Overview of urban planning policy and urban green space system at a national level in China

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Abstract. The present review aims at understanding urban policy frameworks and context on China's urban green space system at national level. In order to allow critical reflection on the strengths and weaknesses of urban planning policy and green space system. The rationale of this review is to enhance the overall quality of urban environments and to promote urban sustainability, health and improved living. There is a general convergence of policy trajectories indicating that policymakers, planners and professionals have recognized the mutual interdependence of the relationship between green space and the quality and quantity of housing provision. Overall, improvements have been made to better integrate with urban green space and long-term urban management as a whole to create quality living environments. However, both national policy and regulations lack specification on the quality and quantity of green space and are yet standardized, there is not yet useful guidance or criteria on best practice for design for green spaces, and little reference to green space governance or leadership, management norms and abilities.

1. Introduction
The urban population of the worldwide has grown rapidly from 30% in 1950 to 55% of the world’s population in 2018. Over the coming decades it is predicted that the urbanization level will reach 75% by 2050 [1]. China is the most populous country in the world; with the urban population growing very rapidly after the People’s Republic of China (PRC) was established in 1949. Along with the rapid urbanization and population growth, China’s cities are growing rapidly, both in quantity and their sizes. The National Bureau of Statistics [2] shows that at the end of 2016, there were 663 cities in China, 17 of which had a population of more than 5 million and 70 with more than one million residents. The number of cities has increased by 151% during the last two decades, while the total urban built-up area has doubled. Moreover, the housing demand in urban areas, especially commercial housing development, is increasing dramatically. Although increasing in size and number, Chinese cities are nonetheless characterized by lack of appropriate legislation and planning control, and a mismatch of housing supply and affordability. However, urbanization and housing growth are underlying global trends which accelerate and affect our environment directly or indirectly [3] as there has been a significant decline in the quality and quantity of green space. It is observed that the rapid expansion and sprawl of built-up housing areas has reduced green spaces and resulted in a fragmentation of wildlife habitats [4].
2. Theoretical context: Perspectives of a contested concept of nature in cities

To better understand the urban policy frameworks and context on China's urban green space system at national level, this review draws on theoretical debates and critical writing concerning nature and everyday life. Across social science disciplines, writers have discussed how the relationship between ‘nature’ and the ‘urban environment’ itself is subject to political, economic, social and cultural definitions, understandings and influences [5]. The idea of ‘nature’ as ‘a contested concept’ that is deserving of critical attention has been defined by Ginn and Demeritt[6] as a concept with two major sets of interconnected meanings: on the one hand it refers to the things which are natural, or subject to the normal working of the ‘laws of nature’, or, on the other hand, to the essential things and what causes those things to be what they naturally are, or in other words the laws of nature themselves. The difficulties of disentangling different perspectives of ‘nature’ means people can take different views of the same thing in different places and use a series of contrasts or dichotomies all bundled up in the word ‘nature’ [7].

Within this context, enthusiasm for the translation of traditional attitudes and values regarding the political, economic, social, cultural and spiritual value of ‘living with nature’ nonetheless remains a strong undercurrent. For example, the national Urban and Rural Planning Act of 1985 includes ‘urban green structures’ within city master plans, in echoes with the grand plans of Mao. Current rapid and unfettered marketization of urban housing is nonetheless clouding the implementation of such plans. For example, there are detailed and sophisticated plans and guidance for ensuring both the provision of diverse green spaces at regional and urban levels and clear guidance on planning for both public and private green spaces with regards to diverse residential developments. Historic government provisions attempt protect the relationship between housing provision and access to green space across socio-economic groups and encourage the building of ‘conservation orientated greening cities’. It is vital that critical research is undertaken so that theoretical insights and empirical evidence can contribute towards urban policy and planning agendas that will ensure more equitable access to, and increased ‘quality’ of, green space in urban areas. As such, given rapid change and the diversity within Chinese urbanism, there is important work to be carried out to better understand how broad urban processes are playing out in particular ways in a variety of green spaces and places, among different social groups and in different cities throughout China.

