

How Can We Make Hong Kong's Urban Form More Sustainable? : From Perceptions to Reality

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Abstract: This paper first discusses sustainable urban development, a concept highly compatible, if not fundamental, to the realization of open building formation and design, which serves as a framework for assessing Hong Kong's compact urban form. This is supplemented by the results of a survey conducted by CUPEM for the ProyectoCITIES project¹ on perceptions of Hong Kong's urban development by different stakeholders: the private sector, the public sector and civil society. The survey² results show varying degrees of discrepancy between the perceived level of excellence and level of priority held by these various groups towards a number of physical, socio-economic, environmental and governance conditions in Hong Kong. While all these stakeholders seem to view certain indicators as important, for example the "quality of city's surroundings and water features", "overall environment of the city", "social cohesion" etc, they seem to differ on other issues. We correlate these findings with Hong Kong's future development plans and find that there are several priorities of all the stakeholders that are not adequately addressed. Hong Kong should develop sustainable goal oriented strategies through community empowerment and participation that reflect people's priorities. Implementation of these strategies through good governance practices should carry forward these perceptions to "reality".

Key Words: urban form, sustainability, perceptions, reality

1. INTRODUCTION

Over 45% of the world population lives in cities. Cities are the engines for economic growth often developed at the expense of environmental and social capital (Ng, 2002). This paper first discusses the principles of sustainable urban development and how they can be integrated with the concept of "Open Building", which serves as a framework to assess the sustainability of Hong Kong's highly dense compact urban form. This is supplemented by a survey conducted by CUPEM for the ProyectoCITIES project on perceptions of Hong Kong's urban development by different stakeholders: the private sector, the public sector and civil society. Analyses of the survey results show varying degrees of discrepancy between the perceived "level of excellence" and "level of priority" and agreement held by these various groups towards a number of physical, socio-economic, environmental and governance conditions in Hong Kong. We then select indicators that scored a higher level of priority to determine which indicators the three stakeholder groups would like Hong Kong to focus on in the future. We then correlate these findings with Hong Kong's future development plans and find that there are several priorities of all the

¹ ProyectoCITIES is an international project with over 20 cities participating, and was organized by Fundacion Metropoli in Spain, the research for Hong Kong was done by CUPEM, HKU

² As part of Hong Kong's input for the Study, CUPEM undertook the City Forum survey in Sep. 2000, which was jointly developed for the by University of Pennsylvania and Fundacion Metropoli,

stakeholders that currently are not being adequately addressed. Hong Kong should develop sustainable goal oriented strategies through community empowerment and participation that reflect people's priorities. Implementation of these strategies through good governance practices should carry forward these perceptions to "reality".

The following section inter-relates the concepts of open building and sustainable urban development and elaborates on the development of Hong Kong's urban form and structure. The next section discusses some of the survey results followed by recommendations and concluding remarks.

2. OPEN BUILDING/SUSTAINABLE URBAN DEVELOPMENT

Open building is a term that is used with different meanings within varying contexts and has gained popularity over the last two decades. Within an urban development context, it promotes the idea that the built environment like a building is in constant transformation; this change impacts the people that inhabit the city. The fact that the built environment is the result of a continuous planning and design process in which the urban fabric evolves over time must be recognized and understood (www.habraken.com).

Many factors, policies and decisions impact the city at various stages of its development and these will determine the resulting urban form and structure and livability of a city. Very often the economic needs change, the physical fabric is restructured, displacing people, shattering communities and changing the built environment. The idea of having open building is to have incremental, collectively thought-out and organic processes of designing and implementing physical changes to the city's urban structure (Figure 1).

