Iris Belle

From Economic Zone to Eco-city?
Urban Governance and Urban Development Trends in Tianjin’s Coastal Area
Urbanization of the Earth
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From Economic Zone to Eco-city?
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Author: Dr. rer. nat. Dipl. Ing. Iris Belle
Department of Geography
University of Heidelberg
Berliner Strasse 48
69120 Heidelberg
Germany

Editor: Prof. Dr. Hans Gebhardt, Heidelberg, Germany

About the author:
Iris Belle is a German architect and geographer. In 2003, Iris moved to China where she studied Mandarin and worked with international teams on architectural and urban designs of China’s new landmark projects. Her role as a mediator between cultures and the constant struggle between state-of-the-art theory and on job pragmatism triggered a scientific interest in the nature and potential of bilateral cooperation in the field of sustainable urban planning, urban design, development and operation of new towns.

Front cover: Tianjin Eco-city from Rainbow Bridge in 2013.

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editors@schweizerbart.de

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From the Editor

Chinese megacities rank among the fastest growing urban landscapes in the word. This is particularly true for Special Economic Zones on the Eastern Coast. Namely, the regions of Shanghai and Tianjin have gone through dramatic changes, transitioning from mainly industry based economic areas to integrated new towns with hundreds of thousands of inhabitants.

This fascinating process of urbanization in China has not yet been described in the “Urbanization of the Earth” series. The merit goes to Iris Belle for providing a deep insight into the decision processes, the role of different actors planning such cities, and their power geometries. She compares an older project (TEDA – Tianjin Economic and Technological Development Area) with the new Sino-Singapore Tianjin Eco-city using varied types of available sources – locally published texts, planning studies and qualitative interviews with experts. Apart from having a perfect knowledge of the Chinese language Iris Belle was able to benefit from the network of informants and key resource persons she was able to develop during her multi-year work experience in architectural offices in Beijing. Iris Belle is uniquely qualified to discuss developmental problems of Chinese megacities from an insider’s perspective, something that is rather rare in Western publications addressing Chinese city issues.

Heidelberg, July 2014
Hans Gebhardt
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Credits

I would like to thank my supervisor Prof. Dr. Hans Gebhardt, my co-supervisor Prof. Dr. Uta Hohn, Dr. Klaus Sachs and Prof. Dr. Niklaus Kohler for their trust in the project idea, their patience in times of slow progress and their constant feedback and input. My special thanks go to fellow geographers Christian Schadt, who accompanied me for one month of field research and wrote his master’s thesis on Chinese eco-cities, and to Nadia Sbaihi for her comments and questions on an earlier draft.

This dissertation would not have been possible without the 48 experts that were ready to share their time and their opinions on urban development in China, development zones, urban planning, architectural design, construction engineering, project management, real estate consulting and building management in general and the projects in TEDA and Tianjin Eco-city in particular.

Further thanks go to all those that did not contribute directly to the dissertation but took keen interest and actively helped to extend the network of interviewees and inspired my mind, supplying me with the latest news about the Chinese planning, design and construction industries: Angela Silbermann, the Liu family, the Dinner-on-Friday-Night crowd, Alex Camprubi, Wen Tao, Chen Bo, Kevin Beard, Zhu Hong, Falk Kagelmacher, Prof. Dr. Meng Guangwen, Prof. Dr. Wang Hui, Prof. Dr. Yang Wei, ZM Liu and his team, the DAAD Beijing office, DAAD China Alumni, the team of Stadtkultur International e.V., and the German Business Circle Tianjin.

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Singapore, June 2014
Iris Belle
Preface

An evening at the TEDA Renaissance Hotel. Pedro, a Californian selling mud mask from the Dead Sea wins the lucky draw: wine tasting for two at Chateau 35 wine bar. Three young French engineers are eager to share their progress on the golf courses with a South African. The Frenchmen are setting up a factory to manufacture vehicles for a guided-bus system. They are satisfied with business in China: one line is already in operation. A Chinese construction engineer is talking about his current site supervision job for a LEED Silver accredited office building nearby in fluent English with a Boston accent. He has never been abroad. Four young Chinese women are standing together giggling before they swarm out to distribute business cards. They just teamed up and founded a catering service. Their company is sponsoring the finger food for the evening. Their high heels sink deep into the thick carpet of the five-star hotel.

I am anxious to end my conversation with a quirky American aerospace engineer. I walk up to the young American who is organising the event. He is holding a monologue in front of a group of women, dropping names and buzzwords. I squeeze myself into the circle. From the depth of my purse I manage to produce a business card. I stretch out the card towards the American. He pauses and looks at me raising his eyebrows. I pretend that the women do not exist and say: “Hi, I have been looking for you.” He takes the card and reads aloud: Diploma Engineer, PhD candidate University of Heidelberg” and adds “That’s a nice logo; that looks really old.” I pose my question “I am researching sustainable urban development, architecture, urban design, infrastructure systems and stuff that’s related to them. Who do think I should talk to?” The American nods towards a short, ageless well-groomed man dressed in a suit that is surrounded by other suited men and says: “This is the person you are looking for. He is from the Administrative Committee.” After a solemn pause the American adds: “He is the most important guy in the room tonight.”

This is China in 2009. Not Beijing or Shanghai, not even a second tier city. It’s the typical small talk at a ‘Biz Socializer’ networking event. The location is the Tianjin Economic-Technological Development Area (TEDA). The zone is 60 kilometres from Tianjin’s downtown and 140 kilometres from Beijing for those who have their headquarters in the national capital. I came here with my flatmate, who represents a German landscape design company in Beijing. When I told her about the event she was eager to join, speculating on meeting someone who might need a landscape design. Tianjin Eco-city just went into construction in 2008. Everyone has heard of the project but no one knows details. The Socializer might be an occasion to find out.