3. The governance, administrative and planning system in China

The People's Republic of China is characterised by a centralised planning system with top-down supply-induced institutional government administration. Such structures are clearly articulated in the national Urban and Rural Planning Act (2007) as well as previous incarnations of that policy trajectory (such as the ‘Urban Planning Act’ 1989), which outlines the government’s administrative processes and which define in detail responsibilities related to local administration at various spatial scales [8]. For example, the People’s Congress is at the top level of state power while the central government administrative system is further constituted by both national levels of central administrative, and the State Council, which both sit below the National People's Congress and are responsible for leadership for urban and local administration levels. Government further below the State Council includes three further levels of administration: Autonomous Prefectures, Counties and Cities, and Townships, Towns and Districts (see Figure 1). These levels of government are organised in the same way as the national structures; with government (shi zheng fu) and the party (shi we) working in parallel with one another. The People’s Congress (ren da) is also constituted by local authority representatives and able to elect and recall members of the People’s Government to that forum.

In simple terms, The People’s Government is the administrative authority for the People’s Congress. It is thus responsible for both the People’s Congress and its distinctive Standing Committee, to ensure the success of all state administration levels. Indeed, at the local level People’s Congresses have the power to develop specific regulations, and to monitor and evaluate the performance of local government. In this hierarchy, the State Council directly oversees national urban and rural planning. Individual master plans relating to specific urban and rural areas must therefore follow the State
Council’s planning guidance. However, it is also the responsibility of local authorities to draw up and execute their own strategies with reference to national policy. Moreover, the local People’s Congresses are responsible for adapting national regulation for the specific context of their administrative area.

Figure 1. Levels of Government under the State Council (Source: Saich, 2001, p 17) [9].

* Note: In addition, two Special Administrative Regions of Hong Kong and Macao exist that will retain their existing political and economic system for up to 50 years.

3.1. Urban planning and green space system in China

The national Chinese Urban and Rural Planning Act (in effect since 1st January 2008) guides planning at urban and rural scales. Planning regimes in cities, towns and villages has become increasingly more sophisticated in recent years, and has led to new definitions and toolkits which focus on best practice examples of how to incorporate specific urban and rural areas into the formal planning system. Despite improvements on the previous ‘City Planning Act’ [10] under its new title ‘City and Country Planning Act’ (2007), the new Act is still nonetheless underpinned by rigid national/local administrative mechanisms. Hence, the Chinese Planning System is still constituted by city planning based on a two tiers approach: the master plan (zong ti gui hua) and the detailed plan (xiang xi gui hua). As Figure 2 shows the top level of urban planning is ensured by the master plan that outlines the general land use patterns of cities.

Below the master plan level is the detailed plan. This focuses on areas that are earmarked for immediate development as specified in the master plan. Moreover, the detailed plan is composed of development control planning (kong zhi xing xiang xi gui hua) as well as urban design and detailed construction plan (xiu jian xing xiang xi gui hua). Master plans generally have a planning horizon of 20 years. The main tenant of master plans includes urban development strategies, and focuses on
district land use, comprehensive transport planning, construction in restricted areas, construction in constrained areas, as well as an urban green plan, tourism planning and so on.

