

Five new towns in Shanghai.
Present situation and future perspectives.



State-of-the Art 2013/2014

Ulf Ranhagen April 2014

Department of Urban Planning at the Swedish
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Preface

I am a Swedish Professor working in the Department of Urban Planning at the Swedish Royal Institute of Technology (KTH) and as Chief Architect at Sweco. I have received a grant from FFNS research foundation to perform an overall diagnosis and analysis of the State-of-the-Art of the urban environment of new towns in Shanghai, especially the towns developed within the framework of the One City Nine Towns, which was launched in 2001. I was the chief planner at Sweco for the Luodian Town project and have briefly followed the results of the planning and the implementation of that town in 2004, 2007 and 2010.

The grant made it possible to make a study trip to five of the new towns within the One City Nine Towns Programme in Oct – Nov 2013 (2013/10/30 – 2013/11/08). In this report I have compiled the result of my field studies during that 10-day period including some facts and figures but also my own reflections on the development.

A few other more comprehensive studies have also been necessary and extremely useful when compiling the material, especially “Shanghai New Towns” by Harry den Hartog (editor) and “New towns as a strategy on sustainable development in growing megacities” by Sebastian Schulz.

I warmly thank FFNS research foundation for its support of the study. I thank Leon Yu, General Manager of Shanghai Golden Luodian Development Ltd., and Professor Liu Xiao Ping and Harry den Hartog, author of Shanghai New Towns, for giving me valuable information on Luodian New Town. The information centers of Anting New Town and Holland Village also gave me valuable, useful information material for the study.

I have also been encouraged by Prof WU and Hon Professor Bend Seegers at the intelligent urbanization co-creation center for high density regions co-creation to compile this material and to present it at the Tongji University in Shanghai.

Stockholm, April 2014

Ulf Ranhagen

*Professor of Urban and Regional Studies at the Royal Institute of Technology in Stockholm,
Honorary Professor at Tongji University in Shanghai
Guest Professor at Lulea University,
Chief Architect at Sweco Architects.*

“Better Friendship – Better Urban Planning”

*Professor Siegfried Zhiqiang WU,
Intelligent Urbanization Center for High-Density Regions at Tongji University, Shanghai*

Abstract

In China it is predicted that during the next 40 years, no fewer than 300 million people will leave the countryside and move to urban regions. One way of meeting this challenge is to establish new cities and new towns and in Shanghai many efforts in this direction have been made. One example is the One City Nine Towns Plan launched in 2001. As part of this urban experiment, each town within the plan features urban design and architectural features from countries in Europe and also from the US. I was involved in the planning of the Swedish New Town between 2001-2004 as chief architect at Sweco and have since then been interested in the outcome of planning on the ground.

Due to a grant from FFNS foundation at Sweco, I had the opportunity to make a study trip to five of the new towns within this plan in the autumn of 2013. The main criteria for selecting new towns for field studies is their accessibility from the new metro system. It would not have been possible to cover all the ten or eleven towns within the plan as the scope of the study also has certain limitations as for time and resources. The chosen topics for this overall study has been the following aspects:

- The urban structure including the development of the thematic urban centers in the new towns, specifically reflecting urban design and architectural features from the different countries outside China
- Transportation with a specific focus on public transportation, bicycling and walking,
- Public space in relation to the Chinese culture of developing gated communities,
- Green and water space and to what extent environmental measures have been taken.

This field study of five new towns within the One City Nine Towns plan in Shanghai is limited in scope and covers some of the relevant aspects when analyzing the new town phenomenon. I am convinced that there is a need for continuous studies of both different aspects and the entire picture in depth. It is of course not sufficient to confine the studies to field observations as an approach even if this is necessary. There is a need to compile a database consisting of facts regarding spatial, economic, social and ecological aspects.

As it takes a very long time for implementation before you can discern the real intentions behind planning of new towns, it is important to perform evaluations continuously over many years. Different tools should be applied to get a more comprehensive picture of the performance of and changes in the new towns over time regarding economic, socio-cultural, ecological and spatial aspects.

One proposal for the future would be to start up a sustainability review and renovation process of the new towns with regard to environmental sustainability, also related to socio-cultural and economic sustainability. As an example, in the thematic urban center of the Swedish New Town, a pilot block (or a group of blocks) should be selected for an investigation of options to achieve building performance comparable with passive or plus building standard.

New cities and new towns strategy in Shanghai

In China it is predicted that over the next 40 years, no fewer than 300 million people will leave the countryside and move to urban regions according to the UN (2012). This enormous urban growth makes China one of the world's most rapidly urbanizing countries. The City of Shanghai has often been pointed out as the country's pioneer in creating new ideas and models for urban development, Schulz (2012). The Yangtze River Delta where Shanghai is located is also considered to be the fastest-growing urban area in the world.

Monocentric growth throughout the last decade has resulted in unbearably high population densities in core cities and uncontrolled expansion in urban areas of China. This is an important reason why booming cities in China like Beijing and Shanghai have introduced far-reaching new towns programs with construction of new settlements at the urban fringe. To a considerable extent the programs also represent a shift towards decentralized power and decision-making processes, Dong (2011b) in Schulz (2012).

The Shanghai Urban Master Plan was first presented in 1999 and proposed a "modern regional urban system" by the year 2020, which contained eleven new towns around the central city. Shortly after the publication of the Master Plan, the urban system was altered in 2001 to be officially adopted in the new so called 1-9-6-6 Model. The idea was to transform Shanghai into a system of

(1) One Central City focusing on the service sector economy

(9) Nine decentralized key cities (300,000 to 1,000,000 residents) as administrative centers for each district

(6) 60 small towns of 50,000 – 150,000 residents and

(6) 600 central villages with an average population of 2,000 residents.

The instant intentions according to den Hartog (2010) are a reduction in the development pressures on the central city

and intensified participation of the surrounding rural and suburban areas in economic growth by creating a polycentric regional network.

The first practical implementation and test of these ideas was the pilot program "One City Nine Towns Development Plan" introduced in 2001. As part of this urban experiment, each town within the plan features a specific international identification in an economic and architectural sense. Shanghai's former mayor Chen Liangyu was mainly responsible for the idea of branding the new towns with different international architectural styles. This very special plan is one of Shanghai's most ambitious urban development projects in recent years.

Due to frequent changes in the plan, some new towns were abandoned and some others replaced them. It is thus not so easy to say exactly which projects belong to the One City Nine Towns. In **figure 1** there is an overview made by Schulz (2012) showing 12 towns which in some way or another are connected to this plan. According to Schulz, the whole development is mainly managed by privately organized, state-owned development corporations, often founded by district governments together with external, national planning institutes and sometimes further with semi-private real estate corporations. The lack of control function for this new town development plan has led to several changes in the plan since its first implementation. It was even finally dropped in favor of the eleventh five-year plan in 2006, as the experiment was not deemed successful at that time. The urban areas and their real estate, characterized by architectural branding with urban and architectural styles from different countries, sometimes became speculation objects rather than attractive and livable quarters.

After my visit to five new towns in November 2013, I partly agree with this critique of the plan. At the same time I strongly believe that it is very difficult to evaluate such a complex issue as city and town development with an overly short time perspective. It takes a very long time – perhaps many decades – before the urban structure has been developed into a level where you may experience the

urban environment in its full scope. It is only 13 years since the One City Nine Towns Plan started and about ten years since the first central town districts were completed.

Since the year 2011 and the implementation of the 12th five-year plan, new town development is mainly concentrated on three new million resident cities close to Shanghai: Jiading New City, Songjiang New City and Nanqiao New City. Four other cities with more peripheral locations in relation to the city center have also become more and more important in order to strengthen neighboring locations within the Yangtze Delta in the polycentric context: Qinqpu New City, Jinshan New City, Lingang Harbor City and Chengqiao New City.



Figure 1 The original ideas behind the One City Nine Towns Plan reflected in the comprehensive Plan of Shanghai Metro-Region 1999-2020. The urban structure of cities and towns differ slightly from the implementation and the overview of cities and towns in figure 2.

	Name	Distance to People's Square, km	Planned Size, km ²	District	Planned Population	Development Goals	Style
4	Songjiang New City	34	21	Songjiang	500,000	Research, Education	British
	Lingang New City	57	75	Nanhui	800,000	Logistics	European
3	Anting Town	28	68	Jiading	50,000	Automobile	German
	Zhujia jiao Town	44	9	Qinpu	2,000	Tourism	Chinese
2	Gaoqiao Town	15	39	Pudong	7,000	Residential	Dutch
5	Pujiang Town	16	15	Minhang	100,000	Residential	Italian
	Fengcheng Town	39	9	Fengxian	96,000	Trade/Export	Spanish
	Fengjing Town	58	14	Jinshan	40,000	Trade	North American
1	Luodian Town	21	12	Baoshan	30,000	Tourism, Residential	Swedish
	Zhoupo Town	15	-	Nanhui	30,000	-	North American
	Baozheng Town	-	-	Chongming	-	-	North American
	Dongtan Eco-City	44	40	Chongming	200,000	Eco-Housing	-

Figure 2 The Cities of the One City Nine Towns Plan according to Schulz (2012, p 53)

The five selected new towns for the study trip

The main criterion for selecting new towns for field studies is their accessibility from the new metro system. It would not have been possible to cover all of the ten or eleven towns within the plan as the scope of the study also has certain limitations in terms of time and resources. Due to this logic, the five selected new towns for the study can be directly related to the metro station network of Shanghai, see figure 3:

- 1 Luodian Town – the Swedish New Town - located in Baoshan district northwest of the city center along metro line 7 , Meilan Lake station and Luonan Xincun Station
- 2 Gaoqiao - Holland Village – located in North Pudong district east of the City Center along metro line 6, Waigao-qiao Trade Zone North Station
- 3 Anting Town – the German New Town – located in Jiading district northwest of the city center along metro line 11, Anting Station
- 4 Thames Town – the British New Town – located in Songjiang district west of the city center along metro line 9, Songjiang University Town South Station
- 5 Pujiang New Town – the Italian New Town – located in Minhang district south of the city center along metro line 8, Pujiang Town Station.