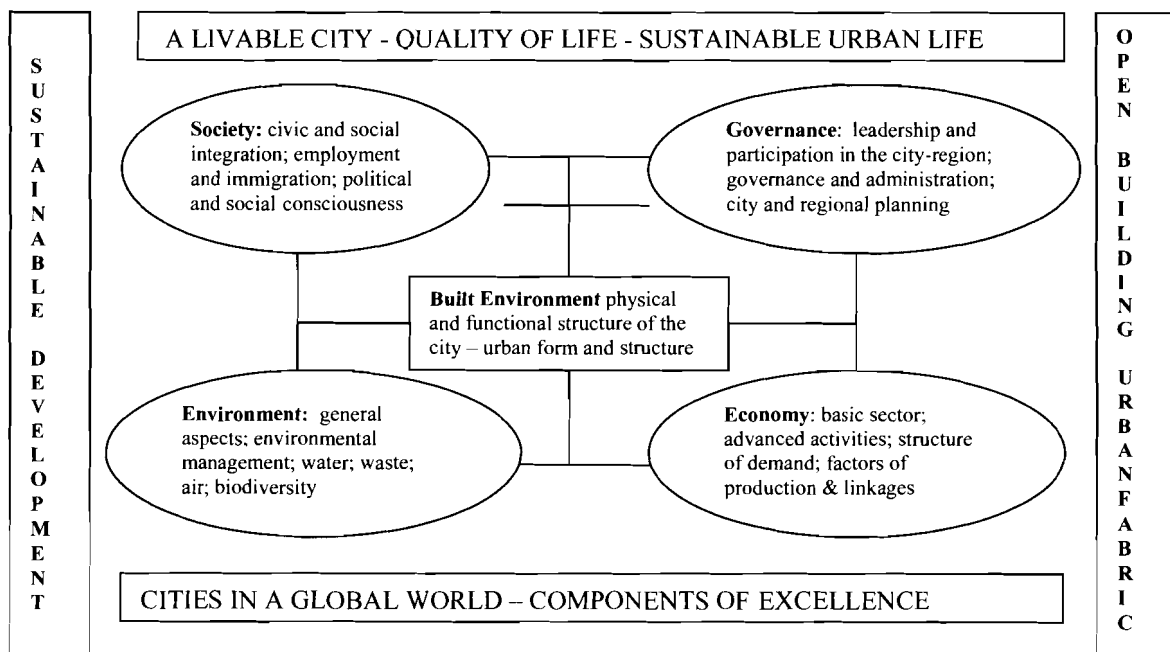


Figure 1: Open Building and Sustainable Urban Development Framework³

³ indicators in the above figure have been adapted from ProyectoCITIES project - City Forum Survey

The concept of sustainable urban development has been well researched but often from varying viewpoints. Sustainability is interrelated to human beings and the natural environment, and requires intra and inter generational equity, demographic stability and respect for the ecosystem which can be ensured through good governance. Urban sustainability cannot be achieved without economic prosperity, and a diversified and pluralistic society ensuring socio-economic and environmental equity. A city's success should not be measured only in economic terms but also in terms of social and environmental capital as well (Ng, 2002).

There is a strong link between urban form, open building and sustainable development but it is not simple and straightforward. A sustainable city is of a compact urban form and human scale that encourages social interaction but often compact cities get overcrowded and suffer loss of urban quality with less open space more congestion and pollution (Jenks et al. 2000). Due to its highly dense compact urban form and heavy reliance on public transport Hong Kong is considered in some respects to be on a more sustainable path compared to other cities in the developed and the developing world (World Commission Urban 21, 2000).

Quality of life is also closely related to the concept of open building and sustainable development which emphasizes the integration (not just balance) of social, environmental and economic concerns (Ng and Hills, 2003). Hong Kong with its dramatic development over the last several decades is now facing some social, economic and environmental challenges. To improve the quality of life of its people the city is beginning to address the issues of urban sustainability. Hong Kong's urban development demonstrates that the concepts of open building and urban sustainability are still in the very early stages of gaining importance and recognition.

3. HONG KONG'S URBAN FORM AND STRUCTURE

Hong Kong is a city of close to 7 million strategically located at the mouth of the Pearl River Delta on the Southeast coast of China (Figure 2). The city is set in a natural setting of mountain ridges, harbour, islands, waterfront, beaches and an extensive coastline. The city's unique urban form is characterized by a very high density development due to its hilly terrain and scarcity of developable land in the urban core. Only 25% of the land - about 75 sq. km - is urbanized and over 40% of the 1,098 sq km is designated as country parks. The population density of the city is about 6,096 persons per sq. km, and in the most densely developed areas of Hong Kong it reaches 54,374 persons/ sq. km. Hong Kong, a place where East meets West, developed first as a trading entrepot, then a manufacturing centre, later became Asia's financial and business centre and now is a major exporter of services. Hong Kong's urban form is dictated to a certain extent by the Planning Standards and Guidelines and the Government's dependence on the property market. Various other factors that impacted Hong Kong's urban form over the period of its development history are discussed below.