The Urban Green System Plan is one of the key administrative tools that relate to the topic at hand with regards to this thesis which sits within the City’s Master Plan and concentrates on specialised green planning including urban gardens and parks. However, in 2002, the Ministry of Housing and Urban-Rural Development[11] also released planning interim policy guidance entitled ‘Urban Green Spaces System Planning’. This initiative was the first time in planning policy in China where an administrative region of a city level of scale was deemed appropriate to ensure the planning of more ‘green’ urban spaces and places, based on support for and expansion of the green space based on a newly developed index, and typology. Indeed, in order to understand the relationship between housing and green space, the ‘Urban Green Spaces System Planning’ policy was the first time that such context and content was related to the places, and ways in which peoples’ ways of life and living were changing in urban China. It is within this complex administrative context that the relationship between urban green planning and housing development unfolds for the first time in policy and planning. Indeed, such interim policies and proposed regulations highlight concerns over responsibility and accountability for ‘Environmental Protection’ and ‘Ecological Considerations’ at the national and local levels of government, and with regards to people’s everyday life in Chinese cities. For example, the standard of the city green space index not only considers the quantity but the quality of green space and thus begins to offer ways of measuring and apportioning responsibility in government structures for the ways in which green spaces are planned and located to ensure equal access and quality for residents. As such, there is clearly some momentum and structure for drawing a more focused relationship between urban green space and provision of housing which has established a foothold within broader planning and policy contexts.

![Figure 2. Urban planning system in China.](Source from: Shaded areas are optional according to Urban and Rural Planning Act 2008)

3.2. Urban planning policy context and criteria of green space and national Garden City
Policies and regulations specifically related to green space and housing can be seen to be unfolding at two important spatial scales; firstly, with regards to national policies, laws and regulation relating to urban planning; urban policies, green space design codes and standards and so on; and through urban policy and practice as follows:

3.2.1. National policy context. As highlighted in the introductory chapter a nation’s urban planning system tends to reflect the socio-economic development trajectories and strategies as well as highlighting social and cultural traditions and values [12]. After economic reforms in 1978, the
national Chinese government recognized the need to improve administrative legal structures with regards to urban planning, in a way that ultimately challenged the socialist ideology of planned growth [13]. To understand changes in urban planning in China, it is imperative to study the formulation and transfer across spatial scales of urban policies, based on the implementation of the Urban Planning Regulation initiated by the State Council in 1984 and enactment of the Urban Planning Law which was a major milestone that was enacted by the National People’s Congress on 26 December 1989 and has been effective since 1990. In order to involve rural areas in the whole planning system, the former Urban Planning Law was upgraded to the Urban and Rural Planning Law of the People’s Republic of China in 2008.

The Urban Planning Law was enacted to ensure a lasting legacy of national central urban planning in order to establish a comprehensive urban planning system in China. The Law consisted of six chapters and forty-six articles, including general provisions, establishment of urban planning and development of new areas and renovation of old areas, legal liability and supplementary provisions. However, in order to interpret the Law correctly, the Ministry of Construction had to interpret and publish the Explanatory Notes of the City Planning Act with reference to municipal planning bureaus that provided guidance to local authorities in the preparation of urban planning documents. This system is, to a large degree, similar to the Planning Policy Guidance (PPG) in the UK, intended to assist practitioners with interpretation of legislation at the municipal level, but which is done ultimately without legal status of an explanatory right of the Law in strict terms. As such, the Urban Planning Law, and the resultant urban planning mechanisms sought to define development of the size and structure of cities; to realise economic and social development goals, and to plan and construct cities within a context of socialist modernization[10]. The law aimed to shape the development of national urban systems and hierarchies based on the rational distribution of population and economic activities. This reflected a long-held view against the sporadic nature of market-oriented development and a need to track ordered and coordinated developments by “keeping strict control over the size of large cities and developing rationally medium-sized cities and small cities, so as to promote a rational structure of productivity and population” [10]. By 2008, and as a result of previous planning and policy failings, the Urban and Rural Planning Law replaced the former Urban Planning Law. While the upgraded Law ultimately played the same role in the planning system and was not significantly changed with regards to halting the dramatic growth of urban China, what was important was the desire to strengthen “urban and rural planning administration, harmonising urban and rural spatial layout, improving people’s living environment and promoting the integrated, harmonious and sustainable development of urban and rural society and economy”[10]. As this important wording stresses a key tenant of social, economic and spatial development for urban and urban planning, now included a place for increased attention to the relationship between housing provision and everyday use of green space. With this trajectory in mind, relevant policy and practice impacting on land-use, housing and green space will be examined in more detail at the level of urban administration.