Half an hour later, drinks and canapés are finished. We leave the Renaissance Hotel. It’s a foggy November night. The stars are hidden behind a layer of smog from the industrial plants. We share the taxi to Tianjin Central Station with two other networkers. It’s a 60-minute ride. The driver takes the old road informing me that the new highway is closed for construction. Dark silhouettes of factories, mixed with residential construction sites, line the highway. Thirty years ago we would have passed fishponds, orchards, fields and an occasional village. The journey back to Beijing is another 30 minutes by bullet train. On the train we compare the business cards we have collected; a stack of about half an inch thick each. Not bad.
From 2006 to 2011 I have been visiting TEDA frequently on the most diverse occasions. My job as an architect and urban designer at a German practice brought me to TEDA first. I still recall the blue sky and the warm sun, a rare occasion as I would learn later on. Coming from crowded Beijing we enjoyed the quiet streets that separated the six-storey residential compounds in the oldest part of TEDA. Built in the early 1990s, the blossoming trees and shrubs have since grown to a size that manages to shade the entire street. Back at my desk at the Beijing office I carefully studied the client’s project brief and was greatly surprised that those lovely quiet six-storey neighbourhoods were to be demolished and replaced by luxury 13- to 28-storey residential towers, while other plots of land had not been developed yet and were lying empty. This is when I realised how little I knew about China, the country I had been living in for three years, how little I knew how my work as a designer fits into the big picture of China’s spectacular development and how little I knew about the hopes pinned to the projects that I would design. Who was commissioning them? Who would live, work and shop in these buildings? And how would they change the future of China’s cities? Eager to understand the bigger picture, I quit my job and enrolled as a PhD student, determined to find the answers to my questions.

The following book is a journey through China’s recent era of rapid urban development. As such it deals with many aspects: defining and delivering planning targets, trading land for investment in industrial operations, skills and knowledge. The aspect that still fascinates me most is the tapping of individuals and organisations in existing hierarchies to build networks and to sense market opportunities, which coordinates every contribution, big or small, to piece together new cities. The people that have supported my work on the topic and have generously shared their opinions and contacts have helped to unfold the mechanisms that tie actors from different disciplines, industrial sectors, generations and continents to one place for a definite or indefinite timeframe, with the promise that their contribution to its urban or industrial processes will be rewarded in some manner.
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3.4.1 China’s legal system of urban planning

It is impossible to talk about the spatial development of a new town in China without knowing the legal framework that regulates urban planning, urban design, architecture and construction. The urban zoning, urban planning and detailed design of both TEDA and Tianjin Eco-city followed the national and local rules set out by China’s Urban and Rural Planning Act. Academics as well as planners from China’s leading state-run planning institutes constantly monitor and discuss the administrative systems of urban planning and urban construction (Wu & Zhang 2007; Qian 2009; Yang 2009). In this way, not only the profession of urban planning but also the framework for plan formulation and implementation can respond to new challenges. The following section describes the urban planning framework and how it has guided the planning process for TEDA and Tianjin Eco-city. How has the planning framework evolved over time and does its recent version show features that facilitate the implementation of sustainable planning?

China’s legal system of urban planning as it exists today is made up of a horizontal and a vertical structure (Figure 21). The horizontal structure consists of the main planning laws: the Urban and Rural Planning Act (renmin gonghe guo chengxiang guihua fa; January 2008)\(^{15}\), the Method for Formulating Urban Plans (Chengshi guihua bianzhi banfa; promulgated by the Ministry of Construction, now MoHURD, in April 2006), the Tianjin Urban Planning Regulations (Tianjin shi chengshi guihua tiaoli), the Tianjin General Urban Master Plan (Tianjin shi chengshi zongti guihua; 2005-2020), the Tianjin Standard for the Formulation of Urban Master Plans for Districts and Counties (Tianjin shi quxianshi zongti guihua bianzhi biaozhun), the Standard for the Administration of Land-use Planning in Binhai New Area (Binhai Xin Qu tudi liyong guihua jihua guanli banfa; 2009) and the Binhai New Area Economic and Social Development Programs of the 11th Five-Year Programs (Binhai Xin Qu guomin jingji he shehui fazhan di shiyi ge wu nian guihua gangyao; 2006-2010).

The vertical structure provides for the lower levels of state administration to follow the orders of the superior levels in further detailing and implementing the laws. The different levels of administrative hierarchy respectively formulate the national, provincial and local (city, district and county) plans. Planning at each level covers the geographic dimension (national, provincial, municipal and prefecture) and special functions (by sector, by ministry and by trade). In force are varying regulations that specify methods for implementing urban plans, the administration of land-use rights and technical norms valid for specific sectors regardless of administrative hierarchy. Related legislation include laws such as the Land Administration Law (1998), Environmental Protection Law (1989), Water Law (2002) and the Construction Law (1998).

In the case of TBNA, the State Council and People’s Congress coordinated the planning together with the Tianjin Municipal People’s Congress. The vertical administrative structure hands down general plans, special plans and regional plans to the next level. In practice other levels of plans can be added to the three levels mentioned above. This was the case when in 2010 the Tianjin Binhai New Area Government was established. The

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\(^{15}\) The first Urban Planning Law was promulgated in 1990. It was replaced in 2008 by the Chinese Urban and Rural Planning Act (Yang 2009).
specifications for the individual plots of land are laid out in the Detailed Plan (‘xiangxi guihua’). The Detailed Plan comprises two different sets of plans, both of which have to be approved by the planning and construction bureaus of the Administrative Committee of TEDA and Tianjin Eco-city respectively. Those plans are the Detailed Development Regulatory Plan (‘kongzhixing xiangxi guihua’) and the Detailed Construction Plan (‘xiujian xing xiangxi guihua’).

Formulating plans

Urban planning is administered by the urban planning administrations of the respective government levels (Figure 22): The Ministry of Housing and Urban-Rural Development (MoHURD, national level), the Bureau of Construction and Planning (provincial level or directly administered municipality) and the planning and construction bureaus at the local level. At the national and municipal levels, institutes of urban planning and design – a legacy of the planned economy – exist until today. They are state-run planning institutions that hold planning qualifications and employ registered planners. Privately owned planning and design companies only began to emerge in the 1990s. They are usually small in size and do seldom employ the required number of registered planners required to submit statutory plans. Since statutory plans can only be submitted by registered planners, private planning and design companies usually partner with state-run institutes.

3.4.2 Planning TEDA: formation and growth of a new town

Planning TEDA has followed a great vision but was at times limited by the confidence of investors and the judgement of administrators. According to a senior urban planner, the initial planning of TEDA did not follow the rules of urban planning in a very orthodox way, simply because at the time, the task of development zone creation was not yet institutionalised and many decisions had to be taken by gut-feel. The legal framework for urban planning had existed already but the Chinese new towns of the pre-reform era had very different requirements (Interview 5). The size of land lots and the morphology of the street grid partly reflect TEDA’s incremental development. A TEDA official, who has been participating in planning TEDA’s expansion and urban upgrade since the 1980s, explained that planning started at the southwest corner. From there TEDA grew eastward plot by plot. The plots in the west of the industrial and residential districts were developed first and were partitioned in a rather irregular fashion making up significantly smaller lots than lots in the east developed later (Figure 23). The reason for this is that with age TEDA attracted increasingly bigger investors, both in terms of industrial plants and in terms of residential estates (Interview 12). This observation underpins the close relationship between the spatial planning of TEDA and the new town’s historical context marked by different periods.

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16 “Individual planners should be registered to MoHURD by passing a registration exam. They are not allowed to perform planning services on an individual basis but should join a corporate planning-service provider to do so. A planning service provider who operates within China should also be qualified by MoHURD to obtain a special certificate which specifies requirements on its plan-making activities, including the number of registered planners and other professionals” (Yang 2009).
of time, each offering planners a specific set of opportunities and constraints. Officials of the TEDA AC divide the development of TEDA’s urban layout as well as the transformations in the constellation of TEDA’s tenant companies into three stages: First, formation (1984-1991); second, rapid growth and expansion (1992-1999), and third, integrated urban development (2000 onwards) (TEDA Administrative Committee 2009, p. 31-32).

First stage: formation (1984-1991)

During the first stage, land development was the centre of attention. The construction and industrial sectors accounted for most of the economic activity. Urban functions were few. According to an interviewee, who at the time of TEDA’s formation worked as a real estate salesperson for the TEDA Corporation (Interview 29), most workers still lived outside the zone, despite its poor connection to the region, taking upon themselves several hours of commuting on bumpy roads per day. In 1991, the start-up area of 4.2 square kilometres was completed. The first enterprises that registered in TEDA were Chinese. The most prominent example was the Tianjin Pipe Corporation.
While SOEs could create employment and bring in tax revenue, their activities in the zone did not help TEDA achieve its main goals: the inward transfer of foreign technologies and management skills, production for the world market and foreign currency earnings. It was easy to bring SOEs to TEDA, but the aim was to convince western companies that producing in TEDA would be to their advantage. Therefore, mutual trust had to be established. At that time, for ideological reasons, some Chinese officials still had reservations towards western firms. The west symbolised capitalism and less progressive officials were uncomfortable admitting foreign companies into China. But, a high degree of westernisation was seen as needed to generate foreign direct investment (FDI) and to help acquire advanced technologies. Without high-tech production, TEDA would hardly be able to export to the world market. That was why incentives were created to lure companies from technologically advanced countries to invest in TEDA. In 1987 negotiations with Motorola, the first western investor, started and the contract was signed in 1992.


During the second stage, industrial development continued and urban development gained importance. By the mid 1990s, TEDA had established a cluster of tenant companies. The percentage of high-tech enterprises was increasing and the land which had been slated for development in the 1980s was quickly absorbed by market demand for industrial real estate. Economic growth furnished the public administrators with budgets to spend on public facilities. Urban functions started to diversify. The foundations for the science and education districts were laid and the first ideas surfaced to open in TEDA higher education facilities that would train staff for local industries and develop synergies with TEDA’s tenant companies in research and development. At the end of the 1990s, Nankai University, one of China’s leading universities, was won over to open a branch campus in TEDA. The TEDA College Nankai University project started to materialise in 2000. Presented with a larger choice and variety, foreign investors began to press the TEDA AC to make special concessions in order for them to invest in TEDA. Some future tenants, such as South Korean microchip producer Samsung, made it clear that the location of TEDA as it was defined by its early 1990s border did not suit the company’s needs. Afraid to lose the possible investment to competitors and eager to strategically occupy land for future expansion, TEDA began establishing ‘sub-zones’. The sub-zones were geographically disconnected from the original location, which has since been called TEDA East. During this stage of rapid growth and expansion three sub-zones17 were established: TEDA - Yat-sen Scientific Park (YSP); TEDA - Microelectronic Industrial Park (MIP) (Xiqing) and

