

Reinventing Holland

A call for region based knowledge development

Ir Bart Bomas – Urban Designer (Province of South Holland)

Ir Walter de Vries – Urban Designer (Province of South Holland)

With thanks to Mark de Bruijne – Economist (Province of South Holland)

The rise of Asia as an economic superpower and the political/military supremacy of America is threatening to drive Europe to the periphery of the world. A number of European government leaders are attempting to turn the tide by closing political ranks to work together on promoting 'knowledge-development'. Their primary objectives include stimulating the knowledge-driven economy and making the various urban regions more attractive to the creative class at large. Creativity, after all, is the driving force behind innovation, and innovation, in turn, is the key to competitive knowledge development. Hence the effectiveness of this project in relation to the economic power of Asia is of vital concern, not only for the current E.U. members but for the entire European community as a whole. In line with this vision we see tremendous potential in the urban region of 'Holland' for the establishment of a regional form of knowledge-development. Holland is a conglomerate of cities in the western part of the Netherlands. It is with its 6 million residents, the world's second largest seaport and Europe's fourth largest airport, is clearly one of Europe's key metropolitan areas. Our goal is to 'Reinvent' Holland by means of reinvigorating the resourcefulness characteristic of this dynamic delta region below sea level.

Euro-periphery

In the April edition of The Bijenkorf's (a leading Dutch department store) monthly magazine China was given centre stage. Much attention was devoted to Chinese fashion, art and interior design. A month later the front page of another prominent magazine read 'Booming Bombay', with as subtitle, 'The Indians can do



everything faster and better'. Urban planners from all over the world are visiting the vibrant Chinese metropolitan centres, the main draw card being Shanghai. Comprising five world-class satellite cities, its magnificent skyline easily competes with that of New York. Despite claims by some that much of the current Asia-hype is overstated, the explosive growth of this economic superpower cannot be ignored. With regard to production, Europe began losing the battle decades ago with the rise of the low-wage countries. During the past ten years the development of knowledge in Asia has increased so rapidly that Europe, despite its thriving knowledge-driven economy, is now struggling to maintain a competitive edge.

On the other side of the Atlantic the United States, particularly since the fall of the Berlin wall, has become the political-military monopolist of the world. Until the nineties Europe was the key stake in the political conflict between the then two superpowers, which consequently reaped tremendous benefits for our continent - the Marshall Plan, for example, was a major stimulus behind Europe's post-war prosperity. However, with the downfall of the Soviet Union the geopolitical importance of Europe declined dramatically. Moreover, the dissolution of the Eastern Bloc removed the urgency for Western Europe to form a common front, and this, subsequently, has led to the current paradoxical situation. On the one hand this continent

has never seen such intense economic cooperation as now; yet on the other hand the political disunity has never been so great; the issue of Iraq being a clear case in point.

Against this background of rising Asian giants and American political supremacy Europe's international position is being called into question. Furthermore, unless the current course is averted we, with our high labour costs and relatively low productivity, aging population and political disunity are destined to be driven to the periphery of the world. The paramount issue now is: How can the tide be turned?

On the political level, European government leaders have attempted to stimulate greater unity by appointing a European Minister of Foreign Affairs, an initiative which following the fiasco of the European Constitution has, for the time being, been shelved. On the economic level, since the Lisbon Agenda Europe has placed more emphasis on developing the knowledge-driven economy, however it is generally accepted that Asia will soon bridge the gap in this respect too. Within the framework of these political implications this article explores the issue of how Holland as one of Europe's urban regions can be further developed as a dynamic, knowledge-driven economy. In addition, we discuss a spatial-economic strategy which may achieve competitive advantages for Holland in relation to other urban areas, both within and without Europe.

Our thesis is that the area in the Western Netherlands known as Randstad Holland has tremendous potential for development based on characteristics specific to the vicinity. These characteristics combined with centuries of continuous development have resulted in a unique urban region; unique not only in terms of its natural infrastructures, but also its economy and mentality – and this is what truly distinguishes it from other regions, within and without Europe. In this treasure of region-specific knowledge (α , β and γ) lies the basis for a new phase in development. By way of explanation, a brief overview of the area.