3.2.2. Urban policy context. Two key national level policies which have been influential in advancing strategies relating to green space and housing in cities have been the Land Administration Law of the People’s Republic of China and the Code for Classification of Urban Land Use and Planning Standards of Development Land [GB 50137-2011]. The Land Administration Law adopted at the 16th Meeting of the Standing Committee of the Sixth National People’s Congress in 1986 and slightly revised in 1988 and 2004 enabled “the Constitution for the purpose of strengthening land administration, maintaining the socialist public ownership of land, protecting and developing land resources, making rational use of land, effectively protecting cultivated land and promoting the sustainable development of society and economy”. Additionally, the Code for Classification of Urban Land Use and Planning Standards of Development enabled urban and rural development initiatives underpinned by ‘conservation’ and rational land-use based on scientific review of environmental factors. The enforcement of this code was also facilitated through the “Urban and Rural Planning Law of People’s Republic of China”, the implementation and monitoring of which through urban planning,
sought to promote health, well-being and sustainable development in urban and rural areas [14]. With projections that more than half of the Chinese population will be urbanites by 2050, pressure to value land highly and use land rationally but with a focus on environmental concern, has led to an increased interest in both conservation and comprehensive utilisation of natural resources in order to improve the lives of local people. Growing social and economic pressures from increasing environment pollution combined with a re-articulation of traditional Chinese values relating to stresses equity in the use of the land resources, and harmony with nature has been articulated in the Land Administration Law suggesting that “the people’s government at various levels should adopt measures of integrative planning and strict administration to protect and develop land resources, and prevent unlawful occupation and use of land” in Chapter1, Article3. Therefore, policy now existed for the first time at all levels of government to ensure responsibility for planning and policy in cities which was founded on concerns to ensure national social and economic development planning, government of land management, natural resources and environmental protection.

For example, the Urban and Rural Planning Law stated that city level master planning with reference to Article 19 in Land Administration Law must include:

- Strict protection of farmland and keeping land for agriculture under control lest it should be occupied and used for non-agricultural construction;
- Increasing the land utilisation ratio by;
- Making overall plans for the use of land for different purposes and in different areas;
- Protecting and improving ecological environment and guaranteeing the sustainable use of land; and
- Maintaining a balance between the area of cultivated land used for other purposes and the area of land developed and reclaimed.

These principles were initiated in order to prevent cities extensive urban sprawl and to protect natural environments. While it is possible to argue that with continued urban development that to a large degree such values have failed to be widely established and monitored, the Chinese state has nonetheless clearly classified land utilisation as part of an overall plan that includes agriculture, land use for construction, unused land and green spaces in urban-rural contexts [15].

**Table 1.** Permitted ranges of per capita area and the percentages of urban land allocated for different uses. (Source: adapted from MOHURD, 1990 and 2010. Tables 4.2.1 & 4.4.1.)

| Category of urban land-use         | m2/person | Proportion in 1990 (%) | Proportion in 2010 (%) |
|-----------------------------------|-----------|------------------------|------------------------|
| Residential use                   | 18.0–28.0 | 20–32                  | 25–40                  |
| Industrial use                    | 10.0–25.0 | 15–25                  | 15–30                  |
| Streets and transportation        | 7.0–15.0  | 8–15                   | 10–25                  |
| Green space                       | ≥9.0      | 8–15                   | 10–15                  |
| Administration and services       | ≥5.5      |                         | 5.0–15                 |

Despite intentions to classify the quality of the relationship between green space and housing developments, **Table 1** shows the per capita area and percentages of urban land for green space has only been marginally revised from 1990 [16] (8–15) to (10–15) 2010. Despite other national standards such as the Criteria of National Garden City, applying policy and planning to the actual development of cities in China through central and local government to ensure the sustainable development and harmonisation of urban land use and housing planning is of course a difficult prospect to achieve [17]. Despite the best intentions to better integrate housing and green space planning, the following sections show how the above initiatives are indeed part of a growing convergence of these previously disconnected agendas.
3.3. Green space regulation and standards