17 In 2010, TEDA consisted of seven zones: (1) TEDA East, the original zone set up in 1984 with an area of 40.8 km²; (2) TEDA - Yat-sen Scientific Park (YSP) set up in 1996, covering 3.41 km² in 2010; (3) TEDA - Microelectronic Industrial Park (MIP) (Xiqing) set up in 1996 covering 2.34 km² in 2010; (4) TEDA North - Chemical Industrial Park set up in 1996 had reached a size of 28 km² before relocating to Tianjin Nangang District in 2010; (5) TEDA West, established in 2000 and expanded in 2003 with a planned area of 48 km² of which five km² had been built up in 2009; (6) TEDA - Microelectronic Industrial Park (MIP) in Jinnan County established in 2003 and (7) Nangang Industrial Zone, set up in 2009, with 3.41 km² of built-up area in 2010 and a total planned area of 200 km², of which 162 km² is land and the rest are water-beds (TEDA AC, Report no date).
Table 7: TEDA East*: Figures
Source: investteda.org, TEDA Construction and Development Bureau 2008

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<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Number of permanent residents (2009)</td>
<td>168,700</td>
</tr>
<tr>
<td>Number of employees (2009)</td>
<td>380,500</td>
</tr>
<tr>
<td>GDP (2009)</td>
<td>127.40 billion RMB</td>
</tr>
<tr>
<td>Gross industrial output value (2009)</td>
<td>420.21 billion RMB</td>
</tr>
<tr>
<td>Gross export value (2009)</td>
<td>13.34 billion USD</td>
</tr>
<tr>
<td>Accumulated number of approved foreign-funded enterprises (2009)</td>
<td>4,634</td>
</tr>
<tr>
<td>Accumulated total investment (2009)</td>
<td>53.80 billion USD</td>
</tr>
<tr>
<td>Accumulated number of approved domestic enterprises (2009)</td>
<td>8,830</td>
</tr>
<tr>
<td>Total land area (2007)</td>
<td>40.8 km²</td>
</tr>
<tr>
<td>Land-use by functions (projected)</td>
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</tr>
<tr>
<td>University campus, parks &amp; water bodies</td>
<td>3.1 km² (7%)</td>
</tr>
<tr>
<td>Residential, commercial and public Industrial</td>
<td>11.3 km² (28%)</td>
</tr>
<tr>
<td>Total</td>
<td>26.4 km² (65%)</td>
</tr>
<tr>
<td>Built-up area in (2007)</td>
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</tr>
<tr>
<td>Total</td>
<td>27 km²</td>
</tr>
<tr>
<td>Urban district</td>
<td>6 km²</td>
</tr>
<tr>
<td>Industrial district</td>
<td>21 km²</td>
</tr>
</tbody>
</table>

*) TEDA East refers to the territory originally designated for development. Starting from the 1990s TEDA established branch zones that also fall under the TEDA banner. This book’s research mainly focusses on the territory of TEDA East, which is the oldest TEDA cluster with the most developed urban district.
Fig. 24: View from TEDA Hotel on TEDA residential district in 2010

Fig. 25: Promotion model for flats in Tianjin Eco-city in 2011
TEDA North Chemical Industrial Park. Each of these zones was designed to host tenants from a special economic sector.

Third stage: integrated urban development (2000 onwards)

Since 2000, TEDA has been strategically optimising the composition of its tenant companies and reducing the overall impact of the economic activities within TEDA on the environment. In 2008, TEDA had 168,700 permanent residents and employed 380,500 people. In the same year, TEDA’s GDP was 106.5 billion RMB and the number of approved foreign-funded enterprises was 4,634 while the number of domestic enterprises was almost double at 8,830. Accumulated total investment that year reached 275 billion RMB. The total land area of TEDA East – the territory that was originally slated for development – today is 40.8 square kilometres. These statistics do not include other TEDA sub-zones that have been set up elsewhere in Tianjin Municipality and that are not spatially connected with the original zone. In 2009, these sub-zones made up an additional 8.4 square kilometres of built-up area. A total area of more than 200 square kilometres is earmarked for future development. Table 7 shows the development figures for TEDA East in 2008.

At the time of the field study, construction of TEDA’s new Modern Services District (TEDA MSD) was nearing completion. An insider to the real estate and property management sector (Interview 16) predicted that over the next couple of years TEDA would
undergo a change from an industrially oriented economy to one based on services. This prognosis drew on statistics on constructed floor space specifically in the TEDA MSD:

“Positioned to be TEDA’s Central Business District, several office towers are now under construction to the south of TEDA’s 2nd Avenue. Different from many other projects, the specifications of these projects will meet standards mimicking those of first-tier cities” (Interview 16).

Since the turn of the millennium, TEDA has directed efforts toward the tertiary sector, including hospitality, sports and retail as well as a modern service economy that focuses on financial services, insurance and outsourcing. The first four-star hotel opened in February 1999. In 2004, the Renaissance Tianjin TEDA Hotel and Convention Centre, TEDA’s first five-star international hotel and operated by the Marriott, opened its doors to cater to the needs of international businesspeople. In April of the same year, the TEDA Soccer Stadium and the TEDA International Conference and Exhibition Centre were inaugurated. Both venues are part of the TEDA Promenades, a comprehensive development that hosts commercial and retail facilities. Service and retail still account for a negligible share of the economy, but is highly visible within TEDA’s urban district.