Randstad Holland

This conglomerate of cities situated mostly below sea-level in the western Netherlands has since the 14th century been known as Holland¹, the Lowlands, Les Pays Bas. During the 17th century the area experienced the Golden Age, a period of remarkable prosperity, stimulated in part by its convenient coastal location and abundance of great rivers (the Rhine, Maas and Schelde) but also by the vibrant spirit of tolerance and commerce of that time. Since then the constellation of towns has grown to an urban network of 6.6 million people, concentrated in three major cities.

- Amsterdam: the capital, a financial and cultural centre, Europe's fourth largest airport.
- Rotterdam: boasting the world's second largest seaport.
- The Hague: the seat of government and host to the International Court of Justice.

Holland is clearly a metropolis with special qualities:



- Located in a delta of great European rivers flowing into the North Sea. It is surrounded by an abundance of water; situated below sea level on 'uninhabitable' land and yet is extremely densely populated due to its sophisticated infrastructure of water defences.
- An urban network of remarkably diverse cities and towns; rather *polynucleus* than a single agglomerate like London or Paris. Boasts a considerable 'Green Belt' (the Groene Hart) currently being used for agriculture.
- An international player with respect to trade, industrial transport, information logistics and water management.

In the modern world every region must utilize its strengths to establish itself in the global community. So what are the strengths of our part of the world? Which distinct qualities does Randstad Holland have to offer upon which the future of the region can be built?

Delta

Few would argue that Holland's most visible attribute is life with water. Centuries of habitation in a delta have produced a unique topography as well as a society with its own distinct culture and knowledge. Centuries of interplay between human ingenuity and the power of the wind, water and sediment has produced world renowned water cities such as Amsterdam, Delft and Gouda and landscapes such as the Beemster Polder (a UNESCO World Heritage Site), the Groene Hart ('Green Heart') and the great River Landscapes. The Delta has been captured on by painters (Rembrandt, Ruysdael) and described by poets (Nijhoff, Marsman). Moreover, the challenges of this extraordinary habitat, in a delta below sea level, have inspired a wealth of technological expertise with respect to shipping, fishing, urban planning, landscape architecture and civil engineering (dredging, water management, tunnelling, land reclamation etc). The Dutch delta is indeed a well cultivated one.

In the past urban development in the Lowlands involved an ongoing encounter with the local geophysical processes, resulting in remarkably resourceful solutions and technological advancements. Mounds, drainage techniques, canals, sluices, wind-driven water pumps and harbour construction are but a few of many tangible innovations resulting from a long tradition in which urban development and water management went hand in hand.

Not surprisingly, the theme of the International Architecture Biennale 2005, held recently in Rotterdam, was 'Water'. During the conference much attention was given to Holland's longstanding relationship with water and to the mentality and expertise (immaterial heritage) of a people who live and work in a land which is predominantly below sea level and which continues, slowly but steadily, to sink. The delta was, furthermore, the breeding ground for great scientists such as Huygens, Spinoza and Lorentz (water flow models), Einstein's mentor. It seems that the open and tolerant society necessary for innovation and creativity often flourishes in a sea climate, which in this case is a thinking climate.

Untapped resources

The region of Holland boasts an abundance of this unique delta resourcefulness and expertise; yet so little of it is actually exploited economically. A good example of this is the Dutch national pride, the Delta Works. This mega-project produced a wealth of knowledge about estuaries and coastal ecosystems. Special techniques and machines were developed to build the dams. An exceptional innovation, the Oosterscheldedam - an internationally acclaimed, ecological storm surge barrier with its gigantic sluice gates - was the showpiece. The spin-off from this magnificent project, however, has remained rather limited. There are at least two reasons for this. Firstly, being a purely government affair, coupled with the fact that it was a one-off undertaking, there was no real market pressure present. Secondly, we Dutch are not inclined to promote ourselves as the international expert on Delta Works; nor is it in our make-up to want to make history with our achievements. The vast technical expertise gained from living in a water-rich delta, from land recovery to drinking water technology,

appears to be an untapped economic and culturele goldmine. The question is: How can this goldmine be better exploited than it has been to date?

$$\alpha \times \beta \times \gamma = \delta$$

Almost ironically, the current climate change could in some ways be working in our favour as the need for delta innovation intensifies. Due to the heavier rains and rising sea level our own delta land is becoming wetter. However, drought too is taking its toll. Once

boggy peat land is shrinking and turning to dust. During excessively dry periods the water recedes, revealing cracks in the dikes. This low delta land is slowly sinking away; the Dutch coastline is instable. At the same time the demand for land suitable for housing and urban expansion is continuously rising. Collectively these trends present a tremendous opportunity to add a new chapter to the centuries old tradition in urban development, landscape architecture and civil engineering by the creation of a new urban landscape and transformation of existing cities in the metropolis of Holland. Indeed, the theme for future knowledge development in The Netherlands should be 'delta'. And within this theme, the full range of intellectual disciplines (alpha, beta and gamma) should be mobilised and brought together in order to realise new innovations.

The point is clear: a delta stands for far more than rivers and coastlands. A delta is also often a dynamic cultural product, as is certainly the case of the Netherlands, a particularly creative region due to the combined utilization of alpha, beta and gamma knowledge. But can this vicinity distinguish itself from other European or international regions? We believe that delta knowledge and expertise will only be effective and competitive when new knowledge and expertise is developed. For instance, at this point in time due to the climate change many metropolitan areas are being confronted with the same issues the region of Holland has had to face. If Holland is to be truly competitive it must be the first to possess the new and thus valuable regard to delta knowledge. This not only means technical-spatial innovation but also innovation regarding related areas such as science and art, spatial planning and economics or law. This of course is said with a view to the long term, and with an enduring delta metropolis in mind – and one in which the creative class is not seen as a group but rather a quality of the region. In order to achieve this, however, two key objectives will need to be realized; respectively the 'Reinventing' of our region and the 'Remarketing' of our expertise.

1. Reinventing Holland:

There is an urgent need to create attractive locations for innovative businesses and to make the metropolis of Holland even more desirable as a tourist destination. Indeed, we must respond to the rising demand for delta expertise due to the current climatic conditions by developing attractive new urban centres and landscapes worthy of international attention, and thus increasing our region's value for international business and tourism. With the rise of Asia a new market has opened to the world. Evidently, the Netherlands is already well known in that part of the world, as evidenced in the popular Dutch theme park where true-to-scale replicas of prominent Dutch buildings, including Utrecht's The Dom (a 110 meters high church tower), are on exhibition. Due to the economic growth Asians are earning more and soon many of them will no longer be content to see mere replicas but will want to see Holland for themselves. The stream of tourists from Asia to other parts of the world is already considerable, as was seen during the Mare Nostrum exhibition at the aforementioned International Architecture Biennale this year. The challenge, then, is to attract this surge of Asian tourism and investment to our region.

2. Remarketing our expertise:

A second pressing task is to strengthen the image of Holland as the global expert in the field of delta knowledge and sell this knowledge to the rest of the world. The affects of climatic change (rising sea level, flooding, drought and salinization) are evident throughout the world and it is inevitable that other countries are already offering technological assistance.

However we, more than anyone, have our past to our advantage and if we successfully retain this we can sell this expertise worldwide, and not the least to Asia, where flooding – partly due to mistakes in the past - is tragically prevalent.

We anticipate that this resurgence of marketing zeal will be accompanied by an increased involvement of Dutch engineers, as in times past, in delta-related issues worldwide. Whether it is civil engineering in St. Petersburg, land reclamation in the Po plains, island construction in offshore Dubai or bridge and dam building in France, Bangladesh or China: it is the Dutch who supply the expertise.

Cultural projects.

How can the abovementioned objectives best be realized? We believe success or failure will depend on one single but vital condition: spatial projects must be seen as cultural projects. By this we mean the ability to translate visionary delta ambitions into concrete projects. Ambitions that reach further than the stipulations of municipal development projects – number of houses, quantity of asphalt, commercial property allocations. The heart of the matter is a widespread notion that construction in the Holland delta entails far more than mere technical issues; it is a cultural affair unparalleled in the rest of the world.

It seems that these days the ambition to create something which inspires national pride and international admiration is a rare commodity indeed. A clear case in point is the HSL (High speed train line) tunnel right under the Green Heart. Although the Prime Minister presented the case for the tunnel partly from a perspective of knowledge-development (and indeed, the drill, the world's largest, has been sold on to Shanghai) the tunnel itself remains a purely technical undertaking. Nevertheless, a question asked by many is: Why did the government opt for an invisible tunnel rather than an elevated viaduct? A viaduct would have symbolized for many the Dutch love the land as well as offering stunning views of the countryside.

Moreover, the fact that Dutch engineering companies built the bridge near the French Millau and played a key role in the construction of the Palm Tree in Dubai – this is expertise which is exported to the ends of the earth but which is conspicuously underutilized in its country of origin! Only when Holland starts utilizing its own special expertise for its own development projects will Dutch national pride be reawakened, which in turn will further stimulate creatively on a broad scale through various levels of society. Clearly in order for this to happen an innovative, design-based mentality must pervade society at large, including government and civil planning agencies – a major innovation in urban planning and design.

Recently the concept of 'Development Planning' was introduced in the Netherlands in an attempt to better facilitate the realisation of the many plans and ideas which had been approved but not implemented. However, this initiative is about so much more than just getting things done; if it was then perhaps 'Implementation Planning' would have been a more accurate title. Indeed, Development Planning means more than the realisation of property and infrastructure. It is also about establishing particular cooperative ties between government and the business community, and formulating development plans whilst actively promoting the cultural dimension.

When formulating ambitions the government should take a more assertive role. Not as centralized planning agency, but as stimulating booster. Every development project should be placed within the context of the Holland delta. Every project should also be able to answer the question: What new delta knowledge or expertise will be gained from this project? Some projects may even commence on a trial basis, subject to public curiosity for which the innovation must lie not only in the 'grand project' but also in the small discoveries.

A genuine design-based mentality stimulates society to actively think and participate. And a people proud of its ability and achievements offer a trust in their political leaders.

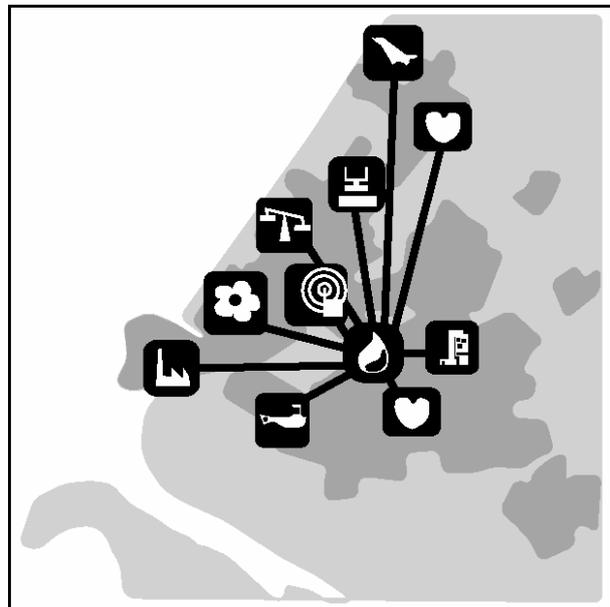
Development Planning becomes truly inspiring when it can activate and cultivate society's creative capital. Hence, for designers to be able to perceive in development projects a strong cultural dimension they must possess certain qualities.

Firstly, in an ambitious and creative society designers fulfil an indispensable role and hence from their expertise should present projects in stimulating imagery in order to facilitate the thinking and decision making process. For this they need more than their own professional know-how. The task of designing ambitious but realistic concepts for the delta requires an interdisciplinary effort. A designer therefore must know how to tap and utilize the creative capital resident in society. Outside the regular project agencies he will encounter a different world, offering a rich diversity of knowledge and expertise. This is the creative capital that resides in society in groups and individuals, who themselves are either (semi) professional or well organised amateurs – international associations for example, such as Birdwatchers, special interest and sports clubs. These people possess a wealth of knowledge in their field and are equipped with the latest technological assistance. It seems indeed true to say that creative capital is to date a largely untapped resource, and its potential for being incorporated in processes of urban development – Cultural Planning, we could say - should not be underestimated.

When dealing with specific issues designers should coordinate think-tanks comprising resourceful alliances to develop new concepts, brainstorming in words but also in narrative (words and imagery) which is the richest level of knowledge: a well thought through and stimulating narrative, with historical depth, social breadth, and visionary richness. Such is the stuff that inspires and certainly an aspect which needs more emphasis in the future. The tremendous challenges inherent in the delta projects should inspire a greater degree of public involvement. An innovative delta landscape could be designed that inspires admiration. A vital urban network with 6.6 million residents living at seven metres below sea level? How is this possible? It is! And is the symbol of Dutch pride - not for fear of flooding – but a showcase of internationally demanded knowledge and expertise.

Knowledge clusters

An important part of this metropolis is located in the province of South Holland, in the south west of the Netherlands' delta area. Based on a range of indicators this province apparently scores quite low compared to other provinces on the issue of the knowledge-driven economy. Interestingly, the province of Noord-Brabant was rated third on the European Regional Innovation Scoreboard. South Holland came 27th. The decline in industrial medium-tech and high-tech employment, the decreasing investment in Research and Development, and limited number of starting businesses compared with other countries, a mediocre educational level and a drastic shortage of researchers has given the province serious cause for concern.



Improvements are being made. The goal of the provincial government is to climb the European Scoreboard to reach the top 20 by the year 2007 and in knowledge-based services, to reach the top 10. In order to achieve this, the province is concentrating on nine distinct knowledge clusters² in the Zuidvleugel³ (Southwing) of Randstad Holland:

- Water- and delta technology (Delft)
- The processing industry and petrochemicals (Rotterdam)
- I.C.T. (The Hague and Leiden)
- Aerospace and composites (Delft and Noordwijk)
- Life Sciences (Rotterdam and Leiden)
- Shipping, transport and logistics (the Rotterdam seaport)
- Sensor and Nanotechnology (Delft, Leiden)
- International Law (The Hague)
- Greenhouse Market Gardening (Westland)

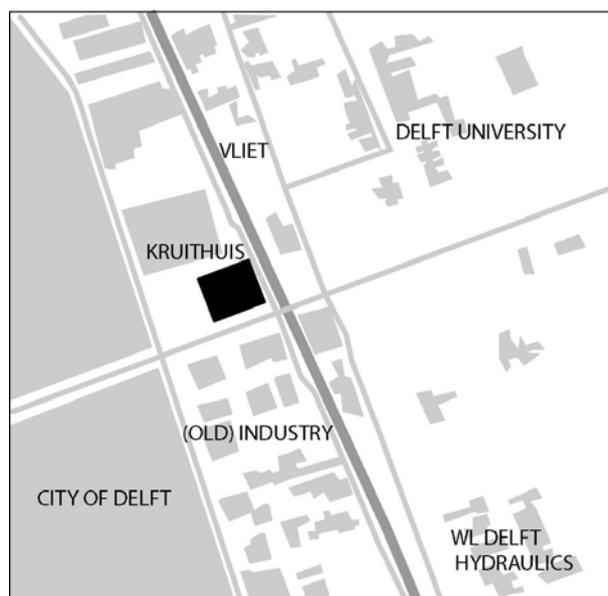
A tenth cluster, should there be one added, could be 'Architecture and Urban Development' (Delft and Rotterdam). Some of the clusters have clear links with the delta, others less so. The task at hand is the 'deltafication' of these separate knowledge clusters, or in other words, identifying the relationships between the first cluster (Water- and delta technology) and the others. Greenhouse Market Gardening, for example, is a powerful, innovative industry with roots in the coastal landscape and hence is somewhat delta in character. Furthermore, when the sector responds to a desperate lack of space by developing, for instance, floating greenhouses – the delta character is patently clear. The link with ICT, Aerospace, Life Sciences, Sensor technology and International Law, however, is less clear, although each of these sectors can probably develop knowledge which can be utilized in the delta.

Internet technology in the context of planning and public participation, new materials for water defences, floating buildings or for shipping, measuring techniques for delta research and laws as the climate change continues. There are abundant opportunities in all of these, as well as for top-level urban planners and designers. They could use the major projects lying on the pile for refining their testing procedures: urban development in the Zuidplaspolder, the marks of an attractive coastal landscape, inner city renewal of the Dutch delta cities, new infrastructure combined with wetland nature and proposals for using the 'midlands' area between The Hague, Rotterdam and Westland.