The strategic location, deep water natural harbour, local climate, British administration stimulus, demographic structure and social segregation of the local Chinese determined Hong Kong's initial urban form. During the early colonial era the city was at an intimate human scale, low density two to four storey high buildings of European Architectural style juxtaposed with traditional Chinese details. Streets were designed for the pedestrians, a tram traversing east to west with a grid iron pattern similar to European towns. During the post war era urban development was driven by the acute shortage of housing and the rise of squatter settlements. In response to the housing demand pressure, due to the fire in 1953, coupled with the huge influx of migrants from China, the British Government built standardized resettlement housing. The buildings were 7 to 10 storeys high of marginal quality with common bathrooms on each floor, yet the sense of community within these developments was high. The migrant population helped in the industrial growth and expansion of the manufacturing sector in Hong Kong due to availability of abundant

capital and cheap labour. Numerous high rise factories sprung up in textiles, electronics, clocks, jewellery etc.

China's adoption of the open door policy in 1978 and the development of the Special Economic Zones have led to an economic restructuring of Hong Kong from 1980's to present. Manufacturing and industry moved out to the SEZ of Shenzhen and Guangzhou. Hong Kong transformed itself from a manufacturing and industrial centre to a service centre and became the gateway city to China. Rapid diversification into tertiary services led to the development of financial, legal and other professional and advanced services. Hong Kong witnessed further expansion of the tourist and transportation sector and more recently an attempt to enter the hi- tech industry.

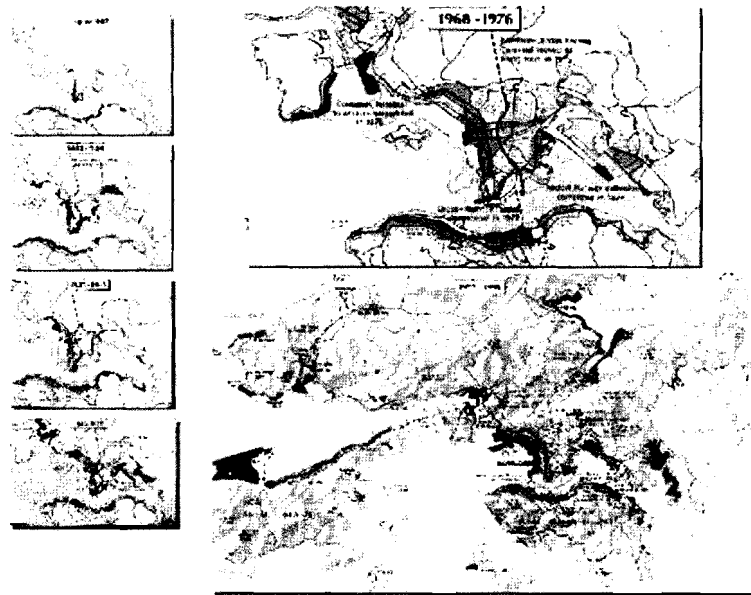


Figure 2: Urban Development of Hong Kong (source, Planning Department, Hong Kong)

The shortage of developable land forced further development to the urban fringe areas and resulted in the ambitious and successful New Town program that involved major reclamations. Since the 1950s, New Town development transformed Hong Kong's urban structure into a satellite development. However, the intention to make the new towns self-sufficient did not pan out as the major employment centre is still within the urban core. The new towns were built around the town centre/railway station with intensive high-rise podium type commercial development. However, most of the new towns are of standardized urban form, monotonous and look similar, only Sha Tin and Tung Chung stand out for their somewhat distinct identity.

By retaining its foothold as the employment and commercial centre the urban core has remained strong, vibrant and dynamic and has not faced the problems and dilemmas of many city centres' around the world. Over several decades, reclamation of the harbour has increased developable land on either side, while narrowing it considerably. The Protection of the Harbour Ordinance instituted recently in response to public outcry has brought about a check on the extent of reclamation.

