Best of Both Worlds

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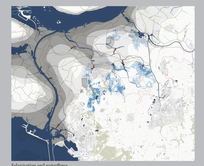


Salemisation and waterflows

Building the Delta Works

The best of both worlds

A new Farmers' environment where it becomes possible to experience the process of saline agriculture and aquaculture in a more intimate way. An environment where producing goes hand in hand with nature.

Years ago before the development of the Delta works, the villages in West Brabant owed their success to the good connection with the water. After a couple of natural disasters the new Delta works separated the water adjacent to the shore of Brabant and Zeeland from the sea.

This has had a significant impact on the surrounding area and its negative effects of this decision became apparent. Through the Delta works a lot of villages in West Brabant lost their important connection to the open water, while their economic success relied on this connection. The result is an area which is locked out, struggling with shrinking and ageing.

The salt water system of the past made way for a fresh water system. However, the fresh water had such a bad quality that it even became impossible for entrepreneurs to anticipate changes in economic development in for example tourism. Because this area finds itself in a locked situation, the government decided to change the fresh water system into a salt water system again and bring back the tide, in the hope this would give this area better chances of development.

This decision could improve the quality of the water, but also causes a side effect. West Brabant isn't yet prepared for, the salinisation process of the soil. Currently, the land is flushed with sweet water to fight the salinisation. However, this system is not sustainable and costs a lot of money, which will become even more so during the summer. That's why flushing the land will not be an option anymore in the future. Instead of fighting against it, they should start embracing the new process. It will give them a possibility to create a new identity by distinguishing themselves, they will have something special to offer.

This embracement could lead to reconnecting the villages and the relation to the water by using the existing creek system as a tidal saline estuary. The qualities and possibilities of the new landscape will become a catalyst for new economic activities. This will create a new identity for the region and its developing again. But how can this be achieved with the use of an architectural structure? And how could the land be organised to achieve this?

This might be a choice for us as designers to move outside our traditional boundaries, a possibility to show our talents and perspective to expose opportunities. Moving outside the traditional boundaries, into the true definition of businesses, being responsible for exposing and building a whole new environment. West Brabant the place were economic developments, living and recreation are going hand in hand with a new saline nature.

Creating a new economy based on salinisation and a more dynamic landscape asks for adaptation of the existing. Salt water is a hostile environment for most crops and plants, and it will be a challenge for 90 percent of the land in West Brabant is in use for agriculture, most of them are located in the area that will be threatened with the highest salt concentration. If the soil changes there is no possibility to continue producing crops in a traditional way, because most crops we know are not salt tolerant. This could be seen as a problem but also as a challenge. Different test locations, like the Zuiveren Ting and a test farm in Tonsel, show that there are sustainable alternatives to traditional farming.

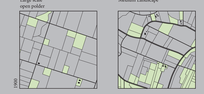
Existing farms could transform from a traditional industry to a saline agricultural farm combined with aquaculture. This transition process could be a catalyst for economic development in the area and also improve the qualities of the landscape. The process of upcycling is responsible for the loss of a big diversity. The scenic landscape from the past has already been unrecognizably changed. The land of the farmers is characterized by a monoculture of crops, which is the result of a modernisation of the agricultural land together with a lot of ditches, which in the past used to be the ownership of the farmers, created a border for the villages, which protected the residents and the tourists from the water. By adapting the existing situation of the farm it becomes possible to also improve the quality of the landscape and the accessibility of the landscape behind it.

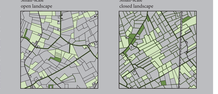
The power of the new agricultural landscape

The agricultural land, which belongs to the farmer, will change as soon as salty water reaches the inner land and the existing creek system will work like a tidal saline estuary. The process of salinisation will go very fast and lower parts of the land will be flooded during tide. This looks like a disaster but by combining the salty ground, the tides and the small differences in height, these changes in the landscape will bring the greatest possibilities.

