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Sustainable Urban Development:

A Comparative Case Study Analysis of Hong Kong Special Administrative Region and Republic of Singapore

Topic and Research Question

Cities are profound reflections of human achievements, activities, development and prosperity. Yet, as evidenced by the climatic abnormalities, health problems of the inhabitants, pollution, uneven allocation of resources, loss of biodiversity and accumulation of waste within urban areas – cities tend to reflect an unwelcoming and unsustainable environment to live and prosper in. The following paper seeks to contribute to the study of Sustainable Urban Development (SUD) by looking at specific infrastructure facilities such as waste management, transportation, green space allocation and land reclamation by analysing policy related documents of the Hong Kong Special Administrative Region and the Republic of Singapore using case study analysis. In particular, the research question of *what are the differences and similarities between sustainable infrastructure policies of Hong Kong and Singapore* is predominant throughout the paper, whereby further enhancing the investigation of current differences, similarities and possible future scenarios in the area of sustainable urban development.

State of the Art

Sustainable urban development has been analysed by numerous scholars with a particular emphasis on natural and built environment, population increase, spatial distribution, infrastructure facilities and Multiple and Intensive Land Use (MILU). Specifically, Lau, Stephen, Wang, Giridbaran and Ganesan (2005) have been associated with the principles of a compact city, mixed land use, short travel distances and optimization of land resources.

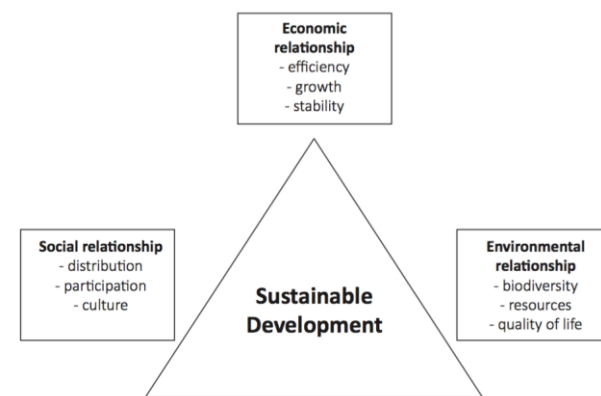
Jenks and Burgess (2000) further emphasise the importance of a compact city, which can be easily applied to both Hong Kong and Singapore in the essence of high-rise apartment blocks, relatively short distances and mixed land use. Realisation of the green city ideal has been of a particular importance in the context of a compact city scenario, whereby the quality and the quantity of vegetation are severely restricted. Here, Khian and Ming (2014) develop a study on the coastal green spaces of Singapore with an emphasis on the infrastructural, ecological, physical and social impacts as well as the general management strategies of the selected parks.

André Sorensen (2004) analyses the importance of land readjustment, urban planning and urban sprawl in the context of policy implementation. In particular, the scholar emphasises the importance of restricting gasoline car purchases in order to minimize urban sprawl and reduce flue-gas emissions.

Cheow and Heng (2014) identify problems associated with waste management in the region of Singapore with a particular emphasis on recycling schemes of food and packaging, as well as a better integration of recycling facilities for high-rise housing blocks.

Recent research findings in sustainable urban planning also propose alternative strategies for both existing and new green sites with a particular emphasis on land reclamation techniques. A multidisciplinary approach proposed by a number of scholars addresses the issues of land scarcity of both Hong Kong and Singapore, yet, a wider investigation into land reclamation policies has been identified as imperative.

Methodology and Approach



Description of social, economic and environmental sustainability. Nijkamp, 2007:99.

The concept of assessing SUD remains especially challenging due to the economic, social and environmental variations of a given region. For the purpose of this research the author of this paper chose three policy related documents for each city-state and created an SUD criterion based on the theories and assumptions of a diverse range of scholars. In its essence, this methodological approach uses the ideas of Sorensen et al., (2004), Jabareen (2008), Miller (2004) and takes a limited approach to sustainability indicators as defined by Bell and Morse (2003). In order to create a fair comparison, an evaluation table has

been created with the purpose of analysing the differences and similarities of policy related documents from the *Economic, Environmental, Political / Governance and Social Development* characteristics. Further, the processes and outcomes of infrastructure related services of waste management, transportation, green space allocation and land reclamation have been measured by identifying a certain policy index and evaluated in accordance with the policy related document with a concluding 'yes', 'no' or 'to a certain extent' score.

Sustainable Urban Development			
Comparison of SUD in policy-related documents			
Core Pillars	Characteristics	Processes and Outcomes	Policy Index
Infrastructure services (Waste management, Transportation, Green space allocation, Land reclamation)	Economic Development		
	Environmental Development		
	Political / Governance		
	Social		

Main Facts

Sustainability is an ongoing issue which requires a substantial understanding of the current tendencies, abilities, behaviours and scientific factors alongside governmental, social and economic considerations. Thus, a thorough investigation into waste management, transportation, green space allocation and land reclamation of Hong Kong and Singapore has been developed in order to critically analyse present trends.

With respect to waste management, Singapore has shown a leap forward with only one operational landfill and most of the waste being recycled, whereas Hong Kong is operating three landfills and has a very low recycling rate which is also evident from the policy documents. Both city states demonstrate an exceptional transportation network, however, display a steady increase in automobile purchases. The allocation of green space has been of a major concern in Hong Kong, whereas Singapore is aiming to continue its "A City in a Garden" approach. Land reclamation, on the other hand, demonstrates little concern and is poorly reflected in the selected policy documents.

Results

At present, cities face greater pressures from intensifying human activities and trends. It is especially evident in the areas of infrastructure related processes such as waste management, transportation, green space allocation and land reclamation. By comparing various policy-related documents, it has become evident that both Hong Kong and Singapore are facing similar problems and are lacking concrete and immediate advocacy in relation to sustainable urban development.

Amongst the most immediate action plans, however, the need to accommodate but also to prosper, provide education, health, transportation and food – cities must also maintain environmental sustainability, provide governmental support, economic prosperity, equality and cultural diversity.

By presenting the differences and similarities of these policies, this thesis has demonstrated various gaps in certain aspects of the sustainability approach of both city-states. This is particularly relevant not only for identifying areas of further development, but also for policymakers, scholars and the like, for engaging in further research and suggesting ways of improvement in the field of sustainable urban development.

References

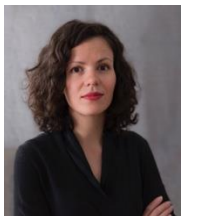
All references can be found in the full version of the MA thesis available at <http://othes.univie.ac.at/>

About the Author

Asya Starovoyt holds a BA (Hons) in Interior Architecture from the University of the Arts, London and has worked in the field of project management and communications. Amongst many, her interests concentrate around city planning, sustainable architecture, sustainable urban development and smart city with an emphasis on the region of South East Asia.

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