Patternbook

Recreational Development & Climate Change Adaptation

Part of the graduation project:
Hoornse Hop
The West Coast Story

JE Gaasbeek Janzen
July 2015
Judit Gaasbeek Janzen
ID 4008421

Frits Palmboom (1st mentor)
Egbert Stolk (2nd mentor)
Thijs Asselbergs (external committee member)

Department of Urbanism
Faculty of Architecture
TU Delft

July 2015
It is difficult to take uncertainties related to the future into consideration in designing (Wang et al. 2013). Scenarios are the first step in trying to grasp these uncertainties in a format that can be used to design with, but still scenarios comprise a lot of information, that is challenging to organise into a coherent whole to design with. To be able to use the information gained from the scenarios in the design process, another design tool is added.

One well-known method to organise both theoretical and design-oriented information is in a ‘pattern’. This theory and format was developed by Alexander in his book ‘A Pattern Language’ (1977) that describes the basis of a pattern language. In ‘a pattern language’, Alexander and his colleagues published 253 solutions or design patterns that recur in architecture. These patterns are divided in three scale: the town, the building and the construction. Patterns are empirical rules representing regularities of behaviour. The ability to observe patterns gives us the human advantage of both adapting to and changing our environment. The language of a group of patterns forms the groundwork of every discipline (Salingaros 2000).

The most important feature of these patterns is the way in which they are able to structure theoretical research findings so it gives practical design guidelines and recommendations. By creating patterns the designer is able to deal with large quantities of information by simply not claiming to be organised and finished. They lead to a field of possibilities rather than a precise end product (Van Dorst 2013). Using patterns narrows down possible solutions to a specific problem within a case. Patterns are also a design and communication tool between different stakeholders (Mentink et al. 2013b). Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice (Alexander et al. 1977).

An important addition to Alexander’s (1977) original patterns are the pattern networks by Salingaros (2000). In his article ‘The Structure of Pattern Languages’, Salingaros names the connectivity of patterns as one of the key features of pattern languages, which he notes is largely overlooked by Alexander’s (1977) original patterns. Salingaros (2000) states that all patterns connect to each other, and that this connection can have different values (Figure 5.9). The pattern language on its own is not, and was never claimed to be a design method and it is always a struggle to integrate pattern into an actual design project.

The pattern do not determine the design. By imposing constraints, they eliminate a large number of possibilities while still allowing and infinite number of designs. For instance, two patterns can be linked because one generalises the other on a larger scale, or because they both solve the same problem in alternative, yet equally valid ways. It are these connections between the different patterns that give the language its structure, and create the system with which complex problems can be tackled. Salingaros (2000) argues that patterns provide the necessary foundation for any design solution to connect with human beings, because it is within patterns that links can be made between social patterns and spatial patterns, e.g. theoretical research and the design.

The pattern libraries presented in this document is an integral part of the project ‘the Hoornse Hop West Coast Story’. The graduation project identified several different importances for recreation and climate change adaptation.

The pattern library was created to bridge the gap between this theoretical research and more practical, design-oriented, recommendations aimed at addressing an holistic design.

These patterns provide input to the designer before they start designing by giving direction to the interventions.
In order to read a pattern language, it is important to be able to understand both the individual patterns, as well as the nature of the relationships between the different patterns. There are three different levels of patterns. The main patterns are the higher level patterns. These patterns can be directly linked back to the theoretical research conducted in the project. These patterns are not of a higher order and more abstract. Each main pattern is linked to several lower level patterns. These patterns address the same phenomena and recommendations but become more concrete by focusing on several different ways in which this recommendation can be addressed. The focus of these lower level patterns lies in addressing urban design knowledge that can help designers create a physical design for the pattern.

Each pattern represents a rule dominating one piece of a complex system, and the application of pattern languages can be done systematically. The interesting property of patterns is the final users can refine, add and subtract elements to create a context-based design. From this perspective, pattern languages provided packages of information which can form endless combinations. When patterns are combined they create paths for higher-level patterns that are both more resilient and exhibit additional properties that lower level patterns do not have.

The patterns can have different connections to each other. They can be complementary, or an alternative to each other, a pattern can generalise or specialise another pattern, or the relation can be made between a higher level and lower level patterns. The relationships are shown in a pattern network (figure 5.10). The relation between patterns are differentiated by line type. This network consists of four different relationships:

1. Generalise [G] to specialise [S]
2. Complementary [C]
3. Higher level main pattern [H] to lower level pattern [L]
4. Alternative [A]

Higher levels in a system are dependent on all lower levels, but not vice-versa. The combination of patterns acting on a smaller level of scale acquires new and unexpected properties not present in the constituent patterns, and these are expressed in a higher-level pattern. Patterns on a higher level are therefore necessary because they incorporate new information. Breakthroughs occur when pattern in one area link to pattern in other areas, Salingaros discusses in his paper the language that links patterns. A pattern language contains useful connective information that helps both to validate the patterns, and to apply them.

Other helpful relations between the patterns are the division of the patterns in the developed recreational scenarios (figure) or the division to what extend the patterns are abstract or concrete (figure). Both are helpful to be able to design with the patterns.
Both the recreational development language as the climate change adaptation language have patterns that are different in nature: abstract, concrete or something in between. The main patterns are all abstract. The lower the level of the patterns, the more concrete the pattern is.
The two pattern languages that are discussed in this document are used in the project 'The Hoornse Hop - The West Coast Story' to be able to use the information from recreational scenarios. Therefore the position of each patterns in the matrix of these scenarios was investigated. This way it is possible to see which pattern belongs to which scenario. The main patterns are applicable in every scenario, also some patterns can be found on the crossings between the scenarios. These patterns can be used in more than one scenario. Some patterns are clearly better suited for passive than active use. The same division can be made between individual groups or masses. These patterns are useful to make a spatial distinction between the scenarios.