The R&D biomedical industry is another new target sector that functions the opposite way. It has the potential to create high revenue relative to the surface it occupies. R&D incubators – combined office and lab buildings – offer small units for rent to companies at
In terms of urban planning, the hierarchy of state bureaucracy is formalised in the Town and Country Planning Act which sets out the sequence of plan formulation. The system works vertically across administrative levels and horizontally across sectors. Initially, in both cases studied, the hierarchy of plan formulation was followed. The idea to build TEDA and Tianjin Eco-city originated at the central government level and Tianjin was chosen as the location. The provincial/municipal authority became involved to set up a local administrative branch and to oversee the integration of the project on the regional level. In the case of TEDA, a clear process of how to start developing an urban industrial new town did not previously exist and the Tianjin Municipal Government was entrusted with the task. A senior urban planner of a planning institute linked to the central government (Interview 5) recalled that, in 1984, the land-use changes for the TEDA site had not been handled in a strict manner if today's standards were applied. At that time, little experience with development zones existed and administrators had to improvise. In an interview for the TV documentary ‘Footprints,’ Zhang Zhaoruo, former vice-chairman of both the Tianjin Municipality Standing Committee and the TEDA Administrative Committee, recalled the situation TEDA faced in early 1984, when he was transferred into the team in charge of setting up the development zone:

“Many questions were unclear. ‘Where would the money come from? Where would the projects come from? How to build up the construction planning system? How to manage and administer the development zone?’ [...] First, we had no people, second no money and third no policies. I asked those commissioners from the municipal committee who had appointed us to give us more power. We needed power over the land in order to shape the future of this land. We needed to have the combined rights and unified powers. Nothing like the old system of planned economy where each committee was entrusted with the same land but would administer only one [functional] sector! Our leadership would jointly manage this piece of the development zone, with full power and no interference. They [the Tianjin Municipal Government and the mayor] gave us full power: planning authority, construction authority, project approval authority and land transfer authority. For this piece of land they transferred all these authorities to us. Only like this we were able to build
the development zone into a highly effective region” (Zhang Zhaoruo featured in Zhou 2006).

This episode demonstrates that in addition to the legitimisation of power through the people other requirements factored: financial capital, managerial and administrative skills and technical knowledge. But the central government was not prepared to take huge risks and venture by spending its own resources. State coffers were empty and officials were not trained for the situation; third-party funding – foreign direct investment – and learning-by-doing were the pragmatic solutions at hand. Ideological questions at this time were not fully solved, but the geographic position of the early SEDZs far from populated areas eased a path to some independence. The central government pointed to the lessons learned by the Shenzhen AC four years prior to TEDA’s establishment. Based on the positive experience and on the fact that TEDA was one of 14 Economic and Technological Development Zones that were set up simultaneously, the central government granted relative autonomy to the TEDA AC. ‘Decentralisation’ began as the central government allowed local officials to gradually fill the space of opportunity created. The interviews revealed that the partial autonomy in decision-making sometimes resulted in the conflicting ways TEDA and Tianjin Eco-city are today instrumentalised by actors from different levels of state hierarchy.

In order to get a better picture of why it is sometimes difficult to reconcile economic with social, cultural and ecological goals it is important to understand the different interests that exist at the multiple levels of decision-making.

Interests of the central government: strategic nation building

The interests of the central government are supposed to be strictly related to the benefits for the nation as a whole. Benefits the central government expects from SEDZs include building up new knowledge through cooperation and innovation, earning foreign currencies, establishing new forms of urban life and creating economic clusters at regional scales. This has led the central government to yield power to the local ACs. At TEDA, three imperatives behind the open-door policy were implemented: create revenues, transfer technology and management skills into China and build a market economy. The test-bed character of the zone has been extended to other sectors such as the creation of circular economy in early 2000s, and enticing service sector industries such as outsourcing and insurance in the late 2000s.

The role of the development zone as a laboratory continues in the case of Tianjin Eco-city. The nature of the experiment has shifted from testing an economic model to testing an integrated model of economic, social, ecological and cultural development. “Model eco-city new town”, “practical, replicable, scalable” are the buzzwords used to describe the project. The list is extended by “economic viability”. This aspect of self-sufficiency also touches upon the difficult question of the size and quality of the hinterland in terms of environmental carrying capacity, institutional thickness, social and cultural capital as well as location. All of these elements are beyond the control of the local level administration, sometimes even beyond the control of the provincial/municipal government.

Today, the central government only interferes to steer matters of regional and national concern. The establishment of TBNA can be seen as evidence of nationwide coordination
of region-building. A distinct industrial composition of China’s geographical regions that spans provinces is a great concern. To this end the central government has the last say when it comes to extraordinarily big industrial investment projects (Interview 18). Discounts on state tax and production caps in special sectors are other tools used by the central government to avoid creating overcapacity in certain industrial sectors. For ambitious projects at the scale of TEDA or Tianjin Eco-city to be effective, it is important that the central government continues to act as a regulator on the national level. A senior project manager said:

“This project is not that far developed [meaning Tianjin Eco-city in summer 2010], but the government is paying tremendous attention to the action. This is good. Once the government cares that means there will be sufficient funds for the project to carry on. And it will be subject to constant supervision of the government. If it would be a municipal project the development would not be so strong” (Interview 36).

