The Chinese urban development dilemma: heritage and green areas as victims of rapid urbanization

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ABSTRACT
This short paper aims to give an account on China’s rapid urbanization and the dilemmas and controversies this brings along. First the peculiarities of Chinese urbanization are discussed, such as the strange definition of urban areas and, more importantly, the contradiction between the quick marketization of the economy and the slow change in the strict top-down regulation of urbanization. Second, the most important factors of the urbanization process are analysed: the split of the society between urban and rural residents, and the difficulties of the central political power to control the development process, especially the expansion of the market actors and the related financial interests of the local municipalities. The general statements are extended with the analysis of the case of Hangzhou city where the dilemma of how to preserve the architectural heritage and the green areas in and around growing cities is especially strong. The paper ends with the analysis of differences and similarities between the Chinese and the European urban areas, emphasizing that the managing of the large urban development challenges of China would need fresh thinking (also) from the European urban scholars and potentially the adaptation of earlier European approaches to similar dilemmas.

I took the photo below on 9 March 2010 around noon, just before landing at the airport of Hangzhou. I hardly believed my eyes: why were so many multi-storey houses built in this obviously agricultural area?

Picture 1. The ‘rural’ area around Hangzhou city
A similarly strange thing can be seen along the roads between large cities: the endless factory belt. Many factories are high-rise having also workers hostels in the same building… in such cases no commuting is needed, even the meals are in the same buildings, workers go back to their room to cook for themselves [from an informal presentation of Peter Ramsden, 2011].

This short paper aims to give an account on China’s rapid urbanization and the dilemmas and controversies this brings along. After a brief overview on the peculiarities on Chinese urbanization the most important factors of the urbanization process are addressed: the split of the society between urban and rural residents, the public control over the development process and the policy dilemmas.

The paper is largely based on a few excellent overarching papers of the Chinese urbanization process: Kamal-Chaoui-Leman-Ruefi [2009], Spiekermann et al [2012], Forrest-Izuhara [2012], Enyedi [2007]. The analysis is extended by personal impressions and photos from the city of Hangzhou, which was one of the case study areas of the PLUREL project.

The peculiarities on Chinese urbanization

China has two mega-city areas and a strong network of large cities (some 160 cities have population over a million) – though in the case of China we have to be careful with the definition of the ‘city’.

Municipalities and prefecture-level cities are not each a „city“ in the strictest sense of the term, but instead an administrative unit comprising, typically, both an urban core (a city in the strict sense) and surrounding rural or less-urbanized areas usually many times the size of the central, built-up core. Prefecture-level cities nearly always contain multiple counties, county-level cities and other such sub-divisions. To distinguish a prefecture-level city from its actual urban area (city in the strict sense), the term shìqū „urban area“ is used. However, even this term often encompasses large suburban regions often greater than 1000 square miles (3000 km²), sometimes only the urban core whereas the agglomeration overtake the city limits. Thus, the „urban core“ would be roughly comparable to the US term „city limit“, the „shìqū or urban area“ would be roughly comparable to „metropolitan area“, and the municipality is a political designation defining regions under control of a municipal government, having no comparable division [Wikipedia].

Despite these huge figures the share of urban population is comparatively low, below half of the population. The definition of urban residents changed many times in China in the last decades and is still not in conformity with any definitions used in developed countries. New definitions include residents of suburban settlements which are part of urban labour markets, provided that municipal services have been extended to serve them [Kamal-Chaoui et al. 2009, 18] This is a supply-driven approach, contrasting the demand driven one of developed countries. According to Chinese statistical estimates the share of urban population was 40% in 2003, around 47% in 2010 and is predicted to reach 60% by 2020. Due to the size of the country all this means a dramatic increase of urban population: between 2005-2015

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1 The ‘PLUREL’ project has been conducted under the European Research Framework Programme FP6, see www.plurel.net. Within the framework of PLUREL Hangzhou was one of the seven case study cities.
the growth of urban population is estimated to be 160 million [Kamal-Chaoui et al. 2009, 18]. The continuing strong pressure towards urbanization is one of the main challenges for China today.

