MANIFESTO

10 Principles for Climate Adaptive Design

SPONS LAND

INTRODUCTION

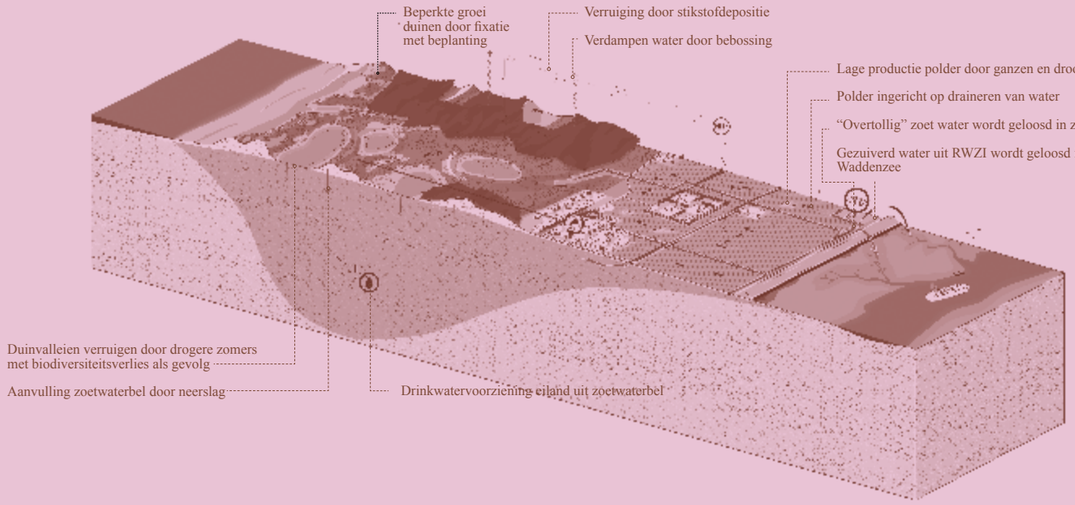
To prepare our landscapes and cities for a changing climate, we need good design. Good design is not made solely by designers, but is organized by the whole chain of politicians, policy makers, civil servants, specialists, designers, and citizens. This Design Manifesto for a Changing Climate is addressing everyone in this chain. The message is based on the lessons learned during the genesis of ‘Exhibition Sponsland: a journey into Future Landscapes’, for which nine leading agencies for landscape architecture and architecture from the Netherlands, Belgium, France and Denmark were invited to rethink the landscape of Groningen in the light of climate change. The lessons have been extracted from this specific regional context, and generalized to inspire everyone who is involved in the spatial planning of regions vulnerable to climate change.

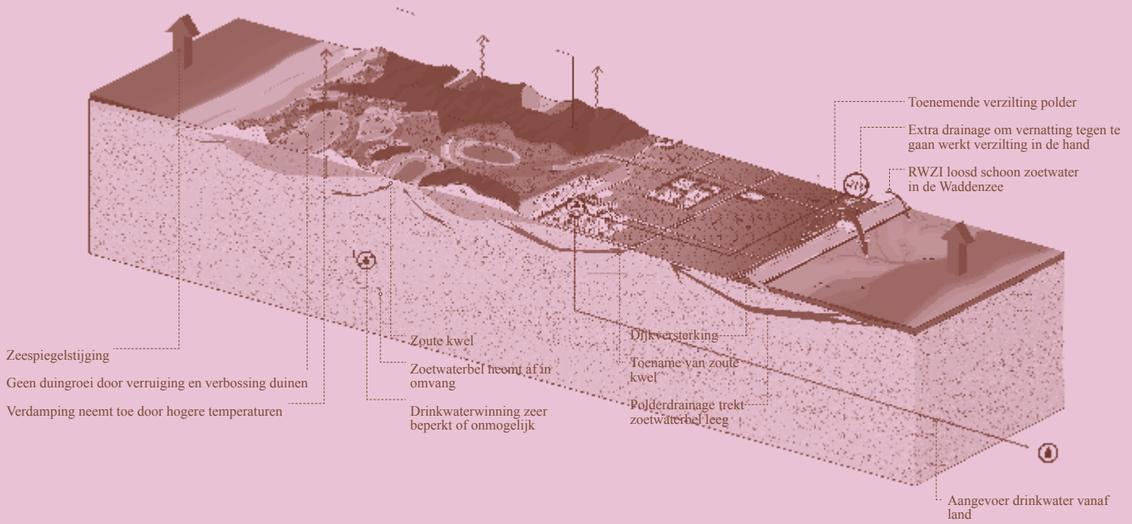
By anticipating future climate problems such as flooding, heat and drought, we do not only prevent higher costs for future generations, we also create an opportunity to improve our daily environments, and to contribute to climate mitigation, the restoration of ecosystems, and a resilient future economy. Climate change will be the main driver for spatial change, and it is our responsibility to shape this change in the best way possible.

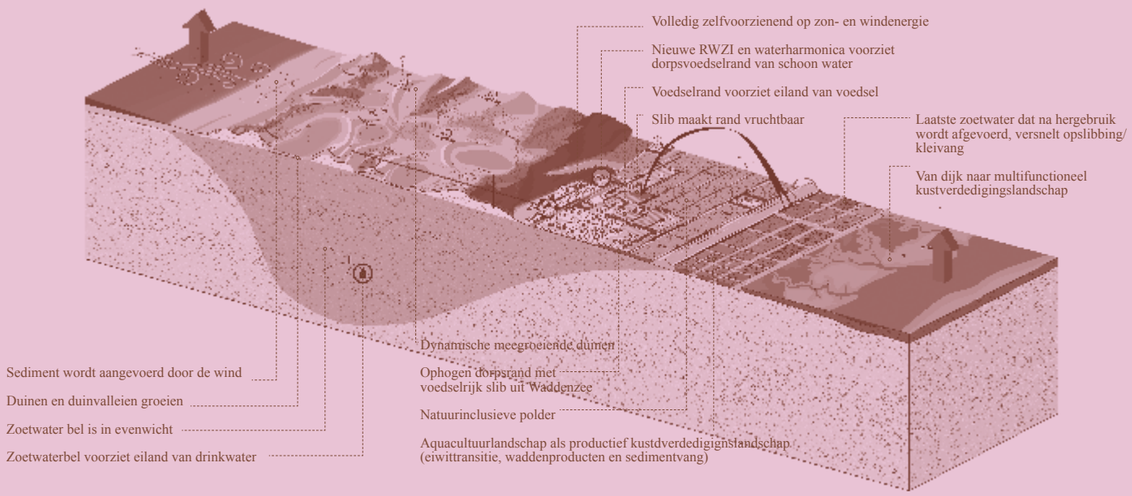
In this manifesto we present 10 principles on how to successfully approach climate adaptive design of public space and landscape.