Of course, alongside such initiatives have been national laws, regulations and policies that directly focus on urban green space planning and design. These regulations and policies have covered various phases of development since 1963. Initially these policies were initiated through the *Forest Protection Regulation* by the State Council of PRC in 1963, and later upgraded to the *Forest Law of PRC* in 1998 and 2009[18]. The law sought to protect, nurture and ensure more sustainable forest resources, as well as accelerating afforestation, soil and water conservation, improvements in the environment and ethical supply of forest products in order to meet the needs of socialist construction and the people's lives[19]. More recently a raft of policy initiatives have emerged through my review of relevant documents and strategies relating to urban greenery (comprehensive management), ancient trees, green lines, public park, management of specific public lands and open green spaces, and scenic and natural conservation[20].

3.4. Criteria of national Garden City

| Table 2. Main indicators for “National Garden City” in China. |
|---------------------------------------------------------------|
| **Basic indicators**                                          |
| City indicators | Large city | Medium city | Small city | Location of the city |
| Average public green space for capita (m²/person) | 6.5 | 7 | 8 | South of Qinling Mountains and Huai River |
| Percentage of green land coverage (%) | 30 | 32 | 34 | South of Qinling Mountains and Huai River |
| Percentage of greenery coverage (%) | 35 | 37 | 39 | South of Qinling Mountains and Huai River |
| **Other indicators**                                          |
| Percentage of green land coverage of residential area (%) | New residential area | ≥31 | ≥35 |
| Percentage in the length of a road (%) | With road planting | ≥95 | 100 |
| Percentage of green land coverage (%) | City main road | ≥25 | - |
| Percentage of green space in the city (%) | Parks | ≥70 | ≥80 |
| Percentage of self-produced plants in total plants used for greening (%) | ≥36 | ≥40 | ≥40 |

(Source: Ministry of Housing and Urban-Rural Development of China, 1992)

Finally, the international *Garden City* concept which has been considered to be a cornerstone of modern urban planning, and which has also been particular influential in the green space system planning in the twentieth century has been implemented in China. The initial ideas of Ebenezer Howard and Frederick Law Olmsted sought to achieve a utopian settlement through comprehensive urban planning in 1898, and the first attempt to link the ecological capacity and social opportunity though planning, and has been carried forward to the present day in variously modified variations. The application of the garden city principle has now been officially introduced in China, through combining cultural heritage protection with green space system construction in order to realise the development goal of “building a civilised garden city” by the state government. The national garden city model was introduced in relation to the other policies and initiatives identified in this chapter as indicating a strong desire form government to improve the quantity and quality of urban environments.
in Chinese cities. For example, As the Table 2 shows The Criteria of National Garden City and Application and Criteria Method for National Garden City are two important initiatives relating to the development of national garden cities that promote the ideals and standards of garden cities nationwide. The Method standard represents the five main conditions for applications for national garden city status and is broadly focused on planning and management, construction of green spaces, and monitoring [20].

Throughout these two documents, basic indicators include the average public green space per capita, percentage of green land coverage and percentage of greenery coverage, and the indicators are different to account for the environmental and climatic differences between south and north China. Key goals for the national garden city scheme was to ensure that the percentage of green spaces in urban areas should be higher than 36% and have potential opportunities to achieve more than 40% in the future. This national standard guide also established a value assessment which gives the indicator to measure the quality of green space, as well as the indicator to measure functional assessment, cultural value assessment, wildlife assessment and conservation of diversity in city [15].

