health to the inhabitants, by providing several services that are related to well-being.

By applying the “six step framework” methodology in a research-based design, the main problems were located and the selection of a design area was possible. The design of the Morelia ecological park response to the needs that the research introduce.

5 How can design strategies and spatial interventions can enhance the landscape values that benefits the inhabitants of the city of Morelia?

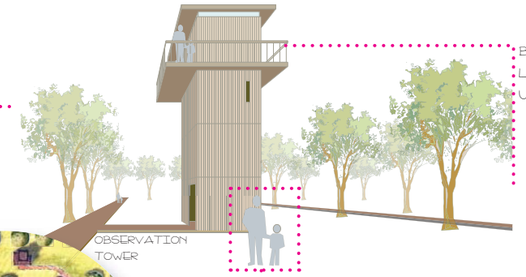
1 Rescue of floodplains



VEGETATION IN TERRRACES TO SLOWDOWN RUNOFF AND PROVIDE FLOODING PROTECTION

WETLAND NATIVE VEGETATION PROMOTES NATURAL REGULATING FUNCTIONS AND THE RE-COLONIZATION ON NATIVE WILDLIFE

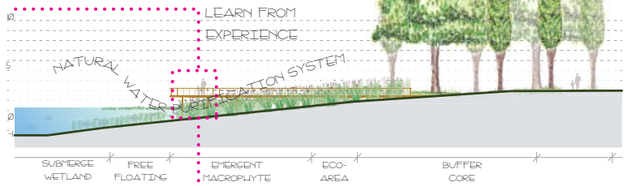
CREATE A LINK AREA BETWEEN SOCIETY AND THE ECO-PARK, AND PROMOTE SOCIAL COHESION

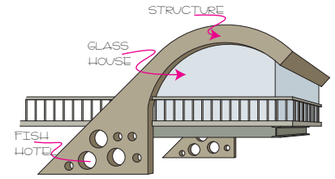


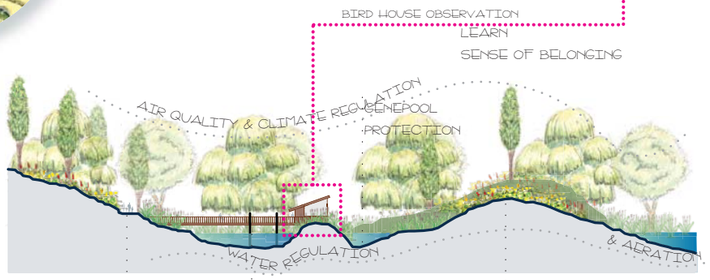
BE PART OF THE LANDSCAPE BY UNDERSTANDING IT

2 Constructed wetlands Core area

Promote nature to the youngest

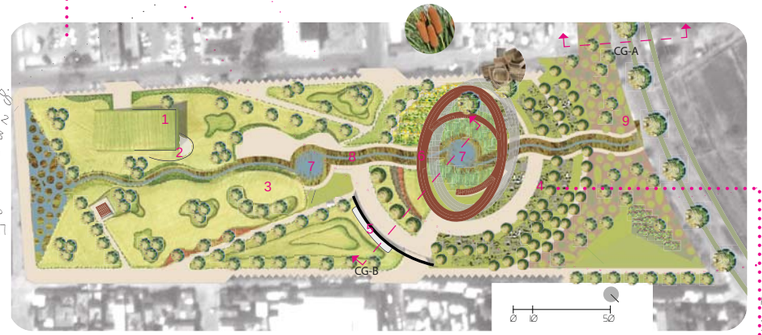






3 Community garden

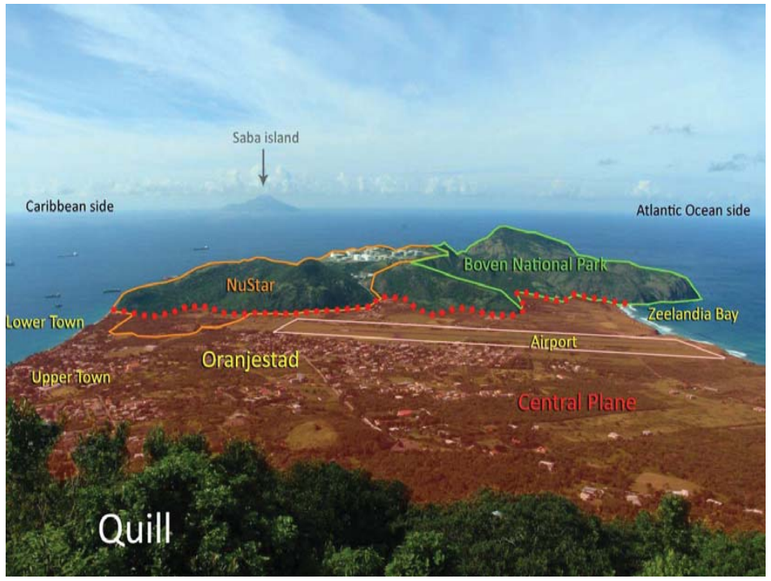
ART & CRAFT WORKSHOPS
AMPHITHEATRE 2
RELAXATION AREAS 3
URBAN AGRICULTURE 4
COMMUNITY GARDEN PRODUCT STORE 5
OBSERVATION DECK 6
FOUNTAINS 7