It was not possible to perform a complete field study covering the entire areas of these five new towns as the sizes of the towns may encompass several square kilometers. It has been important to make visits to all thematic urban centers, as these reflect and are inspired by the urban and architectural styles of the respective countries.



Figure 3 Location of the five selected new towns for the study trip in relation to the metro line system of Shanghai.

Luodian Town – the Swedish new town

A new phase in real estate management of Luodian Town

After the decision of the winning proposal from Sweco in August 2001, the structural and general planning for the new town were implemented until the summer of 2002. Then an agreement was signed between the municipality and a newly established developer in Shanghai (Shanghai Real Estate Ltd) to take responsibility for further urban development of the new town. The developer proposed a number of new elements. The most spectacular example is the wish for a Swedish lake after having been inspired by a study visit in Sweden, especially in the small town of Sigtuna north of Stockholm. The developer also initiated the establishment of a top class golf course and a golf hotel. In the autumn 2002 the formal detailed planning of Luodian Town was adapted to the changes proposed by the developer. On the basis of the new proposal, Sweco collaborated with the Tongji institute for urban planning and architecture in finalizing the Luodian New Town Regulatory Plan, which was decided in December 2002.

The developer, at the moment with the name “Shanghai Golden Luodian Development Ltd.”, is labelled primary developer in China, which means that they, in a joint venture with the municipality, develop the basic infrastructure of the town and public land and the thematic town center inspired by traditional and partly also modern Nordic urban design and architecture. The residential or mixed-use urban areas defined in the regulatory plan were sold by the primary developer to secondary developers in public auctions.

The secondary developer is the responsible for the design and implementation of the projects on each plot and sells the apartments or premises to the final clients. The price levels (nov 2013) are approximately 18 – 20,000 Yuan/m² for a typical apartment and 30,000 Yuan/m² for a typical town house with access to a garden, to compare with the much higher prices in central Shanghai (approximately 60 – 80,000 Yuan/m²). Most of the apartments and town houses have been sold out, but there is also a market

(sometimes black) which means that real estate are leased to different stakeholders. Many times, wealthy people also buy two or more town houses and villas in an attractive location such as Luodian Town and expect to sell the real estate for a much higher price later on. The secondary developer has to follow the guidelines for designing the residential and mixed-use areas in a Swedish or western style – this is also considered as a market advantage. The three land-use rights applied in Luodian and the other new towns follow the rules decided during the region of Deng Xiao Ping:

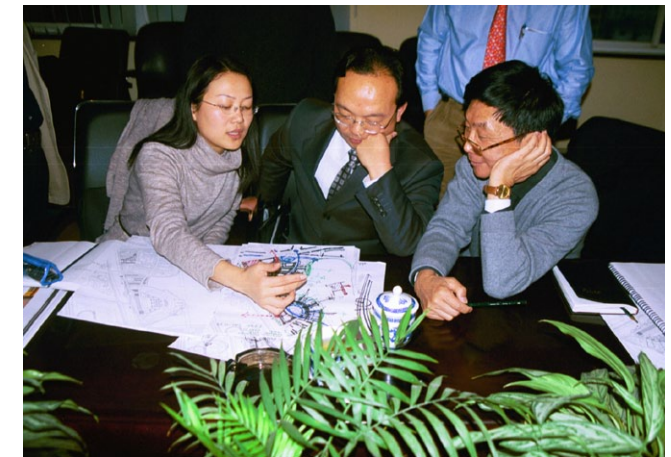
- 70 years for residential land
- 40 years for commercial land (including shops and offices)
- 50 years for hotels.

Thus, there is yet no experience of what this will really mean in the future; the owners of real estate act if they own their property forever, but there will surely be problems in the future in solving different issues connected to ownership, leasehold, etc.

After 10 years management of the land, Shanghai Golden Luodian Development Ltd (the new company name of the original developer) is obliged to transfer the land to the government while the secondary developers still continue to manage their respective plots. The 6.8 km² is at present almost fully developed according to the original joint venture between the government and the developer. This doesn't include the industrial and office area in the north-eastern part, which has been developed in parallel, and at the moment a number of industries such as pharmaceuticals, breweries, engineering industry, etc. have been established in this area.

However, the primary developer will retain ownership and real estate management of the central thematic area including commercial functions such as the Meilaren lake factory outlet with a rather wide assortment of clothes and shoes, etc. The conference center is increasingly used for major conferences, wedding ceremonies, cultural events,

etc. One problem is that the number of hotel rooms (76) is too limited, which makes it necessary for the conference center to collaborate with the golf hotel which has 273 rooms. The primary developer will also continue to own and manage the golf hotel and golf course which until present seems to be a success story. Due to its qualities, the golf course planned by top golf star Jack Niclaus has become an important site for the famous BMW golf tournament, which according to the developer is an important factor for attracting wealthy people to Luodian Town.



Collaboration between developer and planners from the Baoshan district in the Luodian town planning 2002

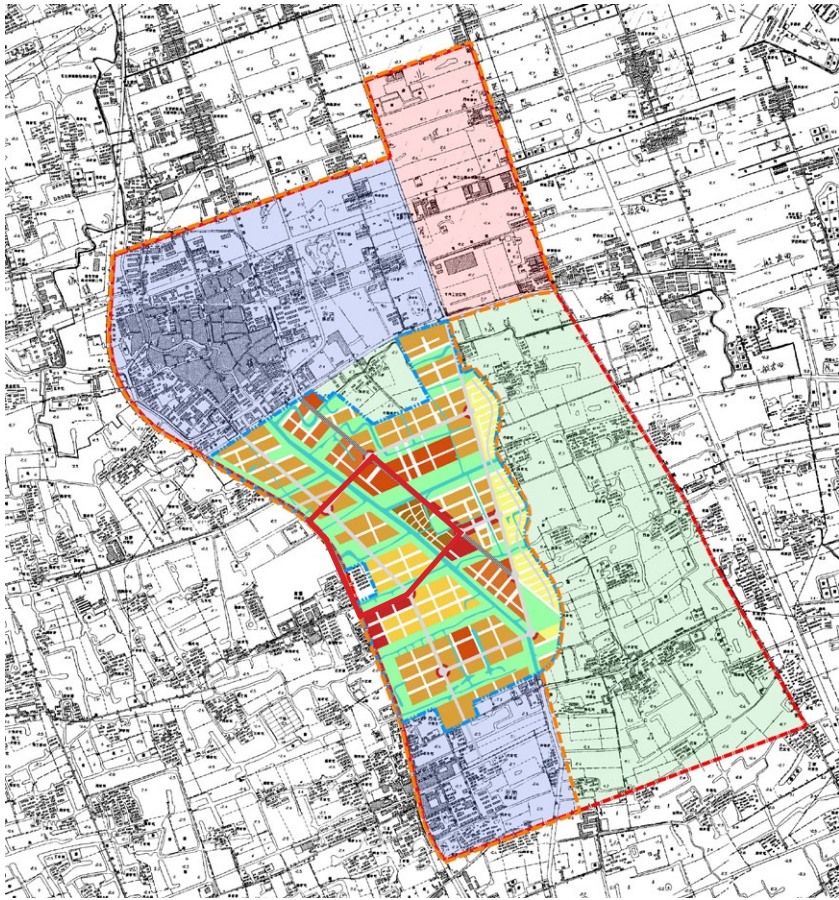


Figure 4 Left: Early plan over the area. Source: Sweco. Right: Overview of the Luodian Town Model located in the "Icelandic Villa" in Luodian New Town. The thematic Swedish style urban center is marked in red.

The potential for sustainable transportation in a phase of rapid increase of car traffic

It is interesting to see that the almost full extension of the town means that the original ideas aiming at good connectivity and accessibility between different parts of the town can be perceived to a certain extent. The most important feature contributing to a sustainable transportation system is the metro line, which is well integrated in the town urban structure.

The metro line has contributed to intensified urban development since 2010

The public transportation system with an elevated metro line (line 7) was completed in the end of 2010 with one main station (Meilan Lake station) and a secondary station in the southern part of the town (Luonan Xincun station). It takes about 45-50 minutes to central Shanghai (Jinan station) which can be considered a comparable favorable accessibility for commuting between work and living in a megacity like Shanghai.