Over the last 20 years, construction of the railway network by MTR and KCR has also propelled the pace of development in Hong Kong. Rail stations have become the location for nodal development along the network and thereby further transformed the urban fabric of Hong Kong.

Limited subsidies from the Government and heavy reliance on property development and the cash box, has limited the rail network while making it less affordable for some sections of the population, (Barron, 2000). Nevertheless, Hong Kong enjoys the luxury of about 95% serviced by truly multi-modal transportation system. Urban rail together with buses, taxis and trams provide affordable mobility and accessibility to public transport to almost 100% of the population except some remote villages in the New Territories.

In an attempt to reduce vehicular and pedestrian conflict, pedestrian movement was moved away from the ground level where the automobile dominates. The podium type development and the close proximity of buildings to one another have led to the development of footbridge systems that are extensive and unique. Indoor shopping malls that are often located at the rail stations are housed in podium structures and are connected to the footbridge network. This has taken away the importance of ground level to the pedestrian in the form of open space, tree lined boulevards, pedestrian streets, squares and plazas. More recently piecemeal pedestrianization efforts by the transport department are being undertaken to make the streets safer by eliminating the transport black spots. These have taken the form of traffic calming, part time and full time pedestrianization schemes.

Hong Kong's dynamic and vibrant streets, and the constant change in the skyline and the densely packed high rise buildings is interesting to the visitors. The neon lights and the signs boards especially on Nathan Road, are viewed by some as chaotic yet by others as interesting. This densely packed urban environment in some areas proves to be monotonous and congested. The mountain ranges actually form view sheds and the coastline provides relief to the dense urban development. However, there is an urgent need for physical and visual relief in the form of vistas, view corridors, open space and access to waterfront promenades. An attempt is being made in this direction through the Urban Design Guidelines and the Harbour and Waterfront Studies, but proposals need to be implemented yet.

Lower open space standards within the HKPS&G, has led to little land being left for usable open space or public use. In an attempt to maximize the development potential of the land buildings are being built closer and taller, thereby exacerbating the already dense built environment. However, it should be noted that the quality of the newer private development is significantly higher than public development. A skewed priority to minimum maintenance has also led to a more mundane streetscape and urban landscape of Hong Kong. Hong Kong looks glamorous from the mountain top especially the Peak and the harbour with memorable views from the ferry, but lacks imagination or attention to detail at the human scale, especially at ground level. Again studies are being undertaken to improve the streetscape and to make the streets pedestrian friendly.

The market led development approach has proven to be rather unsuccessful as far as redevelopment and renewal is concerned. There is an urgent need to address the aging poor quality building stock, especially in the older areas of the city. Hong Kong's answer is the creation of the Urban Renewal Authority replacing the more profit oriented Land Development Corporation. The URA approach to renewal is based on four R's – Redevelopment, Rehabilitation, Preservation and Revitalization. The Urban Renewal Strategy has identified several areas and sites for renewal to be implemented over the next 20 years. Additionally, the relocation of the airport to Chek Lap Kok has made available huge amounts of land to be redeveloped at higher densities in the urban core.

Hong Kong is going through yet another transformation, that of political and governance as a result of the handover of the territory from British to Chinese sovereignty. Hong Kong's reunification with the Mainland of China in 1997 provides a new regional development context for the Special Administrative Region (SAR). Increase in cross border activities and investments further integrate development across the border thereby making the border more porous with greater linkage with the Mainland. A possible development of multi-centred city region in the PRD could transform Hong Kong's urban structure and redefine its regional and global context.

Hong Kong has now stepped into the era of growing environmental concern that would result in a more sustainable Hong Kong. Urban design has become a significant part of planning in

Hong Kong. There is a conscious effort to raise the quality of life of people and also get them more involved in the planning process through public consultations. The local population is only now entering the arena of community involvement and needs education, empowerment and training to become socially aware and participate successfully in planning the future of Hong Kong.

