INNOVATING SPATIAL PLANNING IN CHINA

Dutch planning experience in view of Chinese challenges and opportunities

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Contents

PREFACE

This study was carried out in the context of international cooperation in the China Council for International Cooperation on Environment and Development (CCICED). The CCICED is an advisory board for the Chinese government that has both Chinese and international members. Over the years, the council has devoted a great deal of attention to ecological civilisation in relation to urbanisation. Many Chinese and international reference projects have been put forward as good examples of ecological civilisation. A number of these were from the Netherlands. Over the years, CCICED and other Chinese experts have visited these examples of Dutch planning practice in historic cities and new towns. Dutch spatial planning and urbanisation policy has proven to be a source of inspiration to Chinese policy makers in spatial planning. Dutch spatial concepts such as the Randstad and the Green Heart, a ring of cities surrounding a rural core, and Room for the River, a plan to prevent river floods and simultaneously improve spatial quality, proved to be of interest from the Chinese side. Therefore a paper that explores these matter further was thought to be useful.

In 2013, PBL Netherlands Environmental Assessment Agency was part of the CCICED taskforce *Study on China's Environmental Protection and Social Development* that acknowledged China's rapid urbanisation as one of the stages for ecological civilisation. In 2014, Dutch experts provided advice for the *CCICED Special Policy Study Report Good City Models, Under the Concept of Ecological Civilization*, in which the main focus was on spatial planning concepts such as brownfield regeneration, Transit Oriented Development and people-oriented urbanism. In this paper, we compare planning and urban development in China to the Dutch spatial planning experience by focusing on different aspects of governance. The elements of the Dutch planning system which are potentially applicable to China's urbanisation process and ecological civilization will be discussed in the last chapter.

EXECUTIVE SUMMARY

Innovating Spatial Planning in China: Dutch planning experience in view of China's challenges and opportunities

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The way governance is organised influences spatial planning, which, in turn, has a significant impact on ecological civilisation. After comparing spatial-planning-related Chinese and Dutch governance, the following main recommendations can be made:

1. **Enhancing collaboration and dialogue between government levels and between government bodies and other stakeholders has clear benefits. It allows valuable specific local knowledge to be incorporated into plans and broadens the support base.**
2. **Developing and using inspiring spatial concepts may help to effectuate collaboration and dialogue between government bodies.**
3. **Increased collaboration between adjacent municipalities on cross-border topics, such as infrastructure and economic development, may enhance regional efficiency.**

In order to achieve an ecological civilisation[1] in which the consumption of natural resources is balanced with their capacity for renewal, unprecedented efforts are needed on a global scale. Sustainable urban development can make a major contribution to this aim, but will require a concerted and coherent strategy that traverses existing institutional barriers, with all parties being committed to working together towards a common solution for the long term. As a crosscutting policy area that also covers the long term, spatial planning could further this transition towards ecological civilisation.

Recent reports from the Chinese Central Government (China's new Urbanisation Plan (2014–2020), from CCICED (Good City Models), as well as the World Bank, the Development Research Center of China's State Council (Urban China) and the OECD (Urban Policy Reviews: China 2015) explicitly address the urgent need to reform urban governance in China towards the goal of ecological civilisation.

Generally speaking, spatial planning, whether in China, the Netherlands or elsewhere, seeks to overcome four different types of coordination challenges: those between governmental

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[1] In Chinese parlance 'ecological civilisation' is commonly used to denote sustainable development.

tiers (multilevel governance), policy sectors (interdepartmental governance), municipalities (intermunicipal governance) and between government authorities and other actors (public–private governance).

Although admittedly much smaller and vastly different from China with respect to geographic features, demography, culture, history and economic development, the Netherlands has also undergone periods of rapid urban development, and is currently still experiencing it, in certain locations. Spatial planning has played an important role in guiding this urbanisation to achieve a high-quality natural and built environment and a stable economy, earning Dutch planning international renown. Not all policies were successful however. Some were effective while others failed or were adapted to fit new circumstances or insights. In short, the Netherlands amassed a body of knowledge about guiding urban development over the past half century, some of which may be useful elsewhere.

This report seeks to contribute to the current Chinese efforts to reform spatial planning. It does so by examining the four governance challenges in the Chinese context, explaining how similar challenges are being or have been dealt with in the Netherlands, and offering suggestions to improve coordination. We acknowledge that applying policy lessons from abroad is challenging because the current structural and cultural institutional setting in China differs dramatically from that in the Netherlands. Therefore, substantial strategy adjustments may be needed, and certain solutions may not be applicable. With this in mind, this report presents the following observations and suggestions that could be promising within a Chinese context, based on the four distinguished types of governance:

Multilevel governance:

- In both China and the Netherlands, spatial planning strives to curb urban sprawl. In order to be successful, institutional fragmentation must be overcome; simply tightening national planning restrictions seems insufficient. Dutch planning has dealt with urban sprawl using a variety of mechanisms, such as a plan hierarchy with various levels of specificity. At the national level, the instruments tend to be strategic and long-term and adopted in consultation with implementing authorities.
- An increased focus on bottom-up communication, in China, would enable tailor-made solutions to be identified and implemented and may increase local support for national policy. Dutch planning is based on collaboration and strives to reach consensus. This is evident from its approach to multilevel governance; national planning policy involves extensive dialogue between governmental tiers. Local and provincial authorities provide local knowledge, and their involvement in decision-making increases their willingness to implement national policy. At the same time, the national government attempts to strike a balance between regulations ('sticks'), incentives ('carrots') and communication ('sermons'), in its dealings with other governments.

Interdepartmental governance:

- Chinese spatial concepts, such as Low Carbon Cities and Sponge Cities, already cut across policy areas and can even trigger interdepartmental collaboration at national, provincial and local levels — possibly under the responsibility of a coordinating national body. In the past, Dutch planning has benefitted from inspiring spatial concepts (e.g. the Green Heart and Mainports), which helped to bridge the gap between governmental tiers and departments. Implementation of these concepts has been driven by widespread agreement among all stakeholders about the need for such concepts, strengthened by collaboration and dialogue.

Intermunicipal governance:

- Intermunicipal competition is a worldwide issue, which calls for increased collaboration between neighbouring municipalities. Several of the currently existing initiatives show potential for the situation in China. For example, a regional collaborative body could coordinate the approval of master plans. In addition, subsidies or investment-scheme approvals could be made dependent on the presence of a regional vision. For spatial planning, Dutch law requires a process of intermunicipal consultation, and provincial authorities often assist in the coordination of regional planning activities. Although this has not prevented intermunicipal rivalry or competition for urban development from occurring, spatial planning does offer a framework to manage this rivalry.

Public–private governance:

- Planning systems in both China and the Netherlands provide a mechanism that allows the public sector to share in the profits from urban development and increasing land values. This system also has its drawbacks. Because municipalities have a direct financial interest in the generation of high returns, an incentive has been created for cheap, low-density development at the urban fringe, rather than more complex and expensive projects, such as city centre redevelopment. Moreover, municipalities could incur considerable losses if growth were to slow down. It is, therefore, advisable to make municipalities less dependent on land lease revenues. For example, by implementing a municipal property tax with rates set by the national government.
- Involvement of businesses and state-owned enterprises in urban development may stimulate innovation and efficiency and improve communication with the public. Dutch planning operates within a market economy and, therefore, is sensitive to business interests. Ideally, urban development involves some form of mutually beneficial public–private collaboration. In practice, however, it is not always easy to find the right balance between public and private interests.
- Most Chinese cities have compensation schemes for property owners in cases of expropriation, but there are many differences between these schemes. In addition, tenants have little protection against being evicted by property owners, which makes their position weak. Developing both nationwide and provincial systems in which compensation is granted on a 'do no harm' basis and where the legal position of tenants is improved could help to ameliorate one of the most sensitive national planning issues in China. Dutch planning provides a standard legal procedure for expropriation with relatively generous compensation for landowners. For this reason, coercion is rarely applied and public land purchases are mostly non-controversial.
- In order to promote neighbourhood planning that meets the diversity of needs, especially those of migrant workers and the urban poor, the Chinese Government could prescribe targets for both social and middle-class housing. Dutch planning has a long tradition in working with the social housing sector and setting such targets, although this relationship has become weaker in recent decades as the country has become more affluent. This tradition of mixed-income targets has served to reduce income segregation in Dutch cities and has made them relatively inclusive.

Dutch planning has evolved over time by learning from successes and mistakes and by adapting to new circumstances. In China, spatial planning may also need to adapt as well. To encourage this, regional pilot projects could be carried out to discover whether the suggested measures would be effective and suitable for implementation within the wider Chinese context.

1 Sustainable urban development: a global issue

An unprecedented effort is needed on a global scale, to achieve an ecological civilisation in which the consumption of natural resources is in balance with their capacity for renewal. For example, in order to keep global warming below 2 °C, a worldwide reduction in greenhouse gas emissions of between 40% and 70% will be needed between 2010 and 2050 (IPCC, 2014) — a formidable task, particularly in the face of the phenomenal economic and demographic growth seen in countries such as China. Cities will play a big role in realising worldwide sustainability goals. In 2005, cities consumed approximately 75% of global energy and material flows (UNEP, 2013). For China, this is expected to reach 83%, by 2030 (OECD, 2013). Seeing that urban areas, in 2013, accounted for 70% of global CO_2 emissions (IEA, 2016), sustainable urban development will play a key role in balancing human activity and nature's carrying capacity.

This is also acknowledged in a range of multilateral agreements that emerged over the last two years, under the umbrella of the United Nations (e.g. the Paris Climate Agreement, the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, and the New Urban Agenda). The 2030 Agenda for Sustainable Development, for example, includes sustainable cities and communities as one of its 17 Sustainable Development Goals (SDG), while most other SDGs (e.g. ending poverty, affordable and clean energy, responsible consumption and production) also have to be achieved within urban areas (UN, 2012). The role of cities in achieving an ecological civilisation is also in line with a number of recently published reports on urbanisation (e.g. UN Habitat, 2013; UNEP, 2011; OECD, 2010, 2012, 2013; Hoornweg and Freire, 2013; World Bank, 2014a; LSE Cities/EIFER, 2014; CCICED, 2014; United Nations, 2016). In other words, meeting global agreements such as those recently made in Paris, New York, Sendai and Quito, and achieving ecological civilisation in particular, call for integral action, largely within and by cities.

With the world's largest population and rapid urbanisation, China's aspirations for an ecological civilisation is relevant for both its own citizens and the entire planet. Moreover, successful urban innovations in China may inspire other countries that are also experiencing rapid urbanisation. Figures 1 to 4 illustrate some examples of historical developments in global sustainability issues and the role of China.

Figure 1.
China's CO_2 emissions, in relation to global levels and those in the United States
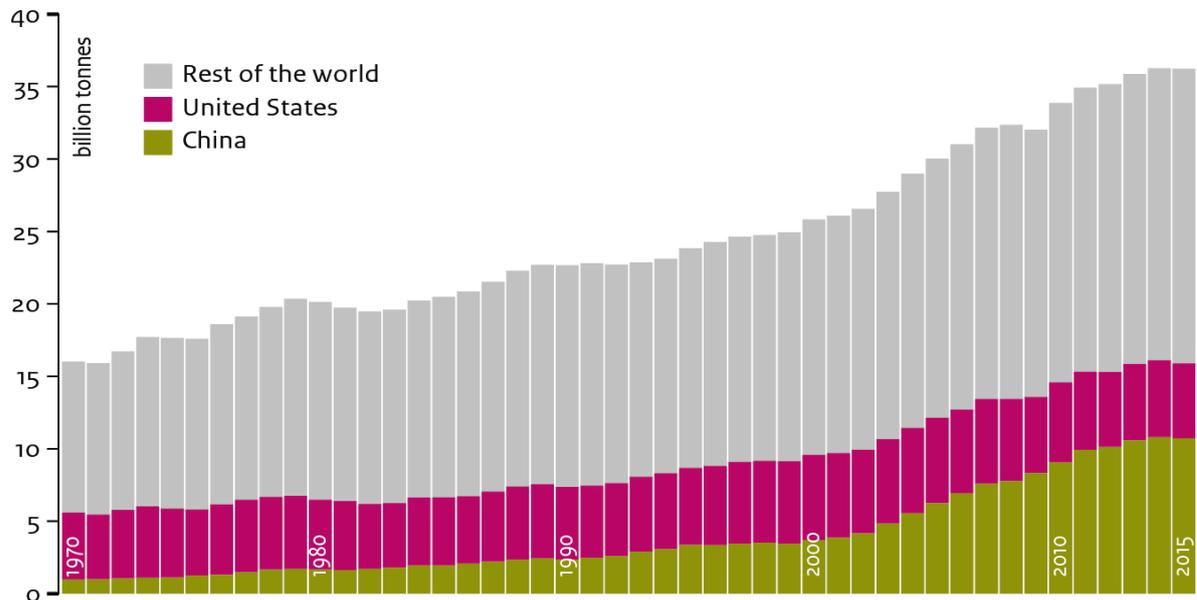
Source: PBL Netherlands Environmental Assessment Agency / Joint Research Centre (JRC)

Figure 2.
Total number of deaths attributable to outdoor PM2.5 in China and in the world (incl. China), using fixed background disease endpoint rates from prior to 1980 (UKCA_ppe_med)
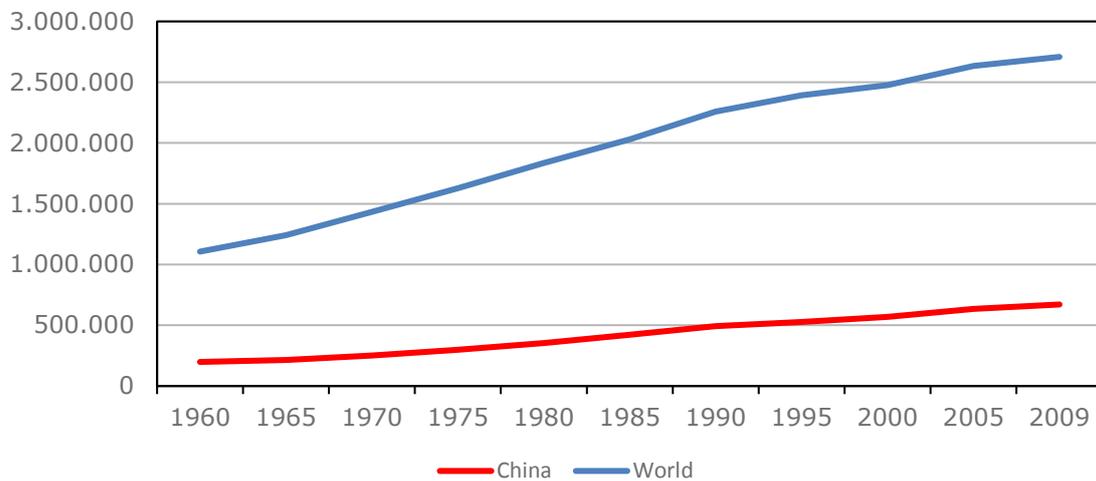
The Chinese share of deaths attributable to outdoor $PM_{2.5}$ increased from 21.9% in 1960 to 32.9% in 2009. Source: Butt et al., 2017

Figure 3.
Number of reported disasters, worldwide, partly from anthropogenic causes `

Industrial and transport accidents
Epidemics
Coastal and river floodings
Droughts and wildfires
Storms and extreme temperatures
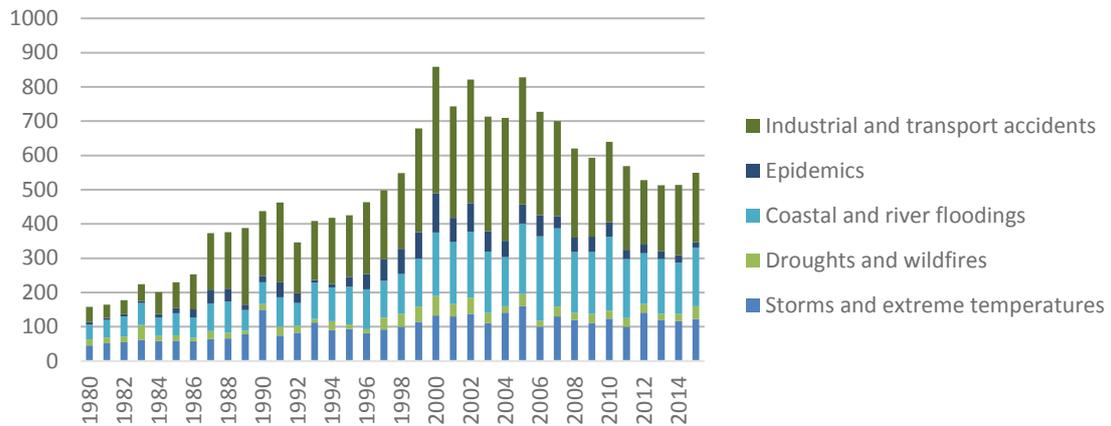
Source: EM-DAT (CRED)

Figure 4.
Development in built-up area in China (in km².).
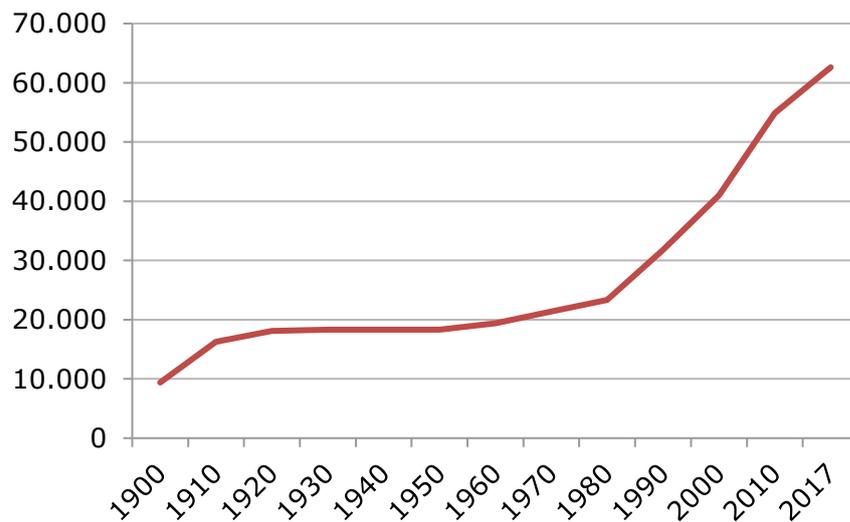
Urbanisation has led to an huge amount of land take in China: China's built up area tripled after 1980.
Source: HYDE database, version 3.2.1, Klein Goldewijk et al., 2017.

Significant strides can be made towards an ecological civilisation, but this will require addressing the issue of urban sprawl head-on. Simply introducing more resource-efficient buildings and infrastructure will prove insufficient if low-density urban sprawl or high-density urban development at peripheral locations is not curtailed. A 'strategic intensification' is required at multiple levels of scale. To effectuate this, the Urban Morphology and Complex Systems Institute identified four 'levers' of intervention (UNEP, forthcoming):

- restructuring of the urban morphology to achieve strategic intensification (i.e. the formation of a well-articulated network of mixed-use, high-density urban development nodes);
- human-scale sustainable design that creates conditions for walking and cycling on city/neighbourhood levels and for 'passive' heating, cooling and lighting in buildings;
- sustainable energy practices (radical resource efficiency coupled with maximum renewable energy use); and
- the promotion of sustainable lifestyles (e.g. recycling, low-impact travel, diet).

The cumulative impact is not simply the sum the individual effects of each intervention: if levers are pulled in mutually reinforcing ways, their effect is multiplicative. Evidence has shown that, if the urban form is sufficiently dense and well-designed (e.g. shade, sunshine, light, wind, ventilation), energy consumption in buildings and transportation could be halved, or reduced by a factor of 2. Designing buildings ecologically could reduce energy consumption by an additional factor of 2.5. If 20% of total energy consumption were to be derived from renewable energy sources, this would increase the saving in fossil-fuel-based energy by another factor of 2. Finally, more sustainable lifestyles could produce a saving of yet another factor of 2. Using the multiplicative method, energy use would be reduced, overall, by a factor of 20 (UNEP, forthcoming).

Achieving such multiplicity would require a concerted and coherent strategy. One that cuts across existing institutional barriers, with all parties being aware of the gravity of the problem and willing to work together towards a common solution, in the long term. Attaining this level of policy coherence is one of the key challenges in China, according to recent reports by Chinese and other institutes (World Bank, 2012; National Plan, 2014; CCICED, 2014; OECD, 2015).

1.1   The scope of urban planning and design

Some of the levers described above go beyond the remit of spatial planning.[2] Nevertheless, spatial planning is crucial for paving the way towards a low-carbon society. Of course spatial planning is not limited to planning for environmental sustainability. Environmental sustainability is just one of the objectives of spatial planning, others such as liveability, water management, social inclusiveness, facilitating long-term economic growth, and landscape preservation may be largely compatible to this goal. Spatial planning in China, therefore, could be equipped to help realise an ecological civilisation.