Although in the changes of the last decades the gradual liberalization of the economy is of key importance, urbanization is not at all exclusively market-led process. Similarly to the last three millenary, also today urbanization in China is strictly top-down regulated, allowing only gradual changes. As the first picture indicates, however, the regulation is not perfect, the process is full with contradictions.

The earlier waves of urban development could be characterized by rich and well developed cities which, however, never played independent political role (due to the lack of bourgeoisie). Changes in the inward development of the country started with the 1842 Nanking agreement, as a result of which many foreign countries got harbours in China which led to the start of the development of harbour cities.

Between 1949-1976, in the period of Mao-Ce Tung, cities were the places where employment was almost full, basic services were available and social inequalities were largely eliminated. The situation in the rural areas was totally different. The market-oriented reform-socialism started from 1976. Though the subsequent reform steps had different urbanizational effects, also in this period urban development was always under strict political control, subject of plans for the gradual development of the national city network.

Steps towards the private economy included the acceptance of private agriculture (but without the private ownership of land), initiating small ventures and services in cities and allowing the controlled spread of foreign direct investments. As a results cities developed rapidly, much faster than planned (due to massive informal migration from rural areas), further increasing the differences in services and living standards between urban and rural areas and creating a new population class in between: the informal migrants.

**A very strong split of the society: urban vs. rural**

The basic phenomenon to understand the regulation over societal processes is “hukou”, which refers to the system of residency permits (the following summary about this systems relies on Wikipedia). Although this system has its roots in the ancient China, from 1958 the Chinese government began using the family register system to control the movement of people between urban and rural areas. People who worked outside their authorized area would not qualify for grain rations, employer-provided housing, or health care and there were controls over education, employment, marriage and so on. Hukou efficiently limited mass migration from the land to the cities, ensuring structural stability and allowing for the state to provide preferential treatment to industrial workers and intelligentsia.

Before the market reforms the police was authorized to detain rural people in cities and “repatriate” them to their permanent residency location. The development of market economy in cities created huge demand for labour which encouraged migration from the interior
to the coast. City leaders and officials became less and less interested to enforce regulations on migration as the rural migrants were very important for the development of the cities.

Until the end of the 1970s the difference between urban dwellers (enjoying a range of social, economic and cultural benefits) as opposed to the 800 million rural residents, treated as second-class citizens, was very clear. Since the 1980s, an estimated 200 million Chinese are ‘migrants’, living outside their officially registered areas. The millions of peasants who have since quit the land remain stuck at the margins of urban society, and have been blamed for the rising crime and unemployment. Recognizing, that hukou is an impediment to economic development the system has undergone relaxation since the mid 1990s: first rural residents have been allowed to buy a temporary urban residency permits, meaning they could work legally; fees for these decreased gradually to a fairly affordable level. Since 1998 the kids of migrants can access (though segregated) elementary schools in cities. From 2001 onwards, hukou controls were futher weakened.

A real pension system started only in 1997 in China, only for urban population and only covers 2/3 of them. Rural pension systems started only in 2009. A new pilot urban resident old age insurance system has been initiated in 2011 for migrant workers. There are 170-200 million migrant workers which have chance to get pension only since 2011. Despite this late start the government plans for 2020 a complete coverage of population with pension system. The fulfillment of this depends obviously also on the question to what extent the expansion of the pension system increases the costs of labour – cheap labour being the main competitiveness factor of the Chinese economy. [Based on a presentation by Hazel Bateman, given in January 2012 in the Mariazell Dialogue].

It is decided centrally how many rural hukou-s can be changed into urban ones (appr. 0,5% of rural residents per year). This number is allocated among the different regions of the country along the regional need for additional workers.

As this overview shows the difference between urban and rural is decreasing, rural people get more rights, but in education and health care they are still in difficult situation. Moreover, migrants can not buy or build houses in urban areas, they can only rent flats (this explains the photo, why peasants have rebuilt their houses: in order to be able to rent out flats to the migrant workers).

