

## URBAN SUSTAINABLE INDICATORS-A CASE STUDY FROM HONG KONG

**Stephen Siu Yu LAU**

*Center for Architecture & Urban Design for China & Hong Kong, Department of Architecture, University of Hong Kong, Hong Kong Special Administrative Region, P.R. China*

**Keywords:** baseline, civic awareness, community participation, compact, density, environment, globalization, high-rise living, indicator, pollution, social-economy, sustainable development and weighting

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### Summary

Acute overcrowding, escalating population, scarcity of land, intensification of land-use activities, and absence of raw materials and natural resources all combine in Hong Kong to represent a singular challenge for sustainable development. Yet, as a study of urban resource management, Hong Kong represents a success. The story of Hong Kong's success provides a roadmap for other cities in the region, particularly the 600 burgeoning urban centers in China (see Figure 1).

In 1997, the administrators of Hong Kong initiated an inquiry into sustainable development. A three-year study resulted in recommendations on incorporating considerations for sustainable development into the government decision-making process. The study was launched with a series of public hearings, the recommendation from which informed the design of a computer-aided decision-making tool to assist policy-makers in considering sustainability issues while carrying out the daily tasks related to management and planning for Hong Kong.

This paper discusses the essence of Hong Kong's efforts toward sustainable development via the SUSDEV study, with an academic critique.



Figure 1. Location map for Hong Kong

## 1. Introduction

Officially, sustainable development came to Hong Kong in 1997, when the government commissioned a major study known as Sustainable Development for the 21<sup>st</sup> Century in Hong Kong (SUSDEV 21). The study and related activities jump-started the city's participation in a global sustainable development movement, which had likewise captured the interest of Hong Kong's citizens. The three-year SUSDEV 21 expedition guided the city and its populace through a world tour of other studies on sustainable development, from an international to a regional frontier, before finally alighting on the local landscape.

The three-year study was perhaps the pioneer effort on sustainable development in the region, in spirit as well as in momentum. Most significant was the series of open fora

and public debates on the definition of sustainable development. People from all walks of life, citizens as well as representatives from business, industry, transportation, legislative and education communities, and local government, took an active part in the public consultation process.

Hong Kong's definition of sustainable development emerged as a quest for future development to balance concern for social, economic, and environmental issues. Eight guiding principles and 39 sustainable indicators support that quest. Underlying these, the local sustainable efforts of Hong Kong are intended to join with the international community in achieving a perpetual harmonious co-existence of man and nature.

## **2. Sustainable framework for policy-makers**

The objective of the SUSDEV study was to establish a local framework so that policy-makers might include sustainable considerations in policymaking and project proposals. Establishing a sustainable framework was therefore regarded as a key outcome for the study, as was the intent that the framework should make reference to the criteria and yardstick developed with a specific society—in this case, Hong Kong—in mind.

### **2.1. Social-economic baseline**

Hong Kong has a unique social-economic structure. Some 90% of the population is Chinese descended, but Hong Kong Chinese and Mainlanders exhibit somewhat different manners, behavior, mentality, and even work attitude. Hong Kong's 150 years of colonial rule by Britain bred a westernized society. The people of Hong Kong practiced globalization long before the concept or word was created. In Hong Kong's case of East meets West, one routinely encounters traditional Chinese values of family, social customs, and other social beliefs, amid the daily activities of Westernized locals.

A well-known feature of Hong Kong is its nature as a “compact city”. Its population is densely settled in the limited geographic territory of the island and city proper; high-rise living in a high-density urban settlement. Statistics for Hong Kong, such as people (more than 50 000 per square kilometer), average number of building stories (for a residential building, more than 30 stories), and extensive multiple and mixed land-use, illustrate the extent of Hong Kong's compactness. The urban limitations and attributes of Hong Kong demand that land use be geared toward convenience, efficiency, and profitability.

Researchers such as Mike Jenks, of the Oxford Center of Sustainable Development, have observed, when they were describing the features of this compact city, that for the urban areas that lie along both sides of Frangrant Harbor (or Hong Kong), the segregation between life and work is somewhat blurred, because the physical distance between the two is much shorter, within convenient reach by numerous types of public transport, so that one must rapidly make the physical and mental shift between home and work, and work and home.

The majority of Hong Kong's urban center does not reflect deliberate urban planning, but has evolved into a mixed-use pattern. It is not surprising to find a co-existence of

offices or residential buildings next to industrial buildings, neighbored by elevated highways. As for residences, homes are carved out of tall apartment blocks, equipped with hotel-standard lobbies and high-speed elevators, attractive landscaping, and luxury amenities such as health clubs, social clubs, shops, parking garages, and very often, a transportation interchange, in addition to property management and security personnel. Typical occupants are small families who prefer the comfort, safety and security of self-contained housing in “super-towers”.

The implication of this compact social arrangement in mixed-use super-towers, which creates significant interdependency among occupants, is to concentrate and exacerbate the impacts of divergent characteristics or needs, as well as changes in the social system. Within the pressures of this context, a well-articulated sustainable development process is crucial to anticipate and accommodate shifts in social pattern, expectations and need.