In general, spatial planning intervenes directly in four aspects of both the built and the natural environment: density, function (or use), location and development size. The role of urban planners and designers is to reach an optimal interplay between these aspects, over

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[2] In this report, we use the continental European notion of 'spatial planning', which, more than the terms 'Town and Country Planning' (United Kingdom) and 'Urban and Regional Planning' (United States), goes beyond physical land use, to also include notions of governance and coordination. It encompasses strategic forms of planning (e.g. spatial visions) as well as instrumental forms (e.g. zoning).

time. One way of conserving space and increase the feasibility of forms of transport that are an alternative to private cars is to build at high densities. So far, this does not seem particularly problematic in China. Chinese developers and planners, for different reasons, share a preference for high density urban development; developers are keen to sell as much floor space as possible and urban planners are keen to maximise building density in order to reduce traffic and spare green spaces from urban encroachment. On the other hand, many of these high-density developments are monofunctional and car-dependent (see Photo 1). Renowned international planning concepts, such as Transit Oriented Development (TOD), reuse of brownfield locations, and human-scale mixed-use projects which are already applied in most front runner cities in eastern China can be mainstreamed to the rest of the country where the dramatic rise in car use is likely to lead to serious congestion and harmful emissions.

Photo 1.
Residential buildings in Shijiazhuang

Photo: Hollandse Hoogte / Zhu Xudong Xinhua / eyevine

Preferences of developers and good intentions of planners offer no guarantee against urban sprawl. Municipalities in China are already limiting building density in order to enhance liveability and to compete with other municipalities in their attempts to attract the more affluent citizens. Will competing municipalities lower densities further in order to attract a greater share of the expanding middle class?

The new urban development guidelines set by the Chinese State Council in 2016 are encouraging. These guidelines discourage large-scale, monofunctional urban development on the urban fringe. They illustrate that China's authorities have opted for more mixed-use urbanism, based on public transport and compact development, favouring historical preservation where possible (Shephard and Huang, 2016). It is true that urban planning and design can mitigate suboptimal choices of location, function and size. However, the starting conditions for a sustainable urban development may be improved by analysing and adapting

governance structures that create or perpetuate incentives to build in distant locations, at excessive scales and for inappropriate uses.

Spatial planning can be very fruitful, in this regard. A planning system does more than regulate land use; it provides an arena to resolve societal issues, tensions and coordination problems. It should provide legal certainty to landowners, stakeholders and society at large, about what can and cannot be done with the land, while providing flexibility for changing circumstances, such as accommodating demand for new uses. In so doing, planning not only creates an arena within which to resolve competing interests in the physical domain, but can also contribute to overcoming barriers to sustainable urban development.

Spatial planning entails a careful balancing between private and public interests (public–private governance) — for example, when private land or property is needed for public use, such as infrastructure. In extreme cases, this involves expropriation, in less extreme cases, public intervention may affect land values. In most matters of land use, multiple public interests are at stake, and sometimes these are in conflict, which invariably leads to the involvement of various organisations and public agencies (interdepartmental or horizontal governance). For example, economic development, agricultural and environmental protection interests are often at odds when seeking locations for urban expansion. Similarly, many land-use issues transcend administrative boundaries, sometimes calling for the involvement of various tiers of government (multilevel or vertical governance), or a conglomeration of public authorities in a particular area, such as a river basin, the housing market or a metropolitan region (intermunicipal or territorial governance). Figure 5 summarises the conditions for achieving an ecological civilisation. This figure shows that spatial planning may support the objectives of such a civilisation, but is itself dependent on governance arrangements, in various forms.

Figure 5.
Spatial Planning in relation to ecological civilisation and governance
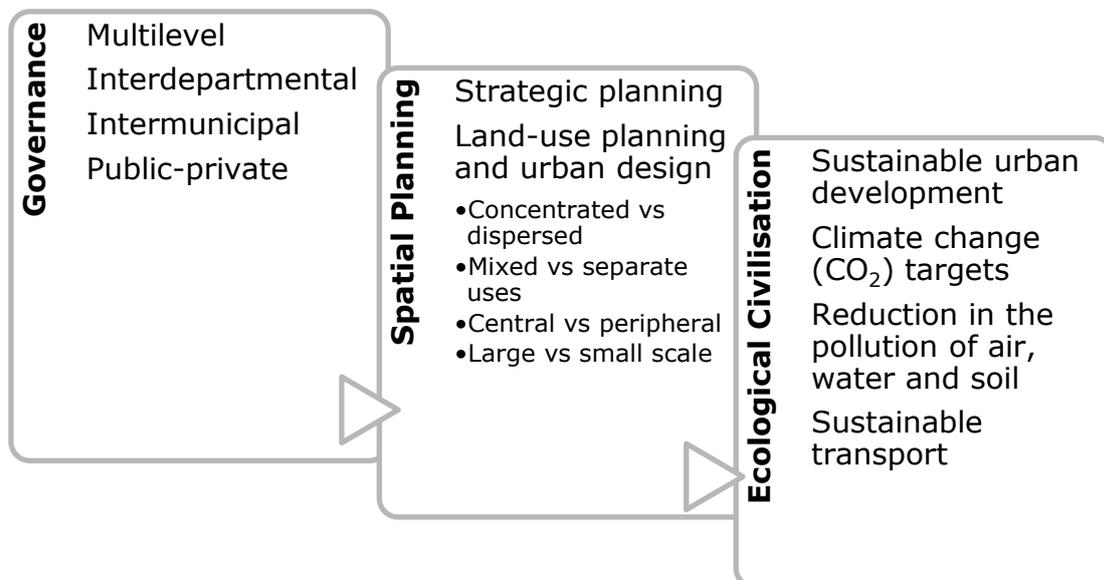
Spatial Planning may set conditions for an ecological civilisation, but spatial planning itself is dependent on governance settings. Source: PBL

1.2   Purpose and organisation of this report

China's rapid urbanisation and the successes of Chinese planners in constructing sustainable new towns show that China puts much effort into achieving an ecological civilisation. Current developments towards a more service-oriented and green economy are an opportunity for seeking innovation in spatial planning. The goal of this report is to contribute to current efforts to reform Chinese planning by offering a Dutch perspective. Although admittedly much smaller and vastly different from China with respect to geographic features, demography, culture, history and economic development, the Netherlands has also undergone periods of rapid urban development. Spatial planning played an important role in guiding this urbanisation, earning Dutch planning international renown in the process (e.g. Alexander, 1988; Faludi and Van der Valk, 1994; Hajer and Zonneveld, 2000; Van der Cammen et al., 2012). Dutch spatial planning successes are not the result of good planning alone, but are largely due to the nature of the institutions and governance processes already in place (Needham, 1989). Over time, some Dutch planning policies have been successful, while others failed, and some were adapted to fit new circumstances or insights. In short, during the process, the Netherlands amassed a body of knowledge about guiding urban development, which may prove useful to others.

This report, specifically, aims to respond to the call for institutional reform of Chinese planning practices, which have been reported as being too fragmented to guide the country towards an ecological civilisation (World Bank, 2012; National Plan, 2014; CCICED, 2014; OECD 2015). On the basis of the Dutch experience, Chinese planning could benefit from comprehensive planning approaches that require a more coherent and integrated governance. Therefore, many of the suggestions centre on overcoming institutional fragmentation by coordination, cooperation and collaboration.

A comparison of disparate institutional contexts can help explain morphological differences and provide insight for guiding China's future urban development (Harbers and Tennekes, 2016). Applying lessons from a Dutch historical context to contemporary China context is both promising and challenging; the ideas presented here should not be seen as full and final solutions. On the contrary, they are merely starting points for initiating a discussion on how to improve the coherence and effectiveness of the Chinese planning system.

This report consists of four parts. This first chapter highlights the urgency of reform in Chinese planning to address global ecological problems. The second chapter consists of a brief review of the Chinese planning system and practice. The third chapter illustrates how Dutch planning has dealt with similar governance challenges, over time. The fourth and final chapter proposes 'building blocks' that could be applied to the Chinese planning system to bring an ecological civilisation closer within reach, by taking the lessons learned from Dutch planning history and translating them into Chinese administrative values and institutional conditions. These lessons are not only valuable for reaching an ecological civilisation, they can also make a positive contribution to other planning issues, such as those related to water safety, liveability, housing and the economy.

2 Chinese planning and governance

2.1   Growth outstrips planning system capacity

The Chinese planning system is facing many complicated challenges. The changes in the planning system, so far, have already yielded rich rewards towards an ecological civilisation, but new challenges are arising.

Over the past 35 years, China has experienced unprecedented economic growth. For much of this period, its gross domestic product (GDP) increased by over 10%, annually. This economic growth has propelled the country into playing a major economic and political role, in the world, and has lifted many people out of poverty, especially in urban areas. Economic growth has been accompanied by an equally unprecedented level of urbanisation, with the various forces at play all strengthening each other's impact (OECD, 2015). In the 1980–2014 period, the share of the urban population increased from 19.4% to 54.8%, and the total number of city dwellers increased from 191 million to 749 million (Sun and Liu, 2014).

Economic growth has come at a price. Air pollution, water pollution, high energy consumption and reduced soil fertility have led to concerns about the ecological sustainability of this growth (World Bank, 2012; National Plan, 2014; CCICED, 2014; OECD, 2015). Alongside environmental problems, the growing gap between rich and poor, urban and rural, and eastern and western China is negatively affecting the nation's social stability (World Bank, 2012; National Plan, 2014; CCICED, 2014; OECD, 2015).

The Chinese economy seems to have come to a turning point. It is seeking a balanced state where domestic demand, a service-oriented economy, environmental preservation and social equity all receive their fair share of attention. The 12th and 13th Five-Year Plan as well as the New Urbanisation Plan (2014–2020) give these aspects a considerable amount of attention, most powerfully expressed by the ambition to become an ecological civilisation, and point out that economic growth will continue to matter for future urban development, but has to be balanced with social and environmental sustainability. This shift towards sustainable urbanisation, with a more consumer-driven and service-oriented economy with less social inequality and sharp reductions in energy and resource use, requires an innovative planning system.

It is increasingly accepted among scholars and Chinese policymakers (World Bank, 2012; National Plan, 2014; CCICED, 2014; OECD, 2015) that the current planning system in China does not fully allow policymakers and planners to deal with rapid urbanisation along the lines described above. We recommend that possible alternatives are investigated and consideration is given to possible lessons that could be learned from planning experiences elsewhere in the world, to create the conditions for a creative, green and equitable urban economy. These conditions go beyond new transport infrastructure, more green buildings and increased numbers of solar panels on roofs (although these aspects matter, too). They also call for a rethink of how urban planning may contribute to an urban economy that is more resource-efficient (UNEP, forthcoming). This clearly greatly affects institutional patterns

of planning processes across governmental levels and inter-organisational relationships. The National Plan (2014) and CCICED (2014) both stress the need for innovating the governance related to spatial planning.