4. PEOPLE'S PERCEPTION OF HONG KONG'S URBAN FORM

As part of the ProyectoCITIES project CUPEM conducted a comprehensive survey to identify the "clusters of excellence" for Hong Kong. About 15 questionnaires were mailed to each of the participating sectors; the public, private and the civil society. The survey required the respondents to identify the "level of excellence" and the "level of priority" by giving a score of 1 to 10, the higher the score the greater the level of excellence or priority. A total of about 189 indicators were listed under the following six categories; the elements of the physical and functional structure of the city; society; economy; governance; cities in a global world; and components of excellence. Level of excellence relates to the people's perceptions of the existing situation in Hong Kong for these various categories, while level of priority indicates how important they feel each issue is.

All the stakeholder groups rated urban sustainability with current levels as poor (Figure 3). Environment scored the lowest as low as 4 points and the social development and cohesion about 6 points, with economic competitiveness scoring the highest close to 8. Yet all the three groups have given high priority to urban sustainability scoring between 8 to 9 points.

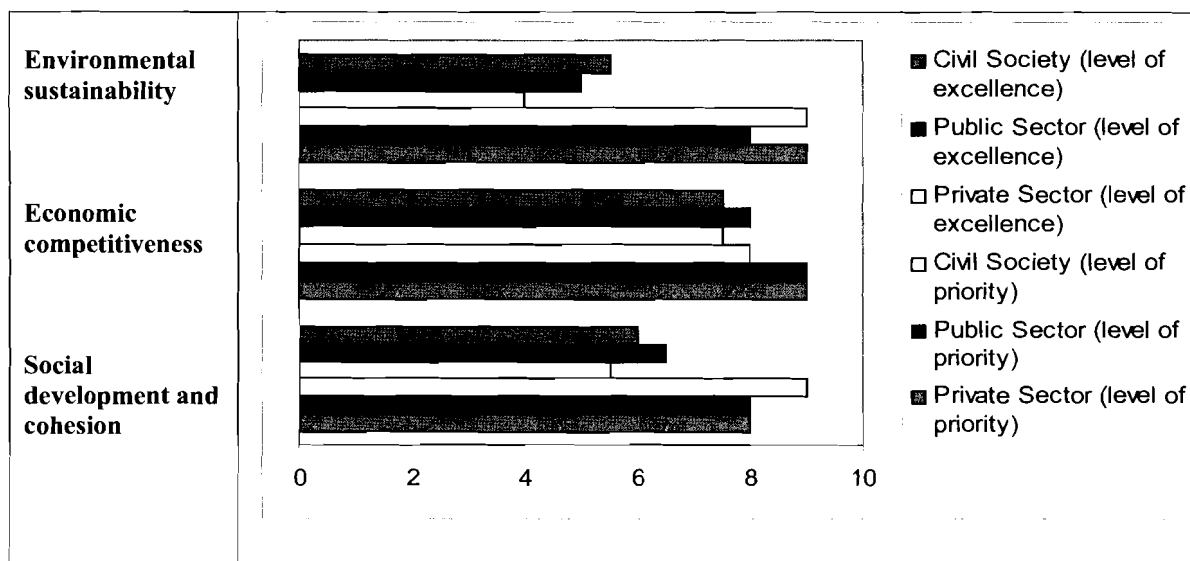


Figure 3: Urban Sustainability

The indicators for physical environment, urban structure and setting (Figure 4) show their perceptions of the level of excellence and level of priority for the three stakeholder groups. There are differences between the perceptions of the public sector, private sector and the civil society regards the level of excellence, although they seem to confer on certain key issues of highest priority. These include: location within an internal context; quality of city surroundings; overall environment of the city; quality of urban setting for the pedestrians; green areas in the city and water in the city. It should be noted that the public sector had a tendency to score higher on level of excellence when compared to private sector or civil society. For example the public sector gave

a higher rating for the night time illumination of the city, water features and courses in the city, city's relationship with the region, uniqueness of urban image, quality of modern architecture etc. This discrepancy may explain why the public sector takes a much longer time to recognize that problems exist while the private sector and the civil society get anxious and frustrated at the public sectors lack of concern for these issues.