10 PRINCIPLES

1. DRAW THE ROAD MAP
2. EXTRACT THE INVENTION
3. DEVELOP NEW STANDARDS
4. MAKE BEAUTIFUL MACHINES
5. CULTIVATE CONFLICT
6. START WITH THE SOIL
7. USE ALL TONES OF BLUE
8. RECONCILE FOOD AND NATURE
9. DESIGN FOR SLOWDOWN
10. CHALLENGE HISTORY







LAMA – FRESHWATER BELL
Research by design for potential futures of Schiermonnikoog

1. DRAW THE ROAD MAP

Designing and planning for climate adaptation require a new way of working. For many decades, planning was based on quantified programs, whether this was mobility, housing, or economy. As the research on climate change and climate adaptation is still at an early stage, such clear quantifications are not at hand. Climate scenarios show a wide array of possible futures. Due to the higher volatility of the economy, also the old parameters of city planning are harder to quantify. As a society, we are drawing the new road map, while navigating. Plans will need a new justification and designers need new strategies. For now we have to run on faith: strong philosophy, long term vision, and moral call become important to convince people of the necessary change, that will effect everyone’s life.

As global warming and sea level rise are expected to extend into the far future, it matters what we take as the point of reference, when declaring the intention to adapt. Should we prepare for the climate in 2050? 2100? 2200? In many vulnerable areas around the world, like the Dutch delta, the ultra-long perspective will require a radical and systematic change, while a for a nearer time horizon a gradual adjustment of current realities will do. Plan A (optimization) and Plan B (radical change) are both relevant to develop, but for different reasons. Far future perspectives of radical change should not paralyze our thinking of tomorrow. The biggest challenge is to design the concrete steps toward a near resilient future: to start improving the world today. And only an ambitious first step inspires to take the second - to quote Daniel Burnham: “make no little plans; they have no magic to stir men’s blood.”

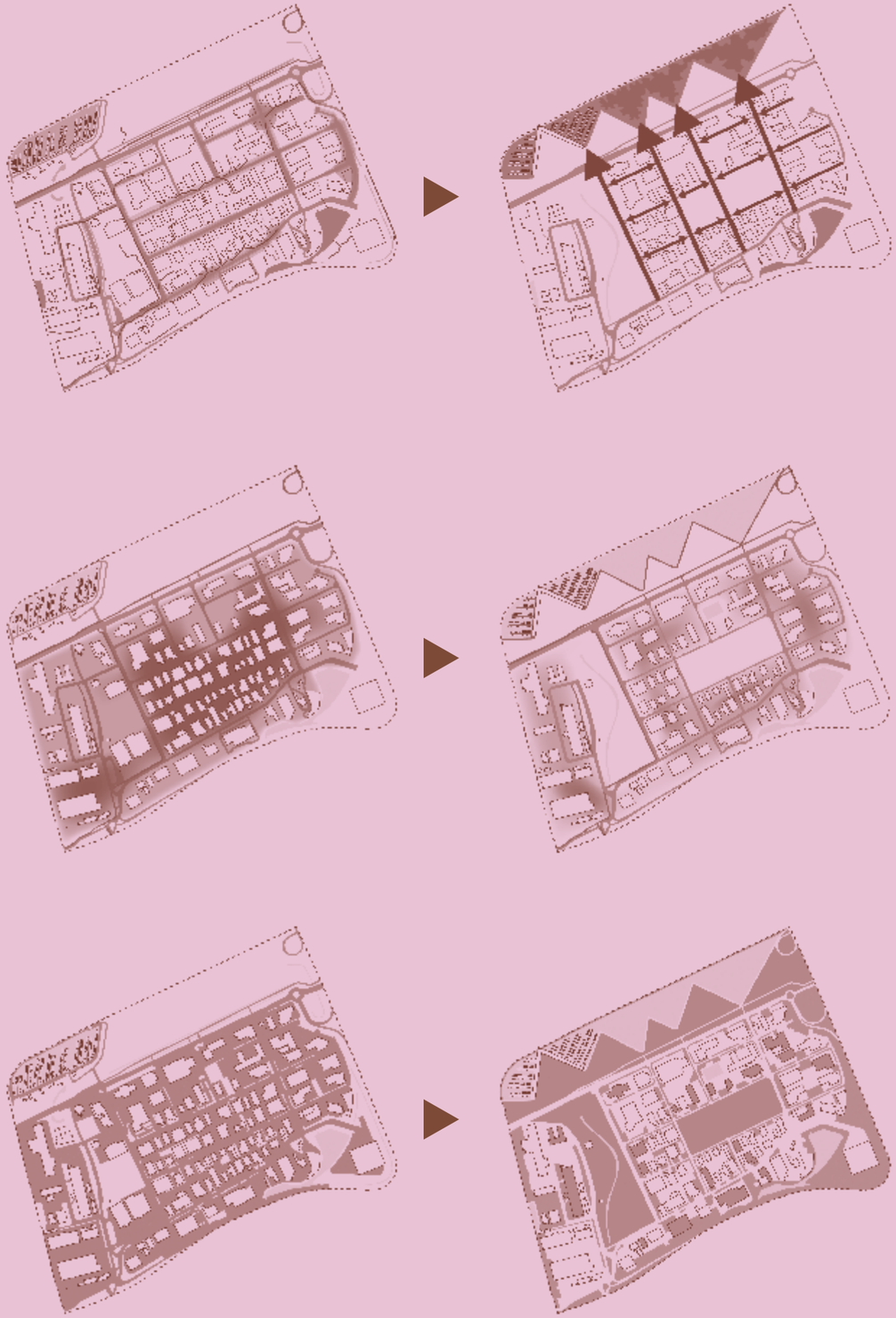
“FAR FUTURE PERSPECTIVES OF RADICAL CHANGE SHOULD NOT PARALYZE OUR THINKING OF TOMORROW.”