Figure 6: organisation of patterns by scenarios
Climate change adaptation patterns

Figure 7: relation between climate change adaptation patterns
Recreational development patterns

Figure 8: relation between recreational development patterns
Relation between the languages

Figure 9: relation between two pattern languages
Reading the patterns

There is no fixed template how to present patterns. In this chapter an exploration is done to visualisation of existing patterns, to come to a clear framework for the patterns of this project.

In the basic work by Alexander et al. (1977), the framework for each pattern was generic. Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice (Alexander et al. 1977). For convenience and clarity, each pattern has the same format. There are two essential purposes behind this format. First, to present each pattern connected to other patterns, so that you grasp the collection of all 253 patterns as a whole, as a language, within which you can create an infinite variety of combinations. Second, to present the problem and solution of each patterns in such a way that you can judge it for yourself, and modify it, without losing the essence that is central to it.

- First, there is a picture, which shows an archetypal example of the pattern.
- Second, each pattern has an introductory paragraph, which sets the context for the pattern, by explaining how it helps to complete certain larger patterns.
- After this there is a headline. This headline gives the essence of the problem in one or two sentences.
- After the headline comes the body of the problem. It describes the empirical background of the patterns, the evidence for its validity, and the range of different ways the pattern can be manifested in a building, and so on.
- Then there is the solution – the heart of the pattern – which described the field of physical and social relationships which are required to solve the stated problem, in the stated context. This solution is always abated in the form of an instruction – so that you know exactly what you need to do, to build the pattern.
- Then, there is a diagram, which shows the solution in the form of a diagram, with labels to indicate its main components.
- And finally, there is a paragraph which ties the pattern to all those smaller patterns in the language, which are needed to complete this pattern.

While adequate at meeting its goal, Alexander’s pattern format becomes rather long winded and lacks a clear and compact format most suited for a design tool. Critique has been voiced on a number of premises underlying Alexander's pattern language and the way in which he described his patterns (van Dorst, 2005). For this project a combination of discussed pattern formats will be used, best suiting the role of the patterns. The patterns can be found in a separate document of this project. The most important parts to address in a pattern format are:

- Title that catches the goal of the pattern
- Image that shows the main idea of the pattern
- Headline with a statement concerning the pattern
- Context that clarifies the headline
- Solution to the problem stated in the context
- Relations with other patterns from the same language as well as from the other.
- A map where the patterns is applicable in the project location.
- References and possibilities for more information on the pattern
Pattern library

Climate change adaptation
Contents

1. Adapt
2. Recreational defence
3. Dike reinforcement
4. Water level management
5. Soft resistance
6. Oeverdijk
7. Heighten
8. Broaden
9. Water storage
10. Water quality
11. Awareness
12. Productive landscape
13. Vooroever
1. Adapt

What can the Netherlands do to adapt herself to the consequences of climate change?

http://www.droogtestudie.nl/het-klimaat-veranderd/

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**Water**

- Water storage
- Water level management
- Dike reinforcement

**Soft resistance**

**Adapt**

**Recreational defence**

**Variation**

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Water travel
 Reachable
 Visible
 Temporary Routes
 Nodes Meet
 Permanent
 Cluster
 Narrative
 Information point
 Reachable
 Visible
 Water travel Traffic separation
 Nodes Meet
 Landmark
 Narrative
 Information point
 Reachable
 Visible
 Water travel

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Water storage
 Water level management
 Dike reinforcement
 Soft resistance
 Recreational defence
 Variation
 Adapt
 Water
Climate change adaptation should always be included in the design processes.

Context

Climate change is threatening the whole world. Currently, people mainly react on this threat with mitigation: Limit that the climate change will affect the world's population and urban structures. Examples of mitigation measures are the use of renewable energy and energy efficiency. Mitigation is not enough for the current society. The damage on the climate is already done, and damaging the world less now, will not stop climate change. Another, additional, option is climate change adaptation. Adaptation will make the world more resilient against the changes of the climate that will occur. Because this often involves changes in land use, this is important to take into account by urban planners and designers.

Solution

Adaptation measures are to be combined with, for example, dike development and reinforcement. Due to the climate change and the resulting predictions regarding the rising sea level, experts are considering alterations in the dike's structure in the future. When this situation occurs it would mean that large changes become necessary. This situation could then also be used to think about further functions of the dike. An integrated approach is discussed on many levels. This would mean that such reinforcement will not solely focus on the safety purpose of the dikes but also on further aspects like the development of touristic and recreational functions and facilities. Still alongside the main purposes of the dike, which is prevention. Important to note is that the changes due to the climate are still uncertain. We can only estimate what they will be and design with these numbers.
2. Recreational defence

Bjarke Ingels: upgrade scheme Manhattan’s storm defence.
The Dutch defence system can also function as an attractive recreational site, and not merely as defence structure.

Context

Dikes and dunes make spatial and visual barriers between the seafront and the users. However, the dunes as part of the natural landscape are better incorporated to this scenario while dikes still remain a physical and unattractive wall.

Adding program to the seafront can reinforce the reason people would cross the dike to reach the water (outer-dike land or beach) since these water protection walls compromise the visual stimulation of the water. Therefore, a seafront with diverse services and activities would attract the users.