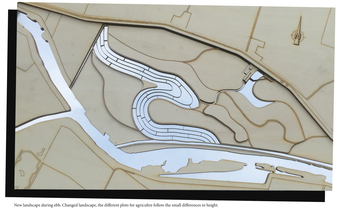
The set up of the new landscape can be based upon small differences in height. Although the differences with the current landscape are relatively small, it creates different circumstances, which make it an ideal breeding ground for a variety of different species. Some of these species are able to live in a regular basis, others like salt tolerant grasses prefer a more dry soil. With this knowledge in mind, it creates a possibility to focus the set up of our fields to be based upon the difference in heights within the landscape, this means there will be no straight plots anymore but more organic lines.

With the water being so close to the farmers' land, it will also make it attractive for the use of aquacultures. Normally water had to be transported from the outside of the dike to the basins based within the inner lands. But in this situation the water system could be organized in a natural way. The old existing ditches could be used as a system to transport water from the outside to the inner land, the tides would automatically the salt water into the land. The tides make sure the water is not standing still but will keep it moving. The moving water will refresh the water in the basins. The basins of the aquacultures could be organized at the line between higher and lower lands. Owing tide the lower land will be flooded and will also play its part in refreshing the water inside of the aquaculture basins. Because the basins of aquaculture will be located between the higher and lower land, the basins will also follow the organic lines of height.





New organisation of the agricultural land



New landscape during 4th Changed landscape, the different plots for agriculture follow the small differences in height.

New landscape during flood, the crops which like to be flooded regulary are standing in the water.

By organizing the land in a way of using the organic lines, the land will become a more natural landscape instead of being a produced landscape. Flooding the land during tide will strengthen this feeling and it will show that this nature has a big role in the functioning of the landscape. These days, the pressure on the ground is rises, the better could play a role in giving people possibilities to relax during their leisure time. Because the new landscape will be more dynamic, it will become more interesting for people walking and cycling paths for people to take a walk around the natural surroundings, while at the same time learning where their food comes from.

Reusing the existing farmers' shed

The transformation of the area can only be taken seriously, when it is possible to take the existing build environment into account. A farmer working in a traditional way already has a share. It is wanted for the farmer to keep farming in the future, but in a more sustainable and organic way. Farming has a big stress on the land and the buildings on it have a long history passed on from generation to generation and it holds a special meaning to the owner. Redevelopment should be the starting point, reuse and adapt instead of demolishing.

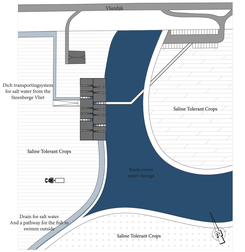
The farmers' shed can be integrated in the new way of farming. It will not only be functioning as storage but could also play a role in the new production process. For aquaculture a winter basin is needed to rear the fish and let them grow until they are big enough to go outside. Young animals are more sensitive to diseases, and the risk of losing a lot of fish during the winter for diseases becomes smaller. This is especially true when the tectonic outside is open for public.
Normally for the starting of fish there are a lot of technical solutions necessary and the costs for water are high. This system proposes a cheap way of using the existing ditch system to create a place for young fish to inner lands. Because the existing ditch is connected to the creek with tides reaching the building, it becomes possible to extend the ditch to get the salt water inside the building. The water will refresh the fish basins inside the building and water runs from one side of the building to other side where it leaves the building after refreshing the basins. The warm water moves into the water basins outside of the building and because the temperature of the water is higher than the temperature of the water of the fish inside the building set ready to go outside, it is possible to let these swim instead of having to catch and release them outside. To be able to use this technique, the our basins should be located on the ground floor. Because the fish will be transported by water, it is not possible to place the basins on the first floor. The harvest will have to be placed on another level. A basement could be used as a good storage place, the temperature is relatively cool and stays consistent. A basement has the added benefit of being dark, an ideal situation to keep the products fresh.