TREDJE NATUR – BLUE RAMPARTS
Driebond as a showcase for climate-proof urban development

2. EXTRACT THE INVENTION

Climate change is a phenomenon of which cause and effect are connected via infinitely complex patterns, extending the globe. Just as mitigating climate change is a matter of taking responsibility, so is contributing to finding ways how to deal with the consequences. It cannot be merely treated as a local problem. By taking action, we set examples and inspire others – while sometimes the measurable local benefits might seem marginal, the aura of positive effects can be a multitude of that. Especially cities seem to become showcases of how to deal with climate change, just because of their visibility and social relevance. In order to maximize global impact and to escape from the bubble of first world problems, designers should take the stage and develop ideas that are copyable, scalable, fast, and preferably based on a solid business case.
At the same time, landscape design is sustainable when it´s embedded, in its physical, social and historical context. Climate adaptation shouldn´t be treated as an isolated technical issue, but used as leverage to improve our environment on all aspects. It requires a thorough understanding of the local conditions, an integral design and tailor made solutions. Such solutions tend to be hard to copy, and relatively slow and expensive.
The challenge is to develop design proposals which are tailor made and generic at the same time. By extracting the universally applicable invention from a local design solution, and giving a name to it, we enable ideas to spread.

“CLIMATE ADAPTATION SHOULDN’T BE TREATED AS AN ISOLATED TECHNICAL ISSUE, BUT USED AS LEVERAGE TO IMPROVE OUR ENVIRONMENT ON ALL ASPECTS.”



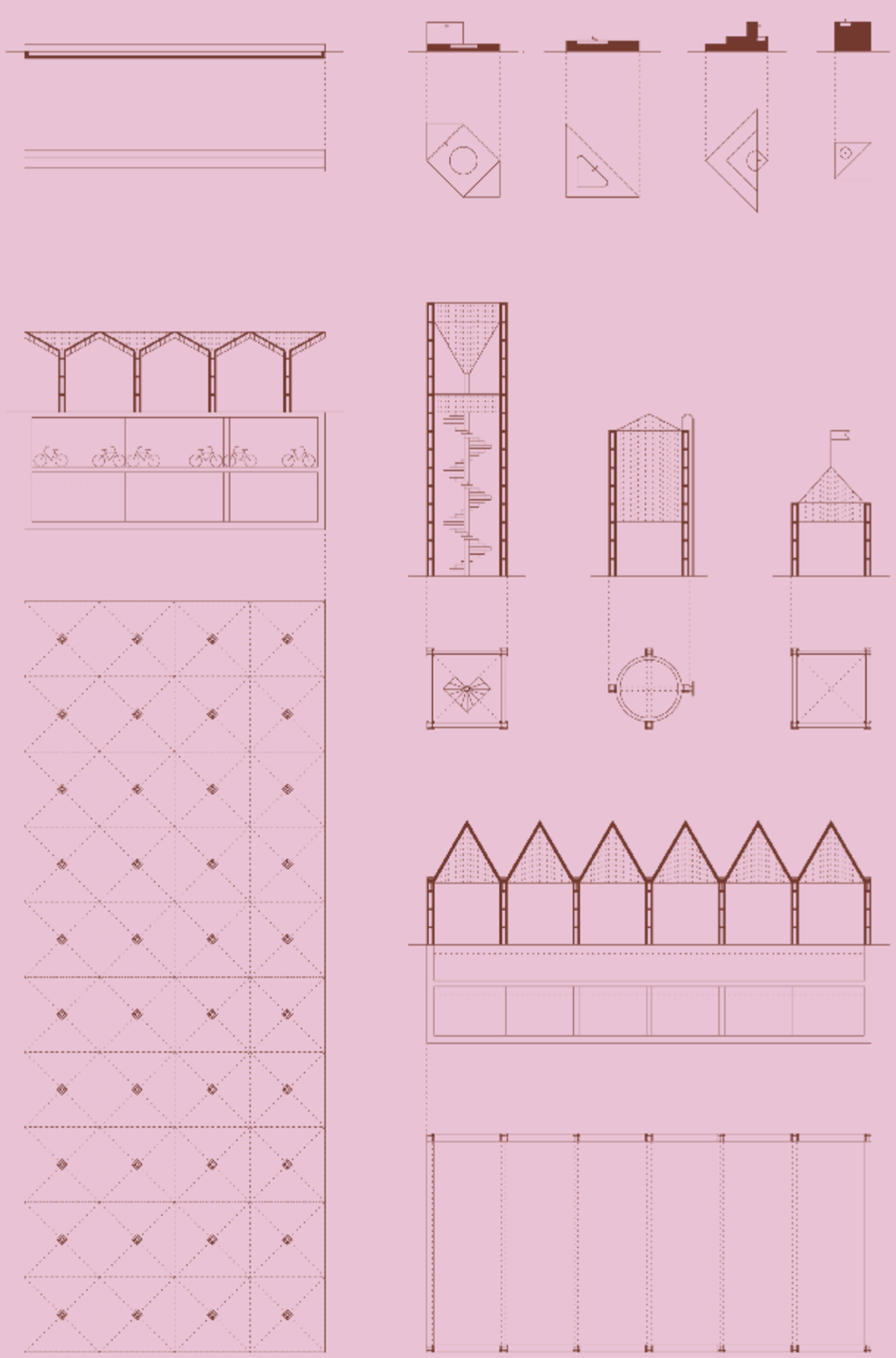
TREDJE NATUR – BLUE RAMPARTS
Developing a new space index for Driebond

3. DEVELOP NEW STANDARDS

Climate adaptation is as much a physical challenge as it is a scientific challenge. Testing, evaluating and sharing knowledge is important to accelerate the collective learning curve and to avoid the mistakes we cannot afford. Governments should invest in new wetlands and wadis, but also in new testing grounds. Designers will have to constantly re-educate themselves.

We need new words, new quality labels and assessment methods. In order to organize and recognize quality, numerous quality labels and certificates have been introduced for food, machines, buildings, finance, etcetera. In architecture, assessment methods for sustainability help to define the ambition of clients and governments, and to check whether designers managed to meet their ambition. Somehow such certificates and assessment methods have hardly been developed and applied on public space and landscape. Although quality labels can stimulate a checklist mentality, and discourage critical thinking, the positive impact of some quality labels cannot be denied. For the large transition we are facing, quality labels are a powerful tool.

“TESTING, EVALUATING AND SHARING KNOWLEDGE IS IMPORTANT TO ACCELERATE THE COLLECTIVE LEARNING CURVE AND TO AVOID THE MISTAKES WE CANNOT AFFORD.”