As indicated, a growing number of scholars and experts argue that, in China, institutional fragmentation limits the effectiveness of planning practices. This fragmentation includes the four types of governance, as described in the introduction: multilevel, interdepartmental, inter-municipal and public–private. Increasing the coherence between these types of governance would be difficult for any government; for China, because of the size of the country, establishing such policy coherence is particularly challenging.

The remainder of this chapter discusses the challenges of Chinese spatial planning along the lines of each governance type, demonstrating how it affects the creation of well-functioning city clusters, housing affordability and ecologically friendly urban development.

2.2   Multilevel governance

Chinese administrative and spatial planning systems are often considered the hallmark of a top-down approach to achieving political and policy goals (Lieberthal, 2004). This concerns the fact that there are few legal limitations on national intervention in provincial and local policymaking (see Table 3). If the national government wishes to manage such affairs all around the vast nation, and assuming it has the financial, organisational and informational resources, it would legally be entitled to do so. However, in practice, the national government cannot always intervene, in detail, on provincial and especially local levels.

In practice, the Chinese administrative and spatial planning system allows for very substantial local deviations from national objectives. Various actors and stakeholders control different types of resources within policy networks and are therefore more interdependent than one might expect from their legal positions. Therefore, the Chinese Government cannot ignore the wishes and interests of these actors and stakeholders (De Jong et al., 2016).

The limited amount of coordination between governmental tiers, sometimes, hinders efforts to deal with environmental problems. The Chinese Government is aware of the seriousness of its environmental problems and has engaged in various policies to remedy the situation. Its Ministry of Environmental Protection (MEP) has enacted a number of policy programmes, including one for eco-provinces and eco-cities. The National Development and Reform Committee (NDRC), which is responsible for nationwide social and economic planning, has initiated a programme for low-carbon cities. And the Ministry of Housing and Urban/Rural Development (MOHURD) has started a similar programme for low-carbon eco-cities and, more recently, for sponge cities (i.e. the Chinese variant of resilient cities) as well as smart cities. In each of these programmes, the goal is to encourage provincial or local authorities to develop plans and establish indicator frameworks to move towards and monitor balanced social, economic and environmental urban growth, to use the successful cases among these programmes as demonstration models to be mainstreamed around the country (De Jong et al., 2013).

The empirical picture of the implementation that has recently emerged is not unambiguously positive (De Jong et al., 2016). Apart from a few famous flagship projects, such as Sino-Singaporean Tianjin Eco City, Shenzhen International (formerly Sino-Dutch) Low Carbon City and Qingdao Sino-German Eco City —where social and economic sustainability appear well-secured (the verdict on environmental performance is better than average for China, but still leaves much room for improvement) and/or the required indicator frameworks have been

developed and measured— many other cities have been included in the national lists, although their performance in practice is uncertain at best. In spite of earlier commitments, indicator systems are often not established or, if they are, they are not being monitored and acted on. New towns are sometimes developed in previously undeveloped areas, building density decreases as a result of suburban construction, and local public transport facilities tend not to solve all mobility problems, thus, increasing car use. From a top-down national policy-making or spatial-planning point of view, this is seen as disappointing and a reason for intensifying policy efforts and making land use more restrictive.

Table 1.
Current government levels in China

Nation		
Province	Autonomous regions	Municipality directly under state control
Prefecture / Autonomous Prefecture / Prefecture level Municipality		
Rural County / Urban District		
Town / Township	Urban Community	

Source: Brixi et al., 2011; adaptation by PBL

However, seen from a bottom-up perspective, the relatively powerful positions of actors in the implementation process throw a significantly different light on these outcomes. Since municipal authorities depend on land-tenancy revenues to fund a major share of the urban services they provide, and their officials are rewarded for maximising GDP, there is a big incentive to develop large-scale projects, such as new towns. Local government authorities expropriate rural land from farmers against comparatively modest compensation and, subsequently, lease this land to project developers at far higher prices, which allows them to accumulate revenues to fund the provision of public services (Hsing, 2012). The developers, in turn, earn money from real estate development and the construction of high-rise housing complexes. To both municipal authorities and project developers, 'green' is a label that attracts investors and buyers alike, but is otherwise primarily considered an operational cost best to be avoided. Only for rather significant payoffs are they willing to invest the additional costs of sustainable building. Such payoffs are related to flagship projects such as Tianjin, where enormous national investments were made, giving the project great visibility and prestige. Increasing national planning restrictions would probably be a rather ineffective instrument to counter this trend. Instead, a change in the relationship between national and local funding could make a substantial difference towards promoting sustainable urbanisation.

2.3 Interdepartmental governance

Not only is there fragmentation between the various tiers of government, the national government itself could also be more coherent and unified. For example, it requires cities to draw up at least three different types of plans: the economic and social five-year development plan (required by the National Development and Reform Commission and to be drafted by the local DRC), the urban master plan (required by the Ministry of Housing and Urban/Rural Development and to be drafted by the Urban Planning Bureau) and the land-use plan (required by the Ministry of Land and Resources and to be drafted by the local land-use office). In short, there are three 'pillars' in public administration related to spatial development, each which prescribes its own plan. These plans are drawn up by various players at various tiers of government (Table 2). The Chinese Government itself addresses this fragmentation in a number of publications (e.g. National Plan, 2014; CCICED, 2014). Below, the three pillars and their associated plans are described.

The first pillar is that of the national economic and social development plan required by the National Development and Reform Commission. This type of plan plays an essential role in promoting urban economic growth, including targets for GDP growth, industrial output, employment, income, and investment levels. The Five-Year Plan is the key medium-term frame for local economic and social development plans. The 2016–2020 period just ushered in the 13th Five-Year Plan, which must be implemented at all governmental levels.

The second pillar comprises urban master planning, coordinated by the Ministry of Housing and Urban-Rural Development. This master plan includes detailed control plans and district plans. Urban master plans, generally, focus on the development of new urban areas (the so-called new towns) and cover a time span of 20 years. Detailed control plans and district plans tend to be far more operational than master plans, and are implemented by the lowest tiers of government. Since even the relatively generic master plans often are considered 'not visionary enough', there is a growing tendency among policymakers to develop strategic visions that have no legal status and can be processed alongside the other legally endorsed planning documents (Yu, 2014; Wu, 2015).

The third pillar is that of land-use planning, which is the domain of the Ministry of Land and Resources. These plans focus on farmland protection, business districts and environmental conservation. To ensure food security, China uses the so-called 'red line' (*hongxian*) principle, which represents the objective of retaining at least 120 million hectares of farmland.

Table 2.
Current planning system in China

Institutions	National Development and Reform Commission (NDRC)	Ministry of Housing and Urban-Rural Development (MOHURD)	Ministry of Land and Resources (MLR)		
Plan	Five-Year Plan	Urban master plan, detailed control plans and district plans	Land-use plan		
Focus	Scientific, technological, economic and social development	Urban development (i.e. expansion into new towns)	Farmland protection	Business districts	Environmental conservation

2.4 Inter-municipal governance: city clusters for economically sustainable urbanisation

Wu (2015) argues that ever since the opening up of China, planning has focused on economic growth, which has, in fact, been a tool used by government authorities rather than market parties, unlike planning practices in western countries. The result has been that the massive urban expansion all across the country has been promoted by local authorities and physically implemented by developers. Since the activity radius of individuals is expanding and economic and social phenomena and policy problems, these days, occur on regional rather than local scales, coordination and cooperation among municipalities also have grown increasingly important. The national government has identified a variety of city networks and city clusters that can encourage the local government authorities to think regionally. In 2014, 19 city clusters were distinguished, nationwide, by the Chinese Government (see Figure 6). Modern transport intercity connectivity is to connect first-, second- and third-tier cities, and the flow of capital, goods, people, and services could benefit from such improved accessibility. In addition, the residents of medium-sized and small cities may benefit from economic employment opportunities in nearby large cities.

Figure 6.
Chinese City Clusters are a good example of China's efforts to reach an ecological civilisation
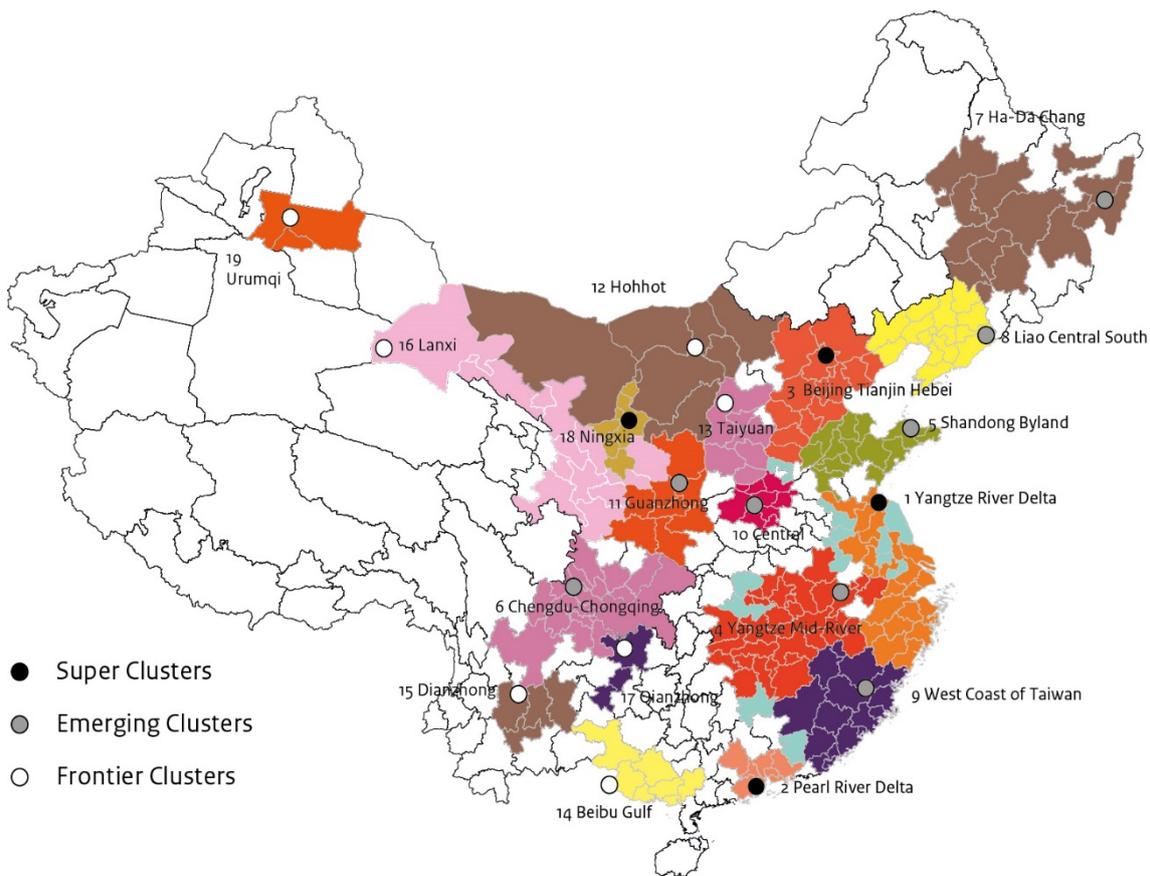
Based on frontierstrategygroup.com (2014) and GADM database (www.gadm.org)

Intermunicipal collaboration is not always easy: cities often wish to develop their own new towns, ports, airports, industrial zones, high-tech areas and underground railway systems. In the Pearl River Delta, the cities of Hong Kong, Macao, Shenzhen, Zhuhai and Guangzhou all have airports, some of which operate at a loss due to regional overcapacity. Cases such as Guangzhou and Foshan, which share an integrated subway network, are the exception rather than the rule. Duplication and lack of integration of a variety of infrastructural facilities is the unfortunate result. A more efficient and cost-effective infrastructure system could be established by the integration of facilities within urban agglomerations.

For high-level urban officials, assessment systems with annual GDP growth percentages per constituency are the prevailing criteria for their promotion (or at least are seen to be), which seems to put the cities they are responsible for in a competitive rather than cooperative mode when it comes to urban development, leaving less room for the development of an ecological civilisation (Mu et al., 2017; Mu and De Jong, forthcoming). Whatever one city gains, another must lose. Local authorities aim to distinguish their city from neighbouring cities —rather than collaborate with those cities and with potential regional partners— and apply for special smart-city or eco-city status at one of the ministries, in order to enhance their status. The official designation 'region with regional goals', whether provided by national or provincial authorities, often, proves to be a title without substance, in the face of the competitive urban spirit and the institutional incentives that reinforce this attitude. And yet, the need for regional cooperation is more widely acknowledged than ever before.

2.5 Public–private governance: affordable housing for socially sustainable urbanisation

In order to promote social sustainability and social inclusion during China's ongoing urbanisation, it is essential for people-oriented planning to become a priority. The issue of affordable housing is already under debate. In 2010, nationwide affordable housing for the urban poor was introduced to address high and rising prices of residential housing in urban China. This year also saw the introduction of the Circular on Speeding up the Social Rental Housing by the Ministries of Housing and Urban-Rural Development, Finance, Land and Resources, the National Development and Reform Commission, People's Bank of China, State Administration of Taxation, and China Banking Regulatory Commission. The government has attempted to expand the provision of affordable housing to low-income groups by setting the high construction target for 36 million units, to be built during the period of the 12th Five-Year National Economic and Social Development Plan (2010–2015). So far, the implementation of the programme has fallen short of the target, for two main reasons.

The first reason being that affordable housing in China is not based on housing requirements or demand and provides only few location benefits. Affordable housing is mostly being built in suburban areas where land is cheap, while the social infrastructure (e.g. access to jobs, schools, and health care) is largely lagging behind. This has significantly increased travel times and costs and added to the already high levels of air pollution from traffic congestion. This type of housing is not well-targeted, compares poorly with alternatives, and distorts the housing market. Adequate information on housing demand from various segments of the population is lacking. Low-income groups are either uninterested in, or unable to afford, current housing options as provided by the government. According to a study conducted by the World Bank (2014b), 40% of the units in a newly built affordable housing project in Shanghai were unoccupied, at the time of the study (2014). Many potentially affordable dwellings are in fact bought by wealthier citizens for purposes of speculation and/or multiple homeownership and, thus, do not solve housing availability problems.

The second reason why the implementation programme has not met its target is that migrant workers, who come to the cities looking for work, currently have no access to affordable housing, because they have a rural residential registration (*hukou*) status. At the end of 2015, the number of migrant workers had reached 277 million. These workers mostly live in informal housing (e.g. urban villages) on the urban fringe (Sun, 2015; Sun and Liu, 2015).

In this context, strengthening the role and effectiveness of the government in affordable housing is a pressing issue. Zoning policies and practices should include affordable housing in new housing developments. In order to avoid social exclusion and gentrification, neighbourhood planning would need to meet the diversity of needs from various population groups, especially those of migrant workers and the urban poor.

Conclusion
China has changed dramatically, over the last decades, and continues to be in deep transition, which offers hosts of opportunities for improved social and ecological sustainability. There are many signs that China is on the brink of a new phase in its development, and heading towards a new, service-oriented economy. Such a new phase may well require serious reconsideration of the current planning system. This will enhance the emergence of viable city clusters, social housing programmes and concepts for sustainable cities that belong to that new economy.

3 Dutch planning and governance challenges

3.1 An adaptive planning system

Over the centuries, Dutch planning evolved as it addressed a variety of problems. The Canal Ring of Amsterdam is an early example of rational land-use planning in response to rapid economic growth, and, during the industrialisation period, cities and landscapes were adapted to accommodate factories, canals and railways. Modern planning emerged in the late 19th century, in response to the vast number of environmental, health and social problems of the industrialised cities. Over the course of the 20th century, an extensive planning system emerged to deal with an unprecedented demand for urban space.

The modern statutory planning system originates from the post-war era. The 1965 Spatial Planning Act defined the framework of the planning system, describing the rights and responsibilities of the various planning authorities and the working and scope of planning instruments. It also set procedural rules (e.g. public consultation, environmental impact assessments, right of appeal) to protect against arbitrary decisions. Policy or development plans themselves should contain substantive rules (e.g. norms on urban density and social housing). Over time, amendments have been made to the planning system – most notably with the 2008 Spatial Planning Act and the upcoming Environment and Planning Act – but the basic nature and function of the planning system as a means of regulating land use efficiently and fairly has remained constant (Needham, 2014).

We can distinguish between three different philosophies in the way the planning system has been set up. The 1965 Act established a hierarchy of planning instruments, with the lowest tier (municipalities) being the most concrete and legally binding. Higher up the hierarchy, the instruments became more indicative and abstract. Because of this, implementation of national policies was a matter of negotiation rather than of issuing edicts. The 2008 Act gave all tiers of government access to the same planning instruments, including the binding zoning plan, provided their interests were at stake (Table 3). This was intended to force government authorities to be more explicit about their objectives and, in some instances, speed up decision-making.

Table 3.
Current planning system in the Netherlands

| Administrative level	Relevant bodies	Soft planning	Regulations	Land-use plan
National government	Ministries (e.g. Infrastructure and Water Management)	National vision	Order in Council	Land-use plan
Provinces (12)	Relevant planning department	Provincial vision	Provincial ordinance	Land-use plan
Municipalities (393)	Relevant planning department	Municipal vision	n/a	Land-use plan

In the 21st century, the planning system was, once again, adapted to the changing circumstances. This time to become more flexible and adaptive, as growth was slowing down and uncertainty was increasing. In 2019, the new Environment and Planning Act is to enter into force, integrating a variety of laws and regulations and seeking to enhance coordination between public interests, increase flexibility and improve efficiency.

The myriad changes to the Dutch planning system and planning policies illustrate that policymakers are aware of the need for adaptation and flexibility, over time.

3.2   Multilevel governance

Similar to the current situation in China, Dutch national planning in the 1950s and 1960s essentially entailed drafting a complete map with key concepts for the future spatial development of the nation and where provincial and local authorities were considered implementing bodies. The best known instruments are the 1966 Second National Spatial Strategy, which indicated the amount and density of new housing construction up to 2000, and the 1991 Fourth National Spatial Strategy Extra (also known by its Dutch acronym *Vinex*), which designated housing locations within and on the fringes of existing cities (Faludi and Van der Valk, 1994).

Figure 7.
Randstad policy zones
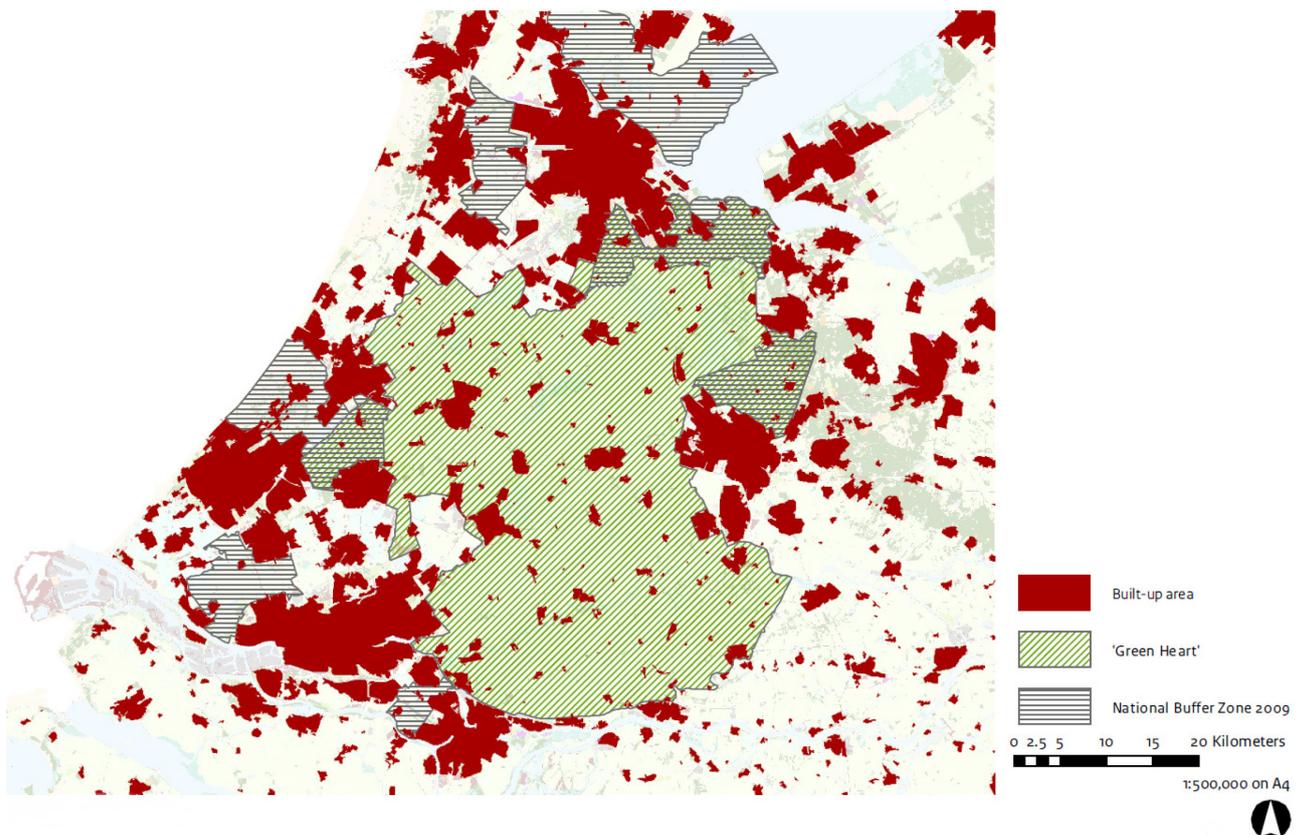
The Green Heart and national buffer zones were successfully protected from urbanisation, Source: PBL