Solution

Urban designers and landscape architects should use dikes to spatially connect water to the inner land by adding recreational functions by designing bicycle paths, seating areas, ecological parks or public gathering spaces like an amphitheatre could also be planned. These intervention will help to re-connect the visual and social connection between the inner land and water.

A program like the one in Scheveningen can bring a lot of vivacity to the area. It can also provide the beach of activities in most time of the year and not exclusively in summer. The creation of boulevards, cycle lanes and recreational infrastructure should provide an important public space.

It is important, however, when designing such structures, to consider the characteristics of the waterfront and the urban areas related to it. The connection with existing structures and landscape is fundamental. The dike becomes a link between land and sea and not a barrier anymore.
3. Dike reinforcement

Dike reinforcement Texel, the Netherlands
https://beeldbank.rws.nl/MediaObject/Details/DWW_aanleg_zeedijk_of_dijkversterking_330518
More innovative solutions for dike reinforcement than the contemporary solutions should be researched.

<table>
<thead>
<tr>
<th>Context</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Netherlands consists of almost 18,000 km of dikes: a distance from Amsterdam to Sydney. These dikes are the bone structure of the country: thanks to these dikes, the Dutch keep their feet dry and trade alive (LOLA 2015). The Dutch are never safe behind the dikes. A storm with the power like hurricane Katrina (2005, New Orleans, USA) will also threaten the Netherlands. The safety norms that are addressed to the Dutch dikes are rather high, but they are not always met (LOLA 2015). Dikes that are too weak can be fixed according to several measures. But contemporary dike reinforcement is often hard resistance, while soft resistance measures are not extensively used yet</td>
<td>To fix these weak dikes, there are several possibilities. These possibilities are not only hard resistance: heighten or broaden the dike, but there are also more innovative and softer measures that can be applied: outer-dike land, islands in front of the dike, replacing the dike in direction of the water or placing a second dike in front of it besides the old dike or up to a few hundred of meters in to the water. These measures can add extra value to the dike profile and the surrounding areas.</td>
</tr>
</tbody>
</table>
4. Water level management

http://www.esri.nl/waterschappen/inwinnen
Water level management can add spatial quality to the coast line.

Context
Climate change will have different effects. One effect of climate change is water surplus. There will be more and heavier rainfalls, the sea level will rise, and there will be more water discharge from the rivers. Another effect of climate change are prolonged periods of drought. These periods will instead of a surplus, have to deal with a water shortage. It is important that both effects will be acted upon

Solution
Instead of letting the water level in lakes run its natural course, the water level can also be managed. Managing this water level well, can make sure that there is enough water in periods of drought and not too much water in periods with water surplus. Managing the water level can also be good for nature values and the usability of coastlines. Including the changing water levels in the design can enhance the design significantly. For example will the relation with the water change because the height of the water will vary. Places where there is land outside the dike, the design challenge is extra interesting, because the amount of outer-dike land varies.
5. Soft resistance

Lee measures Hoornse Hop

Diagram:
- Soft resistance
  - Adapt
  - Floating
  - Recreational defence
  - Water quality
  - Productive landscape

Understanding the relationship between different elements.
Context

Climate change and sea level rise are one of the major concerns for coastal protection all over the world. Protection against the sea side storm surge could be done in two different ways: hard protection (e.g., sea walls and dams etc) or soft protection (e.g., artificial islands and beach nourishment).

Hard protection is most widely used and has been the most common approach to shoreline erosion problems. However, there are many environmental disadvantages to hard protection. Moreover, coasts then need constant maintenance and aesthetics is lost. Soft protection techniques, particularly the artificial islands and beach replenishment, are attractive to coastal managers and they do not involve construction of costly structures and the results are more 'natural'. These techniques are also considered more effective in long term and have high positive impact on surrounding ecology.

Solution

Location of the soft resistance islands should be strategically positioned according to the sea/river currents while, the type of island should be determined by the engineers according to the expected storm surge and global sea level rise.

Urban designers and landscape architects then have possibility to develop this island further with suitable interventions like recreational spaces and touristic developments.

Ecologists will also have to play an important role in maintaining the ecological quality of the islands by planning suitable conditions for fish and birds.

Soft resistance measures create a more pleasant and a soft resisting measure for the coastline.
6. Oeverdijk

Bureau Stroming: inspiration booklet oeverdijken Markermeer.
http://www.stroming.nl/images.asp?nummer=1099&foto=2
The oeverdijk is a smart resisting measure that can add extra space for facilities along the coast.

Context

Instead of touching the current dike, with the oeverdijk a new dike is constructed in front of the dike, consisting of a water retaining part and a wide gentle embankment which brakes the waves. Between the current dike and the oeverdijk a watercourse remains to exist which ensures that the water balance in the current dike is not adversely affected. The flood defence part lies near the dike and reverses the highest tides. The gentle bank with a slope of approximately 1:40 damps the waves and provides a variety of opportunities for shared use. The gentle bank can form a habitat for aquatic plants, which improve the water and ecological quality of the lake. On the higher parts of the oeverdijk other types of nature can emerge or be developed. There is also space for all kinds of recreational services.

Solution

Instead of high and narrow, the oeverdijk is low and wide. The old dike loses its function as a water barrier, but remains as a valuable landscape element. Also inside the dike the situation will remain unchanged. By giving the oeverdijk gentle inside corners in places where lots of shells are available on the bottom, shell beaches can arise that help with the development and strengthening of the oeverdijk (Stroming 2012). There are different possibilities for the spatial design of an oeverdijk.
Heightening the dike gives safety without taking extra land.