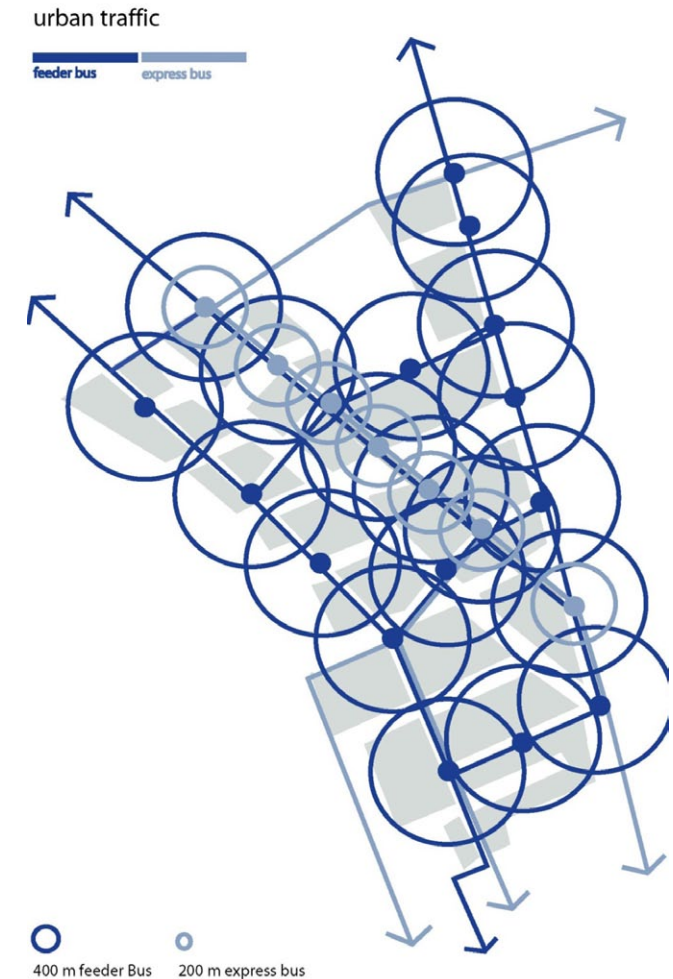
It has apparently contributed to more intense urban development and an increase in the urban population compared to the years 2004-2010. During a long period after the inauguration of the town center, the town seemed to be rather empty and without life even if other town districts surrounding the town center were completed during 2004-2010. This was also pointed out in numerous very critical articles of the Chinese so called “ghost towns”. But it is very difficult to build livable towns cities in a short period and expect them to be as mature as many old towns!

The establishment of the main station has facilitated the location of both a medium-sized shopping center, an office center (not yet opened) and a bus terminal in direct connection with the station (picture). The connectivity to these new functions is favorable as there is direct access by walking paths from the station. The space seems to be limited for further expansion but there are plans for extension of huge urban areas (6-7 km²) mainly for residential and service functions west of the station. Thus, there is an

option to extend functions that are in favor of station proximity also on the western side.

Options for local public transport

A bus station has also been established in immediate access to the metro station, but it seems not yet to be in full operation except for the bus connections to the golf course in its BMW masters tournaments, etc. However, there are good options for extending local bus traffic from the both metro stations in order to achieve a maximum 200-400 m distance to every apartment or working place in the town according to the original conceptual plans from 2001.



Urban accessibility map from the original planning 2001.
Source: Sweco.



Figure 5 The linkage of Luodian Town to the metro line system in Shanghai is of huge importance for positive urban development. Pictures from the Meilan Lake metro station – end station of metro line 7.

Options for bicycling and walking

In the new town as a whole, there are a number of different solutions to promote bicycling and walking and also the growing number of electrical bikes. There is a striking contrast to the old towns where there is no specific segregation of car and goods traffic from other traffic modes. In the old towns there is also another kind of business life with small workshops along the streets containing a mixture of activities such as goods handling, bargaining, people looking at different goods, passing by etc. This contributes to a lively character even if traffic safety sometimes may be suffering.

All main public streets have been planned with separated asphalted lanes for bicycling close to the car lanes, but always with a plantation as a divider. Along the biking lanes there are also often paved walking lanes with trees marking the border to the bicycle lanes. The entrance streets leading west-east have also been designed as a kind of boulevards with two sections of car lanes divided by a centrally located plantation. On these streets, the lanes parallel to the car lanes were used by both bikes and electrical bikes. On the main north-south leading streets, the electrical bikes use the car lanes. This may cause accidents with cars, but at the same time the collisions with pedestrians and bicyclists can be avoided.

The pedestrian network is closely related to the network of public spaces and in many parts of the town the pedestrian paths are integrated with the public spaces, which contributes to certain livability, see below.

The centrally located thematic area is to a large extent car-free, except from the winding road leading from north to south as was planned from the beginning. This is made possible by the underground car-parks below the squares.



Figure 6 There are very good options for green traffic modes in Luodian Town such as walking and bicycling. The number of electric bicycles is increasing constantly.

The urban structure and its socioeconomic implications

The overall urban planning according to Swedish and European but partly also Chinese examples has not aroused as much interest as the thematic aspect. But it is important to know that the thematic area covers only 10% of the built-up area of the new town. So the performance of each of the other city districts as well as the coordinated performance of all city districts is of key importance for the overall progress of the town as a whole.

As more and more people have moved in and connectivity between different parts of the town has improved, there is at least a slight urban atmosphere especially in the western part of the new town. The flexible grid urban pattern has made it possible to develop a number of city districts which differ as for functional content, urban design and architecture.

The most affluent and more evident luxury areas with exclusive villas inspired by traditional classical architecture are located close to the golf course. Other exclusive villa areas can be found south of the town center. Apartment blocks of medium standard with a modern architecture are mainly located in the north-eastern part and in the south-western part. High-standard apartment blocks also with inspiration from traditional architecture are located immediately east of the metro station. Low standard apartment blocks are established at the border to the south existing town but also in both the existing north and south towns.

Even if the town mainly is planned for middle class income and wealthy people, there is a mixture of city districts with different affordability and low income groups can find affordable apartments for rent even if the supply is limited in the new town. Segregation of different social groups is one key challenge in most cities and towns and probably also in Luodian Town. The positive feature of Luodian is that within a small urban area (less than 4 km² and 8 km² including the existing towns and the industrial area) town districts for many income groups coexist and there is at least some potential for social integration when it comes

to public space, use of service functions, access to labor market and access to recreational areas and public transportation. It may be interesting to compare with some of the suburbs of the City of Stockholm, which each have a larger area than Luodian Town. In some of them there are fewer income or social groups living, which means that they have a more segregated urban structure than Luodian Town.

The advantages of the intention of developing the new town as a link between the two existing towns can be slightly discerned. The existing towns are to a large extent traditional Chinese small towns with their rich street life containing a multitude of small shops, traditional craftsmen and workshops along the main street. The small connecting back alleys form whole communities assembling the traditional Shanghai longtang – which are considered to be Shanghai's major indigenous urban architectural feature (Mayhew, B 2001).

It is really fascinating to move from the new town into either the northern or the southern existing towns and in a few minute experience a transition from the modern rather lifeless housing areas into this extremely vivid urban environment. This is a feature that can be further developed in order to integrate the new and the existing parts socially, economically and environmentally. The transition zone between the northern old town and the new town along the east-west road is still dominated by traditional workshops and small scale industrial activities.

The proximity between the old towns and the new town can be further utilized as a potential for further functional integration, so the activities in the northern part may be more extensively demanded in the new town. The challenge, of course, is to raise the standard of living and working in the northern part without destroying the traditional qualities of the urban environment. At the same time, it is also important to make apartments and service functions affordable for people in the existing towns. The commercial center close the station is one good example where shopping is less expensive than in some of the shops in the thematic part. But restoration of some of the old longtang in central

Shanghai may be good examples to follow.

The 10 ha service area originally proposed in east of the town center is now more or less fully extended with both a secondary and a primary school as well as a kindergarten and a maternity hospital. The maternity hospital is based on the Chinese tradition that the baby is taken care of one month after the birth. The mothers care center has 86 beds and 63 rooms. It seems to be a very luxurious hospital, so it is probably possible for all mothers to use this kind of establishment.

The architecture of the hospital seems to be inspired by the medieval knight's castle. You can have different opinions on such architectural nostalgia. The urban grid structure allows a mixture of different urban designs and architecture and it also allows for oddities. A town is and should be complex and an overly uniform structure with the same kind of architecture – even if it has modern features – can be disastrous.



Figure 7 There is a mixture of different urban typologies in Luodian Town outside the thematic urban center ranging from luxury villages to apartments buildings for low-income groups. There is a considerable share of modern, brick apartment blocks inspired by Scandinavia. In the neighboring small cities, traditional Chinese small town urban structures along the canals and narrow streets dominate.

Alternative options for combining development of public space and demand for gated/closed residential areas may be discerned

A key challenge for a livable town is to offer attractive public space contributing to urban life, stimulating experiences as well as perceived and real security and safety. A problem in modern city planning all over the world has been the establishment of gated communities, where large housing areas as a whole have been located behind fences and walls with a considerable so called set-back distance from the street.

It is important to clarify that the dominant part of the urban housing areas has been gated also traditionally. In Sweden or Europe each block has been a unit with a courtyard which is accessible only for the people living in the block. In China the hutong and longtang structure mean that blocks larger than in Europe have been protected from foreigners.

The difference between these traditional ways and the new way of gating residential areas is that in the traditional areas, the buildings along the perimeter of the blocks are located at the street sidewalks and often have ground floor with a multitude of different urban functions such as workplaces and commercial, social and cultural services. This contributes to a lively urban atmosphere as street life can flourish supported by access to all kinds of attractive urban functions.

In Luodian Town the modern way of gating whole city districts has been applied mainly in the eastern part, where high fences and walls along the street make a walk along the street a rather dull experience. It also contributes to the use of cars as the main mean of transportation. One exception is the area immediately north of the maternity hospital, see below.

In the western part of the town, within the thematic area and in the city districts to the north and to the south, there are positive examples of how public space with multitude

of service functions can be created along the north-south winding street. The difference in comparison with the eastern part is huge when it comes to the experience of urban life – even if it is neither fair nor correct to compare with urban life in the center of the megacity!

Examples of different ways of achieving public space with access to service functions even if the residential areas are gated in accordance with the tradition:

- Mixed-use buildings on the sidewalks along the street and open courtyards in the residential area during daytime (new residential area close to the station, the shops are not yet opened)
- A small local center with different shops and service functions combined with a small plaza at the gate (residential area in the northeastern part)
- Service functions in a 2-storey separate building in front of the gated residential buildings on an oblong paved plaza along the street – buildings are set back (northern part along the winding road)
- Service functions in a 3-storey separate building in front of the gated residential buildings on an oblong partly green plaza along the street – buildings are set back (southern part along the winding road)



Figure 8 There are a number of alternative ways of locating commercial, cultural and social service functions along the streets that activates the public space.



The thematic area is in a phase of intense transformation

The designation of the thematic areas of the central parts of the new towns with inspiration from different countries was one of the original ideas of the One City Nine Towns Programme. Luodian was originally labelled the Swedish town, later the Nordic Town and at the moment it is officially called Luodian – the north European new town. The urban thematic follows more or less in detail the urban design proposed by Sweco in 2002-2003.

At that time, the idea for the functional content was mixed-use with service functions and offices on the ground floors and housing on the upper floors and other not disturbing work places on the upper floors. This has not been possible to follow for many reasons. I do not have a full picture of these reasons, but my interpretation is that the following may be of major importance:

- different land-use right time horizons for office and housing can result in difficulties in coordinating the selling of mixed-use real estate in the future, which makes the developer hesitant to this type of urban typology.
- the tradition in China is to live in a more or less gated housing area with a considerable size protected by a guard – the small block pattern of Luodian results in public, available space on each street, which may contribute to a feeling of insecurity for the citizens.
- The small-scale grid pattern is unusual in China as it means that some apartments will face east or west, which is considered unfavorable from a climatic point of view. To face west may cause serious inconveniences – if no sun protection measures are applied – as the low standing sun causes heat in the apartments in the warm seasons. In Luodian the facades in the central parts have an angle of 35-45 degrees in relation to east or west, which is acceptable in the building legislation but not always among the buyers of apartments.

Due to the existence of the metro probably combined with an intense marketing activity from the developer, the thematic area has become more attractive for different stake-

holders. It is presented as the “Shanghai Luodian Lake Malaren North European Cultural Tourist Attraction”. On the signs at the metro station but also on signs in the thematic area this information is given: “Known as the most beautiful place in northern Shanghai the lake Malaren Cultural District consists of three sections: The Lake Malaren Recreation Area, the Golf Area and the Baoshan Buddhist Temple Area, a perfect combination for relaxation, sports and Buddhism experience”. All three areas in combination with good options for housing and work contributes to the idea that “Luodian Town is quickly emerging as cultural magnet with some European Flair” (Shanghai Daily 2013).

The Lake Malaren Recreation Area

“The Lake Malaren” is the core element and label that contributes to the identity of Luodian Town in Shanghai. It is the second the largest man-made lake in Shanghai. The design of the 20 ha large lake was one prioritized task in Sweco’s commission during 2001-2004. The lake is framed by a winding 2 km causeway that is reminiscent of the beautiful Su Causeway in Hangzhou, Zhejiang province.

Many elements along the shores of the lake such as “the bridge of everlasting love”, “the island of eternal perfection”, “rose garden” and “lovers’ wall” contribute to the romantic atmosphere that attracts young couples to choose Luodian for their marriage photos – in China these photos are very important for young couples and their families. This phenomenon has contributed to a successively increasing interest from many entrepreneurs to establish photo studios, beauty shops, flower shops, restaurants, coffee and tea shops, health and SPA centers, hotels and other urban functions supporting the wedding business in the central area.

One example is the Lake Malaren “Dream Studio” in the Nordic clock tower, which was originally intended to become the only church in the town! It is a 1500 m² large space on 2 levels (9 m height on each level) and with reception, make-up areas and 30 spots for wedding photography. This may also include the rather exclusive grand golden court restaurant and nightclub at the Cultural Square (original name from the Sweco proposal).

Other supplementing functions that may be indirectly dependent on the wedding industry but also have eligibility on their own are

- The Malaren Lake Factory Outlet with a comparably good offering for the sale of clothes and shoes. It has also a very good accessibility to the metro station.
- The Lake Malaren international art gallery at the Market Square (original name from the Sweco proposal), but the opening times are very limited and it has poor information about ongoing exhibitions.
- Education centers such as the Huajing education, which was established by a young educational entrepreneur educated in New Zealand. The center is intended for cultural education of school children after their ordinary school hours, but also in weekends. The education encompassed dance and ballet education, calligraphy and music education such as piano and different Chinese string instruments.
- A large number of shops for different purposes such as different kinds of art objects, bicycles as well as a post office, a travel agency, etc.

In spite of the positive development, there is still a huge unused potential to make the recreational area more intensely used by other functions than those related to the wedding business. There is a need to develop a more urban atmosphere especially to attract younger people. There is also a need to strengthen marketing of the town and the information service. The tourist office is nice and cosy but it is too small and lacks information material in English. It is also a pity that the exhibition hall for the model of the town is not accessible for the public, as it is placed in the office location for the developer in the Icelandic villa where you need special permission for a visit.

There may also be risks that Luodian will become less interesting for the wedding business in the future due to competition from other areas. It is always risky to have a too one-sided urban economy, so it is important that the supplementing business such as conference activities, factory outlet, education, cultural functions and other spe-

cialized business branches will grow stronger not only for wealthy people but also but also for ordinary citizens in both the old towns and the new town. At the moment, the upper floors of the buildings in the central area are used for storage, small offices and sometimes for core activities such as the education center mentioned above. There is a huge potential to utilize these upper floors in a more efficient way for example through better vertical communication with the ground floors. Hopefully, it would also be possible to establish more apartments in spite of all difficulties that I have mentioned earlier in the report.

It is also important to strengthen the transportation and service links to the Buddhism area and to the golf area. The lake Malaren recreation area may also develop a stronger position as a service area for the northern industrial area and for the northern and southern towns, as well as well as for the new urban area growing west of the Meilan Lake station.

The Buddhism Area

The Luodian old town situated directly north of the new town has a 700 year history. During the Yuan Dynasty (1271 - 1368) an entrepreneur named Luo Sheng opened the town's first store and inn, which prospered due to their proximity to waterway commerce. Markets and other businesses opened and by the end of the Yuan dynasty there were about 700 businesses in Luodian. The original Baoshan temple was built in 1511 and known as Tang's villa, but Tang's descendants later changed it into a Buddhist temple.

It was destroyed and rebuilt several times and in 2006, the government started construction on a new one in an ancient style. The temple covers a total area of 12,000 m² and it is almost finished. A temple park with a wooden pagoda is expected to be added within about 2 years. The construction and architecture adhere stringently to the late Tang architectural style according to references and books. For example, the temple is built without any nails instead using mortise and tenon joints to connect the timber. The intention is to achieve a synergy between the

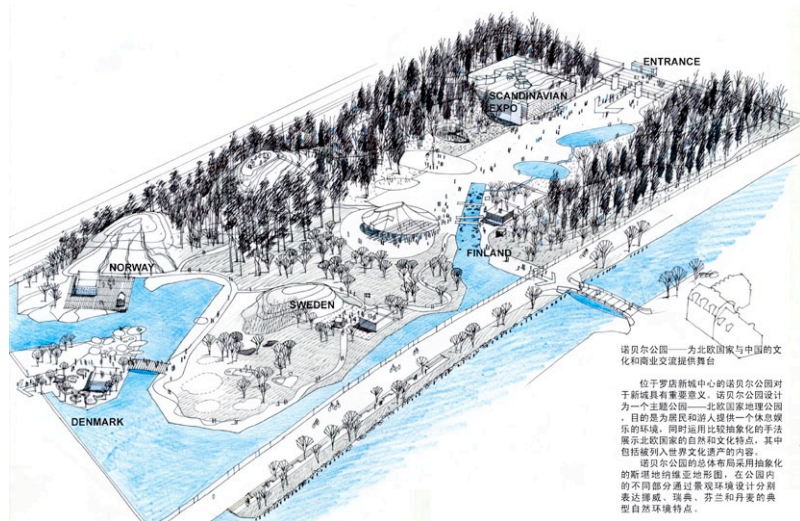
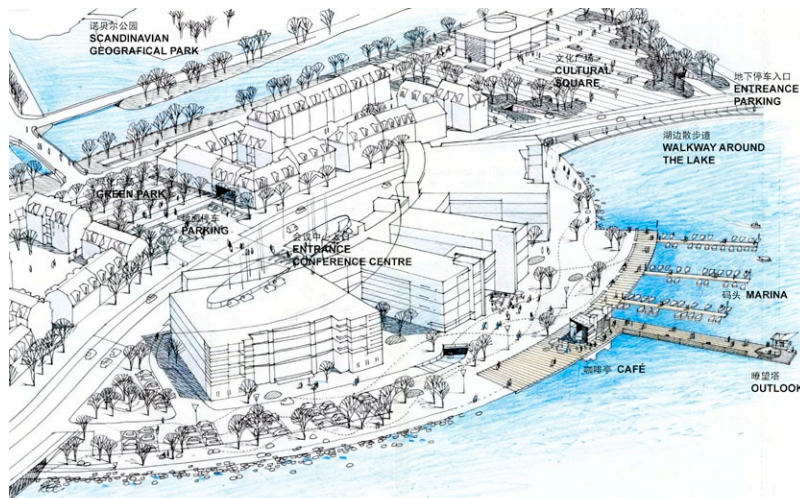
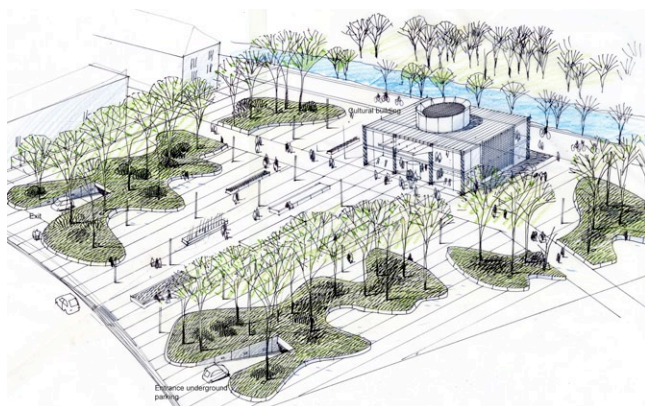
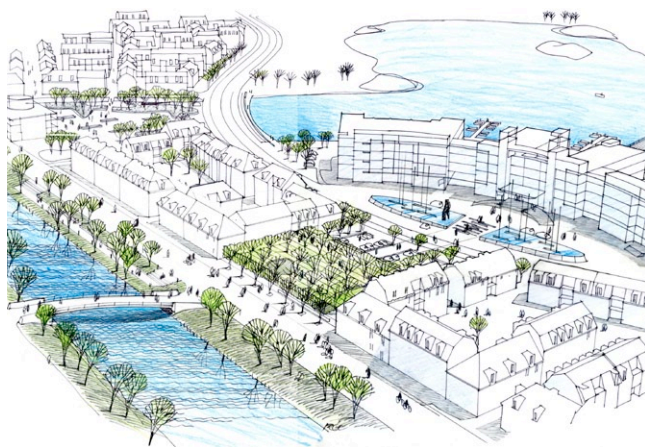
recreation area and the Buddhist temple so visitors are inspired to come to both these areas.