According to the planning system up to 2008 Spatial Planning Act, guidelines set in the national spatial strategy should be recognised by the provinces in their regional plans. Provinces acted as defenders of national government interests, because they had the responsibility to approve municipal plans. They were expected to withhold permission if local plans did not sufficiently adhere to national and provincial goals (e.g. to preserve green space). Since Dutch political culture is oriented towards consensus, much of this hierarchy on paper entailed considerable give and take in practice. As a result, some national policies were faithfully implemented (e.g. buffer zones (see Figure 7 and Photo 2) and retail development) while others were not (e.g. the so-called ABC policy to concentrate office development in central locations, and to some extent, the Green Heart (Figure 7)). A crucial factor determining implementation success was whether national and local interests were aligned. Another key factor was whether sufficient funding was provided by the national government to support their policy. The reform of the planning system in 2008 and the new Environment and Planning Act will not fundamentally alter this.

Photo 2.
Buffer zone next to Rotterdam

Buffer zone next to Rotterdam, maintaining a strict policy boundary between rural and urban land use.
Photo: Rob Poelenjee

3.3 Interdepartmental governance

Dutch national spatial planning has long sought coalitions with various sectors, as it had few coercive powers and commanded a very modest budget. Planning priorities have also shifted in the search for common ground with other government departments (Table 4). In the years following the Second World War, national spatial planning sought to relieve pressure on the Dutch Randstad area by diverting jobs and industry (e.g. public-sector agencies) to other parts of the country. This endeavour required cooperation with the department of industry[3] and others. The reconstruction of war-damaged cities, and addressing the housing shortage by designating urban expansion areas and new towns, required close collaboration with the housing department. Similarly, the planning aim to protect the Green Heart and maintain buffer zones around the large cities matched the agriculture department's wish to achieve more efficient, large-scale agriculture.

As environmental protection appeared on the political stage in the 1970s, the departments of planning and environment issued joint reports, and many policy objectives proved compatible (e.g. compact city, limiting car mobility). The same was true for nature and biodiversity in the 1990s, when the designation of a nationwide ecological network not only connected habitats and restored ecosystems, but also provided recreational opportunities for people in nearby cities and acted as a barrier to haphazard suburbanisation (Photo 3). A similar result was achieved via the Room for the River policy. This water management policy designated protected river floodplains, which could then be used for nature, recreation, and cultural activities (Photo 4).

National planning also found common ground with the infrastructure department —and its considerable budget— with its 'mainports' policy, which was aimed to bolster the accessibility and, therefore, the position of Amsterdam Airport Schiphol and the Port of Rotterdam. In 2010, this horizontal collaboration was further institutionalised when the planning department was transferred to the Ministry of Infrastructure and the Environment, where it now resides. At present, national planning is also actively pursuing common aims with the Ministry of Economic Affairs, which is also responsible for energy policy and is actively seeking collaboration with many other departments to come to a national spatial vision by 2018. However, the historical ties between planning and housing have diminished over the past few decades (Zonneveld and Evers, 2014).

This account of national planning, to a certain degree, has been replicated on provincial and municipal levels, but since each tier defines its own administrative organisation, the institutes at lower tiers are not necessarily the same as those that operate on a national level. Although this can create confusion and complicate multilevel governance, it can also prevent an ossification of the sectoral structure within the state structure.

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[3] To avoid confusion, we refer to all historical institutional names in descriptive terms rather than official titles.

Planning document	Policy area										
	Economy	Housing	Environment	Infrastructure	Energy	Social	Water	Nature	Agriculture	Governance	Theme/focus
First Report (*Eerste Nota*) (1960)	●●●	●●			●			●			Modern blueprint planning (industry)
Second Report (*Tweede Nota*) (1966)	●●●	●●●	●●	●●			●●	●●			Modern blueprint planning (housing)
Third Report (*Derde Nota*) (1974-83)		●●●	●●●			●●		●●	●●	●●	Process oriented (implementation)
Fourth Report (*Vierde Nota, VINO*) (1988)	●●●	●	●	●●●				●	●	●●	Project oriented (infrastructure and urban areas)
Fourth Report Extra (*Vierde Nota Extra, Vinex*) (1991)		●●●	●●●	●●		●●		●●●	●●	●	Project oriented (housing)
Spatial Memorandum (*Nota Ruimte*) (2006)	●●●	●		●●	●	●	●●●	●●	●●	●●●	Governance oriented (decentralisation)
National Policy Strategy for Infrastructure and Spatial Planning (*SVIR*) (2011)	●●●		●	●●●	●		●	●		●●	Governance oriented (decentralisation)
National Environment and Planning Strategy (*NOVI*) (2018)	●●	●	●●●	●●	●●●		●	●	●●		Transit oriented (sustainability)

National spatial policy documents in the Netherlands attempt to integrate multiple policy areas and adapt themselves to the challenges at hand.

Photo 3.
A wildlife crossing (ecoduct) over a motorway, connecting two nature areas.

The nature areas, jointly designated by the environmental and planning departments, serve as a natural barrier for urbanisation, used for recreational purposes and for connecting habitats. Photo: Siebe Swart

Photo 4.
'Room for the River', Location Nijmegen

Simultaneously improving flood protection, environmental quality, housing and recreational quality, commissioned by Dutch national, provincial and municipal authorities Photo: Johan Roerink Aeropicture

3.4   Intermunicipal governance

The Netherlands is usually characterised as a decentralised unitary state. Most governmental tasks and responsibilities are carried out at the local level, and the trend is towards increased delegation and decentralisation. The municipal level is also the most important level at which planning occurs. At the same time, the Netherlands is fiscally centralised; most taxes are collected on a national level, and revenues are subsequently disbursed to provinces and municipalities. This creates a situation where local authorities seek to bolster their income through urban development, while being highly dependent on the national government for the funding of large projects.

Competition between local authorities can be healthy, but an unwillingness to cooperate can also undermine planning. This can be especially problematic in metropolitan areas where functional relationships transcend municipal borders, leading to difficulties in preserving open space, preventing oversupply of commercial real estate and promoting regional transportation services (Evers and De Vries, 2013).

There have been various reforms to attempt to align spatial planning issues to government jurisdictions. These include the amalgamation of municipalities, enhancing the coordinating role of provinces, ad-hoc functional authorities and the like. These strategies have had varying levels of success. There have also been many attempts to instigate metropolitan authorities, but these have been largely unsuccessful. At present, intermunicipal governance is largely occurring on a voluntary basis, most notably in the Amsterdam and Rotterdam–The Hague metropolitan regions. In the Amsterdam region, this has led to intensive cooperation in the area of transport and to agreements on combating office space vacancy.

3.5   Public–private governance

As stated, the primary aim of planning is to provide a framework for balancing public and private interests (these are usually landowners, but also shopkeepers or other economic interests). As far as brownfield developments are concerned, it is often the case that private parties set up their own private development firm when their land becomes available for development or redevelopment. It is also common that public–private partnership with local authorities are set up for such projects (see Photos 5 and 6). The Netherlands has a long tradition of seeking consensus to resolve social conflict, and the corporatist 'polder model' of collective bargaining enjoys widespread international repute. The culture of consensus and cooperation is clearly visible in Dutch spatial planning.

Over time, the public–private balance has shifted, as have the models by which public–private collaboration occurs. The most important example is that of how land is developed. The Dutch active land policy, where land is acquired by local authorities, zoned and prepared for development and subsequently sold to private developers, is well documented (Needham, 2014). Under the right conditions, this development model has allowed developers and builders to profit from property development, while helping to fund infrastructure and public amenities and services, a phenomenon often described as value capturing.

The prevalence of public–private partnerships in the Netherlands, since the 1990s, is also well-known; particularly, waterfront and brownfield redevelopment, compact suburban development (known as Vinex-neighbourhoods, see Table 4), as well as railway station area development. Over time, a shift can be observed, from a loosely structured public–private interaction to a more Anglo-Saxon form of Design-Build-Maintain-Operate, revealing growing

levels of formal contracting, financial incentives and distance between public and private sides (Koppenjan and De Jong, 2017). Indeed, Dutch government authorities have come to view their role as being more of a facilitator of private-sector initiatives rather than being an active partner.

Another typically Dutch phenomenon is the way in which information is produced and used in policy. In order to promote evidence-based policy, several independent public research institutes were set up in the post-war period. CPB Netherlands Bureau for Economic Policy Analysis is the best known example. Another one of such institutes is PBL Netherlands Environmental Assessment Agency, which provides objective monitoring and calculates impacts of policy alternatives, and is the most relevant with respect to planning. Also noteworthy is the Netherlands Commission for Environmental Assessment (NCEA), comprised of an independent advisory body of experts. The NCEA provides advice to government authorities about the quality of the environmental information in Environmental Impact Assessments and Strategic Environmental Assessments, which are usually drawn up by consultancies on behalf of local authorities or developers. Its role is to help ensure decision-making occurs on the basis of solid evidence, while not expressing a view on policy options.

Photo 5.
Central Station Rotterdam

A new railway terminal and its surroundings built by a public–private partnership (local authorities, Prorail and Dutch Railway Service NS). Photo: Riesjard Schropp

Photo 6.
Strijp S, Location Eindhoven

Former Philips factories, now redeveloped for mixed use programme by a public–private partnership (municipality, housing corporations, developers). Photo: Theo Baart

Housing is another matter that, historically, involved a great deal of coordination and collaboration between public and private interests. According to the Dutch constitution, housing is a matter of public interest, and the Housing Act of 1901 provided public authorities with specific powers to realise this. However, most public housing is built and managed by non-profit housing associations rather than by the state. Since the 1800s, the provision of social housing has been a semi-public affair.

These days, government authorities often still require new urban developments to provide a certain share of social housing (usually, around 30%). In addition to providing shelter to people in need, this is done to promote mixed neighbourhoods and prevent income segregation. Social housing is strongly regulated and subject to rent control (maximum rents and annual increases). Another instrument is that of rent allowance; it helps people on low incomes to pay the rent, even in the private housing sector.

Figure 8.
**Changing housing tenure in the Netherlands**
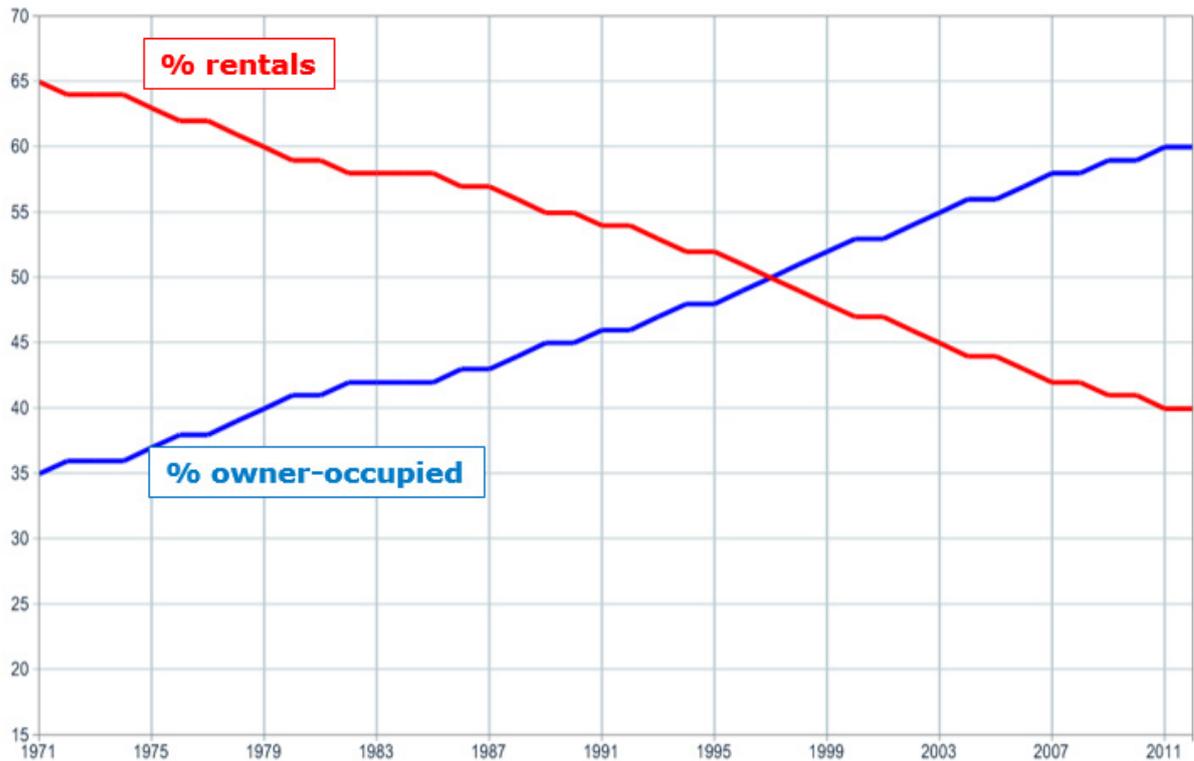
Source data: ABF systeem woningvoorraad (Syswov)

On the other hand, the Dutch Government provides a strong incentive for owner-occupied housing by providing tax deductions on mortgage interest (see Figure 8). This policy is partly predicated on the idea that people will take better care of a property when they own it than if they are renting it. A side effect is that this has increased house prices, as it makes buying a house more accessible to a wider segment of the population. Virtually all privately owned housing is built by developers; the share of self-build housing is very low in the Netherlands, despite efforts by the national government to promote it. It has slightly gained in popularity since the 2008 economic crisis (which saw a decrease in housing prices and construction), but still represents only a rather marginal share of the market.

Conclusion
Dutch planning has evolved and adapted to the various governance challenges it has faced over time. In the 1990s, the Dutch Government introduced the concept of 'diagonal planning' to illustrate its ambition of integration and coordination when carrying out national policy (see Figure 9). From this perspective, implementation requires cutting across different policy fields and different tiers of government. The mechanism for achieving such diagonal planning consisted of physical development projects involving various policy fields, and carried out in regional public–private partnerships. Concepts or 'policy frames' shared at the national and provincial levels help in achieving unity and coordination. Even though most planning does not conform to this ideal, it can serve as an inspiration for harmonising various forms of governance.
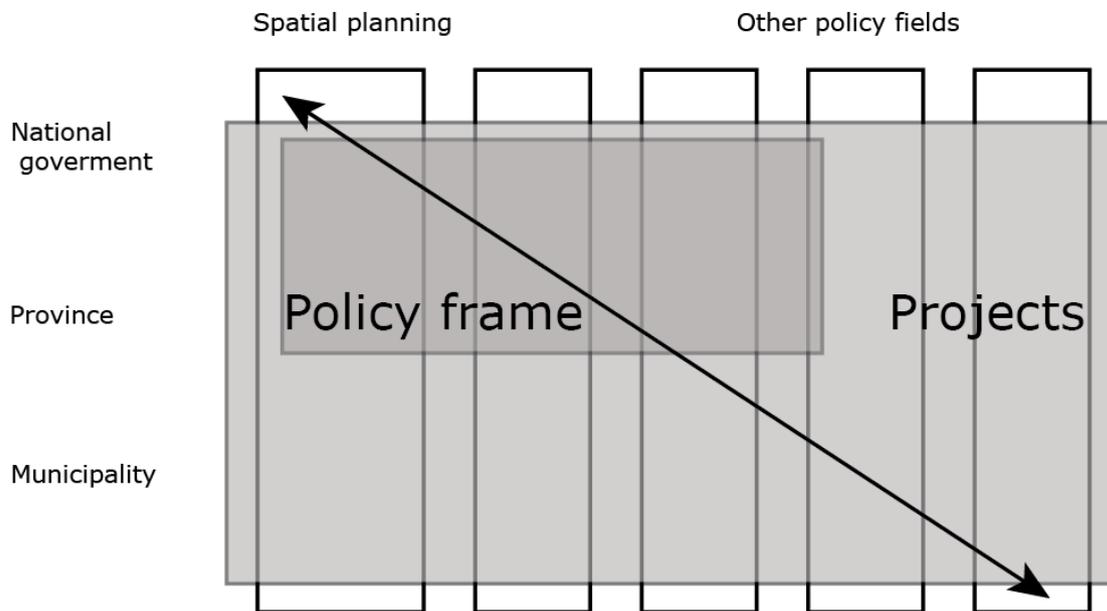
Source: Faludi and Van der Valk, 1994, p. 224, adaptation: PBL

4 Discussion

As stated in Chapter 3, Dutch planning in the second half of the Twentieth Century (particularly the 1950-1980 period) was characterised by a hierarchy of spatial plans that involved a great deal of give and take between stakeholders, at various levels and scales. The system has evolved over time, but still retains its core principles. According to current thinking in the Netherlands, innovative planning must be adaptive, integrated and participative, and these principles lie at the heart of current legal reform (Rli, 2015).

Discussing institutional and policy lessons that could be learned from the Dutch historical context in relation to the Chinese context of today is both promising and challenging. Promising because there are striking similarities: many of the policy problems that were faced and, to some extent, resolved by Dutch planning during the period of extended growth in the second half of the Twentieth Century are remarkably similar to those facing China in the Twenty First. On the other hand, applying policy lessons is challenging because the current structural and cultural institutional setting in China is dramatically different from the Dutch one. Substantial adjustments are probably needed for them to be applicable to the Chinese context, and certain solutions may never apply.

One of the most difficult tasks in spatial planning is that of achieving coherence across the various levels and dimensions of governance. The effectiveness of Chinese spatial planning in achieving an ecological civilisation, in some cases, is being inhibited by institutional fragmentation. This can be seen to be the case between national and local government authorities (multilevel governance), between spatially relevant policy areas (interdepartmental governance), between various local authorities within the same region (inter-municipal governance) and, finally, between local authorities and private parties, non-governmental organisations and individuals (public–private governance). Chinese authorities recognise that the current type of governance would need to be adapted in order to achieve an ecological civilisation (National Plan, 2014), and have started doing so. However, improving coordination is easier said than done. Institutional structures produce and reproduce rules and common practices, which allocate benefits and costs to stakeholders with divergent interests, which become vested over time. Reforming such structures requires that such differences between stakeholders can be overcome. China is not alone in this respect; all countries struggle over spatial planning. The Netherlands has over 80 years of experience in this area, and is still learning.

4.1   Multilevel governance

At first glance, the Chinese spatial planning system seems to resemble that of the Netherlands, especially that of the decades following the Second World War, due to its planning hierarchy. However, there are a few fundamental differences.

An important driver of growth are **local development incentives**. In both the Netherlands and China, local authorities generate revenues by selling or leasing land to developers. Over time, Chinese local authorities have come to rely on this practice for up to half of their income, which is significantly higher than the Netherlands today (see Section 3.4), and even more so than in the Netherlands of the 1950-1980s. Dutch Government funding of local services has declined since 1994, when the profit-sharing reform for development was first adopted. This greatly increased the eagerness of local authorities to convert agricultural and other land into building sites, even if this was at odds with officially strict land-use regulations. Therefore, the newly developed science and technology parks, residential neighbourhoods, offices and retail establishments were not always built in desirable locations in terms of spatial planning. At present, this model of urban development has come under scrutiny and criticism for promoting urban sprawl, increasing property vacancies and generally being unsustainable (RLI, 2015). This may be equally applicable to China: a thorough reconsideration of existing multilevel financial relationships would be conducive to improving spatial planning decisions.

One way of preventing local government authorities from depending on land sales is by allowing them to collect property taxes. This has been deployed successfully in the Netherlands to combat speculation, discourage multiple homeownership and to boost revenues for local authorities. Experience with this instrument in Shanghai and Chongqing looks promising. However, in the first experiment with this instrument in China, local authorities were allowed to set tax levels themselves. In order to avoid upsetting wealthier citizens, property tax levels were kept low — in effect, reducing the potential positive effect. To increase the effect of such a property tax, the Chinese Government could consider imposing a minimum tax rate.

Finally, participation could be considered a spatial planning instrument in its own right. In China, this tends to be more one-way and top-down than in the Netherlands. Given the relative size of the two nations, the distance between The Hague and Dutch municipalities is considerably shorter than between Beijing and Chinese municipalities. A higher degree of openness of the Chinese Government to developments occurring 'on the ground' would allow for greater awareness and understanding of the dilemmas facing cities in China. Rather than making lists of eco-cities, low-carbon cities and the like, and relying on reports to verify if local authorities are achieving the specified targets, it would be more beneficial to create a two-way multilevel dialogue about future courses of action (De Jong et al., 2016). This would also enable tailor-made solutions to be identified and implemented and foster local support for national policy.