LIST – 100 WATER ELEMENTS
A resilient water system will generate new artefacts enriching the inner city

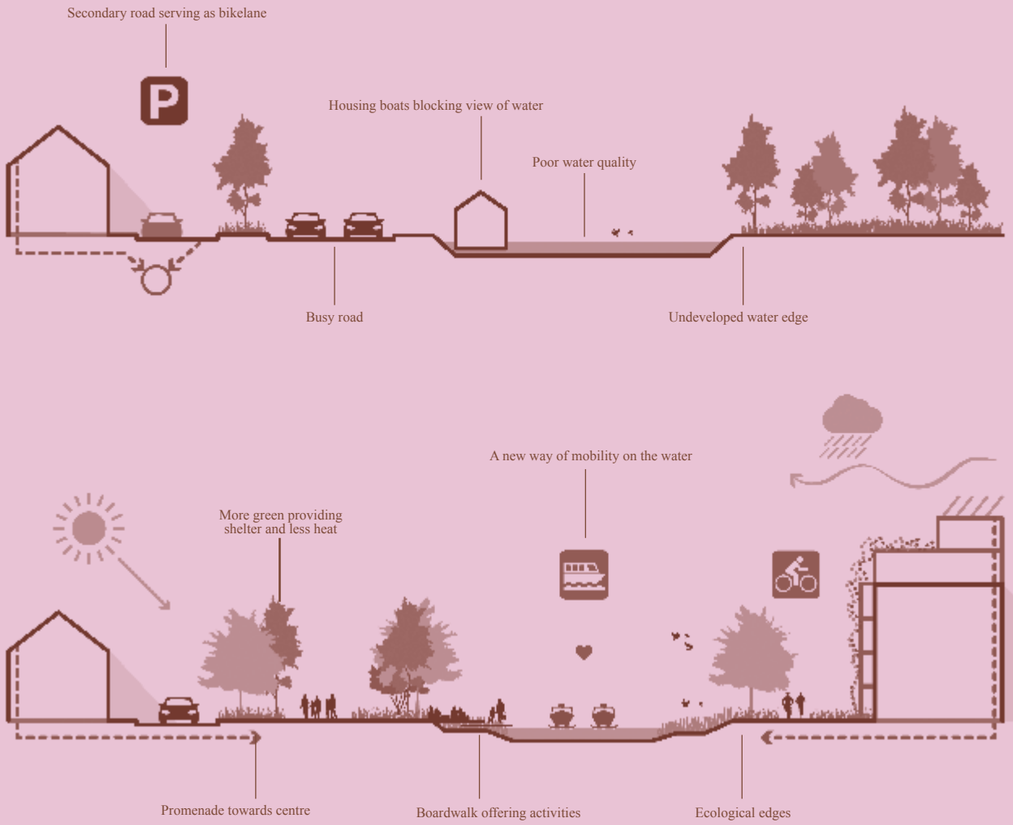
4. MAKE BEAUTIFUL MACHINES

The climate transition requires reshaping our society, physically, socially and economically. Important part of it is developing new, sustainable lifestyles. This cannot be forced upon us: we'll have to be seduced into it. Just like the success of Apple and Coca Cola is inseparable from the quality of their designs, so will success of the climate transition depend on how we shape it. Aesthetics play a key role. While in modern city planning, beauty was not a topic, at most a byproduct, now we need to talk about beauty. And not just talk: we should create it.

There is a lot at stake: if we don't invest in beauty, the transition might lead to a uninspiring layer of generic green, that masks local identity and historical qualities, just like the Dutch low-budget city renewal in the 1980's lead to depressing street facades cladded with indestructible composite panels. Green cannot become the new grey.

After the anti-cultural aesthetics of the ecological movement, it's time for engineers, architects and landscape architects to develop a new formal language. We need a renewed collaboration between engineers and designers to create the nature-based water machines and cooling machines of the future.

“WE NEED A RENEWED COLLABORATION BETWEEN ENGINEERS AND DESIGNERS TO CREATE THE NATURE-BASED WATER MACHINES AND COOLING MACHINES OF THE FUTURE.”

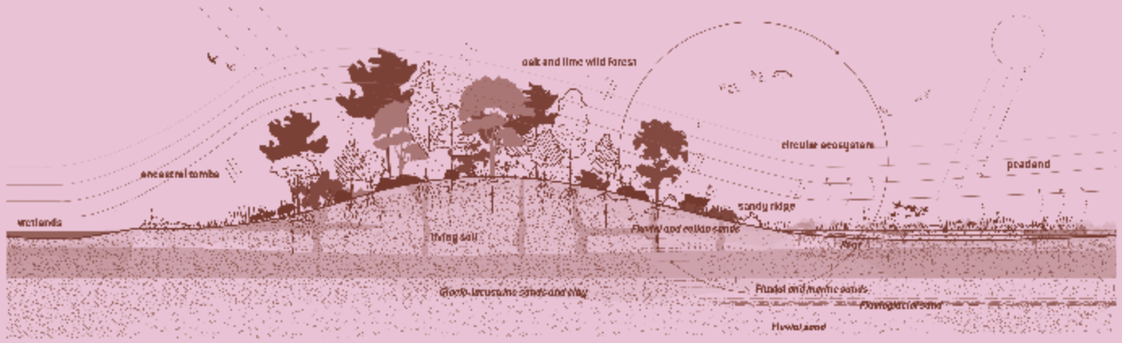


WEST 8 – RECLAIMED CITY SPACE
Strategy for density with more green and less cars in the Suikeras

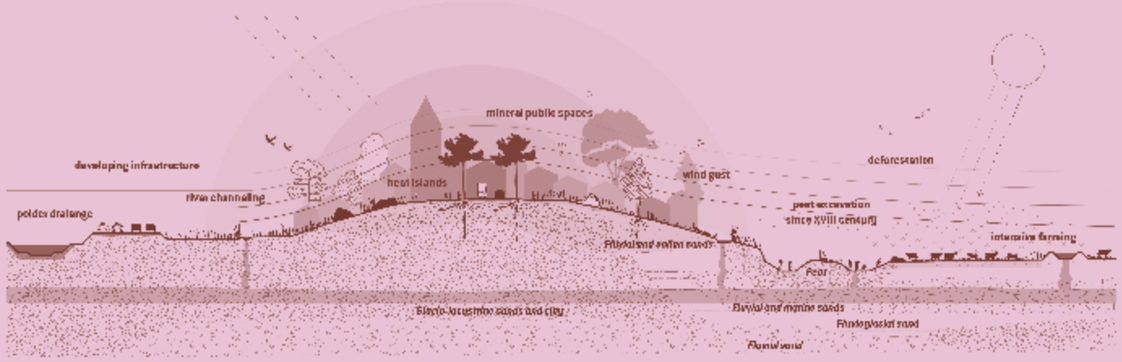
5. CULTIVATE CONFLICT

We won’t be able to turn every problem into a win-win situation. Climate adaptation requires new claims on public space and the landscape, which makes it impossible to please everybody. Politicians, policymakers, and designers can no longer dodge the people’s wrath by just showing safe or vague plans, and have to explore what the difficult decisions of the future will be. We should go beyond nice green illustrations of a sustainable, peaceful, and fraternal future. Historically, conflict has always been a motor for change. We have to cultivate conflict as a productive force – new solutions will emerge from it.