Context
The coastline is an attractive place for all kind of activities and facilities. Since centuries ago, urban settlements arise along the coastline due to good trading positions. At some places, nature has become so valuable that it is part of the Natura 2000 guidelines. Most of the time, these areas are well protected by the dikes, but not always. Then the dike has to be reinforced. The most common solution for dike reinforcement is heightening or broadening the dike.

Solution
With heightening the dike, extra sand is placed on the dike and the slope gets steeper. Heightening the dike has not much influence on functions surrounding or on the dike. The biggest problem is that functions behind the dike may lose their view over the water. It is important when designing a higher dike to see what this elevation does to its surroundings. It adds value to on the dike, but not behind the dike. So this type of reinforcement won’t be applicable everywhere.
8. Broaden

Province of Noord-Holland: Dike reinforcement principles

Dike reinforcement

Water level management

Soft resistance

Water storage

Awareness

Soft resistance

Recreational defence

Awareness

Productive landscape

Dike reinforcement

Heighten

Broaden

Water storage

Awareness

Soft resistance

Recreational defence

Awareness

Productive landscape

Oeverdijk

Vooroever

Water travel

Traffic separation

Nodes Meet

Narrative Information point

Reachable Visible

Temporary

Floating

Permanent Cluster

Meet

Nodes Landmark

Narrative Information point

Meet

Nodes Landmark
Broadening the dike can strengthen the structure without changing its crown height.

Context

The coastline is an attractive place for all kind of activities and facilities. Since centuries ago, urban settlements arise along the coastline due to good trading positions. At some places, nature has become so valuable that it is part of the Natura 2000 guidelines. Most of the time, these areas are well protected by the dikes, but not always. Then the dike has to be reinforced. The most common solution for dike reinforcement is heightening or broadening the dike.

Solution

Broadening the dike can happen inwards, outwards or to both sides. The positive quality of broadening the dike is that the crown of the dike remains on the same height. The problem however is that the dike needs space to broaden. Functions and urban structures surrounding and on the dike have to make place. Therefore, this dike reinforcement principle can not be used everywhere.
9. Water storage

Loncatt 2012: The blue crescent square, Vietnam
http://www.loncatt.com/blog/water-square/
Water storage could be considered in local scale and can also attract people and improve the environment at the same time.

Context

With 60% of the country living below sea level, the Netherlands has developed sustainable water management systems to cope with changing weather patterns and extreme downpours. Green roofs and flood controlling water plazas are some of the measures helping to stay ahead of the game.

Following the European Framework Directive on Water, Rotterdam is working towards improving existing open areas of water through the use of collective measures. In the near future, the city plans to segregate the current sewerage system in order to establish a system where wastewater can be separated from relatively clean rainwater.

There is no denying that water is an important means by which the quality of Rotterdam as an attractive city is established. Together with various partners and the right expertise, Rotterdam aims to strengthen its position as the water city of the future. With a holistic approach to managing the city’s urban water systems, Rotterdam serves as a stellar example as to how delta cities can cope with the changing environment.

Solution

Cities are also studying possible locations for the construction of water plazas. These water plazas will fill up in a controlled manner during heavy rainfall, preventing surrounding streets from flooding. In dry periods, these water plazas can be effectively used as open public spaces. Rainwater remains in the water square until it can be discharged into the nearest water body. Short cloudbursts create streams, brooklets and small ponds that allow children to play in and around the water. During prolonged downpours, the water square will gradually fill up until the sports fields are flooded and the square becomes purely a water storage basin.

Water storage could be considered in local scale and can also attract people and improve the environment at the same time.
Point-source contamination can be traced to specific points of discharge from wastewater treatment plants and factories or from combined sewers.

Air pollution spreads across the landscape and is often overlooked as a major nonpoint source of pollution. Airborne nutrients and pesticides can be transported far from the area of origin.

Eroded soil and sediment can transport considerable amounts of some nutrients, such as organic nitrogen and phosphorus, and some pesticides, such as DDT, to rivers and streams.

http://www.drought.gov/drought/content/products-current-drought-and-monitoring/water-quality
Due to climate change quality of the water decreases. With higher temperatures and more sun radiation, the algae population grows. Especially water that has not tide, quickly gets sludged. The waterfront plays an important role, because here the water is often of the worst quality.

When designing a waterfront, one has to take in account the quality of the water. This can be done by several design interventions. Important measures to keep in mind are the need for tide or some sort of current to keep the water flowing, the use of water plants that can take care of the air and water pollution from seepages.
11. Awareness

Studio Roosegaarde: waterlicht
Adaptation can only work when local inhabitants are aware of the effects of climate change and the need for adaptation.

**Context**

The defence structure in the Netherlands is strong and knows a long tradition. This structure protects us from the water 24/7 for centuries already. The structure has to be updated often to keep us safe. The defence structure has become such a big part of the Dutch culture and landscape, that people almost forget the power of the water and the vulnerability of the Netherlands. The innovation lies visible in our landscape, but we only forgot.