Overall, the same pattern is repeated. There are several indicators that received a score of 8 or above for both the level of excellence and level of priority. Sub-categories where four or more indicators were selected include: educational system and universities; environmental management; civic and social integration; advanced economic activities; factors of production; administration and governance; and potential for globalization, with advanced economies taking in 6 indicators and environmental management being on top with 9 indicators. Sub-categories where three indicators are selected include: external communications system; urban setting; employment and immigration; political and social consciousness; structure of demand; urban sustainability; physical environment of the city; urban structure; unique parts of the urban structure; urban transportation; basic sectors of economic activities; productive linkages; city and regional planning take in two indicators each.

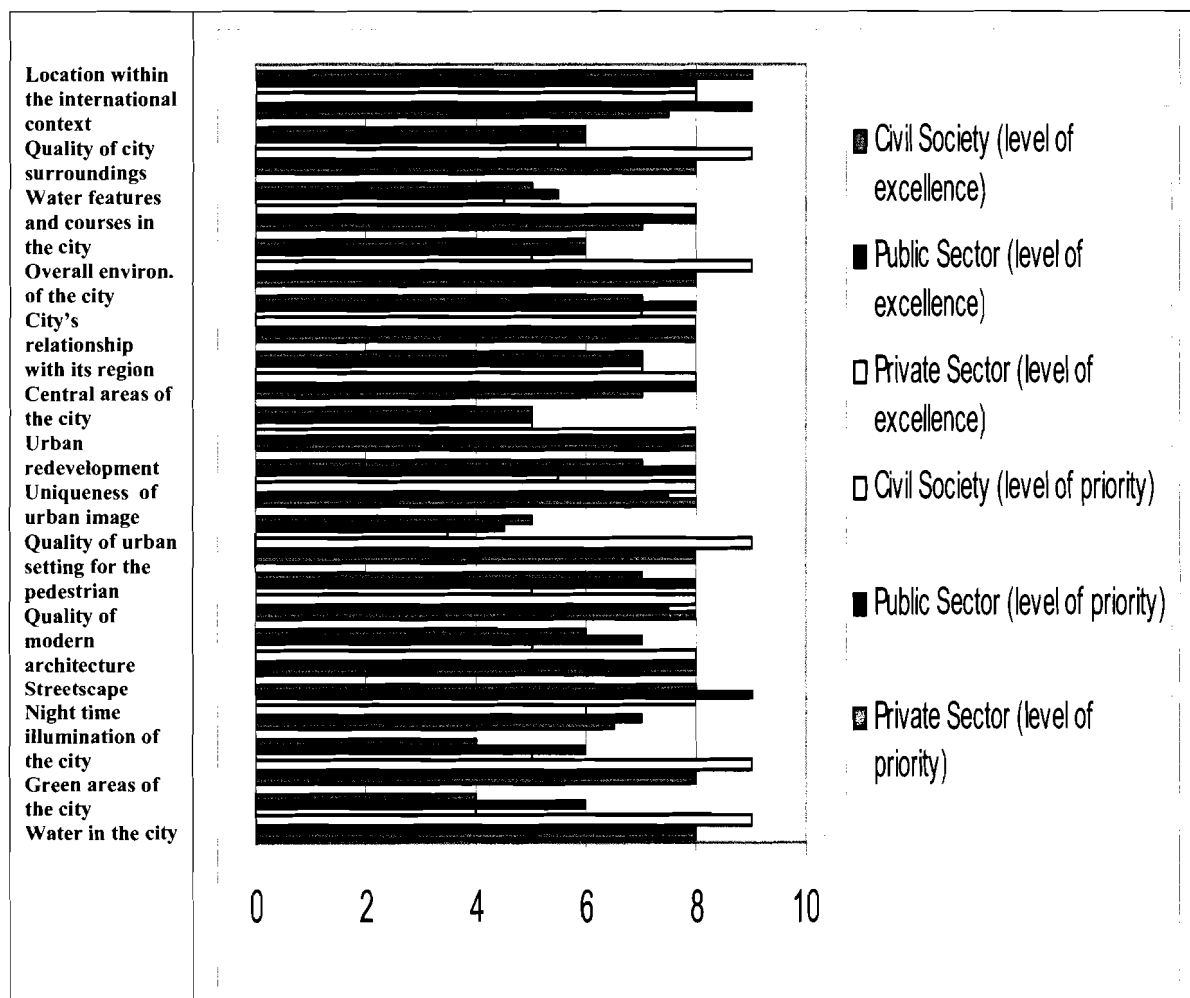


Figure 4: Physical Environment, Urban Structure and Setting

Now that we have seen what the public sector, private sector and civil society agree on over the indicators listed in the level of excellence and the level of priority it is useful to see if Hong Kong people's perceptions match with current plans for the future development of the city. We have used the HK2030, (www.info.gov.hk) a strategic Study currently underway and looked at its key issues and planning implications and compared it with the Hong Kong people's priorities.