“WE CAN NO LONGER DODGE THE PEOPLE’S WRATH BY JUST SHOWING SAFE OR VAGUE PLAN. WE HAVE TO EXPLORE WHAT THE DIFFICULT DECISIONS OF THE FUTURE WILL BE.”



Geo-History: Wood Sand Stones
Yesterday



Land Planning Leaders : Water + Agriculture
XVII-XX Century

The Green Ridge
Horizon 2020

Agence TER – WOOD PARK
Reconnecting to the soil, on the conditions of the soil
at the Hondsrug

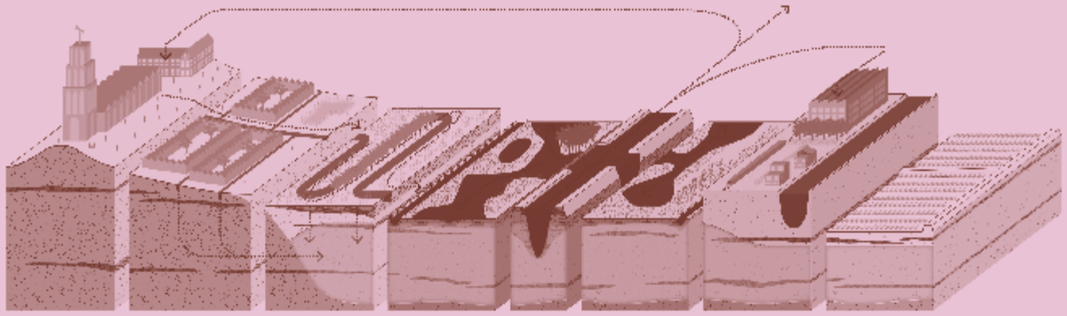
6. START WITH THE SOIL

To adapt our landscapes to the changing climate, we have to take soil as our starting point. While climate change primarily manifests itself in our atmosphere and waters, soil has to be pulled into the equation. Soils can absorb the effects of changing rain patterns, or degrade as a result of it. Soils alleviate or worsen the carbon concentrations in the air, depending on how we manage land use and water.

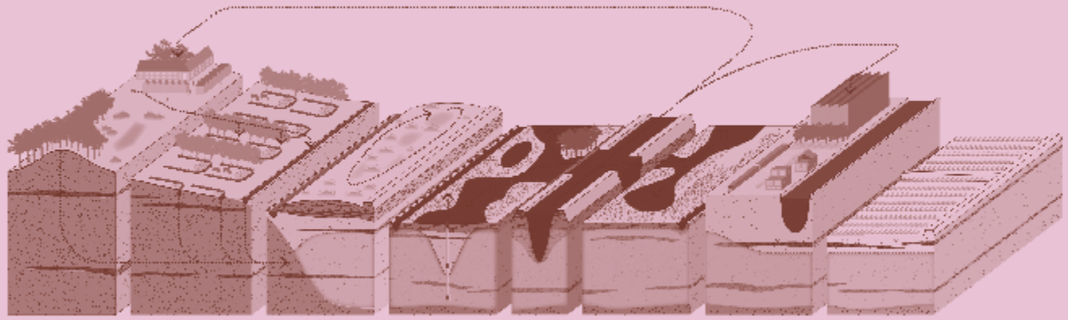
In a changing climate, the balance between soil, water an atmosphere will have to be restored. Today, this balance is hard to find; urban soils are suffocating under the weight of motorized traffic, rural soils are worn down by industrial farming. Understanding the soil, its capacities, character and limits, and developing a coherent terroir is conditional to creating resilient landscapes and public spaces.

The soil underneath the cities' pavers and on top of its roofs are becoming indispensable as a base for new biotopes that absorb heat and water, and stimulate biodiversity. The quality and capacity of these soils need to drastically improve. In the countryside, we'll have to use the natural potential of each soil type for our future needs: sandy soils can store rainwater, peat soils can be maintained as wetlands to store carbon and on the most fertile soils we should boost the variety of food production, to feed us all with a healthy menu.

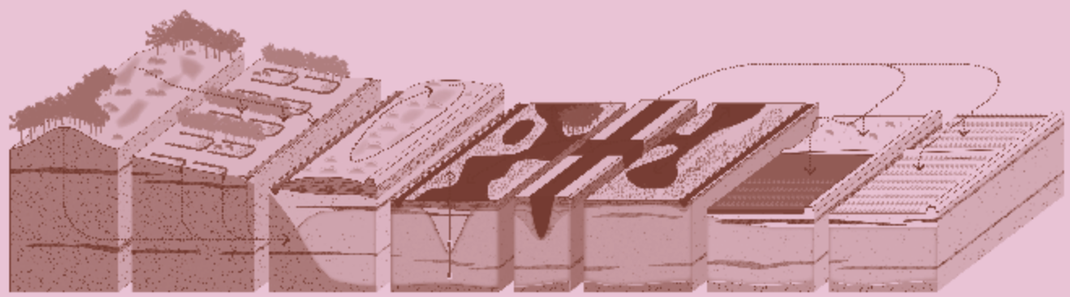
“UNDERSTANDING THE SOIL, ITS CAPACITIES, CHARACTER AND LIMITS, AND DEVELOPING A COHERENT TERROIR IS CONDITIONAL TO CREATING RESILIENT LANDSCAPES AND PUBLIC SPACES.”



STADSSYTEEM BENEDENSTROOMS
Water uit de industriezone wordt met helofytenfilters gezuiverd en in de waterbatterij geleid



WATERSYTEEM BENEDENSTROOMS
In de benedenstroomse deel van de vallei ligt de Hunze in de boezem: hoger dan het landschap. Drempels in de boezemdijk zorgen dat het rivierwater het laagveenmoeras in kan stromen.



WATERSYTEEM BOVENSTROOMS
In het bovenstroomse gedeelte van de vallei is de Hunze een rivier. Het water dat bovenstrooms vastgehouden wordt komt in droge periodes ten goede aan de Veenkoloniën.