In the case of Tianjin Eco-city, the entire project was embedded in a region that had already been selected as the destination for major infrastructure stimulus. This needs to be taken with a grain of salt, as the venture was pre-programmed to end as a success. The goal to create a replicable model at Tianjin Eco-city might, however, be compromised by the degree of attention that the project receives. If the model were to be replicated, the central government could not be expected to pay equal attention to a number of less-developed regions of China simultaneously. Lessons were learned in the late 1990s when SEDZs started to spring up in a number that was so large that it created a formidable overcapacity of industrial land that was waiting for development and not enough foreign investment was available to meet the supply. The competition between locations showed that horizontal collaboration across administrative hierarchies is challenging. In the case of Tianjin’s coastal area, this problem was addressed and tackled by the central government which decided to do away with administrative boundaries within the area and create a region that is administered by a single regional government. This is, however, a rather recent phenomenon and it is still evolving. Hopes are that the restructuring will lead to a better layout of the area’s functions in space. A senior urban planner said:

“This unification is an extraordinarily beneficial thing. At the moment a lot of functions are difficult. The business district and the industrial district are too close to each other because they were under the authority of different governments and each had its own idea. But now an accord can be reached on the basis of the whole area” (Interview 31).

Issues about the quality of shared resources such as river water, public transportation or even the coastline make coordinated planning across administrative boundaries necessary. For neighbouring local governments it is often difficult to strike agreements as they are fierce rivals in the quest for investment. Cooperation between different administrative units under a long-term strategy, for example to reinstate the regional eco-system or create a regional network of public transportation, takes time before results will become apparent. Under such a model, credit cannot be given to one single political leader nor can
concessions to other administrative entities be regarded as proof of leadership weakness. Thus such projects often have little attractiveness locally and can only be initiated at a higher administrative level.

Interests of the municipal government: boosting the image of the municipality as a destination for investment and talent

The Tianjin Municipal Government is in charge of commissioning, approving and drafting general master plans and resolving land issues within its boundaries. The stake of the Tianjin Municipal Government is less obvious than that of the central government. A senior urban planner paused before venturing an answer:

“... let me think ... first this is a national duty, right? For Tianjin the primary goal is to ensure that the whole thing will proceed smoothly and will not come to a halt” (Interview 30).

The quote shows that the success of a project does not depend on central government involvement alone. Clearly, the municipal government is eager to excel in delivering the project: that is, to complete project stages in a timely manner, within budget and in accordance with legal regulations. The competition between the five locations for the Eco-city and especially the fact that Tangshan Municipality, which lost the bid to Tianjin, has begun constructing an Eco-city with the help of the Hebei Provincial Government shows that there is more importance to a demonstration project of this size than merely executing orders of the central government. A few of the urban planners interviewed pointed out that Tianjin Eco-city was in some sense a real estate project that could bring money to Tianjin in the form of land deals, property development and prospective tax revenues from the urban and economic activities that are to take place in the area in the future (Interviews 5, 6, 30). One urban planner of a national planning institute noted that in recent years, it had become harder for municipalities and provinces to get approval for new town developments from the central government. Reasons included the loss of farmland and sprawling urban development caused by new town developments. Branding a real estate project as a pilot ‘eco-city’ or a ‘high-tech’ zone would make central government agencies more inclined to approve the project (Interview 5).

Direct profit from real estate transactions and fiscal profit from new industrial activities are two benefits for the municipality. Hosting a pilot project takes the venture to the next level. The municipality that undertakes a pilot project – be it an Eco-city, a circular economy project, the upgrading of existing building – is perceived as modern, avant-garde, forward looking and progressive. The pilot project puts the municipality in the spotlight of public attention and, with a clever marketing strategy, ultimately boosts the image of the city. If multinational companies are involved or bilateral technical cooperation exists, this might even enable the municipality to share the stage with global cities. As branding, marketing and advertising absorb considerable amounts of attention in this context, it is questionable how much effort is really spent to balance the economic, social, cultural and ecological aspects of the city. A senior urban planner pointed to the danger that superficial design could create an impressive looking urban environment that is not
Analysis of governance mechanisms

sustainable but would be good enough as a tool for city marketing (Interview 5). The emphasis on building style and visual characteristics over functionality is looked upon very critically by observers. A senior project manager illustrated the decision-making hierarchy and interests of government departments when he talked about architectural style:

“Small projects, like residential developments in the Eco-city can be decided directly by us [the developer]. Projects in important locations like in the city centre or landmark buildings need the approval of the municipal leaders: the mayor responsible for construction, the city mayor or the vice mayor. The National Development and Reform Commission does not care for style. The Ministry of Construction would not care. They are too far up in the hierarchy. The highest hierarchy who cares for style is really the mayor responsible for construction” (Interview 36).

Competition for political office is another facet. Leaders who manage to achieve visible results during their time in office qualify for promotion. The importance of clever leadership has increased since the 11th Five-Year Program designated Tianjin Municipality as a main destination for infrastructure stimulus from the central government. The Tianjin Municipal Government reacted with a reshuffle of its top ranks. In 2009, Pi Qiansheng, a vice-ministerial-level official in the Tianjin Municipal Government and the Party Secretary of TBNA, whose career was closely linked to the rise of TEDA, was sacked over corruption allegations. He was replaced by He Lifeng, who had earned merits in Xiamen, a port city in southern China, where he oversaw the establishment of an animation park. Interviewees were very much aware of the relationship between the quality of leadership and the speed of development. A senior project manager of a real estate development company commented:

“In Tianjin the development speed has been that fast only in recent years. Although the policies have been quite good the development was rather slow for many years. In recent years, some leaders were replaced: the mayor and the party secretary. Now the development is a bit faster than before” (Interview 36).

A senior project manager of an urban planning and design office specified:

“We [a team of urban designers who were commissioned with the design for the National Animation Centre at Tianjin Eco-city], went on a field trip to Xiamen to study their brand new animation park. This park was built in only a year. He Lifeng, who had been in charge, now became the leader of TBNA, is the previous Party Secretary of Xiamen” (Interview 1).

The case of the National Animation Centre that moved from the drawing board to the construction site in only one year’s time reveals that the hierarchical chain of decision-making

24 According to a first draft of the general master plan, the location of today’s National Animation Park was originally earmarked for higher education. According to an urban planner (Interview 6) the function was changed after He Lifeng had become Party Secretary of TBNA. The Chinese Ministry of Education remained the main developer of the land.
is not rigid at all. In certain cases, for the sake of greater efficiency and speed, local leaders shortened decision-making chains putting the Party Secretary of TBNA solely in charge of approving the project’s design. He did not need to consult the Tianjin mayoral office. In this special situation, the leader in charge had previously proven his skills with the successful management of a very similar project and thus had the necessary professional authority. A senior official of the Tianjin Eco-city AC saw competition between locations as the reason for such uncommon practices:

“The Tianjin Municipal Planning Bureau set us a deadline. The start-up area [30 hectares] needs to be completed in three to five years – if possible even faster. Caofeidian [in Tangshan Municipality] was one of the possible cities when choosing the location. It was not chosen, but they [the provincial and municipal governments] still decided to construct a Hebei Province Eco-city. Now they started cooperation with Sweden. The dimension is very big. Their start-up area is twelve square kilometres. Their start-up area is to be completed within two years time. That’s a competitive situation. This is why we have to increase our speed” (Interview 2).

Administrative Committee: attracting investment and maximising fiscal and economic revenue

Local development is driven by local officials. Although requirements for political cadres concerning leadership skills and technological and managerial knowledge are increasing, local officials are not really accountable to a public electorate but get promoted largely based on merit and achievements within the Communist Party system. Many local officials of the Administrative Committee see their participation in new town projects as a stepping stone in their career.25 This creates problems. Political leaders are eager to concentrate all their efforts on development projects that will show visible results within their three to five years in office.

Newly created urban eco-systems and urban socio-cultural systems reach a stable state only over a relatively long period. Hence the building of such systems over time does not earn officials any instantly measurable career benefits. An urban designer and senior project manager (Interview 1) as well as a project manager for a local real estate development company (Interview 36) described government officials as extraordinarily committed to the Tianjin Eco-city project. They suspected the officials’ eagerness was driven at adding a project to their portfolio that exceeded the expectations of their superiors in measurable aspects: planning and construction duration, visual appeal and the amount of investment attracted. Specifically the latter was not hidden from investors. A senior financial manager of a TEDA company remarked:

25 To give one example: former head of the Chinese Ministry of Commerce Bo Xilai was promoted to higher posts after serving as Deputy Secretary and Secretary of the Party Committee of the Dalian Economic and Technological Development Zone.
“They [the AC] want to take the money, they want to work with that money, they want that their staff to be employed, they want to have many companies there, they want to have capacities there. To sum it up they just want to have the money” (Interview 15).

In general, officials of the planning and construction bureaus have developed a good understanding of how to maximise fiscal and economic returns. In this aspect, their power and autonomy from other administrative hierarchies to allocate land and thus reasonably distribute economic activities in space is instrumental. Dealing with the uncertainty of an investment environment that is subjected to the moods of the global market is one of their biggest challenges.

During TEDA’s formative years, the AC had only very limited alternatives when it admitted enterprises into the zone. Whoever wanted to invest was welcome and for some especially promising investors – MGM or Samsung were given as examples in chapters 3.4.2 and 3.5.2 respectively – regulations and development strategies were adjusted. Today, the situation has improved thanks to the great demand for industrial space and thanks to better experience with preferential policies. At the same time technologies and concepts about the circular economy – which have been known in China since the 1970s – are studied. Since the officials of the AC double as administrators and salespeople for urban and industrial space, announcements of using the latest technologies have to be interpreted with caution. Although a sincere intention toward implementation might exist, the capacity for it might be absorbed by sophisticated marketing campaigns.

4.1.2 Hierarchies among State-owned Enterprises

“TEDA Holding is a company. Making money is one of its leaders’ main tasks. We [the TEDA AC] are in charge of the general administration. Making money is not our task” (Interview 18).

“If the director [of an SOE] is doing well, he can be promoted to become city mayor” (Interview 36).

One of the fundamental functions within hierarchy is the power of a higher level to allocate resources for projects. In the case of TEDA and Tianjin Eco-city, the ACs have been entrusted with the administration of state resources, such as land and labour. They are expected to attract the investment necessary to further develop the zone, improve the quality of its industrial output and raise the quality of its urban district. This is perfectly in line with the principles of an entrepreneurial city. However, the administrators could only do so, with the support of SOEs.

Especially during the formative years of TEDA and Tianjin Eco-city, SOEs invested or are investing heavily in the preparing the land and developing infrastructure and buildings. SOEs were instructed by their owners – governmental bodies of different administrative levels – to extend their production facilities into TEDA and Tianjin Eco-city. The first SOEs that set up shop in TEDA in the 1980s were probably not perfectly happy with the decision.
Some top-level staff of SOEs in Tianjin said that in the formative years when TEDA was still experimenting with uncertain results, colleagues that performed badly were seconded to join the TEDA branch. Today, the attitude has changed. SOEs welcome government-initiated new town projects as an opportunity to grow and expand their businesses.

In the case of Tianjin Eco-city, the necessary funds come in the form of bank loans or capital from companies that participate in the development. The participation is limited to a number of SOEs and banks who are at an appropriate level of hierarchy in the administration system (Figure 36, chapter 3.5.2 and Figure 40, section 4.2.4). According to an employee of a state-owned real estate development company, the member companies of the Chinese consortium (TEC) partially behind the Eco-city, were eager to take part in the project. The project enjoys government support and the risk of failure is considered low. The invitation to participate was so well received among the banks that the government imposed controls on how much money these Chinese banks could invest in development in order to prevent a surplus of capital (Interview 36).

A certain hierarchy seems to exist among the member companies of the Chinese consortium. The same interviewee explained vigorously why BMT, for instance, was not among the listed shareholding member companies of the Chinese consortium. BMT, a subsidiary owned by TEDA Holding, answers in the first place to the board of directors of TEDA Holding who in turn are controlled by the Tianjin Municipal Government. BMT’s subordinate position within this hierarchy prevented it from joining the consortium (Interview 36).
7 Epilogue

It is the summer of 2012. I am sitting at a new slim desk called MALM – a piece of IKEA furniture recommended for small spaces. The chair is new as well. It is the same model I had left behind in Tianjin. In the meantime I have moved to Singapore, the city where many of the ideas that were to be implemented in Tianjin Eco-city had their origin. On the slim desk sit three thick stacks of business cards: the trophies of five years of research on Tianjin’s new towns.

I look out of the window. I am 24 storeys above the ground. The window frames a panorama. The green campus of the National University of Singapore stretches out in the middle ground. Beyond the campus I can see the cranes poking through the trees on Kent Ridge indicating the location of the container harbour. They almost blend into the grey sky. Part of the view is blocked by the opposite building that rises 40 storeys – a new type of apartment complex designed by the Singapore Housing Development Board, an authority that has spent the past 30 years on optimising mass housing. In the foreground lies a geometrical green and grey pattern like a piece cut and pasted from a deconstructivist painting. Urban farming on the roof of a seven-storey parking garage is an example of the latest craze in Singapore. Murmur rises from the depth of the gap between the two towers, where pensioners sit on plastic chairs around tables drinking kopi, smoking and chatting.

All flats have been allocated in a ballot scheme and sold at a preferential price. Value for money. Elevator conversations are directed straight toward question about the rent I am charged by my landlord. Every neighbour, a market analyst. The rent is double the price I had paid for my flat in Tianjin, but the flat an eighth of the size. I avoid answering. I pretend to be visiting a friend and ask if living here is convenient. Yes, convenient indeed. Many homeowners have seized the opportunity to rent rooms to researchers at the University for extra income. Is that the new sustainable city? Is that what the Chinese bought from Singapore? Value for money? I wonder if there will be urban farming on the rooftops of Tianjin Eco-city. I imagine the pensioners. In Tianjin they would sit on plastic chairs with much shorter legs. They would be drinking tea from jars, of course. Those living on the upper floors might enjoy an ocean view. Cruise ship smokestacks as high as mass housing poking through the trees that will line the seaside promenade … It could turn out even better than Singapore. Why not?

I turn from the window back to the desk, pick up one of the stacks of business cards in front of me and start flashing through the cards. As I look at the names, titles and companies I can hear the voices of the people I had interviewed.

I: Are you optimistic about this project [Tianjin Eco-city]?
No.3: Very optimistic.
I: Of course, you even want to buy an apartment there.
No. 3: I want to buy one because they are cheap!
I: Oh, if that’s the case, maybe I also should buy one...
No. 3: Definitely! But, for the near future I would not want to live there. If you buy in the first neighbourhood that will be finished and all the other neighbourhoods around are still under construction... So maybe it will really take ten years or more to develop a working neighbourhood. After all it’s a development zone.”

(Interview with a senior urban planner of the Tianjin Eco-city AC)

I: So you will stay here until 2020, until the Singaporean commitment is finished?

No 44: Oh, no! No way! You know, at some point I will want to go home...

(Interview with a senior architect seconded to work for the Eco-city JV)

I realise that most of the business cards are already outdated. Most people with whom I am still in contact have changed jobs, moved to another city or have left China altogether. It seems like no one has the time and patience to stick around to see the project come to life. Like myself. I feel a bit ashamed. During all the time I have researched on TEDA and Tianjin Eco-city I honestly believed that the sustainable model would work. It would work if everyone – the investors, operators of buildings, operators of urban infrastructure, companies and residents – would acknowledge the necessity of long-term commitment. Now, even I have left, eager to start the next big thing. The implementation and realisation of the sustainable, integrated planning model must be very solid to work with newcomers. Or it must be highly adaptable to meet their needs. Needs that neither planners nor architects nor market analysts nor researchers such as me could foresee.
China, Technical Assistance Report. - no place.
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Chinese megacities are among the fastest growing urban areas in the world. This is specifically true for the rapidly developing regions on China’s Eastern Coast. The greater metropolitan regions surrounding Shanghai, Guangzhou and Tianjin have undergone dramatic changes. Once primarily industry based economic areas, they have today transitioned into integrated towns where, hundreds of thousands of Chinese people live.

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Urbanization of the Earth (ISSN: 0944-422X)
Urban geography is a lively and almost unlimited field of research. Supported by its neighboring disciplines such as demography, sociology, economics and technologies of construction, urban planning and politics, traffic management and communications, it seeks to recognize trends and principles, and with regard to the future, to facilitate structured action. Entitled “Urbanization of the Earth”, this series provides a platform for critically investigating a crucial junction in the relationships between man and the Earth. Humans as individuals or society as a whole have proved to be a powerful force for shaping the surface of the Earth, almost equalling natural phenomena. Many more urban phenomena await study and analysis – generating a great deal of material, at least for further studies within urban geography and the observation of this lively interface between humans and their environment.
Iris Belle, From Economic Zone to Eco-city?

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