Analysis of the Study and the survey results shows that only some of people's priority items are addressed and there are several priority areas that are not even considered. The Study includes the following key strategies: airport and port development; strengthening rail and road linkages with the region; regenerating old urban areas; providing a quality living environment; preserving cultural heritage and enhancing an attractive townscape; conserving natural landscape; enhancing the transport system; meeting housing and community needs through new growth areas; adequate schools for quality education and retraining; reduction of air pollution; energy efficient public transport system; promoting tourism etc. The Study addresses certain key issues that were not considered in previous strategic studies. However the HK2030 ignores other issues relating to environment, social cohesion, equity, community empowerment, participation and governance. The Government still needs to address these to make local people's perceptions become a reality and ensure that the future development of the city is more sustainable.

5. TRANSFORMING PEOPLE'S PERCEPTIONS TO REALITY

People's perceptions can become reality if future development focuses on the following⁴:

Sustainable urban life – open building, the livable city – use of public art, Chinese culture, music, heritage and urban amenities can enhance the quality of the built environment. Puncture more open space and green areas for relief from extreme density and enhance the streetscape and identity of places. Create landscaped waterfront promenades to provide physical access to the water not just limited to visual access of the coastline. Provide access to the natural environment and create a network of open spaces and landscaped areas. Hong Kong current city's image is of a high density concrete jungle, a destination for shopping, and "A City of Life". Showcase the city with a unique setting, vibrant urban form, and abundant natural environment, a sustainable and livable city.

There is a need to devote proper attention and resources to urban regeneration, historic preservation, urban heritage and culture enrichment within the built environment. Enhance the quality of the city's surroundings, overall environment of the city, and the city's relationship with its region. There should be high quality new and urban regeneration of older areas for a better urban fabric. Enhance the quality of the urban setting for pedestrians, through urban streetscape enhancement, urban furniture and signage and green areas within the city. Highlight the ecological buffers and greenways and outstanding natural elements of the city. Maintain the city's international flavour, a mix of Eastern and Western cultures, vibrancy and diversity of the streets, shopping, tourism, mobility and security, a very safe place to live and work in.

Sustainable urban access – resource-conserving mobility – Hong Kong enjoys a truly multi-modal public transportation system. However, congestion on the roads as a result of over-competition leaves empty buses running, that adds to the urban traffic congestion, air and noise pollution. Removal of duplication of services by using feeder systems, single ticket use for transfer journey etc. can ensure a more efficient transport system. Decentralization of the employment centres within mature new towns and more integrated land use and transport planning can reduce the number of trips generated. More effective use of the waterways through water taxis will ensure proper distribution between different modes of travel and especially relieve congestion on roads.

⁴ The above sustainability indicators have been adapted from World Commission Urban 21, 2000.

An integrated urban design led approach would ensure a more comprehensive pedestrian network and interesting streetscape ensuring a higher quality pedestrian experience. Hong Kong should also explore ways to increase the amount of multi-level connections and usable open space and quality public spaces in the form of squares, plazas, sky walks and gardens given its compact and dense urban fabric. Encouraging the use of the bicycle, car/bus free zones with free shuttle loops etc within districts could make the transport system more sustainable. Ensure proper external communications systems ie., telecommunications infrastructure, networks of railroad lines linking the city region and other parts of the PRD and the commercial port. Provide extensive metro and regional rail network and improved cross-border conditions.