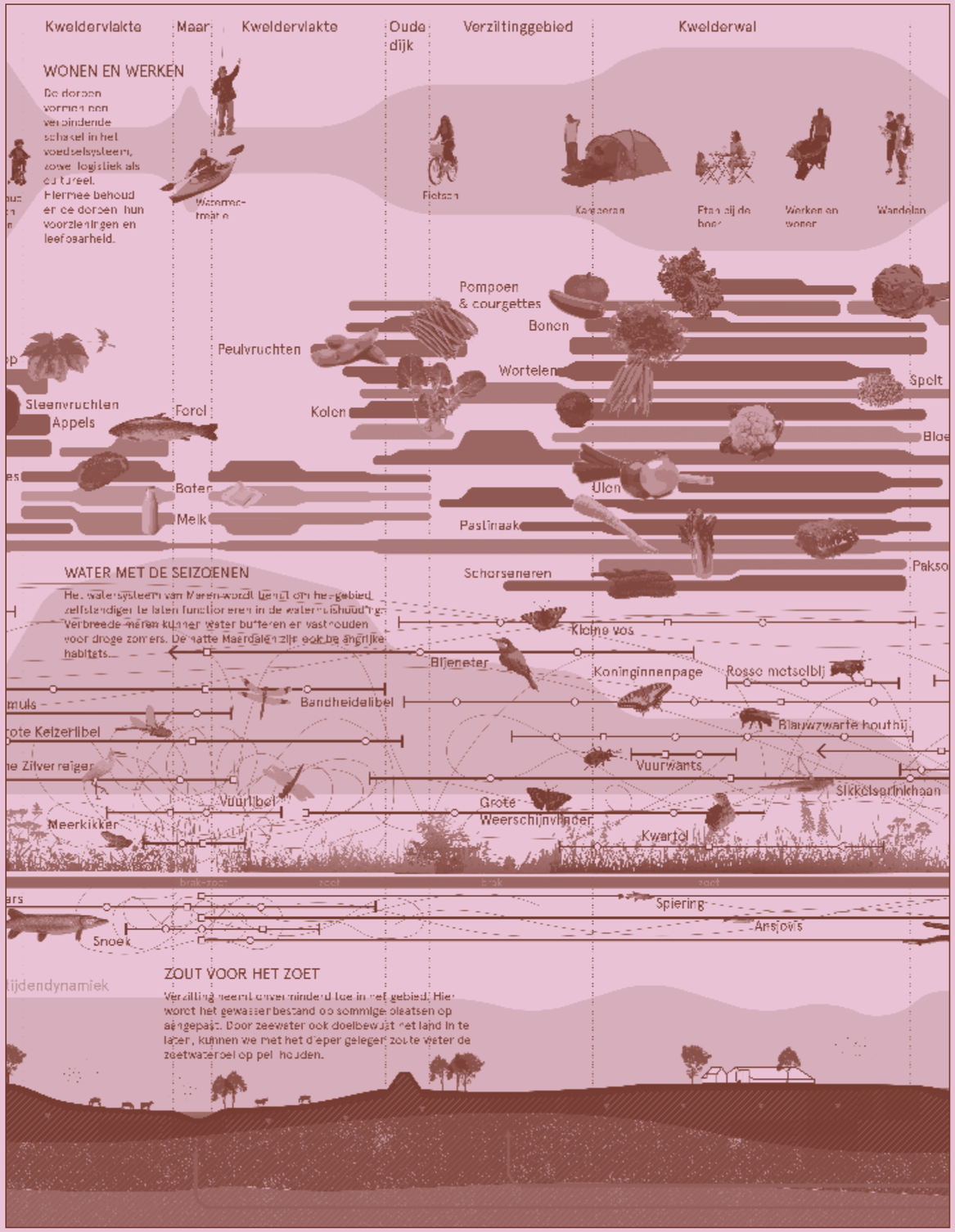
BUREAU B+B – AQUABATTERY
a new system for groundwater and surface water
in the Hunze valley

7.
USE ALL TONES OF BLUE

The biggest effect of climate change can be experienced in the presence of water: sea level rise, heavy rainfalls and droughts. The necessity to solve these primarily quantitative problems, opens up the door to improve the quality of water at the same time.

Even though modern cities and landscapes usually enjoy a reliable water management in terms of quantities, their quality management tends to be not great: clean water is spilled, while polluted water gets the chance to spread. Rain water, ground water, sea water, canal water, agricultural water, seepage water, sewage water, grey water: just like the Inuit have many words for snow, we should learn to recognize the different water qualities and their potential, and learn how to organize the different water flows so we can optimally benefit from it. Imagine citizens en masse swimming in the city canals on a hot summer day, and a buzzing biodiversity at the countryside's water edges. To achieve that, fresh water should be locally stored and kept clean as long as possible. Agriculture should support a more local water system with salt-resistant, drought-resistant, or flood-resistant crops. New nature should help to purify water. New artefacts are needed to separate, store and clean the different flows of water.

“JUST LIKE THE INUIT HAVE MANY WORDS FOR SNOW, WE SHOULD LEARN TO RECOGNIZE THE DIFFERENT WATER QUALITIES AND THEIR POTENTIAL.”



FLUX – EDIBLE COAST
Mixing food production and enriched nature
along the Wadden coast