The OECD publication paints a more precise picture. „The 2000 National Census counted 150 million migrants, or 12% of the country’s population. In many cities 20-35% of residents are migrants. However, 45% of migrants came from the same prefecture-level municipality, and 25% came from other parts of the same province, suggesting a relatively high degree of seasonal and temporary migration. Contrary to popular impressions of a massive wave of migrants to coastal cities from poor central and western provinces, less than a third of migrants to China’s cities were from other provinces. … Although growing in importance, rural-urban migration has not been the principal force behind urbanisation in China since the 1980s. The major driver has been in situ suburbanisation of formerly farming populations into urban economies. … In suburban areas where arable land is collectively-owned and far less regulated, informal shifts from farming to small-scale industrial production have been relatively simple, particularly when firms are owned, at least in part, by town/township and village administrations. Residential growth in many suburban towns and villages
is supported by informal rental markets that have evolved over the last 15 years. Therefore, while household mobility and enterprise formation were tightly constrained within inner urban areas for decades, under market reforms the reverse has been true in suburban towns, townships and their constituent villages.” [Kamal-Chaoui et al. 2009,18]. In that way the areas around the large cities became those places to where migrants from rural areas could migrate in the hope that they can rent a flat and can get a job in a factory.
Public control over the development process

China is a socialist country with total control over land ownership and extensive control over property transactions. Urban land is state owned, while rural land is in the common ownership of the community. Peasants were not allowed to sell their house, even if built by themselves. Urban people were not allowed to become rural. Urban people can, however, freely buy urban flats built for sale.

The OECD study shows how fast the regulatory changes came to foster the development of the private economy and how much slower the changes were in the regulations over urban development. The main factors influencing the economic conditions for urban development changed gradually since the late 1970s. Economic reform started in 1978, some coastal cities were opened up for foreign direct investments in the 1980s, fiscal reforms towards decentralisation followed in 1994. The changes were slower in the anti-urban bias of central policy. The urban policy statements of the five year plans in the 1990s emphasized the control over the growth of large cities, allowing moderate development of medium ones while encouraging the growth of small cities. Changes came in the 2000s: „After decades of policies that ranged from anti-urban to ambivalence with cities, the government … recognised that large cities can make major contributions to the country’s economic development and to sustaining China’s long term growth. In the Eleventh Five Year Plan (2006-2010) it has placed much stronger emphasis on the development of metropolitan regions across the country, including measures to better integrate strategic towns into metropolitan economies. The … Plan is now promoting the urbanisation process through “balanced development” of cities and towns regardless of their size …” [Kamal-Chaoui et al. 2009, 11].

It is interesting to note that the state control over housing policy have been lifted seemingly quicker than the control over urban development. Forrest and Izuhara describe the „… flow from a period of traditional and semi-feudal tenure, through the transition to state dominance and then to partial and ultimately full market reform. During that period, the ownership of housing transformed from primarily family, to primarily state (workplace), to increasingly individual.” [Forrest-Izuhara 2012, 42]. These are huge changes, especially if taken into account that appr. 80% of families (in Shanghai) now own private residential properties.

Since the mid 2000s also a new countryside initiative is pursued „… towards increasing rural incomes, improving infrastructure services and establishing subsidised public services of education, medical and social security systems in rural areas…” „… this is being pursued through the strengthening of suburban towns in metropolitan regions … implementing development strategies to foster the growth of “strategic” towns into satellite cities with strong connections to their respective metropolitan centres. These are the first indications of governments’ recognition of the metropolitan region scale … Rather than pursuing a rural or urban focused development policy, governments at both central and local levels appear to be now trying to plan and control development at a scale that encompasses both types of development.” [Forrest-Izuhara 2012, 42].