**Solution**

Adapting to climate change has to be done on every scale in the Dutch society. This means that everyone has to be aware of the need for adaptation. Also locals without the knowledge about adaptation need to be able to contribute. The first step is to take the local inhabitants in with the design process and make them aware of the necessities. A second step can be good information points where it is visible how the Netherlands is protected. A third step is letting people experience how the Netherlands would be if we did not protect it. For example through art. The exhibition ‘waterlicht’ of Daan Roosegaarde lets people experience how the Netherlands would be without our defence system through a virtual flood with beams of light.
12. Productive landscape

Michal Kapitulnik 2012: Growing Pier 68: Landscapes of Accretion
http://www.asla.org/2012studentawards/300.html
Productive landscapes can be combined with recreational landscapes

Context

Productive landscape means that a landscape can produce some food or fruit for people to consume. This kind of productive landscape can also have the recreational function simultaneously which make the productive landscape more interesting. Also, in the Netherlands, there are lots of farmlands. People add some interesting recreational function on it. This is a good example of interesting productive landscape. Participating in or buying food from urban agriculture provides people with a way of actually doing something about the concerns they have. Citizen initiatives have an integrated view of urban agriculture, seeing it as source of fresh and wholesome food, a mechanism to bring about social integration and economic regionalisation, and a strategy to improve the resilience and sustainability of the metropolitan food system.

Solution

As a result, more people would like to go to the landscape and enjoy it, and even to participate the productive process. People can help the landscape to sow the seeds, irrigate them, maintain and collect the harvest. When productive landscape is combined with recreational landscape, the advantages are enormous. So as a designer, we could purposely use our design to guide the visitor to take part in the productive process. For example, we can make elaborate open space within the productive landscape to direct people to come in and experience the landscape. And then we can make some guidance panels along the landscape to teach people how to farm.
Vooroever
Waterfront Medemblik. The Netherlands
http://www.recreatieschapwestfriesland.nl/recreatieterreinen/de-vooroever
Reinforcing a dike with a vooroever breaks the waves.

Context

Dike reinforcement through the construction of a vooroever adds outer-dike land to the dike. This type of reinforcement is often done when there is no space behind the dike for reinforcement because other functions are positioned there. Because the slope is still rather steep, functions can be positioned on the top of the vooroever with maintaining dry feet.

Solution

The vooroever adds extra space to the dike profile that can be used in many different ways. It can be used for nature, for cattle, or for small urban development.
Pattern library

Recreational development
1. Water

[Image of kayakers on a river]

The presence of water attracts visitors to recreational landscapes.

Context

Several holiday surveys suggest the dominant attraction of water as a holiday attraction. The sea coast and inland waters in the form of lakes, rivers, reservoirs, and canals represent the most important resources in recreation and tourism. Water can be seen as a landmark for the Netherlands: The coast remains an exceptionally busy recreational area with important socio-economic significance. There is a magical attraction of the combination of sea, beach, dunes and polders. Much of the attraction of water is visual, as an adjunct to scenery, and for many uses, including fishing, the importance lies in the access to the banks rather then to the water itself. Hence the pressure of recreational demand on water resources is great. Within recreational development, existence of water resources create advantages in terms of both visibility and utilisation.

Solution

The Dutch landscape plays an important role in attracting foreign tourists. Firstly, the landscape is a frequently used element in the created image of the Netherlands as a recreational resort. Also the tourists themselves give their appreciation for the Dutch landscape. Aspects that are valued are the coast, the water, the story of the fight against the water, cultural history and the possibilities to hike and bike. Increasingly the potential of the landscape is also detected by policymakers and tourism providers. This offers opportunities for product innovation and a widening and strengthening of the recreational product. Important considerations hereby include: care for unity and synergy in the development of the offer, reasoning from specific functions and potentials of the area, monitor the identity and character of areas, and stimulate the perception and accessibility of the landscape.
2. Variation

Jan Adelarr: The Netherlands from above
http://www.janadelaar.nl/vlucht-noord-nederland/

Dike reinforcement
Water level management
Soft resistance
Water storage
Adapt

Recreational defence
Heighten
Broaden

Oeverdijk
Vooroever

Water quality
Awareness

Productive landscape

Water travel
Reachable
Visible

Temporary Routes
Nodes
Cluster
Meet

Information point

Narrative

Landmark

Temporary

Permanent

Cluster
Meet

Information point

Reachable
Visible

Water travel
Traffic separation

Dike reinforcement

Adapt

Variation

Routes

Nodes
A valuable recreational area offers a variety of scenery, recreational activities and defence systems.

Context

Land behind the dikes needs to be protected from highest water levels which only happen approximately once in 1250 years (or even more rare), but usually water levels are much lower. If dike has a width of a hundred meters, there is no danger of breakthrough, and hinterland is safe and protected. So dikes could be designed in such a way that outer-dike area is divided to different levels of protection according to the heights and can be used for diverse functions. This would improve integration of settlements into water landscape in a sustainable way, creating soft transition areas instead of rigid defense structures. Another advantage would be the visual gain towards the water and the opportunities that it would provide for the region. This is especially important in a framework of current policies which tend to approach water management not as an independent issue, but in an integrated way, making connections with economic, ecological and social concerns.

Solution

Instead of being a border, dikes could be widened and landscaped into several levels and thus adapted for housing, farming, agriculture or recreational activities. The width of an adaptive dike can go from 100m in places where space is limited (such as near existing villages and towns) to 200m in rural areas, where there is no habitation. The average frequency of water levels could be translated into a vertical division of the outer-dike land, so the higher the area is, the less often it is expected to be flooded. Following this principle helps in designing the dike: regularly flooded areas are suitable for the development of tidal–river plants, the area which is flooded a few days each year is better for food crops. In the highest outer-dike areas villages could be located (which would have a view across the water and to the land behind). These differing landscapes can offer multiple possibilities for recreation.
3. Clustering

Charles Correa: housing project in Belapur, New Mumbai
Context

When facilities in an area are scattered, they do not much for the area. However, if complementary activities are clustered together, it will ensure a vibrant, lively and safe centre for people. The Potsdamer Platz in Berlin is an appropriate example of how a land laid waste during the second world war and later the cold war, transformed into a site of major development. It now has many cafés, hotels, restaurants, the Sony centre and is home to Europe’s largest casino and is the principle venue of the Berlin International Film festival. It attracts 70,000 visitors a day with about 100,000 on weekends. These clusters are important for the recreational accessibility of a region. They attract visitors from where they can carry on in to the landscape and where they will always return.