Original sketch of the plan for part of the thematic urban center, autumn 2002. Illustration Ulf Ranhagen.



Figure 9 The buildings in the urban center are to an increasing extent occupied by activities related to tourism and the wedding industry such as photo studios, restaurants, shops, art galleries, hair studios, hotels, real estate companies, etc., but also for cultural education, conferences and similar activities.



诺贝儿公园——为北欧国家与中国的文化和商业交流提供舞台

位于罗店新城中心的诺贝儿公园对于新城具有重要意义。诺贝儿公园设计为一个主题公园——北欧国家地理公园。目的是为居民和游人提供一个休闲娱乐的环境。同时运用比较抽象化的手法展示北欧国家的自然和文化特点，其中包括融入世界文化遗产的内容。

诺贝儿公园的总体布局采用抽象化的斯堪地纳维亚地形图。在公园内的不同部分通过景观环境设计分别表达挪威、瑞典、芬兰和丹麦的典型自然环境特点。

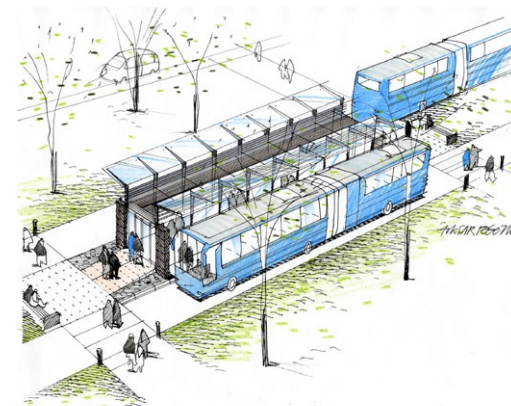
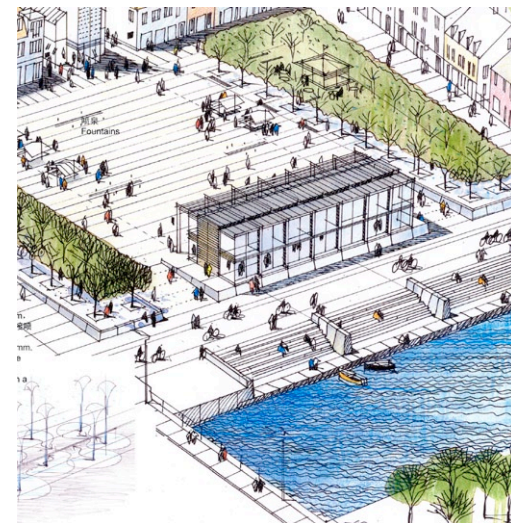




Figure 10 The thematic urban center occupies only about 10% of the area of the new town but has been most observed and discussed due to its inspiration from Swedish small towns and Swedish nature – Lake Meilaren.
Left page: Visions of the urban center from 2003.
Illustrations Ulf Ranhage and PeGe Hillinge, Sweco.
Above: The urban center today.

The importance of a network of green corridors

An overall aim of the original structural planning was to achieve 45% share of green area within the limited planning area of the new town – except from green areas and parks within the blocks. The proposal for a network of green corridors combined with the existing canals intersecting the town in both n-s and w-e directions has also been implemented to a large extent. However, in the border areas to the old towns, there are still lots of ongoing activities and old shacks and it is not quite obvious if it is possible or appropriate to replace these structures with green areas.

The original intention was to make the green corridors designed as public, green space. It is a pity that only a limited share of the green spaces are available for the public, as most of the green areas are located inside the gated neighborhood areas. The exceptions are the green areas surrounding the manmade lake, a public park with playgrounds and green areas with small gardens and walking paths along the north-south canal. The Nordic park is closed at the moment (spring 2014), but the restoration work is ongoing and the intention is to make it accessible for the public as soon as possible.

It is very important to underline that inside the gated neighborhoods (superblocks) there is an abundance of green and water space accessible for people in their daily life. This sharp divide between public green space and private or semi-private green space also in the new town is mainly historically-based and should not be mistaken for the modern trend in many parts of the world to plan gated communities only for rich people.

The critical environmental situation and the potential for improvement of the environment

The Baoshan area is not considered to be the most attractive urban area in Shanghai due to its heavy industry with the steel factory. Baoshan government is eager to change this image and is for example engaged in negotiations to relocate factories or reduce the emissions considerably.

However, many times during the year the particle content can be much higher than WHO standards in the Shanghai area as a whole.

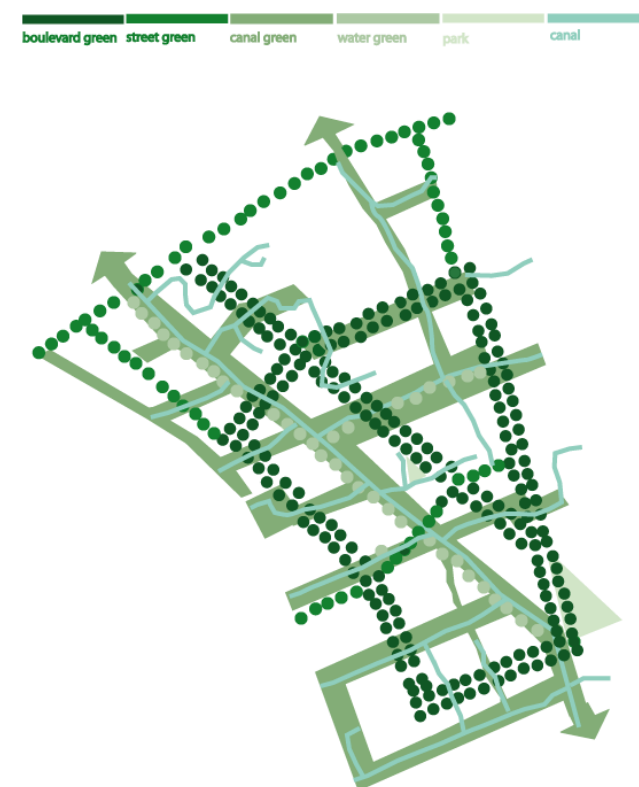
Luodian Town Planning was the first new town planning in China from Swedish side and this also initiated the development of the Sustainable City Concept in 2002 which over time has been a very important cornerstone in the Sino-Swedish collaboration, see Ranhagen (2002), (2010) and (2012).

After the first launch of the Sustainable City Concept at the WWSD in Johannesburg in 2002 there were considerable efforts from the Swedish Government to promote a further collaboration with China and Luodian Town concerning the introduction and implementation of systems solutions for energy, water and material/waste. One idea was to develop solutions that could showcase Swedish best-practice in these areas adapted to Chinese conditions. It was probably too early in the process of urbanization and the town has not introduced any specific or innovative technology. At the same time it would be possible in the future to carry out pilot projects to showcase urban systems that may be of general interest also for other small towns in China. In the central thematic areas there is huge potential to renovate the buildings with the aim of making them more energy efficient. This could be combined with local small-scale solutions for renewable energy supply and energy storage.

It is fully possible to showcase new ways of source separation of waste in order to segregate organic waste as a source for biogas production. A pneumatic waste collection system can also be introduced with a waste collection terminal in the central area easily accessible from the road. It would also be possible to establish a demonstration building for vertical farming in the Nobel Park in order to showcase new options for urban agriculture, see Ranhagen (2014). The proximity to the metro station would makes such a building easily accessible for residents, researchers and tourists.

