



# Development of sustainable urban forms for high-density low-income Asian countries: The case of Vietnam

## The institutional hindrance of the commons and anticommons

Jieming Zhu\*

Department of Real Estate, National University of Singapore, 4 Architecture Drive, Singapore 117566, Singapore

### ARTICLE INFO

#### Article history:

Received 9 August 2010  
Received in revised form 12 May 2011  
Accepted 17 August 2011  
Available online 10 September 2011

#### Keywords:

Sustainable urban forms  
High-density low-income Asian countries  
The commons  
The anticommons

### ABSTRACT

Urban development with sustainable urban forms in high-density low-income Asian countries is a great challenge in the context of acute land scarcity. Though the model of compact cities is a natural choice for high-density urbanizing Asia, fierce competition for limited urban land resources without effective governance often results in an unfavorable form of densification and urban compaction. From the perspective of land rights, this problematic urban form is generated in the presence of the anticommons and commons. The co-existence of the anticommons and the commons results in the under-utilization of scarce land resources and over-consumption of scarce environmental amenities, and the combination of the two constitutes a mechanism that induces a vicious cycle continuously degenerating urban environment, reducing social equity, and locking the city in an unsustainable form which exacerbates housing shortages and land scarcity. The case study of Vietnam has demonstrated that state capacity and governance should be the key factors for the city development in a sustainable urban form, as market failures of the anticommons and commons are caused by state failures.

© 2011 Elsevier Ltd. All rights reserved.

### Introduction

Since the publication of the report *Our Common Future* (WCED, 1987) and the Rio Earth Summit (UNCED, 1992), sustainability has become one of the key issues of policy formulation for the current and future world development. It is nearly universally accepted that sustainable urbanization should be considered one of the most important tasks facing the world community. While sustainability is a responsibility for every country, developed or developing, it is well recognized that sustainable urbanization is a formidable challenge in low-income developing countries, as pursuing economic growth and improving social welfare are still the top priorities for their government agendas and aspirations of their citizens. It is indisputable that sustainability for the developing countries hinges on their economic sustainability which, in turn, relies to a large extent on the efficiency of their economic development. Inefficient economic development wastes resources unnecessarily, and thus adds to tension in social relations and heightens pressure on the environment. Deficiency of wealth often leads to social injustice and environmental un-sustainability.

The Commission of the European Communities (1990) proposed for densification and urban compaction, on the assumption that compact city can reduce travel distance and save natural and agricultural land for future generations. The form of the compact city supports public transports and promotes efficient utilization of public and social facilities, though it appears that in certain socio-economic circumstances high density breeds crime, vandalism, and social irresponsibility (Fuerst & Petty, 1991). Nevertheless, high population density, which is prevalent in many Asian countries, indicates that urban land resources are acutely scarce, and makes compact cities a necessity rather than a choice.

The main premise of this paper is that in high-density Asian cities, optimal land utilization is necessary in order to maximize the provision of housing spaces per unit area of land (Glaeser, 2011). Suboptimal land utilization either exacerbates housing shortages, or consumes more land resources to meet housing needs driven by the rapid urbanization and thus worsens land scarcity. As set out in the following text, there should be two practical modes of densification and urban compaction measured by the parameters of plot-ratio and site-coverage. The critical question is which one of the two makes cities more sustainable in terms of environmental amenities and land use efficiency. The sustainable compact urban form is produced exogenously by design with imposed order, supported by the institution of land rights which curbs the two

\* Tel.: +65 6516 3422.

E-mail address: [jmzhu@hotmail.com](mailto:jmzhu@hotmail.com)

**Table 1**

Population density in the World and Southeast Asian countries (person per km<sup>2</sup>). Source: Population Division, United Nations (2009).

Region/country	1950	% of world level	2010	% of world level
World	19	100	51	100
Asia	44	232	131	257
Southeast Asia	40	211	131	257
Bangladesh	305	1605	1142	2239
Philippines	67	353	312	611
Vietnam	83	437	268	525
Thailand	40	211	133	261
Indonesia	42	221	122	239

**Table 2**

Urban population as a percentage of total population (2009). Source: Population Division, United Nations, 2009.