PROMOTE URBAN AGRICULTURE AND LOCAL TRADE

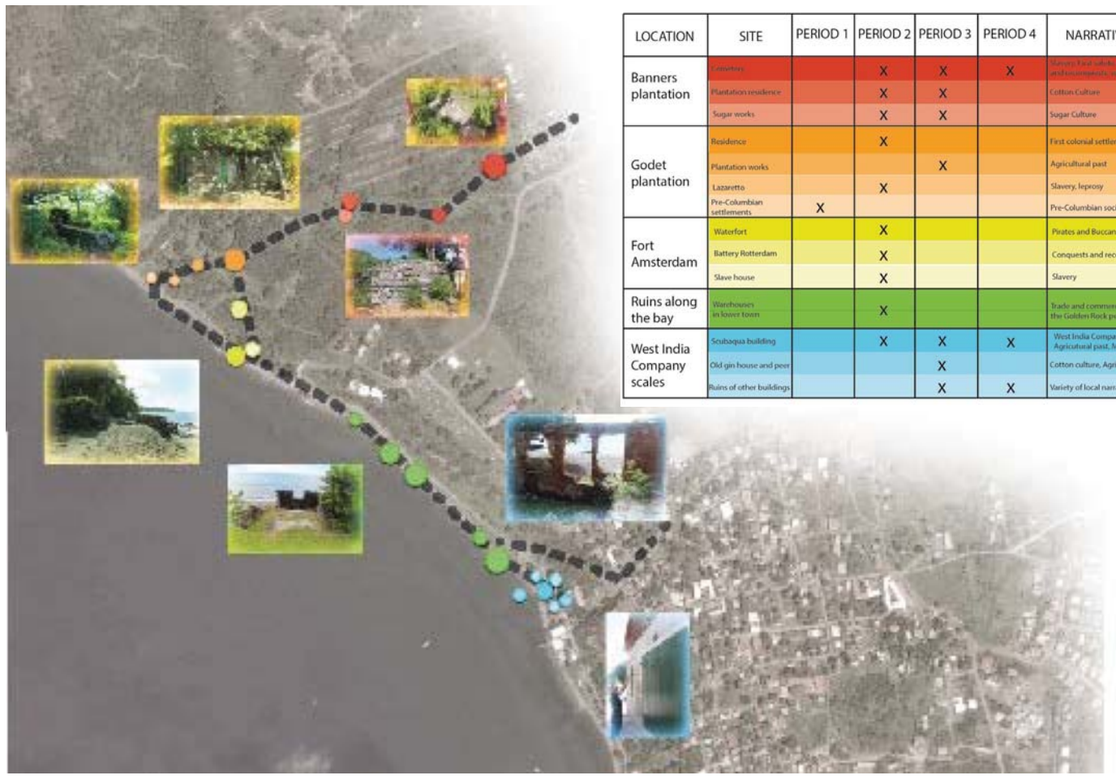
GARDENS TO PROMOTE POLLINATION AND BIODIVERSITY

1 Creation of an ecological park that rescue the floodplain areas and promote the cleaning of water by constructed wetlands
2 Creation of areas to promotesocial cohesion
3 .- Creation of habitat
4. Creation of recreational areas



The landscape of Sint-Eustatius, view from the Quill vulcano.

Localization of the proposed Golden Rock Heritage Trail.