4. A critical review of urban planning and green space policy

Urban policy and planning now exists for the first time at all levels of government, ensuring responsibility for planning and policy in cities, which was founded on concerns to ensure national social and economic development, across areas such as government of land management, natural resources and environmental protection. In addition to the existence of relevant policies there has been widespread support by professionals for the delivery of positive sustainability and ecologic considerations in urban planning and green space policy. This supposes that the requirements of ‘ecological environment’, ‘sustainability’, ‘greening city’, ‘liveability’ and ‘reflecting local characteristics or identity’ can be met more effectively with the central role to be played by local government through stronger planning policies [21]. While the policies exist they are not clear enough to be enforced well under governance and delivery, as there are political and institutional issues. There are no set planning policies or standardised urban green space systems, just widespread concern over the conceptions of ‘ecological considerations’ and ‘environmental protection and sustainability’ [22]. It is also unclear as to who should be responsible for urban green space systems and, further, the lack of stronger theoretical underpinning or guidance of urban planning systems. However, they recognised that inclusive process is necessary, to incorporate planning, architecture and landscape design early in residential development. There was some recognition of the variety of urban planning professionals emerging among government officers, academics and consultancies - and their willingness to listen to local communities. The professionals debated as to whether the nature of a ‘joined-up’ approach would result in policies and practice that should complement each other. Nowadays, urban planning systems should be multifunctional whilst respecting local identity, history, traditions, culture and social networks to design quality public green space. The implementation approach for ‘joined-up’ policy and practice have received considerable attention [23] and need to be better integrated. Therefore, the policies and planning are not being effectively implemented, since they have encountered barriers often observed for centralised planning system having top-down supply-induced institutional government administration. There is also lack of understanding from bottom-up expertise in brokering better relationships between policy makers/planners and a diverse range of urban residents in enabling future policy and practice.

The foundation for urban green space design as public policy was a new development plan system within the national Chinese Urban and Rural Planning Act (2008), serving as a framework for a more simplified, flexible and strategic approach to local policy and standards. The national and local green space planning and policy sought to raise the general quality of urban environments in order to promote city liveability, human health and sustainability. It was also attentive, to some of the key issues through its focus on “improving the living environment…coordinated and sustainable development of urban and rural economy and society…to improve the ecological environment and physical and mental health living environment in the city” [24]. Their policy expressed particular
concern with the quality and connectedness of the urban green space and its capacity to encourage sustainable development. However, the regulatory and legislative aspects only emphasise the importance of technical regulation and creating a role for strategic urban green space system planning. There is some clarity, for example, an index indicating the quantity of green space, which specifies that green spaces should not be less than 35 percent of a new residential area, and in reconstruction and regeneration of old residential areas should not be less than 25 percent. But, the national and local policy and regulations both lack specification on standards of quality and quantity of green space provide no valuable guide or criteria on best practice design for green spaces, and also lack any reference to green space management, maintenance standards and skills. The national government is now committed to close specialist care of ecological considerations and sustainable development. It seems that improving the general quality of urban green space design was at the heart of the urban living environment, and concerns are linked to policies intended to improve the urban living environment, promote livability, upgrade public and open space design, and doing this in ways that are conducive to a harmonious and sustainable development of urban society. Nonetheless, the urban planning and policy should have focused on better ‘joined-up’ planning policy and practice, steady improvement in the quality of urban life, and in the future seek to strengthen and standardise an quality goals for urban green space. Overall there can be additional improvements so that policy is better integrated with planning, design, long-term management and maintenance of urban green space and housing as a whole and the improvement of quality of urban life.

5. Conclusions

This review paper has traced the ups and downs of changing policy and practice relating to planning and green space at a national level in China. Despite many weaknesses and concerns, I have shown that there is an overall trajectory of convergence which highlights how policy makers, planners and practitioners have acknowledged and pursued an increasing appreciation and understanding of the close connections and mutual interdependence of the relationship between green space and quality and quantity of housing provision. While of course, such broader trends are not always easily attributable in political and policy decision making, let alone the often-contradictory realities of urban development and rapid economic growth of China, the evidence from this review highlights a coming together of political and institutional concern (if not always the practicalities) of ensuring closer integration of green space provision and housing in order to achieve progressive economic, social and urban change.

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