World					50
Developed countries					75
Asia					42
China	46	Laos	32	Vietnam	30
Japan	66	Malaysia	71	Bangladesh	27
Mongolia	62	Myanmar	33	India	30
Cambodia	20	Philippines	49	Pakistan	36
Indonesia	44	Thailand	33	Sri Lanka	14

property rights situations of the commons and anticommons.<sup>1</sup> Through the case study of Vietnam, one of the high-density, low-income and rapidly urbanizing countries in Asia, and its key commercial center Ho Chi Minh City (HCMC), this paper shows that its current unsustainable form of densification and urban compaction (low-plot-ratio with high-site-coverage, explained in detail in the following section) stems from fragmented land holding due to the de facto private landownership in the local context of high population density. For high-density rapidly-growing HCMC, sustainable forms of densification and urban compaction refer to those built forms that can optimally utilize its urban land by accommodating as many residents as land-use regulations allow, so that housing space per unit area of land can be maximized. When a high-density developing country is urbanizing, its cities need to provide decent housing to the existing urban residents as well as newcomers with limited land supplies. Originally low-plot-ratio housing quarters should be able to be redeveloped so as to accommodate new urban citizens. From the perspective of land rights, it is the anticommons and commons that trap the city in an unsustainable vicious cycle. Sustainable and unsustainable urban forms are produced under certain institutional structures. It is demonstrated that the institution of land rights is a crucial mechanism coordinating the land development market for the collective benefits of urban sustainability. By assigning rights and liabilities, the state plays a fundamental and supportive role in the pursuit of that beneficial goal.

### High-density urbanizing Asia and forms of city compaction

Asia's population accounts for about 60% of the world total, and its urban population as a percentage of the world total urban population increased from 31% in 1950 to 50% in 2009 (Population Division, 2009). Asia has been urbanizing much faster than the rest of the world in the last 60 years. However, the land area of Asia is only about a quarter of the world total. Asia is thus the densest continent in the world (Burgess, 2000). While Southeast Asia's population was growing faster in the last 50 years than the world average, its population density rose significantly due to the endowment of land resources far below the world average (see Table 1). Moreover, population is unevenly distributed in developing countries, and therefore their cities have an even higher density.

The urbanization levels of most Asian developing countries are far below those of the developed countries (see Table 2). Social and economic developments are, to a great extent, equivalent to industrialization and urbanization. Thus, cities in Asian developing countries are still expanding while a great magnitude of rural-to-urban migration is expected and national economies are trans-

formed towards urban-centered economies. Expanding urban spatial capacity is critical for cities to accommodate rapidly growing urban economies with supporting infrastructure and physical structures.

Urbanization in the context of high population density inevitably makes compact cities a necessity rather than a choice. The form of compact cities is not an unfavorable solution, rather it is considered as one of the effective measures to make cities sustainable (Jabareen, 2006; Jenks, Burton, & Williams, 1996), though there is a counter-proposition that it is the process of city building, not the physical urban forms, that makes cities sustainable (Neuman, 2005). The compact city approach has several qualities that contribute to urban sustainability. Containing urban sprawl helps conserve the countryside, and shorter travel distances reduce energy consumption and greenhouse gas emissions (Buxton, 2000; Cervero, 1998; Elkin, McLaren, & Hillman, 1991). High-density supports effective public transport modes and efficient provision of utilities and infrastructure, and thus it is conducive to social interactions and social equity (Burton, 2000). As a result of high efficiency in land use, additional open and green spaces can be created to enhance biodiversity (Swanwick, Dunnett, & Woolley, 2003).

Densification and urban compaction can be measured by two parameters related to land use, i.e. plot-ratio (total building floor area divided by site area) and site-coverage (the land area covered by buildings divided by site area), and can be increased by raising the value of the two variables. Among the four combinations of two parameters, low-plot-ratio with low-site-coverage (LPR–LSC) is not a possible option as it is not feasible for cities with high population density (see Fig. 1). The option of high-plot-ratio with high-site-coverage (HPR–HSC) is undesirable because it is a built environment with unhealthily poor ventilation and little sunlight for households at low floors. Open space deficiency makes the place hazardous in case of fires or natural disasters. This is exemplified by Hong Kong's notorious Kowloon Walled City (Girard & Lambot, 1993; Pullinger, 1989; see Fig. 2), and China's urbanizing villages (Tian, 2008; Wu, 2009; Zhu, 2004). The remaining are two practical types of compact cities: high/medium-plot-ratio with low-site-coverage (HPR–LSC) (see Fig. 3), or low-plot-ratio with high-site-coverage (LPR–HSC) (see Fig. 4).<sup>2</sup>

### Conceptual framework: sustainable urban forms, land rights, and the state

Population density indicates the degree of land scarcity. Rapid net increase of population aggravates the scarcity of urban land resources, and great land scarcity generates intensive competition over access to land use. Optimal land utilization to maximize provision of building space and urban facilities become critical issues for the urban planning agendas of Asian cities. The natural state of housing construction in many developing countries is household

<sup>1</sup> The commons is the case of open access to resources. Individuals seeking personal benefits leads to depletion of resources as a result of over-consumption and under-investment. The anticommons is also known as "hold-out" problems where multiple owners can exclude each other from effective mobilization of resources. Detailed explanations are provided in the section titled "Conceptual framework: sustainable urban forms, land rights, and the state".

<sup>2</sup> Of course, the terms "high" and "low" are of relative nature.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات