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## **WATER REALM (1)**

### **(1) water realm**

This lecture is about the Water Realm of Deltametropolis. By Water Realm we refer to one of the two main networks that give shape to the Deltametropolis. The water network is the backbone of the mainly rural recreational system, consisting of the main routes for boating, cycling and walking. The network of highways and railroads is the backbone of the mainly urban economical system, consisting of the main routes for the transportation of people and goods and the connectors within this network, that give access to the various urban centres of the metropolis.

### **(2) association:1998 declaration**

The need to transform the existing collection of cities, towns and villages into an integrated urban system of metropolitan scope and size was proclaimed in 1998 by the cities of Amsterdam, Rotterdam, The Hague and Utrecht. The Declaration Deltametropolis sees this transformation as a result of co-operation of independent public and private parties.

### **(3) association: membership**

The declaration that was issued in 1998 generated enough support to establish an Association Deltametropolis in 2000. This association has institutional members only. At present members are all municipalities with more than a 100.000 inhabitants, two co-operating municipal groups with at least this same amount of inhabitants, water-boards, chambers of commerce, employers- and farmers unions, nature conservation organisations, housing corporations and some others.

### **(4) association: organizational model**

The organizational model of Deltametropolis the association uses to organize its activities distinguishes a spatial system and a social system. The spatial system consists of four subsystems: water system, rural system, transportation system and urban system. The social system consists of three different types of organizations: free associations, public authorities and private bodies. The free associations act in the realm of liberty of opinion, the public authorities act in the realm of equality before the law, the private bodies act in the realm of brotherhood, that is competition and complementarity in the marketplace. Together these three organizational principles form the basis of the citizens society, "bourgeois" society, as introduced by the French revolution.

### **(5) association: working program**

The working program of the association is organized accordingly. This started with the translation of the Declaration Deltametropolis in a unifying concept. It was decided in that period we should start with the economically weakest subsystems: water system, then rural system, then transportation system and then the urban system, that has to cover the costs of all the preceding systems.

So the program consists of working on concepts for the transformation of all subsystems separately, then combining them in pairs and completing the overall concept by integrating the two pairs of combined subsystems into a concept for the Deltametropolis as a whole.

The association is part of the social realm of liberty. Its products are ideas, preferably specified in more or less consistent concepts. Having produced these, the association then has to convince public authorities and private bodies of the usefulness of these concepts. So what the association tries to achieve is the adoption of its ideas by the public and private bodies who are responsible for these matters.

### **(6) water system: basic information**

The Netherlands are shaped by the delta's of Rhine, Meuse and Scheldt. Some 65 % of all water entering the Netherlands is discharged by the Rhine, another 10% by the Meuse and some smaller rivers, the other 25% falls from heaven. The annual evaporation is also 25%. So the country has to get rid of the remaining 75% if it is not to drown.

### **(7) water system: water machine**

The water system of the Netherlands can best be conceived as a huge open air water machine. A smart combination of *dams, dikes, barriers, locks, sluices, mills, pumps and an elaborate system of regulations, measures, monitors and*

controls enables this country to stabilize the balance between water and land.

#### **(8) water system: major projects**

The major works that have been done to build this water machine are land reclamation projects since the fourteenth century, Rhine canalisation since the eighteenth century and the two main projects of the twentieth century, the Zuiderzee project and the Delta project.

#### **(9) water system: system overhaul**

A first task for the present century is a major overhaul of the water machine in its present shape. This is necessitated by the combined consequences of ongoing fall of the land -as far as this consists of peat, centennial fall is some 50 cm-, ongoing rise of the sea -centennial rise is some 10 to 15 cm and growing - ongoing urbanization along the Rhine, leading to quickening of the discharge of heavy rainfall, and climatic

change that will bring steeper fluctuations between wet winters and dry summers.

#### **(10) water realm: declaration**

The idea of a water realm is announced in the declaration. This water realm is considered to be the backbone of a metropolitan park system.