4.2 Interdepartmental governance

Coordination problems between spatially relevant policy sectors are perennial and universal. Similar to most other countries, the Netherlands and China are also struggling to reconcile and achieve environmental, transport, housing, energy and various other policy objectives in their spatial planning. Chapter 3 described the Dutch national spatial planning agency[4] as a general department charged with coordination. This does not mean that it occupies a position 'above' the other ministerial departments; on the contrary, most other policy areas command larger budgets, have access to more powerful legal instruments and enjoy more political clout. Dutch spatial planning has compensated for this lack of formal power in a number of ways.

First, Dutch planners were relatively successful in creating **spatial planning concepts** that resonate strongly within and outside government (Van Duinen, 2004). The Green Heart, Mainports, Ecological Main Structure and city networks are just a few of the many examples. These planning concepts often found their way into the policies and plans of policy sectors that had the resources to implement them.

In addition, Dutch planners were able to exchange ideas in interdepartmental meetings to show that common ground existed and that policy coordination had added value. The Chinese planning system, to a certain extent, also tends to rely on national planning concepts, as is described in Chapter 2. Unfortunately, the distance between policy areas in China is greater than in the Netherlands. Interaction and cooperation between the various departments could be improved, which may help them to incorporate spatial planning concepts into their own plans. However, the likelihood of the Dutch model being adopted is small, and a possibly successful application to the Chinese situation is also highly uncertain.

The term **mainstreaming** denotes the permeation of a single policy area (in this case, planning) across the board. In addition to communication, as described above, mainstreaming can also be achieved in other ways. For example, if a strong coordinating national body that overarches other ministries, such as the State Council, were to be made directly responsible for the incorporation of spatial planning concepts by other ministries, and this would be replicated on provincial and local levels, and if such a body were to actively champion these concepts (an institutional activity in which China truly excels), its impact could be dramatically enhanced and intersectoral/interdepartmental coordination reinforced (Mu et al., forthcoming). If spatial planning is mainstreamed in China, other policy areas would also have to take it into account. Since the national government is ultimately responsible for the approval and implementation of all national policy plans (also those on provincial and local levels), this would serve as an institutional safeguard against conceptual borrowing. This obviously is no guarantee that investment programmes would become completely coherent in their implementation, but it does set the scene for discussions and negotiations between the various policy areas. Applying this arrangement within the Chinese context would work if the body responsible for overseeing urban planning (as mentioned under the previous point) would require the various ministries to consider planning as well. In short, mainstreaming would follow a more hierarchical pathway than in the Netherlands, but would be feasible if there is the political will to do so.

Finally, Chinese programmes, such as eco-cities, low-carbon cities, and green cities, are all examples of top-down visionary concepts that require cooperation between policy areas on local and regional scales. This is the topic of the next section.

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[4] The official name has changed over the years. For a long time it was known as the RPD (Rijksplanologische Dienst) and now it is called DG Ruimte.

4.3   Intermunicipal governance

As with interdepartmental governance, intermunicipal coordination of spatial policy is often problematic, both in China and in the Netherlands. Each jurisdiction has its own interest in attracting business, developing urban projects and public services, and struggles to find a balance between competition and cooperation with its neighbours.

The situation in China differs substantially, on certain aspects, from that of the Netherlands; where Dutch municipalities are small in both surface area and numbers of inhabitants, those in China cover vast territories and often have millions of residents. Moreover, all of the Dutch territory is covered by municipalities, while, in China, urban land is interspersed with rural land in counties where different rules apply. Finally, in China, top-level policymakers working for municipalities are driven, far more than their Dutch counterparts, by performance indicators that are imposed by officials on higher administrative levels. Such indicators relate to GDP growth, social unrest prevention and, increasingly, environmental preservation. Municipal achievements are usually obtained in competition with neighbouring municipalities, rather than through collaboration. These aspects also play a role in the likelihood of successful application of Dutch policy lessons to the Chinese context, although the Dutch situation does seem to provide a few relevant lessons.

In the Netherlands, despite the problems regarding the top-down instalment of metropolitan authorities, **bottom-up regional cooperation** has improved, in recent years. Amsterdam, Utrecht, Leiden, and Rotterdam–The Hague have all set up regional collaborative partnerships where spatial activities are combined, coordinated and shared. This rise of regional authorities has come with its ups and downs, but seems to have taken root. It also has positive consequences for transport infrastructure planning, efficient use of space, protection of sensitive areas, and place branding, to name a few. When national and provincial authorities are supportive of such development and adjust the administering of their policy instruments accordingly, it will only grow stronger. In the Chinese context, larger regions, such as the Pearl River Delta, Yangtze River Delta, and some of the city clusters mentioned in Chapter 2, may want to pursue similar regionalisation. In fact, national and provincial authorities are already promoting this idea in their national plans. Although they have not deployed their policy instruments to incorporate them in their indicator systems, they certainly could do so. Furthermore, where useful and desirable, they could make approval of master plans dependent on regional collaborative initiatives.

They could also make subsidies or approval of investment schemes dependent on the presence of an underlying regional vision and effective measures to secure regional coordination (a measure that would obviously require some substance).
It would have more effect if interdepartmental collaboration, on national and provincial levels, would also promote intermunicipal cooperation by combining all spatial and spatially relevant aspects in their approval.

Although there are distinct differences between Dutch municipalities, in terms of revenue and prosperity levels, these are only minor when viewed from an international perspective. **Disparities** are far greater in China, where developmental levels between urban and rural, eastern and western, and central and peripheral municipalities can be dramatic. To some extent, this is related to the economic situation, institutional arrangements and the far greater size of the nation. Nevertheless, negative effects could certainly be mitigated. Most municipal revenues originate from the national government through centrally established formulas or special project funds from ministries. Over the past decades, China has seen waves of enhanced and reduced fiscal decentralisation. This has resulted not only in greater local freedom to utilise financial resources, but has also led to a high dependence on land

development and large, nationwide gaps in resource availability. A revision of multilevel financial relationships could allow these growing gaps to be narrowed, and it could also help to institutionalise regionalisation.

4.4 Public–private governance

There is no doubt that the greatest differences between Dutch and Chinese planning practices relate to public-private (or government-society) interaction patterns. Obviously, the **balance of power** between public and private actors differs considerably between the two countries. In the Netherlands, private sector and non-governmental organisations, generally, are able to negotiate with the various governmental actors on an almost equal footing, and most construction activities are managed by private developers and construction firms, whereas in China, government authorities hierarchically are positioned above other stakeholders and are able to determine the course of development. They tend to make critical decisions mostly by themselves, and mostly do not involve others until during the implementation process, when they are in need of practical support. In addition, much of the construction work is managed, if not implemented, by state-owned enterprises that often have the largest financial reserves and the easiest access to bank loans, and that are in the most stable positions. However, these substantial differences do not imply that the Dutch experience is irrelevant to the Chinese context; three elements of public–private interaction in the Netherlands could also apply to China.

The first of these elements is the Dutch '**polder model**', where government, employers and trade unions enter into collective agreements, reached through consensus. This model tends to have a stabilising effect on society. Dutch spatial planning traditionally involves a high degree of such consensus-oriented negotiation (Faludi and Van der Valk, 1994; Van der Cammen et al., 2012). Such practices are far removed from what would be considered feasible in the current Chinese context, but a broad, structured discussion on newly to be adopted plans in which various sides can provide reasoned advice is certainly not impossible. This would primarily include government, business, environmental and societal actors. The setting for such negotiations would perhaps be more hierarchical than in the Netherlands, in the sense that the outcome would be in the form of an advice to the city mayor, rather than wield any real decision-making power. Even so, it would not be without significance, as it would at least enhance awareness and understanding of the various perspectives, ultimately with beneficial effects, even if the actual advice is not acted upon.

Although the arguments in favour of **public–private partnerships** (PPPs) are roughly the same around the world — higher levels of innovation, more efficiency, more rapid construction and streamlined public consultation — there is mixed evidence of their success, and the way they are implemented varies from country to country. In China, the role of the private sector in PPPs is often, but not always, filled by state-owned enterprises. These enterprises are comparatively closer to government than private developers in the Netherlands. This means that there is a higher level of trust between them, but there is also the risk of excessive collaboration and groupthink.

In China, **value capture** mechanisms are attempted in ways that are similar to those in the Netherlands, but are often referred to as the 'Hong Kong model'. Assessments have indicated that, in some cases, this mixing of spatial functions through devising creative public–private financial arrangements is quite effective. However, they have also shown that, if public authorities do not ensure independent monitoring of operations, safety regulations are sometimes neglected and infrastructure is built in locations where it is most profitable for

developers and not necessarily there where residents need it to be (Ma et al., 2013). Dutch experience would point to the need for supervision, monitoring and evaluation of projects, independent from the directly involved public and private stakeholders.

Urban development transformation, inevitably, will produce both winners and losers. Government authorities often need to **claim and/or expropriate land,** with previous owners having to be compensated for their loss. In the Netherlands, this compensation is calculated on the basis of the market value of the property. People may or may not like having to relocate, but the compensation schemes are widely accepted as fair.

The Chinese situation is quite different. Land is either collectively owned (in rural areas) or state-owned (in urban areas). Most expropriation takes place when rural land is converted into urban land and developed for residential or industrial uses. Since the negotiation position of homeowners and especially tenants is generally weak, government authorities are able to acquire land at a relatively low price and, subsequently, sell it to developers at a much higher price. Since compensation schemes vary between municipalities, certain residents benefit from financial compensation or the alternative housing that is provided in new towns, while others (especially migrant workers) may lose even their most basic living conditions. A lesson from the Netherlands could be to make municipalities less dependent on land-related revenues for public services (as mentioned above) and to develop a nationwide or provincial system where compensation is granted on a 'do-no-harm' basis. This could considerably increase public acceptance of sensitive issues related to spatial planning in China.

Conclusion
China and the Netherlands are obviously vastly different countries; yet, there are some similarities in spatial planning and environmental challenges —current and past— which provide fertile ground for comparison. As described above, the two countries share the theme of policy coherence, as discussed in terms of various coordination dimensions (multilevel, interdepartmental, intermunicipal and public–private). Decisive strides towards an ecological civilisation could be made by considering how fragmentation, in all its manifestations, could be reduced.

Of course, these changes could not be implemented overnight. We would like to suggest that any of these recommendations, first, are tried out in regional pilot projects. The experience drawn from these pilot projects could then help to develop the next steps towards a collaborative governance model for sustainable urbanisation with Chinese characteristics.

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