Besides the gradual change in the strictness of regulatory control over the development of Chinese cities the interesting question is how the decision-making rights are allocated
between the different actors of the public sector. From the perspective of new urban
development the crucial question is the re-zoning of land. According to the law the state has
the right to pre-empt rural land, for which it has to pay compensation. In this way land
becomes state owned. Since 1988 state owned land is allowed to be leased from local municip-

alities who can retain almost the total land leasing income. This creates financial incentives
to local governments as it is clearly described in the OECD study: “... the principal source
of off-budget revenues for most municipal governments since the mid-1990s has been one-time leases
of land use rights. Therefore, despite conversion quotas, municipalities have a strong fiscal incentive
to acquire and convert agricultural land into “construction land”, to try to lease off land use rights,
even at steep discounts to market value, and to mortgage municipal landholdings to finance new infra-
structure through loans from commercial banks.” [Kamal-Chaoui et al. 2009, 12].

Thus the local public actors are using their regulatory power to speed up urban develop-
ment, helping developers to capture the land from the present rural users. The compensation
of rural land users is subordinated to the urban growth aims and efforts. Besides, large cities
get also politically growing independence in regulating growth, although there are national
quotas (on maximum amount of land which can be turned into urban) and guidelines gi-
ven.

**Policy dilemmas**

In China the market-led changes of the economy went on in parallel with the easening
of central public control over urban development, pointing towards the decentralization
of decisions over new developments. In this situation interesting dilemmas emerge about
the direction and decision-making system of urban development.

The first dilemma is about the spatial allocation of new developments. According to mo-
derate forecasts China has to count with 350 million new urban residents in the next two
decades. Many of them prefer modernity and accept high-rise dwellings. This path of deve-
lopment would mean to demolish most of the traditional Chinese urban structures and rep-
lace them with residential skyscrapers usually with 32 floors of height (this will be illustrated
with pictures below, for the case of Hangzhou). According to the present practices the only
alternative would be to allow the even faster densification of peri-urban areas (see the start-
ing picture of this article), which, however, would lead to the loss of most of the agricultural
land.

The second dilemma is about the decision-making system. There are intensifying politi-
cal debates in China, criticizing the present one-sided, exclusively new development-orien-
ted policy. According to alternative views the present system with almost unlimited rights
of developers (in accordance with the local governments) to expropriate rural land for de-
velopment should be limited, increasing the rights of rural dwellers, land-owning/farmers
to protect their own interests regarding their house and land.
The case of Hangzhou: the consequences of fast urbanization

The following analysis is based on the paper prepared by the PLUREL case-study team for Hangzhou, extended by personal experiences gained during the participation in the workshop organized in the city.

Similarly to other socialist countries [see e.g. Tosics, 2005] also China changed fundamentally from the 1950s the development logic of cities, subordinating all other aspects to the efforts to increase industrial production. Several large industrial zones were built in the peri-urban areas of the cities.

As in Hangzhou the new industrial zones were only several kilometres away from the built-up urban area. Most of these zones were gradually connected with the city core, due to the spatial expansion of the city and to the centripetal development of industrial zones. As a result, the spatial structure of the city became more and more extensive. The quick expansion led to an imbalanced urban spatial structure and put farmland under pressure. In order to control this undesirable development strategic spatial plans were developed.

In the early 1990s the opening-up and socioeconomic reforms followed, leading to rapid urban expansion and transformation of rural areas. The market forces initiated urban expansion, however, was restricted by the administrative divisions into rural and urban land. This has lead to congestion of the inner city, and degradation of the environmental quality of the major touristic area (West Lake) of the city. As an answer on these problems in 2001 an administrative reform has been carried out, effectively establishing the metropolitan region, giving the opportunity for the city of Hangzhou to integrate surrounding urban cores into long-term planning. After 2000, urban development even intensified, but now on the basis of an overarching strategic plan, involving new areas into the expansion of dense urban areas.

For the new development Hangzhou has to expropriate rural areas. The compensation given to the peasants looks quite generous: each family gets for their land two flats in high rise buildings: one for the use by the family and another one for renting out, in order to create revenues for the family (replacing the revenues from the lost agricultural job). Families also get 10% share in some urban business (shopping, or else).