#### **(11) water realm: historical examples**

Work on this concept consists of three types of studies: analysis of historical examples, assessment of the programmatic base and the development of a design method suited to this assignment.

The historical examples chosen are the transformation of the agricultural landscape around Paris in the seventeenth century into a landscape of large estates of the king and nobility; the modernization of the agricultural landscape of Wörlitz, Germany, according to the ideals of the Enlightenment in the eighteenth century and the introduction of a metropolitan and regional park system in and around Boston in the nineteenth century. This last example is of special interest because this too took the existing water system of city and region as backbone of the park system.

#### **(12) water realm**

The programmatic base of the water realm is assessed by inventoring all the claims on additional use of space for water, nature, recreation and agriculture. With the exception of the claims related to the overhaul of the water system, no choice is made between the different claims, as the initial task is to conceive the recreational network for boating, cycling and walking that will give access to the park system.

#### **(13) water realm: design operations**

The design operations of the Water Realm start with acknowledgement and assessment of the ecological base of the park system. Taking that as a start, there follow four consecutive steps: 1) transform the water system, 2) conserve the "human footprint" of history, 3) devise the main recreational network and 4) identify landscape units that can be considered to be landscape unities according to various criteria, especially of water management.

#### **(14) operation 1: water system**

The first operation is the water system overhaul. To accommodate greater differences in the availability of water between winter and summer, new reservoirs are needed. Additional primary and secondary canals are planned to give the system a greater capacity and make it more flexible.

#### **(15) operation 2: historic framework**

The second operation is to highlight the historic framework of the Water Realm. As the government has recently published a well documented report on this matter, the association for the time being just did follow this report.

#### **(16) operation 3: recreational network**

The third operation is to design the recreational network for boating, cycling and walking. Of course these networks already exist in some form or another. They have to be adapted and interconnected to become the backbone of the metropolitan park system.

#### **(17) operation 4: landscape units**

The fourth operation is to decide on landscape units that can be considered at the same time as unities according to various landscape characteristics, especially with regard to their specific water system, and as operational units that may be handled by people that feel related to these landscape unities.

#### **(18) design assignments**

When these landscape units have been decided on, several design assignments appear: 1) support the sustainability of the borderline between these unities by giving them an expressive shape, 2) define the borderlines, where they are still uncertain or vague, 3) give shape to the recreational network and mark the entrances to the network, 4) transform, where necessary or desirable, the landscape in the landscape unities themselves.

#### **(19) provisional Water Realm Alliance**

When the association had agreed on the concept for the Water Realm, it stimulated its further development by asking several members of the association to establish an organization that might do so. These members then formed a provisional Water Realm Alliance with a four point program: 1) to create identity by co-ordination of information to the public, 2) specify the concept by ongoing design, 3) do, whatever needs to be done to improve the interconnectedness of the existing networks, 4) establish a more definite Water Realm organization that may gain enough authority to be accepted as the leading organization for the Water Realm.

#### **(20) actors**

The organization of this provisional Water Realm Alliance up till now only consists of a provisional board. It is expected to create an advisory board of consultants on scientific, legal and financial matters, and to provide working groups for the four tasks of its program.

### **WATER REALM (2)**

#### **(21) money and manifestoes**

Water Realm has been presented up till now as a more or less independent and isolated project of the Association Deltametropolis. This was necessary to clarify its aims and means. We will turn now to the social environment and political context in which it emerged. Newspaper clippings give the impression that the political context combines an excess of collective initiatives and proposals that block decision systems and an excess of rules and regulations that stifle private initiatives. This combination then creates a picture that there is also an excess of money available, as it is easier to allocate money to solve problems than it is to decide on solutions that might really solve them.

#### **(22) EU-regulations on water**

First of all the EU-directive for water policy should be mentioned. This obliges member states to an assessment of their water systems and water management systems and, if necessary, give both an overhaul to bring it up to standard and keep it there. In the Netherlands this has been given shape in so-called river basin visions and a national policy agreement on water between central, provincial and municipal government and the water boards.

#### **(23) EU-regulations on natural habitat**

Other European directives are also influential on landuse development, such as the Directive on Natural Habitat and the Bird Directive that protect the biotope of endangered species and the stops of migratory birds on their annual continental or intercontinental routes. In the Netherlands the attention for the natural habitat of wildlife has led to the concept of a Main Ecological Structure, that is national policy now. To implement it, central government acquires large tracts of agricultural land to transform it into nature reserves.

#### **(24) sailing and boating**

As one might expect in a country like the Netherlands, it has a quite elaborate and fine-meshed network of waterways for sailing and boating at its disposal. In a way, the backbone of the Water Realm already exists. What the Association Deltametropolis proposes is to use this network not only for its own purpose, but indeed to use it as the backbone of the recreational network as such, combining routes for boating, cycling and walking as the means of access to the metropolitan park system as a whole.

#### **(25) agriculture**

As agriculture is the main type of landuse with regard to the size of it (some two thirds of the national territory), the metropolitan park system will consist mainly of farmland, giving shape tot the rural experience of its visitors.

Dutch agriculture is heavily industrialized, highly productive and intensely market-oriented. As the sizes of farms grow, their number diminishes. Nationally, employment in direct agriculture production is only 1,5%. In rural areas this percentage doubles to some 3%, in some places even to 6%, but nearly never more. So a very small minority is responsible for sustaining the rural environment of the country. This is the Achilles heel of the Water Realm concept.

#### **(26) Floating National Landscape**

Post-modern conception of society is that of a splintered world, a more or less chaotic set of relatively if not completely independent actors sustaining a largely if not completely unpredictable dynamic of independent actions. In such a cultural climate the idea to combine actions of these largely independent actors into a more or less integrated effort to attain a common goal may seem either over-ambitious or naïve, or both. For this reason students and their projects

offer interesting opportunities, as they combine ambitious ness with ingeniousness.

The first proposal for the Water Realm has indeed been a student project on a Floating National Landscape, introducing the concept of ecological tourism and the idea of the Water Realm as a wildlife conservation area accessible by gates. The concept is the product of a selfguided summer course of six students in 2000.

### **(27) Guide to the Water Realm**

One of the participants, Jan Willem Kooijmans, then elaborated this concept and developed a Guide to the Water Realm, specifying landscape characteristics to define landscape unities, analysing the different networks of infrastructure to decide on main entrances and designing a recreational network to enhance the landscape qualities and other attractions in the area.

### **(28) fine Dutch tradition: Bleiswijk**

At the Faculty of Architecture in Delft, Landscape Architecture is engaged in reviving what they call a 'fine Dutch tradition'. Essentially this is a method to use the organic form of natural environments and the geometrical form of human interventions as two opposing formal systems that offer an opportunity to clarify their interplay and dialogue in any situation. In a final project of Doesjka Majdandzic for Bleiswijk you see this method demonstrated in its enhancement of the natural shape of the original water system as opposed to the geometrical water system of the polders.

### **(29) fine Dutch tradition: Haarlemmermeer**

Another example is a project on the Haarlemmermeer. Here the existence of a completely manmade polder of some 150 years old is used as an opportunity to devise a design grammar and design a composition scheme and by doing so to discover the hidden formal properties and qualities of the manmade landscape.

### **(30) Thinking of Holland: Old Rhine**

A recent report of a trainee, Saskia Rensen, may serve as an example how implementation of the concept Water Realm might work if parties should agree on an endeavour to discover common ground for combination of forces and common action. As the Association Deltametropolis is convinced that the potential of Leiden and the Rhineland region in which it is the main urban centre could be used better, the choice fell on the Old Rhine as a case to study.

### **(31) Thinking of Holland: analysis**

First of all, an analysis is made of the many elements of the recreational identity and character of the area. Just a few examples may give an impression of the variety of facilities and the variation in their territorial patterns that have to be taken in account.

### **(32) Thinking of Holland: general plan**

Like in the Guide to the Water Realm, the study results in a general plan showing the different recreational networks and the interconnectedness of the various cities, towns and villages in the area with the different landscapes that give shape to their environment.