Solution

The same principle can be applied on a smaller scale as well. From observation and experiencing a place, about 6 activities can be grouped together to give a sense of life. (Aleaxander, C., A Pattern Language, Pg 181) These also have to have complementary functions. For example, a movie theatre, a restaurant and a bar. Or a terminal, a diner, hotels, night clubs and casinos. Clustering activities also helps in social control. This pattern also has bigger implications in concentration and diversity which result in creation of vibrant clusters.

Clustering diverse and complementary activities help to sustain a vibrant area.
Once upon a time,
The different “stories” that each region includes consist the contextual framework for an architect or planner to formulate his/her understanding of the region.

**Context**

Often the quality of the place is given by its historic value. Not just building features and facade’s color are the example but also the type of land use and the function to it related are values which give potential and vitality to the place. Frequently those features are gone because of recent modification which don’t take into account the identity and historic value of such a feature. This causes an enormous loss to what concern the potential and the vibrancy related to historic feature. Every city, region and landscape constitutes a narrative. The city territory reveals the stories of the people who lived in it. The landscape shows the changes over time. The region reveals the big shifts in land use. The narrative of a place is, among other things, constructed by stories that explain the area’s geology, its hydrography and the genealogy of its terrain. In this way, every landscape is a text—or a hypertext. A set of shapes that refer to other shapes or meanings. The syntax of this language, the relation between the figures or the shapes explains the systems that created the landscape.

**Solution**

Identity of an area is formed by historical and cultural landscape of the place and new spatial structures should be designed with high attention to the context. Careful study of the historical changes of the area should be the basis of research-based urban design. Understanding long lines of development and integrating narratives, meanings and processes in one story of past and present, helps to provide a more clear vision of what could happen in the future, and to bound new spatial exercises with a context in a cohesive way.

As a result, right places to make an intervention in an urban fabric or a natural landscape would be found. If the context is already rich, interventions should be minimal, but with cultural reference to the past. Urban designers should extensively elaborate on the cultural and geological layers that define an area while attempting to build their own “narratives”.
5. Water travel

Waterbus Rotterdam

http://straatkaart.nl/3072AS-2e-Katendrechtsehaven/media_fotos/waterbus-rotterdam-3-Wgh/

Water

Visible

Routes

Traffic separation

Reachable

Water travel

Information

Cluster

Meet

Nodes

Recreational defence

Awareness

Water quality

Soft resistance

Dike reinforcement

Water level management

Water storage

Productive landscape

Oeverdijk

Vooroever

Broaden

Heighten
Public transport must be reintroduced in the Dutch water system.

Context

In the Netherlands there is a huge system of waterways, canals and boozers that are far from being fully utilised. Throughout the centuries, the economy of the Dutch cities was based on water networks. They were used as main ways of transporting cargo and people between and within cities. This network that was dominant in the past is now relegated to a second role, acting more in terms of water management and reduced transport of cargo. The system is however well maintained, constant dredging and the existing infrastructure of locks, moving bridges and quays is compatible with the use of the water as public transportation. With the course of centuries other means of transportation replaced water transport. Nevertheless, in the search of the new relations with water, development of water public transportation could become a large step in integration of water into urban fabrics.

Solution

Public transport must be reintroduced in the existing network of waterways, specially along the lines connecting cities and countryside. However this must be done taking into account that a water bus system is by definition not designed to replace or compete with models such as buses or metro, on the contrary, it is more suitable to work with those types of public transport in a close collaboration. The option for water buses does not follow a mere offer – demand equation. One should not evaluate the relevance of this proposed mode only by measuring figures on capacity of transportation; other aspects must be taken into account like the historical importance of waterways to the cities in the region and how this transport system can help to raise awareness on the major role of water in the near future.
6. Information point

Tourist information office Groningen, the Netherlands
https://geolocation.ws/v/W/File%3AGroningen%20VVV.jpg/-/en
People have to be able to gain extra information when they want the recreate in the area.

Context
Providing information about the recreational area about the narrative of the region and what the possibilities are for the visitor are a prerequisite for a well functioning recreational area. Historical spots, amazing views, and interesting stories will only attract the visitor if they know how to find them.

Solution
The urban designer of an area should bear in mind the need of information supply for visitors. This has to be an integral part of the design and should stand out in the landscape. Information points can vary from large tourist information offices to small signs along important recreational routes and at historical objects. The information giving should form a whole with each other through the area and can sometimes even form the route through an area where all characteristics are bound to each other.
7. Landmark

Little mermaid Copenhagen, Denmark
Promoting the identity of a city, for both locals and foreigners, contributes to social cohesion and recognition.

Context

City Branding and Place Marketing are broadly established strategies in the field of competition and “antagonism” among regions. They are mainly used to promote the touristic appeal of an area, but they also intend to further contribute to the local economy and sustainability. City Branding is also fundamental within the borders of the region itself. When local people feel attached to a common idea and vision, they are able to engage more actively to the best functioning of their environments. City branding can not only attract visitors, but also give them a sense of belonging in the area they are visiting due to remembrance.