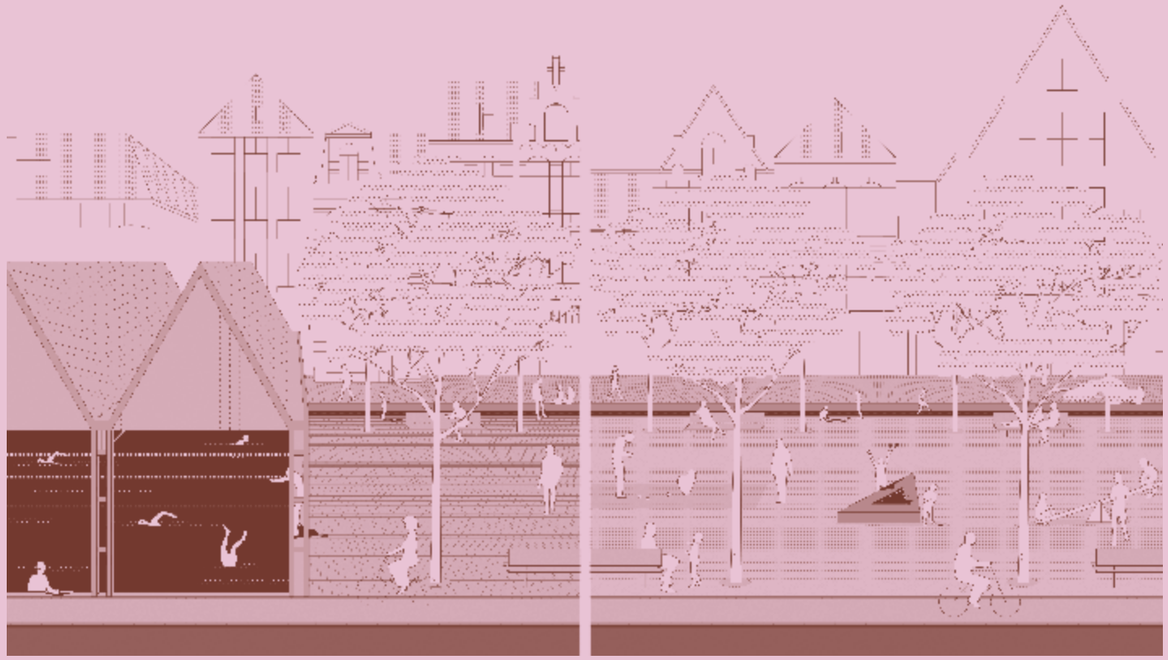
8. RECONCILE FOOD AND NATURE

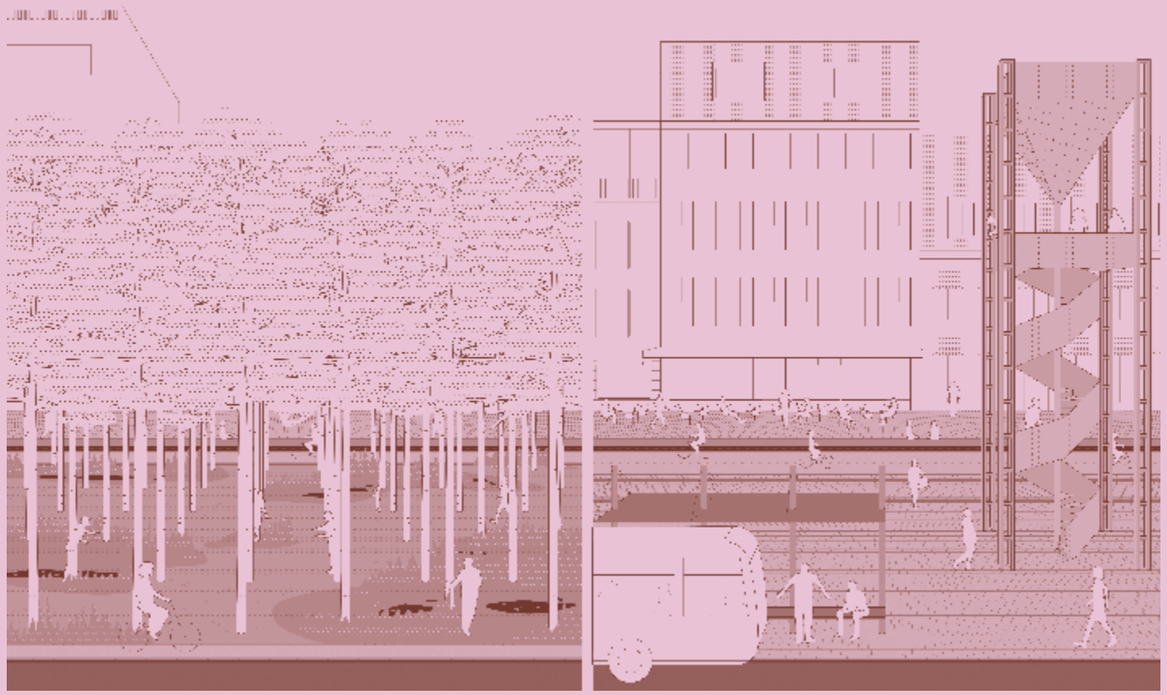
Post-war modernization of agriculture has stealthily lead to a polarization in the landscape: agriculture and nature have become each other's natural enemies, keeping each other in gridlock, while both are suffering. The ultra-rationalized agriculture on one side, and the (rewilded) nature on the other side, have opposite requirements to flourish.

When adapting to climate change, farmers cannot continue to solve it with industrial methods and need to adjust more to the dynamics of nature. When planning new natural territories to absorb the climatic effects, these cannot be kept as inaccessible sanctuaries. To move away from this harmful polarization, we should explore the productive potential of nature, and the natural potential of agriculture. Food = nature and nature = food. Moving toward a common middle ground, peaceful coexistence between a healthy agricultural economy and a resilient ecology should be within reach...

Currently, land use is fixated in regulations and settled in strong deals with a limited number of players: farmers, waterboards, nature organizations, drinking water companies, and municipalities. New deals will have to be made, new players will appear on the field, and regulations will have to change. Designers will have to involve these new parties, and help to develop new business cases and regulations that support these deals.

“WE SHOULD EXPLORE THE PRODUCTIVE POTENTIAL OF NATURE, AND THE NATURAL POTENTIAL OF AGRICULTURE. FOOD = NATURE AND NATURE = FOOD.”





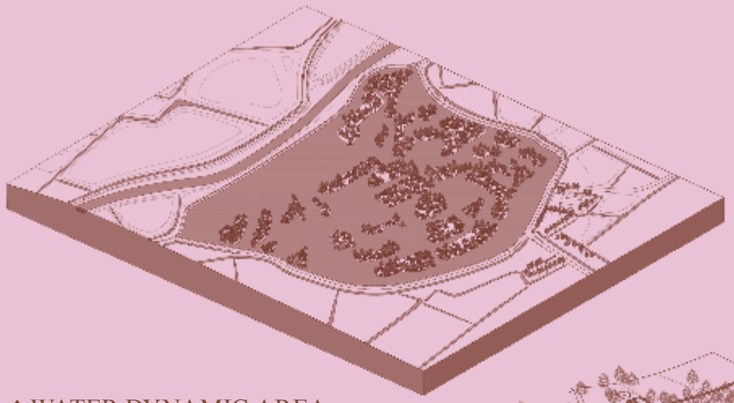
LIST – 100 WATER ELEMENTS
Developing a sequence of experiences

9. DESIGN FOR SLOWDOWN

In the last century, traffic engineering has dominated the design of public space. Even though nowadays traffic designers shift their focus on giving more space to slow traffic and public transport, it's still geared to optimizing flows and minimizing travel times. Giving priority to creating space for cooling, absorbing rain water, purifying the air, will most probably lead suboptimal traffic design. It will lead to a slowdown of the city's traffic flows, and probably not just for cars but also buses and bikes. In the future, acceleration and slowdown might run parallel: on the one hand bicycle highways, automized vehicles, and bullet trains, on the other hand park-like public space, where the pedestrian is king.