The complexity of the spatial set-up and the administrative system can be illustrated by the following. Hangzhou municipality covers a total area of 16,596 square kilometres. In 2005, it had a population of 6.6 million. In European terms, the area of the municipality would rather be described as a region due to its size, yet politically organised in a more hierarchical way. The area of Hangzhou City proper covers 3,068 km² with a population of 4.1 million registered urban residents in 2005 (Hangzhou Statistical Yearbook 2005). The population density is 398 inhabitants per km² in Hangzhou municipality and 1,335 inhabitants/km² in the city proper. In 2005, Hangzhou City’s built-up area covered 314.45 km² with population of 2.52 million and a density of 8,004 inhabitants per km². [Hangzhou Construction Yearbook 2006].

According to the results from the PLUREL analysis, the peri-urban area expanded by 471 km² between 1988 and 2004, corresponding to an increase of 458%. The peri-urban area covered 19.7% of the area of Hangzhou City in 2004. Urban core areas expanded by 158 km²
during the same period, corresponding to an increase of 668%. The urban core covered 6.1% of the City’s area.

Table 1. Development of peri-urban areas in Hangzhou*

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban core areas (km²)</th>
<th>Peri-urban areas (km²)</th>
<th>Percentage cover (%) of periurban areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>28</td>
<td>132</td>
<td>4.3</td>
</tr>
<tr>
<td>1998</td>
<td>109</td>
<td>326</td>
<td>10.6</td>
</tr>
<tr>
<td>2004</td>
<td>186</td>
<td>603</td>
<td>19.6</td>
</tr>
</tbody>
</table>

* The total area of the metropolitan region is 3,068 km², population is around 4.1 million
Source: Spiekermann et al. 2012

Hangzhou municipality is comprised of 8 Direct Administrative Districts (0.515 million people on average, adding up together the city proper, 4.1 million people), 2 counties (0.425 million people on average) and 3 county-level cities (0.552 million people on average).

The next lower level is represented by villages, towns and streets. The West Lake District in Hangzhou (0.568 million people), for instance, has 6 streets (50,000 people on average), five towns (36,000 people on average) and 2 villages (19,000 people on average).

Generally speaking, streets in cities are the urbanised areas and most of them lie in the core city, while towns and villages under a district are still in the area undergoing urbanisation, most of them lying in the peri-urban area. In terms of functions, towns and villages as well as streets carry out their daily affairs under the guidance and supervision of the city government and the district government. Compared to the City People’s Government, towns and villages as well as streets have limited powers, for example, in terms of budget and revenues from taxes, land acquisition, urban planning and construction.

The dynamic development of Hangzhou attracts some 50 thousand new migrants each year to the city. To create a supply of new housing either the demolition of existing city neighbourhoods (Pictures 3) is required, or the expansion into the ‘rural’ areas around Hangzhou (Picture 1) which already have high, 300-1000 people/sqkm average density with only 0.6 ha average agricultural land.

According to the split of responsibilities the party determines the principles of urbanization while the local government prepares the concrete plans and executes them. The 11th Five Year Plan of Hangzhou includes quite innovative ideas:
1. to develop a network-metropolis,
2. to develop a circular economy, i.e. reinvest locally the money produced by the local economy,
3. to develop towards an ecological city,
4. to preserve the values of the cultural heritage.
Partly independently of these aims is a large Economic Development Zone under development, financed largely from central resources for high-tech developments, covering also substantial infrastructural investments (bridges, tunnels, subway). The development plans and the present reality (relatively clean, well managed city) create a positive image of the city.
The innovative ideas, especially those which aim to create an ecological city (constraining urban sprawl) and protect the architectural heritage sound very good – the question is how realistic these are in Chinese cities, taking into account the dramatic increase of urban population within the next years. How would it be possible to manage quick urban growth without large scale urban sprawl and without the demolition of the existing city parts, i.e. the abolition of urban heritage?
There are many new ideas emerging to handle this difficult challenge. Cautious planners would suggest to develop plenty of smaller cities with not so high houses, instead of further expanding the largest cities. Architects, on the contrary, suggest various unusual solutions, such as the futuristic visions of the Dutch MVRDV architectural firm for Chinese cities, aiming at the creation of new housing on artificial terraced hills which could reach the density of Hong Kong with 100,000 persons per sq km.