Solution

This pattern calls for a balance between the local and global demands of the region. Strategic visions can sometimes help to revive a dying region. However, these changes should not be so drastic so as to replace the indigenous character of the place. A comprehensive approach integrating the ambitions on a larger scale and taking into account the needs of the natives can help in using this pattern conclusively. If the existing layers are not taken into account, it leads to homogenization which enhances the similarities of regions instead of the differences. Underpinning the local quality of the place and utilising that to celebrate the larger goal could be a starting point for the global branding. One possible way is through landmarks. These will become the eye catcher of the region, the image that everyone knows and will attract visitors that will feel connected to the place.
8. Floating

Rintala eggertsson architects, 2009: Kaluga floating sauna Russia
http://architizer.com/projects/kaluga-floating-sauna/
Floating structures provide settlements along water courses with a venue for cultural activities and reconnect visitors to the water.

Context

In times of economic crisis were resources available for cultural activities scarce the discourse of sharing and cooperation is reinforced. At the same time many regions have a network of cities integrated by an extensive water system. These regions where cities have a certain potential for tourism but lack resources can benefit from the establishment of a circuit of complementary cultural activities. Cities that are affected by the tide and storm surges, such as Rotterdam or Hamburg, build high quays or dikes to protect themselves from the water. This can lead to a feeling of disconnection from the water. There is an opportunity to live with the water, to build floating structures that move with the water level. This gives rise to new experiences and interactions with the water.

Solution

This pattern proposes the creation of floating structures that can travel from one city to the other, providing space for cultural activities. Cities must cooperate in sharing resources and to establish a calendar of activities, city planning must provide spaces where these structures can be attached to the city adding value to existing urban spaces. When designing waterfront public spaces, urban designers can consider creating floating platforms to allow visitors to engage in a more dynamic way with the water. Platforms can be quite thick allowing for “cellar” storage underneath the surface. Pavilion structures such as restaurants can then also be built on the floating platform. There is the potential to host a diversity of function on a floating platform, from a dock, a public space, a restaurant to even floating houses.
Temporary Habitable London: Foldable workspace

https://londonsh.wordpress.com/brainstroming/
A region should offer possibilities for short term recreation.

**Context**

In recent times, people’s daily activities such as going to the movies, watching television, watching football, cycling and going for walks. There is a huge void in terms of socially sanctioned activities which are the outward equivalent of dreaming. The void is also spatial as informal use of public space is reducing. The kind of inebriated fun provided by circuses and carnivals are fast disappearing from the modern world. If parts of the city are transformed into temporary spaces for events that allow people to let themselves be free, it would go a long way in bringing a city to life and steer it toward a healthy way of enjoyment.

**Solution**

The parts of the city that have potential to transform into a vibrant public arena can be used as a carnival space for mad sideshows, tournaments, acts, displays, competitions, dancing, music, street theatre, clowns and freak events which allow people to reveal their madness. This also results in an urban void which can be well integrated into the city structure. For example, a pedestrian street can be weaved through this area, stalls can be run along the street; an outdoor theatre can be positioned on one end and perhaps the theatre stage can be directly connected to the carnival street. The existing positive spaces can be re-oriented to meet the needs of the particular event. The various activities thus feed and spill into each other to rejuvenate the city.
10. Reachable

Zimmer 2008: Sweden
http://www.transit-port.net/Galleries/Portfolio/pages/jetty.htm
The relationship between human kind and nature is important for recreation and it is essential that they can reach each other.

Context

The separation between green and city is far from being accepted nowadays. As we now know, there is not only two distinguish possibilities: city and green. The green is part of the cities as well, and it has to be considered as an important structure of it.

Urban areas should consider the green structures inside its fabric, but also the green belts or buffer green areas around them could be planned to be reachable by citizens. Considering the necessary contact of the human being with the green and the idea of that as more aware of the wildlife better the people will be responsible and respectful towards nature.

In summary, the green structure within the urban fabric and around it should be consider as important element to connect the mankind to nature in a more sustainable way.

Solution

Green areas, especially within the cities, should be open and accessible to the citizens. Nature near urban areas should be accessible in order to be protect by the residents. Therefore is important to consider the green structures in the planning and design of the cities.

Through the shape of the space it is possible to connect the residents to the green areas, bringing qualities to the urban areas while providing a different relation with the space, a new identity. That it is already a reality in many places, however in several others, especially in developing countries, the nature within the cities is still neglected and the access to it still restricted.
11. Routes

Bike network De Veluwe, The Netherlands
http://www.fietsnetwerk.nl/fietsroutenetwerk

Sources: Detail visualization of the routes and the overview map of the bike network. The bike network includes various routes across the Veluwe region, providing a comprehensive map for cyclists. The routes are organized into clusters, with nodes and landmarks to facilitate navigation. The network aims to enhance water travel and separation, while promoting recreational defense and awareness of water quality. The map also highlights the importance of water level management and dike reinforcement to ensure safety and sustainability. 

Water travel, routes, nodes, and variation are key elements in the network's design, emphasizing the integration of natural and artificial elements to create a cohesive and enjoyable cycling experience. The network is accessible through the website mentioned, offering additional details and updates on the routes and their features.
A variety of optional routes through the area makes the area more attractive to visit.

Context

To get to know an area, people travel through it. People that visit and area, do this by different means of transport: car, bike, walking, horse, canoe. If there are several roads that can bring the visitor back to the place where he started, the visitor will stay in the area. If there are not enough routes to choose from, the area will be used to only pass through. Thereby, hiker and cyclists need a start and end point for there activity, preferably close to each other.