All these solutions can be developed in an integrated way, which may be visualized in an eco-cycle model for Luo-

dian Town. After implementation of the pilot projects, an evaluation should be performed in order to define possible ways of extending the environmental profile for the entire town. The urban structure of the new town is so flexible that it would be possible to develop Luodian Town as an eco-town with sustainability features that can be an attractive example also for the planning of other Chinese small towns.



Green structure for Luodian town from the original planning 2001.
Source: Sweco.

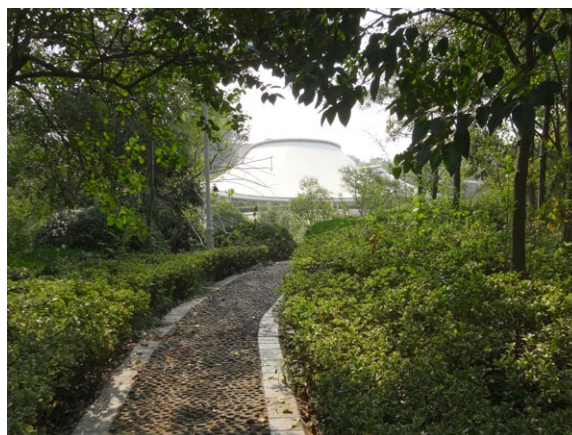


Figure 11 The 45% share of green areas (outside the blocks) are distributed on the park surrounding Meilaren Lake including the Nobel park, along the canals, smaller parks in between different urban areas, etc. Urban agriculture can be experienced along the riverbeds of the river, which runs diagonally through the town, within the both the old, small towns and the modern blocks.

Holland Village – Gaoqiao New Town in Pudong District

Background

Gaoqiao is a small fishing village which dates back over 800 years. It is strategically located near the mouth of Yangtze River and Huangpu River in a low, flat landscape featuring locks, dams and pasturelands. As a result of establishing a free trade zone, the town swelled in just a few years into a mid-sized industrial town on a polluted river. Since the Dutch port city of Rotterdam is an official sister city of Shanghai, it seemed only natural that local authorities would select a Dutch theme for the pilot urban project within One City – Nine Towns development plan. A planning process involving Dutch planners and architects was started in 2001 which finally led to the detailed plans which have been the basis for the implementation, see den Hartog (2010).

Implementation and real estate management

The real estate management is different from Luodian Town as here there is only one developer for streets and public space, service functions and housing estates named Shanghai Gaoqiao Development Co Ltd. This fact has made it possible to establish a pretty large information center for the village with models, brochures, etc., which gave a very good overview of the urban development. The context of this new town is also very different from Luodian Town as the Holland Village is a triangle shaped district of 1 km² rather than a new town. The aim was to complete the entire area by 2006. But after preparing all land and relocating all the villagers from their houses, the plan area remained empty for a long time. It was unclear whether construction could continue owing to changing policies and reluctant developers. Since 2009 construction of the housing seems to be gaining momentum again, see den Hartog (2010).

When visiting the Holland Village, we were informed by the General Manager Mrs Julia Zhu that the development was divided in 6 phases with plot ratio approx. 1.05, 700,000 sqm in total and a planned number of residents of about 15,000, with an average density of 3.27 persons/apartment

this means a total of 4,600 apartments when finalized. In 2013 there were 1,000 apartments finalized, so only a minor part of the village has been extended so far. The price levels are rising successively:

Phase 1 2006 6,500 – 7,500 Yuan/m²

Phase 2 2008 10,000 18 – 20,000 Yuan/m²

Phase 3 2010/2011 38,000 18 – 20,000 Yuan/m²

Phase 4 2012/2013 22- 35,000 Yuan/Environmental Measures (apartments) 20,000 – 60,000 Yuan/m² (villas)

Public transportation

Gaoqiao New Town is connected to Shanghai center via Metro line 6 to station Waigaoqiao north free trade zone. It takes about one hour to go from People's square (about 20 stations). The Holland Village is located approximately 1-1.5 km southwest of the station, so it takes about 25 minutes to walk from the station to the information center. I couldn't find any functioning local public transportation connection from the metro. It was a nice walk through the traditional urban environment but at the same time, accessibility is poor for commuters to the central city.

Urban Structure – socioeconomic implications

The more detailed planning and design process is described in den Hartog (2010). In accordance with the ideas of the Dutch firm Kuiper and Compagnons, the planning area was split into a City of Memories and a City of Desires. Atelier Dutch was also involved and the two offices designed one half each. The overall coordination was in hands of the Chinese Guangzhou Urban Planning and Design Survey Institute (GZPI). The two plans reveal their Dutch Style not only in detailing and material but also in the structure of the public space.

The 70-page Holland Village brochure presents the ambitions of the new town to reflect the ideas of building a town with Dutch architectural styles and features. The brochure is a comprehensive branding of the urban quarter with sentences like this: “a kind of philosophy that carries the life dreams of cosmopolis”, “closest to dreams in the city”, “build simple and beautiful life city”, etc. The Holland Vil-

lage follows the urban design of the traditional town of Kattenbroek in Holland to build “a city within a city”. The most apparent feature of the Holland town is the Holland Business Street as an almost 1 km street line with buildings in the traditional Dutch style. There seemed to be very few apartments and workplaces at the ground floor occupied at my visit (Monday afternoon), but the street is livelier on weekends.

Southeast of the Holland Business Street are both apartment blocks but also a huge villa block surrounded by a circular road. The urban structure has a human scale and also includes modern architectural styles. As there are no public spaces connected to local service functions in the housing areas there was no urban life at all, very few people walked through the town.

At the entrance of the Holland quarter (in the north corner) is the Holland Commercial Plaza with a huge building intended for city administration, business functions, medical care, experimental high school affiliated to Shanghai Normal University, a church, etc. The buildings seemed to be occupied to a very limited extent, which resulted in a totally empty urban area.

Green and water structure

A great deal of effort has been put into developing beautiful landscape features along the stream leading to Huangpu River, which is presented in the brochure as “six landscapes reflect the beauty of the grand city”. Valentine's Island that faces the Holland Business Street across the river is situated as a park in the center of the water. There is also effort to integrate smaller canals in the interior of the quarter, but with few options for accessing the waterfronts.

Environmental Measures

According to the information material available, there don't seem to be any specific measures to reduce energy demand and energy supply from fossil fuels, source separation of waste or utilization of waste water sludge. Further investigations should be made in order to get a better picture of the environmental situation. However, there are

considerable efforts to handle storm water in an ambitious way by the canal system linked to overall water bodies including the small river.



Figure 12 Overview of the model of Holland Village urban quarter in the information center of the new town.



Figure 13 Examples of different urban typologies in Holland Village.

Anting New Town – Shanghai Automobile City, Jiading District

Background and context

Jiading New City, where Anting New Town is situated, will be one of the focus areas for urban growth in Shanghai during the next few years. In 1984, Shanghai Volkswagen opened a factory, which marked the start of the Shanghai Automobile City, planned to be Asia's largest site for automobile manufacturing and trading.

The new town is planned as one small part of the new city of Jiading, which includes the huge Volkswagen factory (20,000 blue collar workers and 8,000 white collar workers) Fangtai town, Anting old town, CBD, F1 racing course and Tongji University Campus with 15,000 students and 15,000 teachers, researchers and workers.

Implementation and real estate management

The Anting New town will implemented in two phases. The first phase can be divided into two stages (stage 1 2002-2008 and stage 2 2012) with a total of 2,000 apartments (0.5 km²) Approximately 70% or 1,400 apartments are occupied and 600 apartments are still empty (Dec 2013). 60-70% of the apartments are 120 m² but there also larger and smaller apartments. There is one developer for the entire area labelled "Dessau Haus" which also reflects the architectural inspiration for the area. There is a large information center in the new town with models and with brochures and information material for marketing and branding.

Public transportation

Jiading is connected to Shanghai via Metro Line 11 to metro station Anting S and the distance from the station to Anting is about 1.5 km. There are regular connections by local buses to the metro station, so accessibility is fairly good.

Urban Structure – socioeconomic implications

Anting New Town was planned to accommodate both foreign and Chinese managers and middle-class people

related to the Volkswagen factory. Instead of faking old architectural styles, the planner AS&P opted to interpret the international Bauhaus style and the modern thinking of Walter Gropius and Mies van der Rohe. A Design Code was formulated in order to achieve a homogeneous and recognizable overall appearance under the supervision of AS&P. The plan displays some similarities with the new urbanism style used in the development of the city district Kirchsteigfeld in Potsdam by Krier and Kohl. According to den Hartog (2010), perimeter blocks and a limited building height were introduced in combination with a central market square and semi-public neighborhood squares.

The implemented area is very different form typical Chinese urban areas as the blocks were surrounded by pedestrianized public space which made it easy and comfortable to walk through the entire area. The experience was a half empty area with lots of empty space on the ground floor but also on the upper floors. At the same time there seemed to be more urban life than in Gaoqiao new town except from the market square, which was still waiting for users. In some of the blocks of the first phase, guard houses with gates had been established lately and there was thus an ongoing process to make the area more in accordance with Chinese culture.

The newest part of the new town has been inspired by the garden city ideas, especially by a sketch of Bruno Taut. This part has also buildings which are more strictly oriented in north-south.

Green and water structure

The public streets are characterized with less greenery than in for example the Luodian Town as the streets are lined with trees and with limited share of plantations. At the same time, there is a careful design of pavements, ponds, sculptures and other design elements. In contrast to this, the small canals intersecting the blocks have green slopes along the water with lot of trees. There is also an organically shaped water body surrounded by varied green areas between the first and the second phase of development. This seemed to be a popular area for fishing.

Environmental measures

Anting New Town exposes the most far-reaching environmental systems solutions among all the new towns within the One City Nine Towns Programme. The intention was to make this the first residential project in China designed and insulated according to European standards. According to den Hartog (2010), the energy consumption is half that of the current Chinese standard. It is unclear if the infrastructural system based on cogeneration and district heating presented in the branding brochure is fully realized.



Figure 14 Overview of the model of Anting New Town in the information center of the new town.



Figure 15 Examples of different urban typologies in Anting New Town.

Thames Town in Songjiang District

Background

Old Shanghai has a history that goes back further than the old city of Shanghai. During the 1950s it was earmarked as a satellite city for mass housing and industry. At present Songjiang New City has been selected to become one of the three most important satellite new cities in Shanghai. Thames town is intended to be a thematic British style new town (or actually a new quarter or a small city district) of 1 km² within the new city encompassing 36 km².

The British firm Atkins Group won an international competition in 2001 with a strategic plan for the whole new city but also including the urban design of Thames Town. The original intention was to make this quarter an attractive suburban residential environment for professors and teachers associated with the seven newly built universities of Songjiang University Town. Besides providing housing, Thames Town is also intended as a tourist resource.

Implementation and real estate management

According to den Hartog (2010) Thames Town can be seen as an entirely market-driven project. In 2004 it was honored as the real estate with the most investment potential in the Yangtze Delta Region. Since implementation, the price per square meter has risen enormously with huge effects on the surrounding areas. The central area with shops, facilities and public spaces was developed by SNCD, a semi-private developer linked to the local government. Five Xiaopus of the Thames Town were distributed to five different private developers, which is comparable to the development process in Luodian Town.

The main infrastructure, museum, local government buildings, some facilities and shops were completed by SNCD and Shanghai Henge Real Estate Co. Ltd. in 2004. A few months later, other developers started building housing and other facilities. In 2006 Thames Town was completed.

Public transportation

Thames Town is accessible by local public transport from the metro station Songjiang University Town, which is a

station on metro line 9. It takes about 50 minutes from the People's square.

Urban structure – socioeconomic implications

In my opinion, Thames Town is the thematic new town quarter that most genuinely reflects the idea of a design which is experienced as more or less identical with small town typologies in England. The organic, compact urban plan gives the impression of an organically grown urban area during many centuries from medieval time until early 20th century. The narrow pedestrianized streets with lots of small places and parks, small shops and pubs on the ground floor in combination with British building material, architectural details and sculptures makes it attractive for urban tourism including wedding photographs.

The larger semicircular public plaza with a museum, art center and a large exhibition on the entire new city development, linked to a park widening towards the lake and connected to a small island, also contributed to the touristic qualities of the area. I visited Thames Town on a Sunday with nice weather and the streets were livelier than in any one of the other new towns, but maybe there would be a more desolate impression on weekdays.

Green and water structure

As in all the new towns I visited, there is huge emphasis on using greenery and water as an element for improving both environmental and socio-cultural qualities. Within the compact urban plan there are limited green elements and small green spaces but also paved public spaces in contrast with the wider green areas including the island along the water body.

Environmental measures

According to the information material available there don't seem to be any specific measures to reduce energy demand and energy supply from fossil fuels, source separation of waste or utilization of waste water sludge. Further investigations should be made in order to get a better picture of the environmental situation.

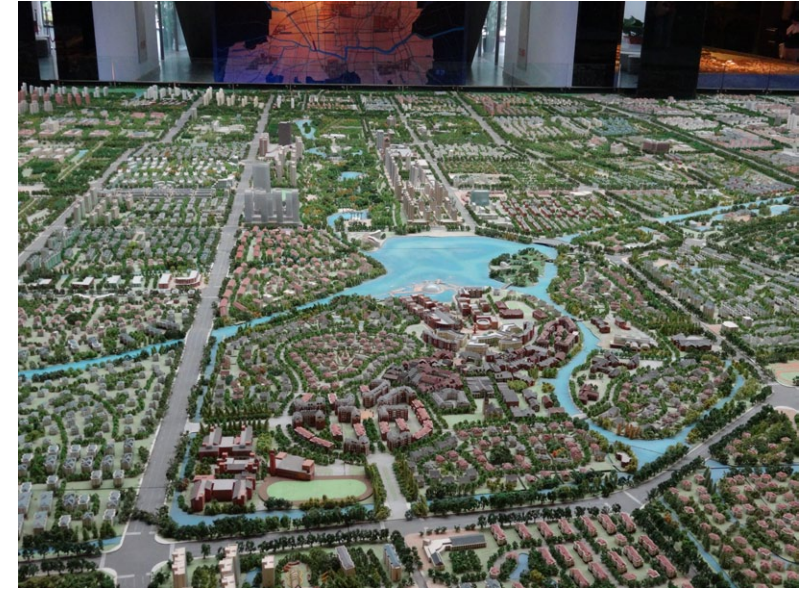
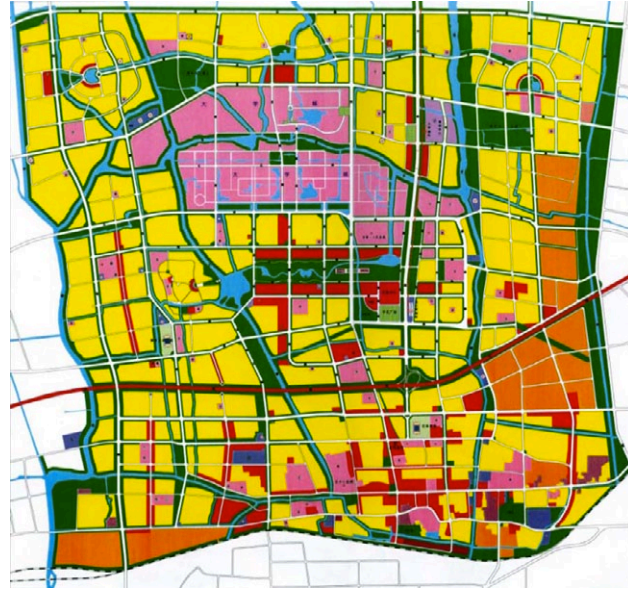


Figure 16 Overview of the model of Thames Town and plans of Songjiang new city and Thames Town in the information enter of the new town.



Figure 17 Examples of different urban typologies in Thames Town.

Puijiang New Town in Minhang District

Background

Puijiang is set on a flat landscape in the southern part of the Shanghai metropolitan area. According to den Hartog (2010) the new plan is built in a tabula rasa, since the design team didn't find any historical or contextual elements on which to base their plans.

Implementation and real estate management

The project was executed by the Shanghai's central municipal government, unlike other new towns where local district governments decided the rules. The Mayor of Shanghai made the development of Puijiang a priority, since the residents of the Expo site 2010 needed to be relocated. After winning the invited international design competition in 2001, Gregotti Associati International was requested to cooperate closely with the municipal authorities in Shanghai. Phase 1 of the development was finalized in 2008 and the implementation is planned to be finalized in 2020.

Public transportation

Puijiang is located along metro line 8 and it takes about 35 minutes to travel from People's square Puijiang Town Station. It was very difficult to reach the core of the southern part of the town by foot from the station. The highway functioned as a barrier and lots of ongoing building projects along the highway made it difficult to gain access to the already completed areas. The manmade oblong hill along the highway served as a noise protection element but it also underlined the barrier between the metro station and the town. No local public transport from the metro station was yet established (Nov 2013).

Urban structure – socioeconomic implications

According to den Hartog (2010), Puijiang has been considered a success compared to other new towns where western architects were involved. The architecture has a certain modern, pure style this is very different from the inspiration from old traditional architecture you can find in many of the other new towns.

The experience of walking in the southern part of Puijiang was not so positive. Even if the scale of buildings is moderate or small – except from some medium-high towers – the urban space was very wide and large-scale. The large 300m x 300m blocks surrounded by walls and the total lack of urban life contributed to a feeling of desolation and loneliness. None of the other new towns gave that kind of feeling as they were more compact and had conceivable urban space.

One positive experience was the establishment of some kind of small service center with shops, a café and an exhibition hall in a corner between the canal – feeder streets and the main spine. Some urban life could be discerned in that part. At the same time, this is the only public space with service functions in maybe 1 km² area and it was not sufficient to compensate for the lack of urban life in the areas as a whole.

Green and water structure

The greenery was mainly used as an element to divide the streetscape into different lanes for car traffic, bicycling and walking. No public parks seemed to be planned in the part I visited. The canals were strictly planned and were so wide that they contributed to the feeling of a too large scale in the planning. The canals had vertical sides so the water body was not easily accessible for fishing, etc.

Environmental measures

According to the information material available, there don't seem to be any specific measures to reduce energy demand and energy supply from fossil fuels, source separation of waste or utilization of waste water sludge. Further investigations should be made in order to get a better picture of the environmental situation.



Figure 18 Examples of different typologies in Pujiang New Town.

Summary of analysis of the five selected new towns

In figure 19 an overview of different important characteristics of the new towns is presented. It is not at all comprehensive but can give a glimpse at some of the differences and similarities between the five selected new towns in 2013/2014. In order to get a more comprehensive comparison, more detailed studies over time (longitudinal studies) have to be performed. It is still a relatively short time since the thematic urban centers were completed and construction is still ongoing in the peripheral parts of the new towns.

Thematic urban areas

The thematic urban areas are the most controversial parts of the new towns as they challenge accepted approaches to urban planning and urban design at present. These parts have frequently been questioned in the urban and architectural debate as they may be experienced as artificial and difficult to get developed as functioning and livable urban environments. To some extent I can agree that this is the case, but at the same time it is not possible to give the definite answer yet that this urban experiment is a total failure or not.

The Italian new town Pujiang was different from the other four new towns in this respect, as the urban character of this new town was modern and generic and didn't relate to traditional and characters of existing Italian towns. It was not possible to find a clearly defined thematic urban center in the Italian town.

In the other four new towns specific features from existing towns in the respective countries could be identified in the thematic centers. Both Anting New Town and Thames Town were located in larger new cities (Shanghai International Automobile City respectively Songjiang New City) and the thematic areas in both cases could be considered a very small part of these cities. The thematic center of Gaoqiao – Holland Village was part of a reconstruction of an old, surrounding town that was much smaller in size than both the International Automobile City and Songjiang City.

The Swedish new town has also a unique character in

comparison with the other new towns, as the thematic urban center was smaller in size than in the other towns due to the size of the new lake which encompassed almost half of the entire central urban area. The urban center in Luodian New Town is also directly related to the new town as a whole, partly designed with inspiration from Swedish urban planning. Another specific feature of the Swedish town is its connections to two small towns in the northern and southern part. As I was involved as chief planner and architect for the Swedish town, it has been possible for me to make the description and analysis of that town a little more comprehensive than for the other towns.

Public space – public life

The urban administration of the towns within the One City Nine Towns Plan has often been criticized for being unable to counteract real estate speculation and contribute to the “ghost town” phenomenon which can be seen also in other new urban developments in China. This may be true to a certain extent, as a considerable number of buildings are still not occupied while the owners are waiting for an increase in selling prices. There may also be other reasons for the fact that buildings stand empty, for example that there is still not any developed administration that can take place in the huge administrative centers for example in Anting and Gaoqiao.

However, it is very positive to experience that the thematic urban centers of especially Thames Town – but also Luodian New Town to a certain extent – have become lively touristic centers in a regional perspective and that business activities more or less flourish and expand in the thematic urban centers. The fine-meshed attractive urban structure of Thames Town seems to be ideal for establishing small-scale tourist-oriented businesses. Also, Luodian Town has a small-scale urban pattern but the three different parts of the elongated thematic urban center is not so physically well-integrated as in Thames Town. This is due to the fact that the lake – coming in as a new element late in the conceptual planning phase – influenced the configuration of the remaining urban area in this way.

At the same time, the urban thematic center of Luodian

has better connections with the surrounding urban areas than in all the other studied new towns. Most of the residential areas, and also part of the service areas, along the n-s winding road in Luodian were occupied, which contributed to a certain urban life. The strong connections between these areas and the thematic urban center seems to strengthen the urban life in the western part of the new town.

The Holland Village should have the same options for tourism but there seems to be some failure in the approach that should be further investigated. The Dutch street seems to be too large-scale and long-stretched to attract business activities. It also has poor public transportation and is not so well spatially integrated.

Anting lacks the idea of a specific thematic urban center as the whole new town reflects the idea of Bauhaus architecture and it does not specifically address attractiveness for tourists. Rather, it represents the idea of offering an attractive residential area for people working at the Volkswagen factory and other workplaces in the surrounding Jiading district. Even if there there seems to be a lot of vacant apartments and spaces for workplaces, there was a certain level of urban life in the central part of Anting New Town.

Public transportation

As for public transportation, mainly metro connections, Luodian Town is unique as the metro station is closely integrated with the thematic urban center, which makes it easy to reach that part by foot. There are also good options to reach other parts of the town by bikes and electrical bikes. The new bus station also makes it easy to reach the small, adjacent towns, the industrial area and surrounding villages. In addition, the southern part of Pujiang may be reached by foot but it is not easy as the highway serves as a huge barrier and there is a pretty long distance (about 20 minutes walk to the core of the southern part of Pujiang). Holland Village, Anting New Town and Thames Town can be more or less easily reached by local buses from the metro stations, but I estimate that the walking distance is more than 30 minutes.

Walking and bicycling

In Luodian New Town and Anting New Town there is underground parking in the thematic urban center and below the courtyards, which has made it possible to pedestrianize certain parts of the urban area. Also, Thames Town has a highly pedestrianized thematic urban center applying specific measures to prioritize walking as a part of the especially emphasized touristic features. In Gaoqiao there is mainly wide or narrow sidewalks but not at the expense of car passability. It is quite astonishing that there seems to be limited efforts to establish separated cycle lanes as Holland is such a famous bicycling country! In Pujiang there are separate bicycling lanes along main streets but only rather narrow sidewalks on local streets.

Green and water structure

Green and water structure is highly prioritized in Chinese new town planning. In all towns, maybe except from Pujiang, there are efforts to offer public green and water spaces in immediate access to the urban areas. In Luodian Town and Thames Town, green waterfronts along small lakes and islands have been developed in different ways. In both Holland Village and Anting New Town, green corridors along small rivers are characteristic features.

Pujiang seems to lack these organic natural features in favor of more strictly planned canals through the town. In Luodian Town the intersecting canals are accessible from both the public and the private space (inside the gated blocks). In addition to these larger green and water areas there are in most cases high ambitions to line up and divide the streetscape using trees, hedges and lawns.

Environmental measures

New town planning should offer good opportunities to integrate environmental features also related to energy, material/waste and wastewater. It is a pity that this opportunity has not been better utilized in planning of the new towns. In two cases efforts have been made to improve the energy efficiency of the buildings – Luodian New Town and Anting New Town. In addition to this, In Anting New Town district heating and cogeneration of heat and electricity have been discussed.

	Luodian (Sweden)	Gaoqiao (Holland)	Anting (Germany)	Thames (England)	Pujiang (Italy)
Public transport	Direct walking access to urban center from metro station	Local buss connection from metro	Local buss connection from metro	Local buss connection from metro	Walking access from metro but highway barrier and long distances
Bicycling and walking	Underground car parking in pedestrianized urban center, separate bicycling and walking lanes in other parts	Wide sidewalks in urban center, narrow sidewalks in other parts, few separate bicycling lanes	Underground car parking, pedestrianized courtyards, separate bicycling and walking lanes along streets	Highly pedestrianized urban center	Separate bicycling and walking lanes along main streets, other streets have only sidewalks for pedestrians
Thematic urban area	Thematic center partly influenced by Swedish architecture	Thematic center – copy of Dutch Architecture	The whole new town was influenced by Bauhaus architecture	Thematic center – copy of British small town architecture	No specific thematic center – modern, generic architecture
Public Space – public life	Intermediate intensity of urban life	Very low intensity of urban life	Low intensity of urban life	High intensity of urban life (visit on Sunday)	Very low intensity of urban life
Green and Water space	Publicly accessible green and water areas around the Meilan man-made lake and canals and a few parks	Publicly accessible green and water areas along the river	Green and water corridor intersecting the town, green courtyards	Publicly accessible green and water areas along river/small lake including two small islands	Limited share of parks and green areas, mainly green strips along streets
Environmental measures	Extra building insulation compared with Chinese standards	No information	Energy consumption cut by half compared to Chinese standards, district heating discussed	No information	No information

Figure 19 Matrix with an overview of different characteristics of the five studied new towns.

Final reflections

This field study of five new towns within the One City Nine Towns plan in Shanghai is limited in scope and covers some of the relevant aspects when analyzing the new town phenomenon. I am convinced that there is a need for continuous studies of both different aspects and the entire picture in depth. It is not sufficient to confine the studies to field observations as an approach, even if this is necessary. There is a need to compile a database consisting of facts regarding spatial, economic, social and ecological aspects. Different tools should be applied to provide a more comprehensive picture of the performance of and changes in the new towns over time, for example regarding:

- Institutional arrangement (urban governance) for support of a sustainable urban development.
- Land and functional distribution related to the role of primary and secondary developers.
- Occupancy, investment and financial aspects of residential and office buildings.
- The importance of the urban configuration and density for urban life and social characteristics, which can be measured by the use of space syntax and place syntax.
- Socioeconomic situation related to the urban structure.
- Modal split between car traffic, public transportation and bicycling/walking.
- The development of the thematic urban areas in relation to the surrounding urban and rural areas.
- Environmental/energy performance as for energy supply (especially renewable energy), energy demand (building certification according to Green Star, BREEAM, etc),
- Control of emission to air, water and land.
- Water situation (storm water handling, grey water treatment, wastewater treatment).
- Materials and waste handling system.

One proposal for the future would be to start up a sustainability review and renovation process of the new towns with regard to environmental sustainability, also related to socio-cultural and economic sustainability. As an example, in the thematic urban center of the Swedish New Town a pilot block (or a group of blocks) should be selected for an investigation of options to achieve building performance comparable with passive or plus building standard.

Except from analyzing better insulation methods and heat recovery, renewable energy supply using solar and wind energy, shallow or deep geothermal energy, energy storage for heating and cooling, should be considered. Options for source separation of waste water (black water and grey water) should also be investigated as well as modern ways of source separating, collection and treatment of organic and inorganic waste.

An eco-cycle model should be developed as part of a prestudy regarding these systems solutions using the Swedish experiences from Hammarby Sjöstad, and Royal Seaport Environmental Profiling Areas in Stockholm, Western Harbour in Malmö and cases from medium-sized and small Swedish towns. Vertical farming and other types of innovative urban agriculture solutions should be an integral part of a future demonstration project for sustainability.

A Sino-Swedish Project should be defined and organized in order to get political and administrative support for the development and implementation of this pilot project. The project should be performed in triple-helix groups involving universities, public bodies and the private sector in both China and Sweden.

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