Conclusions and further dilemmas

Hangzhou is a relatively well managed city, not representative for all Chinese cities, as the larger ones have much more environmental problems (smog, congestion, garbage, …), while the smaller ones get much less central government developments. Even so, the case of Hangzhou allows to highlight the challenges of quick urban growth.

The dramatic urbanization problems of China are very different from the present problems of European cities, even from those which are growing. There are some links, however.

- In growing urban areas, in order to keep the balance, not only building and construction has to be planned but also work-places and transport solutions.
- The planning of growing mega-city regions is not at all easy. There are only a few good cases in Europe where the worst consequences (endless sprawl, traffic congestions, strong socio-spatial segregation) could be avoided more or less – e.g. in London some 70 years ago and recently to a given extent in Randstad.
- As we only have one planet, the most careful development of European cities will lose the point if the much larger scale developments in other parts of the world (e.g. the extraordinary urbanization in China) do not take sustainability into account. Thus urban knowledge, experiences, innovations have to be shared and critically commented from both sides.

The dynamic urbanisation in China creates special challenges. From the perspective of the ageing (and in the future shrinking) population of Europe these challenges may sound a bit strange. For a more sustainable future, however, all over the world solutions have to be found how to preserve the architectural heritage and the green areas in and around growing cities.

Finally, the case of the dynamically growing Chinese cities raises many questions and dilemmas which are worth for further investigations:

- the environmentally conscious, compact development of large cities is quite costly, ’eating up’ the financial resources with which similar developments could be achieved in much cheaper way in less developed, smaller cities
- it is unclear what is the „upper limit“ for the development of the largest cities – above which further increase of the population would create development needs which can not be fulfilled in economically and/or environmentally feasible ways
• the transport systems in large Chinese cities will face unsolvable problems if car ownership continues to increase in the present pace (recently 125 million cars are built per year which is planned to be increased to 250 million by 2015)
• Hangzhou shows good example with the development of bicycle roads and with the domination of electric motorcycles – however, electricity is produced mainly from coal
• can the efforts of the Chinese governments to manage and slowly decrease the social inequalities between urban and rural areas and residents be successful in the long run – and if yes, when will these efforts lead to the abolition of the very bureaucratic hukou system?

These questions are quite exciting also for European urban scholars, who can contribute to the managing of the large urban development challenges of China with fresh thinking and potentially also with the adaptation of earlier European approaches to similar dilemmas.

References:


STRESZCZENIE

Celem artykułu jest podsumowanie procesu gwałtownej urbanizacji Chin oraz dylematów i kontrowersji z nim związanych. W pierwszej części autor definiuje specyfikę chińskiej urbanizacji jako dysonans między szybkim urywnieniem gospodarki i powolnymi zmianami w planowaniu przestrzennym. W drugiej części autor analizuje najważniejsze czynniki procesu urbanizacji. Są to między innymi: podział społeczny między mieszkańcami miast i obszarów wiejskich, brak skutecznej kontroli państwa w planowaniu rozwoju, szczególnie w kontekście wspólnych przedsięwzięć prywatnych inwestorów i władz lokalnych. Szczególną uwagę poświęcono Hongzho, w którym jak w soczewce skupiają się problemy zachowania dziedzictwa kulturowego i wartościowych terenów zielonych w otoczeniu dynamicznie rozwijającej się metropolii. Na zakończenie autor porównał rozwój chińskich i europejskich aglomeracji, podkreślając, jakim wyzwaniem jest konieczność nowego podejścia do zarządzania chińskimi obszarami miejskimi. Niewykluczone, że w tym zakresie mogą zostać wykorzystane doświadczenia europejskich badaczy zajmujących się podobnymi problemami występującymi wcześniej w Europie.