The promotion and experience for the visitor

The biggest problem at this moment is that these saline products are not well known by the consumers. Therefore, it is important to let people experience the process of saline agriculture and aquaculture. It is quite hard to get a hold of a bigger target group. This means products and possibilities of the new saline economy should be heavily promoted. Letting visitors walk on your property is one first step to get people in contact with the products, but this could also end in a vice with through the building.
To promote the products the new farm should offer a place to see production fields but also the possibility to taste the products. Be able to participate in a workshop on how to cook the products themselves and a place to buy the product. This is because some of the saline products are seen as a real delicacy and people are willing to pay a lot of money for them. Because the farm has multiple functions, the work process of the farmer and the escape for visitors from the pressure of daily life. Visitors are getting an experience of finding themselves in a natural production landscape, experiencing the surroundings and the product. The goal in this is to let people can enjoy the surroundings and the product which is posing so much effort into making. He remains about competing with spreading an art or important attribute, because it's a unique farm and products are not only sold to big investors but also to people who visit his property.

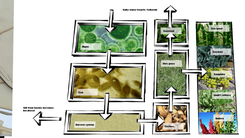
Benefits for the future

The changes from a traditional economy to a saline economy bring many opportunities: economical grounds, quality of the surrounding and dealing with durability.
Because the production process will be more organic and experiences it improves the situation for all those at there. The production process ask for less energy and waste materials, there is more place for nature to develop and people get a better experience and understanding.
This conclusion is not only based on the change of a traditional farm into a saline farm, but tested by a group of three designers all testing another subject but discovering the same possibilities and qualities in the end. These first three projects could be the first food to build up a saline economy.



The Farm is located on the edge of the Vlietsloot. After arriving the farmers land, the car has to stay behind just after leaving the dike. Leaving the car behind as soon as possible makes it possible for visitors to experience the agricultural landscape around the building before entering it. Because of the estuary landscape and the saline underground the area around the farm is flooded regularly. Because of this reason the building and its surroundings are elevated between the agricultural land and the ground around the building. This means the building and the agricultural land are positioned next to each other, creating a possibility to experience the agriculture in an optimal way.
At the location of the farm all important ingredients which nature has to offer to the food production of the saline farm are gathered. On the left side the building is surrounded by saline crops, at the right side the building is surrounded by a sweet water basin and on ds left and back the salt water enters and leaves the building.

products saline agriculture and aquaculture



If in a saline farm agriculture and aquaculture are combined togheter it becomes possible to create a cycle. Waste material of one process becomes the ingredient to feed the other process.

Programs

Two worlds together. In the main structure two functions are combined, a touristic part and a production part. The touristic part is a place where visitors can experience and participate in the process of producing products. By combining a work environment with a tourist environment it becomes possible to reduce the footprint. There is a lot of pressure on the ground use, and this pressure will rise in the future. Taking people from the field environment and show them a more natural surrounding.

In this design, nature is not only a surrounding of the building, but becomes part of the building. Architecture becomes part of nature. This melting into each other has a lot to do with the functioning of the aquaculture on the ground floor.

The rear basins are located on the ground floor so the fish can easily be transported to the basins. The front basins are located on the ditch outside the building. This is important because if the production landscape on the inside of the building wants to work on the same level as the production landscape on the outside the water should enter the building in a natural way.

Most of the aquacultural companies use a lot of energy to keep the water moving and to make sure the fish get enough intensivity. The water is getting pumped over and over again and the water is pumped from outside of the dike or they are using sweet water.

In the case of the first of Both worlds farm the existing ditch will provide water to the basins on the inside of the building. The water will enter the building within the tides and will leave the building in the same hygiene state the again fresh is not possible for visitors to enter the environment of the fish directly but they can get in contact with the water before it leaves the building.

On the other side of the entrance hall there will be drawn to clean the water from bigger parts of waste, such as plastic and other waste, before it leaves the basin. Within this basin the water will be cleaned thru nature. Plants can clean the water a little more from dissolved materials. After this cleaning, the water will enter the fish basins. It will be refreshed consequently, because the fish produce a lot of waste and dirty water will leaves the basin on the other side.
At the end this water will leave the building and will mix with the water from the ditch outside the building. This water is not green enough this is the same water that will swim to get outside the building. For the farmer it becomes possible to open small openings so the fish can swim outside itself.