The region is still suffering from the aftermath of the Asian Economic Crisis in 1997, which lowered economic productivity (GDP fell by US\$ 17 232 in 2000), boosted unemployment (4.9% in the first quarter of 2001), and accentuated the disparity between high- and low-income earners, severely reducing Hong Kong’s position in the region’s ranking of favorable business and stable investment environments. These economic indicators are significant considerations of a sustainable development process.

Individual purchasing power also contributes to economic conditions, and Hong Kong’s post-1997 economic downturn has continued to be a source of strain on this sector. Last year saw significant changes in the pattern of local consumer spending, with a continuing increase in Hong Kong residents’ cross-border spending in the mainland city of Shenzhen, where price levels are considerably lower than in Hong Kong.

Focusing a sustainable development plan that weathers a poor economic climate is a challenge for program designers, but economic robustness is an unreliable assumption. With an unstable situation, after the fifth year of adverse influences brought by both external and internal economic factors, government and business administrators are redefining objectives and targets for economic development, or re-engineering them, trying as best as possible to respond to changing economic conditions.

The seriousness of this scenario for the sustainable system designer would be difficult to overstate: when basic parameters are so volatile, it is quite a challenge to link planning to fluctuating principles, priorities and policies.

## **2.2. Environmental Baseline**

Mounting concern over the worldwide climate also presents planners with the concept and agenda of the ‘green’ movement, which has swept across international borders. Global climate change, the melting Antarctic ice mass, increasing average world temperature, and ozone layer depletion, are all understood in Hong Kong as well-known symptoms of inferior environmental quality. These concepts are taught routinely in the primary schools.

With this local sensitivity, therefore, in Hong Kong, environmental consciousness has gone from a government-led campaign to a personal commitment of its citizenry. What started off as a legislature-dependent movement has evolved into a way of life among many households. Hong Kong's high degree of community consciousness may be easily explained by efforts from two civilian sectors, the schools and the news media, both of which have taken up the environmental cause. However, for Hong Kong, the environmental awareness of society may be described as "awakening", as in other sectors of the community and even some government sectors, the policy-makers have not yet identified specific benefits or identified their contribution to environmentalism. Beyond the fact that many have yet to find the 'good cause,' another obstacle is the economic downturn and changing market conditions, which have shifted business leaders' attention away from 'green' matters.

Hong Kong gets good marks for environmental performance on energy consumption per capita, because the small land area, hence small and efficient urban footprint, along with a high-density population make efficient energy use possible. The relatively low rate of direct energy cost, when compared with a few neighboring nations and others that are heavy energy consumers (e.g. USA, UK, Malaysia, and Singapore), also contributes to better-than-par performance.

On the less positive side, environmental quality of life from motor vehicle exhaust fumes and water, noise and waste pollution are notable detractions for locals as well as visitors. Construction waste is another area that caught the attention of the 'green' advocates in both the administrative and professional sectors. All the above evils are a focus of enforcement and control efforts by the governmental Environmental Protection Department, a 13-year-old agency seeking to achieve improvement, but these considerations of course impact development.

The correlation between environmental quality and economy is seen as a key indicator for the sustainable development planning process for the city. The environmental baseline is indeed closely linked with the socioeconomic baseline, and the lesson of the SUSDEV 21 investigation is a resolution that the two are inter-related, indispensable, and should not be treated as separate, as they mutually affect one another.

### **3. Sustainable indicators and a decision support tool**

As defined, sustainable development for Hong Kong deals with the economic, social and environmental balance and stability at present as well as for the future. The SUSDEV study was determined to recognize key indicators through research, literature review, and perhaps most important, public consultation, field surveys and interviews among specific social strata to identify aspects of daily social life that would have significant meaning or influence for one group or society as a whole. The plan to derive a sustainable strategy depended upon sustainable social indicators that reflected the preferred values of society and were quantifiable.

A dilemma Hong Kong researchers faced, however, was that the public consultation process brought in as many as nearly 300 different indicators. The final recommendation listed only 39 indicators, related specifically to eight categories of

Guiding Principles; nevertheless, the consultation process proved its value in that the principles reflected vastly different preferences/concerns from different sectors of society toward sustainable development. The Hong Kong researchers decided the primary role of the indicators would be to measure progress and performance of the delivery processes. The sustainable development process would leave room for new indicators to emerge in times of changing progress and delivery processes.

Thus was formed the central feature of a sustainable decision-making tool for public administrators to incorporate and evaluate the significance of sustainability in policy or proposal-making activities.

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### **Biographical Sketch**

**Stephen Siu-Yu Lau** is Director, Center for Architecture & Urban Design for China and Hong Kong at the University of Hong Kong, China. Professor Lau's research and teaching interests are focused in a number of areas. The first area is sustainable urban design, which focuses on sustainable development policy and strategy at a city level. A second area is a study of the environmental design of both high-density urban development and sustainable building. A third focus is research on the socio-cultural attributes for urban form. He is conducting field research in a number of Asian cities. He is a coordinator of the CIB task group 43 on Mega-cities Research.

Professor Lau is an urban dweller; he has lived and worked in London, Singapore, and Hong Kong.