### **(33) Thinking of Holland: operational plan**

An interesting feature of this project is the operational plan that is then deduced from the general plan. It shows that the general plan consists mainly of networks, landscapes, facilities and attractions that already exist. By proposing a few strategic additions, this existing recreational network is completed and enriched.

### **(34) Between seashore and lakeside: Bollenstreek**

A last example is the final project of Lotte Schubert for part of the bulb area north of Leiden. It may serve as a typical example of research by design, that is to start with a normative approach in stead of with analysis. The leading principle of the plan is that everybody should have access to a hierarchy of open spaces from public gardens nearly to landscape parks farther away. The existing situation is then analysed and assessed according to this standard.

### **(35) Between seashore and lakeside: identity of site**

The identity of the existing situation is analysed in its geomorphology and its historical development of ongoing human interventions. The landscape transformed from a series of parallel strips of rural estates into an open production landscape, stripped of all the woods that gave its identity and image of leisure and luxury. The poor look of the open production landscape then was intensified by haphazard building of shacks, sheds and storage depots for the produce of the bulb fields. Only very few of the original rural estates are left.

### **(36) Between seashore and lakeside: future transformations**

The idea of the project is to devise a design grammar that may use the availability and accessibility of open spaces to restore the original quality of leisure and luxury at the same time as improving the conditions for agricultural production

that is to say the production of bulbs. The grammar invented for this purpose is to promote the emergence of a modern type of rural estates by scaling up the size of bulb farms and permitting and promoting to create woodland in combination with commercial building. By offering progressively better opportunities for larger estates, individual bulb farmers are stimulated to combine their lands into larger estates.

### **(37) combination of designs**

A combination of the Rhineland recreational network of Saskia Rensen and the Bulb Area transformation of Lotte Schubert shows how both quite different approaches to the Water Realm assignment may fit. The strength of the network approach is that it builds on an already existing situation and improves its quality by a series of more or less independent minor interventions. The strength of the transformation approach is that it offers a method to transform an economically productive but degraded landscape in an economically no less attractive landscape that is, however, restored to its original quality of luxury and leisure. This asks for major changes in the business strategies of the bulb farmers, from competition between individuals into competition between estates, in any way these may be economically and legally organised.

### **(38) main design assignments (1): recreational network**

Summing up the work to be done on the Water Realm as a design assignment, that is to devise common ground for common action of actors that would normally not associate, I think four design assignments can be distinguished. The first of these is the design of the main recreational network for boating, cycling and walking that is to be the backbone of the metropolitan park system and its main means of access. The network is mainly there, but its interconnectedness has to improve. Technically and financially, this will be fairly easy. The effort will be mainly in organisation, co-ordination and combined publicity to improve general awareness of the Water Realm.

### **(39) main design assignments (2): regional parks**

The second design assignment will be to compose the park system, consisting of a series of regional parks. This asks for a definition of landscape unities that will be identified by their specific character, scale and size. Geomorphology, water system and history will help to discover their specific identity and image. This identity and image then may be enhanced by interventions in their landscape architecture.

### **(40) main design assignments (3): rural estates**

The third design assignment is to reinvent the rural estate, this time not as a heritage of nobility (old money), nor as a speculative investment of a commercial elite (new money), but as a solid way to combine agricultural production, natural beauty and recreational attractiveness, to sustain the rural quality of the nonurbanized landscape as well as offer a rural quality of life.

### **(41) main design assignments (4): main entrances**

For the Water Realm to succeed as a metropolitan park system, easy access is conditional. A recreational network that will become more fine-meshed in the neighbourhood of towns and cities is the way to attain this easy accessibility. Nevertheless, there will be parts of the park system that will for whatever reason attract more visitors than others. Also there are points of access that are for whatever reason more attractive or more accessible than others.

A few main entrances to the park system will help to promote the identity and image of the Water Realm as a facility that enhances the metropolitan quality of this Deltametropolis.