The 'shed' of the farm will be located in the basement. There will be a more constant temperature to store the products and the temperature is cool. A lot of crops will be kept in darker rooms so it need to be necessary for this level to have a lot of daylight.

To make it possible for the visitor to experience a bit of the saline agriculture the building is provided with a big rida. The ride will connect all the different levels with each other.

To be basement the market store is located to buy fresh products from the farm. A customer enters the storage room, where it is possible to see the fish and other products. A glass wall makes it possible for the buying customers to take a looked the harvest. This construction makes it possible to let the fish swim in a way will stay fresh and people need to reaching for them to see their tuna. So to can give them an experience without being scared about the quality of his products.

On the second floor there will be the environment for visitors, but staff working on the fish farm can visit this area. In the entrance hall there is an elevator and a staircase. The elevator is for people who want to they experience the ruins entering the building and they will find themselves in the middle of the aqua-cultural basins surrounded by the remained constructions of the old shed which is getting reflected in the water.

The second floor has been split up in 2 sides, on one side there will be a workshop area where visitors can learn how to cook the products and learn about where to know how to use them. On the other side there will be the restaurant/ etas space where it is possible to eat something or just drink something.

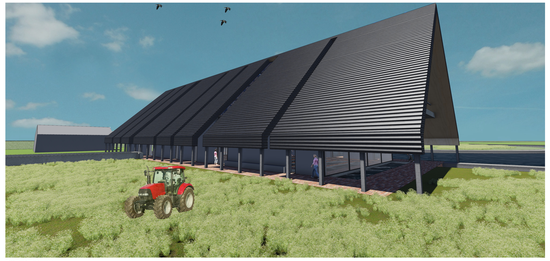
The space on the top floor a bar transparent floor on locations where the ceiling is too low to walk underneath the construction. These elements makes sure the visitors feel at ease in connection with the aquaculture basins.

When the visitor walks thru the second floor until he reaches the end there will be a view which had not been seen before, the view on the fish farm. The facade of the building is totally transparent and gives the visitor a total view over the landscape.

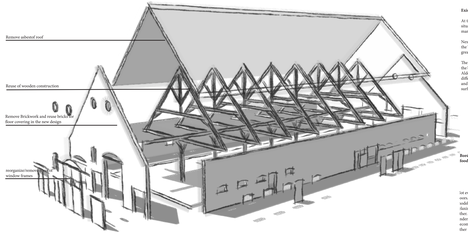
The windows in the roof are kept small to have some small interaction with the outside and gives the visitor more focus on what is happening inside the building. This also makes sure the special view is the one and only view. The roof is made of a transparent foil which let the daylights will play a game with shadow and light.

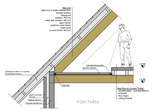
Inside the restaurant the kitchen located in a white box. This box is in contrast with the surrounding and does not touch any parts of the construction of the roof. By placing these in more central spot it is still possible to walk around this function and experience the entire roof system.

Barn on the Vlietdijk



Barn Best of Both worlds





Detail glass floor section

Existing Farmer building

At this moment farmers have a shed equipped for sweet agriculture, but what if the situation changes and the farmer decides to change to saline agriculture. There are too many farmer buildings to demolish and rebuild once again.

Next to the Hoendergat Vlist, there is a potato farmer who has its shed located at the Vlietdijk. The 80 year old farmer has an old shed which was built by his great-grandfather.

The existing shed (90m x 18m) is in bad shape. The roof exist of asbestos materials and the brickwork is showing serious cracks. Window frames are rusty and glass is broking. Also the outside of the building gives a bad message the inside shows something completely different. Because of the good construction the structure is still in a good state and still in its original state. The farmer shows that it is really easy to create more surface in the top of the construction, by adding floor elements in the trusses.

Borders fading away, reducing the Ecological footprint , enlarge the experience

Activities farmer
Resource materials and Crops
Visiting for an experience
Visiting for an experience
Visiting for an experience