Sustainable urban environment – stable ecosystems – There is an urgent need to institute conservation and recycling programs to ensure that the ecosystems are stable and educate the public on proper use and care of the environment. There is a need to ensure a reduction of vehicles and other polluting sources, and cut down vested interests in economic goals at the cost of environmental resources. Strategies committed to proper environmental management of the city should be implemented to ensure better environmental quality, specifically, cleanliness of the city and its harbour, coastline and beaches. Ensure acoustic comfort, air and water quality, use of clean technologies, delivery of drinking water, sewage treatment, rubbish removal, recycling and treatment of solid wastes.

Sustainable urban shelter – decent affordable housing for all – Hong Kong needs more affordable housing for all, better quality and increased square footage per unit and more amenities. Prices are still too high, despite the property market slump. The rich and expatriate population, enjoy a lot more, although businesses are cutting down on housing allowances.

Sustainable urban society – social capital, social coherence and solidarity – The city should work to ensure racial harmony, social cohesion, fight against poverty and maintain standards of public safety. Increase the city's capacity to generate employment, job quality and wage levels and professional qualifications of locals and immigrants. Augment citizen's confidence in institutions, fight against corruption while ensuring freedom and independence of media. Improve the quality of educational institutions, graduate education and research development and ensure the suitability of the education system to the local economy. An enlightened society will be able to support the development of more sustainable cities for future generations (Ng and Hills, 2003).

Sustainable urban economy – work and wealth – Hong Kong needs to diversify its economic base, and become less dependent on property. It needs to become professionally active, train better English speaking and skilled workers to increase productivity. Ensure the proper functioning of basic sectors of economic activities, commerce and services as well as administration and government. Pay close attention to advanced economic activities such as education, telecommunications, medicine, financial services, tourism, hotels, restaurants, leisure activities, and activities aimed at improving the environment. Further develop the local, regional, national and international markets. Nurture work ethic and maintain business climate and ensure the availability of technology, intellectual and venture capital. Promote co-operation and collaboration between public and private sectors and improve the quality and specialization of professional services.

Sustainable urban governance: attain sustainability through good governance – Hong Kong should strengthen its local government and the effectiveness of local administration in managing urban issues. Ensure the capacity to create organizations and institutions capable of achieving concrete objectives. Undertake better quality of planning at the city and regional levels and with a

collective envisioning project for the city. There is a need for clear political and economic leadership supported by an enlightened and widely networked community (Ng and Hills, 2003).

Sustainable urban democracy – empowering the citizenry – Hong Kong would benefit from a strong leadership at the centre, a more decentralized approach with more power given to the districts and ensuring good governance practices. Hong Kong should invest in the education and empowerment of its people, to instill pride and ownership of land/city, less disparity and open to change. Develop a commitment and bondage to participate actively in the future planning of the city.

Globalization: - local, regional, national and international links – Hong Kong should develop international, political, cultural, social links and increase the capacity of the city to compete at an international level. Maintain local economy's link to the global market, receptivity and level of openness. Sustain the ability to attract tourism and cultivate an external image of the city.

Components of Excellence: - world class elements and urban sustainability – Hong Kong should develop world class elements and urban areas that provide the city with competitive advantages. Hong Kong would need to do more to maintain its competitiveness; three important issues, diversify its economic base, develop its human resources and improve its environment to work towards its urban sustainability.

6. CONCLUDING REMARKS

The concepts of open building and sustainable development are integrated to serve as a framework to assess Hong Kong's urban form. The survey results provide a useful insight into Hong Kong people's perceptions of the city's urban form. The differences between level of excellence and level of priority by various stakeholders shows that Hong Kong public sector needs to listen more carefully to the perceptions of the private and community sectors. The stakeholders' priorities are not adequately addressed by current plans for the future development of Hong Kong. The public sector through strong political and economic leadership should reassess its current policies and see how it can develop programs and implement strategies to turn its people's perceptions to reality.

Governance should transition from a top down to more grass roots local level so that pride and ownership of the city is instilled at the community level. The community needs to be educated and empowered so that it can effectively participate in the collective envisioning of Hong Kong's future. However, it is positive to note that all the stakeholders have given urgent priority to urban sustainability. These include conserving the environment and the development of social capital, while maintaining economic competitiveness. Hong Kong needs a balance of the environment, social and economic development and successful urban regeneration and regional development. Hong Kong will then truly embark on a open building and sustainable development path and emerge as Asia "Great City".

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