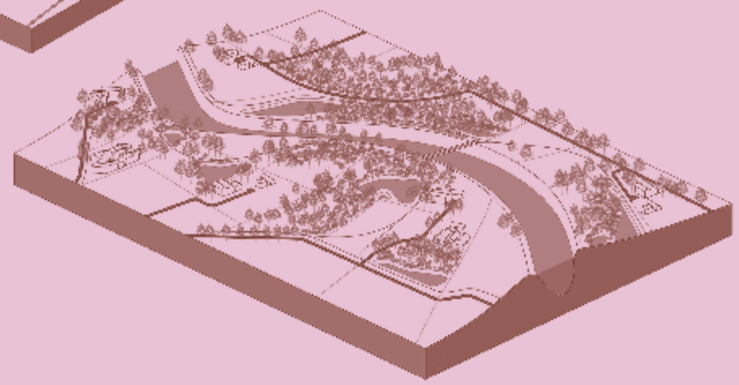
The slow green city can be a place of beauty, variety, of atmospheres and surprise. It might take a couple of minutes extra, but it will be much more pleasant. To successfully plan this the future's slow green cities, we should first follow the rules of park design, before we follow the rules of traffic design. The time that green ambitions were only focused on the parks, is over. Green planning is no longer focusing on - to quote Bruce Mau - 'islands of good behavior in a sea of stupidity.' Right now, the whole entire city should be treated as a park: a place of nature, optimized for human use.

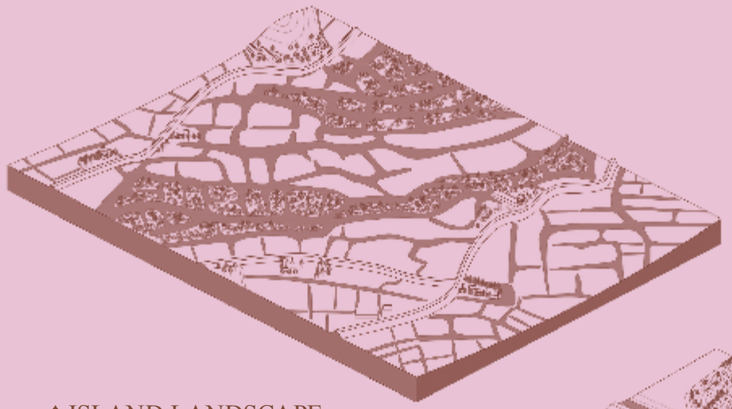
“THE WHOLE CITY SHOULD BE TREATED AS A PARK: A PLACE OF NATURE, OPTIMIZED FOR HUMAN USE.”



↓ WATER DYNAMIC AREA
Water retention in lower lying previous river meanders: *Agroforestry / Timber production CO2 reduction*

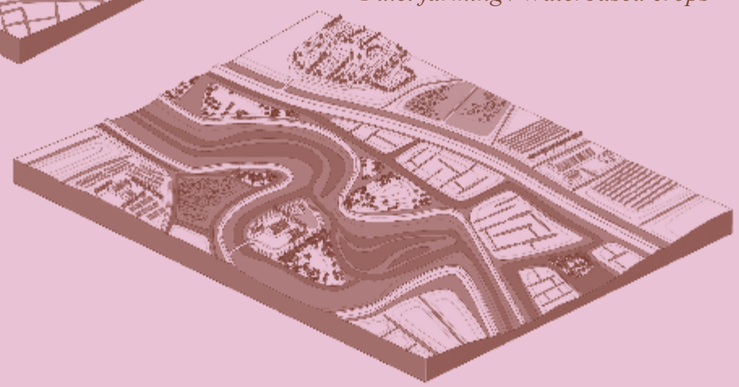
↑ WATER DYNAMIC AREA
Water retention in previous non- or partly connected previous creek meanders: *Nature network enhancement / Aquatic biodiversity*





↓ ISLAND LANDSCAPE
Water retention in lower lying and spatialy connected previous creek meanders: *Nature network enhancement / Mixed landuse agrculture / Self supporting farms Pixel farming / Waterbased crops*

↑ ISLAND LANDSCAPE
Water retention in lower lying areas within existing parcelling: *More water resistant agriculture (including salt resistant cattle) / Nature development*



MORE landscape – ++ WATER HERITAGE
Digging new ditches and meanders to enhance the historical structure of the Reitdiep area

10. CHALLENGE HISTORY

When thinking of climate mitigation and adaptation together, the transformation required for many of our environments will be beyond a subtle correction and look more like a total makeover. Such transformations might be beneficial for areas with low quality, but what about the places we love? Especially in areas of historical value, change is tough. Surrounded by comfort and beauty, global problems seem to be less urgent. Yet only a few areas will be able to afford careful preservation, and many of our monumental spaces and landscapes will need to adjust. Perhaps this transition is the most difficult task we face. Designers will need to challenge history, wrestle with it, to understand its strength and vitality, and capacity to change. When changing, changing back seems to be always acceptable. A romantic return to pre-modern traditions, techniques, and landscape patterns is tempting as a counter-reaction to our modern hubris, but won't be enough to meet today's standards. Smart and playful reinterpretations, integration of modern technology, and bold contemporary interventions are needed.

COLOPHON

Text&images: Peter Veenstra, Yttje Feddes, Peter Michiel Schaap, Agence TER, Bureau B+B, FLUX, LAMA, LIST, MORE landscape, Hanze University of Applied Science, Tredje Natur, West 8

Design: Studio de Ronners

Made possible by: Klimaatadaptatie Groningen, Municipality of Groningen, province of Groningen, Platform GRAS, National Programme for Groningen

This Manifesto is part of the Act&Adapt design exhibition and brings together the learning exeperience of nine design agencies on climate resistent design. The exhibition is part of Climate Adaptation Groningen and the Climate Adaptation Week: a collaboration between the partners of the Akkoord van Groningen (Groningen Agreement), the Global Center on Adaptation and the National Programme for Groningen.

DESIGN MANIFESTO FOR A CHANGING CLIMATE

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