LOCATION	SITE	PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 4	NARRATIVES	LANDSCAPE CONDITIONS	FUTURE SUGGESTIONS	GENERAL ORGANISATION	ACTUAL STATE
Banners plantation	Cemetery		X	X	X	Slavery, Rural culture, Conquered and reconquered, self sufficiency	old tombs	path to reconstructed board explanation	The area could be organised as a reminder of an old plantation: cross fruit trees vegetables and herbs could be harvest by small scale farmers	BAD degradation of the sites by people and mostly nature overgrowing.
	Plantation residence		X	X		Cotton Culture	residence ruins	information booth for the entire trail		
	Sugar works		X	X		Sugar Culture	sugar works ruins	illustration of the sugar works through boards		
Godet plantation	Residence		X			First colonial settlements	Standing building in decay	Restaurant	Here the plantation pattern would also be restored with different varieties of cultures and a pre-existing path towards the sea side descending in terraces could be re-evocated.	BAD degradation of the sites nature overgrowing, soil erosion and deterioration of the residence
	Plantation works			X		Agricultural past	Structures in ruins	Explanation board		
	Lazaretto		X			Slavery, leprosy	building in ruins	Explanation board		
	Pre-Columbian settlements	X				Pre-Columbian society	traces of the settlement	Explanation board and handcraft selling point		
Fort Amsterdam	Waterfort		X			Pirates and Buccaneers	ruins of the fort, partly collapsed	Explanation boards	Restoring and protecting the biggest challenge of this site. To consider here the connection with the previous through the terraced path and the following site through a wooden path along the sea side	BAD degradation of the sites nature overgrowing, soil erosion and collapsing of the waterfront
	Battery Rotterdam		X			Conquests and reconquests	ruin of the battery	Bar with sea view		
	Slave house		X			Slavery	foundation house in ruins	Explanation board		
Ruins along the bay	Warehouses in lower town		X			Trade and commerce during the Golden Rock period	ruins of the warehouses and other buildings	follow the natural economical course	the ruins would be kept as they are, some business could be set up using and respecting their structure	NEUTRAL the ruins are cleared but exposed to degradation by the sea
West India Company scales	Scubaqua building		X	X	X	West India Company, Agricutural past, Modern era	Renovated building originally built by GWC	Leave it as it is, use it as a point for a brake	this part is already included in the heritage trail, no big interventions are needed, but just little improvements.	NEUTRAL Some buildings are in very good conditionsome others are turning into ruins
	Old gin house and peer			X		Cotton culture, Agricultural past	Renovated building	Leave it as it is, restore the peer		
	Ruins of other buildings			X	X	Variety of local narratives	Ruins of several buildings	Responsible reconstruction		

The Golden Rock Heritage Trail map and scheme analysis.

Period 1:
Pre-columbian

Period 2:
Golden Rock

Period 3:
Self-sufficiency

Period 4:
Recent past

Carlo Leonardi
Name supervisor(s): M. Brinkhuijsen, H. Muzaini (Cultural Geography WUR)

The Narratives behind Heritage trails

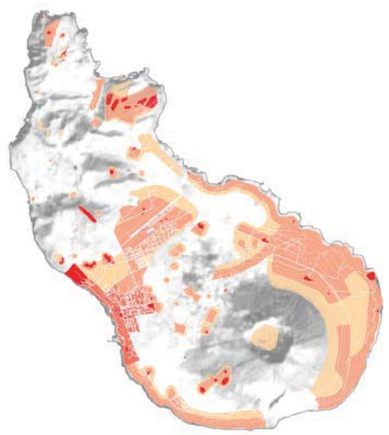
"Investigation upon the practice and politics of formal heritage making and landscape narratives in the landscape of Sint Eustatius."

Abstract

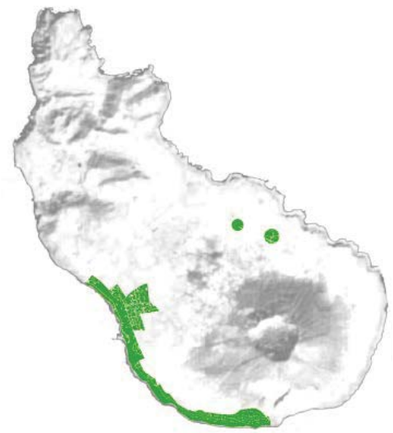
Heritage trails, unlike many bounded sites of heritage such as museums and memorials, are embedded in everyday landscapes and can be considered as an excellent opportunity to connect individuals, communities and societies to landscape and heritage. Capitalising upon both the spatial, spectacular and mundane aspects of local history and culture for broad purposes, heritage trails can not only add to tourism supply, but provide local income, install local pride and shape identity and belonging as well. However the potential for this to take place is often unrealised in practice.

This thesis explores which factors support, hamper or thwart achieving these multiple potentials. It presents the results of a case study on a heritage trail proposal on the island of St. Eustatius, a Dutch 'special municipality' in the Caribbean. Based on a series of interviews, content analysis of policy documents, and field observations, it has been found that factors such as the selective remembering/ narrating of controversial, sensitive and quotidian pasts, issues of land ownership and conflicting commercial interests, and lack of involvement of local populations were involved. It argues that community-based processes and local decision-making are crucial if heritage trails are considered as means not only of providing tourism supply by projecting local heritage but also of co-constructing heritage and landscape narratives and practices.

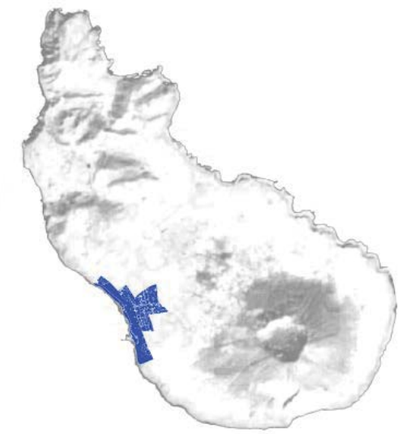
Landscape analysis on the implementation of the cultural heritage by formal agents.



St. Eustatius Center for Archaeological Research



Historical Foundation and Monument Foundation



Tourism Development Foundation