Solution

A good recreational area consists of several recreational routes. These routes should differ in length, point of return and difficulty. This attracts visitors with different needs and gives them a choice how to experience the region. Routes for hikers should interact with routes for other users like cyclists and horse back riders.
12. Nodes

Recreation transferium, Broekpolder, the Netherlands
http://broekpolderregatta.nl/het-recreatietransferium-in-wording/

Variation
Cluster

Routes
Nodes
Meet

Landmark
Information point
Recreational routes should be connected with each other at nodes

Context

To offer the visitor a variety of choices, routes will have to interact. This increases the variety in route options and means of transport.

Solution

The interaction of routes can be enhanced by creating recreational nodes. At these nodes it is possible to shift from route, to take another means of transport to carry on the journey, to take a break, or they are the start and end point of someone’s journey through the region. The nodes can vary in size and facilities that they offer. An important task for the urban designer is that these transfer points should be visible as nodes for the visitors. It has to be clear what opportunities these nodes offer.
13. Visible

Beach Terschelling, the Netherlands
http://wandelfotosite.nl/waddenpad/
Reconnect people in protected areas with the sight of the waterfront.

Context

Pushed by sea level rise and other water related risks dikes are being expanded and heightened. That process creates safe areas inside the dike rings but at the same time these areas are cut off from any visual relation with the water courses. Furthermore that disconnection can result in a false sense of safety or in a distorted perception of the water only as a threat. At the same time there is a crescent call to minimize the impacts of new dikes and to merge technical and safety solutions into the landscape.

Solution

Land art among other urban artefacts can be implemented along dikes, in strategic places where villages or neighbourhoods have lost visual connection with waterfronts. These objects can also provide to those inside the dike ring a clear perception of the water level on the outer side, playing a double role of land and art and safety monitor.
14. Meet

Zuccotti Park, New York City, USA
https://nyintl.net/article/privately Owned_public_spaces_nyc
‘Places to meet’ stimulate interaction between diverse groups of people and facilitate vitality.

Context

Cafés, bars, terraces and other similar spaces characterize identity of the neighbourhood on a very local scale and are essential for face-to-face contact between people. In university clusters ‘places to meet’ play a role in nurturing creativity and exchanging ideas. In residential areas they provide sense of place for locals, so they can identify themselves with their neighbourhood and with other locals. In busy urban centres they offer an opportunity to take a rest and observe vital street life through the window of a café.

The concept can have negative sides, because cafés and bars are often associated with a noise and a lot of drunk people around, especially in quiet residential districts. But the basic thing is that these places offer interaction in any environment, and interaction in a small closed space is much bigger, than in open spaces like parks or public squares. So, the problem of noise is not about having or not having next-door cafés, but about having the right amount of ‘places to meet’ according to a density of an area.

Solution

It is important to introduce different kinds of small scale closed public spaces according to the environments of each neighbourhood and to demands of different groups of people: students, workers, businessmen, intellectuals or families with children.

But it is also important to facilitate such small-scale facilities in mono-functional residential districts. There are a lot of neighbourhoods which were designed as large-scale modernist projects, where all mixed-use functions are concentrated in one ‘big box’ per neighbourhood. The presence of ‘big boxes’ usually lead to a fail of urban vitality in the surrounding territory, and an introduction of small cafés, spread all over the area could help to downscale large dormitory districts and bring human environments into an unfriendly context.
15. Traffic separation

Traffic planning guide, Copenhagen
http://copenhagenize.eu/portfolio/project21.html
The slow landscape connection develops the surrounding context where the fast connection creates a barrier.

Context

In the densely networked region of the Randstad, nature stands as the image that is unconsciously experienced while travelling by car or by train. Highways and railways run through the green fields offering a “cultural” experience of the traditional Dutch landscape to the commuters. However this experience is limited, as the traveller does not really engage or identify with the productive fields that he passes through.

The network of infrastructures is different not only because of the size of the lane or the speed which is allowed to drive or the length of the road itself, the division between local roads and regional ones it’s mostly related on the relationship those roads have with the surrounding context. Often happens to walk in some districts on the periphery of the city and suddenly we face a wall behind which a loud noise of cars comes from, we will find as much difficult to cross it as much as we will walk on its side

Solution

A “slow experience” of landscape could promote the regional identity of the area. Reinforcement of alternative ways of travelling between the cities such as bike riding or the introduction of other slow networks could enhance the citizens' everyday life. Furthermore, green fields that are currently underused would offer a competing destination for leisure and recreation in relation to the crowded coastline of The Hague and other seaside areas.

The relation with the context should be at the head of the infrastructure project, fast regional roads which don’t have several exit should be plan in order to not interfere with the “close neighbourhood”. Thus they should be underground covered by green spaces and allow slow connection to deal with the context and let “slow vehicles” to go ahead according to the slow scale of the urban environment
16. Permanent

Pier Scheveningen Beach, The Netherlands
http://weeswaakzaam.com/geen-moskee-op-scheveningse-pier/

Cluster

Temporary

Permanent

Water storage
People need to remember structures in the landscape to be able to identify themselves with it.

Context

If one is asked the characteristic of Paris, they say Eiffel Tower, for New York, it is the Statue of Liberty. Rome: Colosseum. Berlin: the Reichstags. Scheveningen: the pier. Zandvoort: the circuit. Enkhuizen: Zuiderzee museum. All these buildings and facilities are known by most people in the Netherlands and other parts of the world and often found on postcards and other souvenirs. They attract visitors.

Solution

An attractive recreation area with the wish to attract many visitors, should have permanent structures that will attract people. This can be outstanding structures or merely facilities that meet the identity of the area.