Put to the test: Holland Water Academy

We propose the first step: The Holland Water Academy. Between Energy Valley near Groningen, Food Valley near Wageningen, the Arnhem – Nijmegen junction, the technology of Brabant, the media and I.C.T. around Amsterdam, we would locate the design-based, maritime and logistic knowledge from the delta Zuidvleugel. It is a (partly virtual) academy with various locations (interlinked with, for example, the universities of Leiden and Rotterdam, the Westland Greenport and other knowledge hotspots). Collectively these will form a dynamic network of knowledge, bringing three major fields, urban development, landscape architecture and civil engineering together whilst maintaining close ties with the other aforementioned knowledge clusters. An

academy of the delta where concepts are designed for the delta of the near future, yet with a view to the long term continuation of the process we tentatively coin 'deltafication'.



What criteria must the academy meet? First and foremost it should be a network of inspired individuals with intellect and imagination. Such people generate a wealth of imagery. The Water Academy will form networks from the delta knowledge in the Zuidvleugel and presents them for public debate. And also for networks in other types of development alliances, such as concerned citizens, associations, foundations and Internet groups. In a diversity of relations and settings the themes of development are discussed. Every year the Holland Water Academy will release a publication of thoroughly researched and discussed concepts and proposals. These may appear in various forms, such as academic journals, special films and beautiful books.

The most ingenious discoveries will be developed by industry immediately in close consultation with the Academy. Of course the new knowledge will need to be evaluated by thorough assessment procedures. Hence the Holland Water Academy will propose projects from which we can learn, thus ensuring them to be both tangible and visible, and the sea and the delta becomes a fertile testing ground. The knowledge and expertise gained is then offered to the rest of the world, even to the Far East. Moreover, many poor countries do not have the opportunity to develop expertise for coping with for instance a rising sea level. However, for us in the affluent Netherlands this opportunity is staring us in the face, which brings a certain moral responsibility with it.

A possible location for the Holland Water Academy would be the vicinity of the Kruithuis (Gunpowder House) in Delft, an old unused complex of warehouses for gunpowder from the 17th century. The Kruithuis is strategically situated on the old barge transport route Vliet, near the Delft Technical University and the Hydraulic Laboratory (soon to be called the Delta Institute) in a typical renewal area.

1. The Kruithuis and its surrounding buildings will become a forum, with research and laboratory facilities. In short, a public centre of delta knowledge, a creative workshop environment for thinking and doing delta work, near the Hydraulic Laboratory with several attached (temporary) testing locations while the larger projects will be based elsewhere in the Zuidvleugel.
2. There is also an incubator centre for talented Delft University graduates who would like to tackle delta issues innovatively. This centre is situated on the Schieoever, just north of the Kruithuis, between the railway, Schie and the university. In addition to this knowledge boulevard for top institutes we envision a knowledge street, where barely noticed, pioneers of science develop the basis for the top institutes and renowned cities and landscapes of tomorrow. At the same time, it is expected to attract smaller companies in the important (creative) sectors as well.
3. A creative window for the regional marketing of innovative knowledge. The knowledge is there – it just isn't being applied yet. To make it applicable – ultimately that's what this is all about! Companies in the delta industry, engineering agencies and institutes are joining, hoping to further develop their findings.

Examples can be found here and there already. A student makes the national headlines with houses that float on concrete caissons. An inventor in Kampen creates a tsunami-wave breaker that actually is built. Meanwhile in deep polder territory, seven metres below sea level housing areas are being built traditional. That can and must change. People in Holland are starting to refuse to live on the ground floor... delta Holland is ready for a new chapter.

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¹ 'Hol' in Holland means 'low', but also indicates to 'wood' as in 'marshland wood'. Both explanations point to a low and wet area.

² A knowledge cluster is described in the Innovation Letter Knowledge Economy South Holland ('Kennismaken met Kenniszaken') as 'A geographically proximate group of interconnected companies and associated institutions in a particular field, linked by communalities and complementarities' (Porter 1999).

³ Zuidvleugel is the South Wing, part of the Randstad Holland. The South Wing is a triangular urban region with three main cities: Rotterdam, The Hague and Leiden. On the western side it is bordered by the sea, on the south by the river Rhine and on the eastern and northern sides by deep polders. In fact the lowest point of Holland is situated in the Zuidvleugel: 6.74 meters below sealevel.