Water Forum 2018

THEME AND SCOPE

Is Greater Bay Area Climate Ready?

Hong Kong, Macau, Guangzhou, Shenzhen and Zhuhai are coastal cities situated around the estuary the Pearl River Delta PRD, a high-risk zone of hurricane and coastal flooding along southern China. It's a typical region prone to coastal and fluvial flooding. Moreover, the sea-level rose 100 mm in the past 30 years. Under the current situation and the threats of extreme weather events, what are the differences of today's climate related flood hazards versus these in last century? How do Hong Kong and its neighbour cities respond to the threats of climate change? Recently Macau suffered from serious damages caused by typhoon Hato (天鴿) in August 2017. What lessons could be learned with regards to coastal defense capability in terms of resilience to these natural disasters?

Is Hong Kong's City Planning Climate Ready?

Hong Kong was lucky enough to escape from the aforesaid typhoon Hato, said by the former director of Hong Kong Observatory, Mr. Lam Chiu-ying. Not too many of us heard that Hong Kong lost more than 10 thousand lives of citizens during two cyclones in 1906 and 1937 respectively. Typhoon Mary was familiar to those senior citizens, which affected over 15,000 people in June 1960. Typhoon Hato, even though no personal casualty caused, resulted in sea water flowing into a car park basement and caused loss of properties of millions of Hong Kong dollars. Are we prepared for the coming risks along our coastline areas and these low lying ones? Hong Kong has a relatively long coastline of 733 km and there are some low-lying districts prone to threats of flooding and sea-level rise. We all in society, government, business, NGO, and each individual, need to be fully aware of the threats of extreme weather events and work together toward a more climate resilient society.

Hong Kong SAR Government has outlined its long-term city planning vision in its Master Plan 2030+. There are only a few high level elaboration of "Low Impact Development" (LID) concept, flood control and storm water management. Should Hong Kong's Master Plan 2030+ be more climate responsive? How? What?

Sponge City and Coastal Defence for Master Development Plan

The term 'Sponge City' originated from mainland China. It stemmed from some overseas' water management strategy, such as Low Impact Development (LID) or Low Impact Sustainable Development (LISD). Storm water is one of the key targets to be managed and tackled. Sponge city incorporates a variety of green infrastructure such as green belts and roofs, wetlands, rain gardens, filtration pools, retention ponds, and permeable pavements to absorb excess rainwater and replenish underground water. Since 2015, the Central Government has shortlisted and subsidised 16 demo Sponge Cities in China*. Studies have been carried out to evaluate the impacts and effectiveness of flooding resilience, water filtration, water storage of these pilot projects. It offers important insights on water quality improvement as well as flood control and rainwater management.

Shenzhen, as one of coastal cities in Southern China, was the one of the second batch of pilot cities of China's Sponge City Demo programme in 2016. It has accumulated many years' experience on LID since its first rain-water management initiative in 2004. At present, Shenzhen's master city development plan has incorporated the Sponge City strategy and implementation details (深圳市海綿城市規劃要點和審查細則 2016). Every development project needs to comply with the guidelines in the document, which including property

development, parks, public facilities, renewal of old districts, roads, and water bodies. What can we learn from Shenzhen's experience?

Guangzhou, as one of the top 3 cities around the world most vulnerable to flooding, adopts the approach of sponge city in its master development plan in 2016 (廣州市生態文明建設規劃綱要 2016-2020), targeting 40% breathable outdoor surfaces of any new development projects of any kind, to reduce the hard surface of newly built infrastructures or properties or amenity facilities.

Hong Kong, on the contrary, has not been fully aware of the importance of the sponge city as the philosophy and principle of master city planning. In the long term master plan of the city, 2030+, the term sponge city is mentioned one time. Do we have some unique approach to combat the heavy precipitation of extreme weather, or we have under played the sponge city approach, or something else? Could we learn from some international experience and overseas successful cases? What kinds of overseas cases or experience should we learn from? We need to plan and build Hong Kong as a water and climate resilient city in the long run.

Remarks: * The first 16 demonstration Sponge City in mainland China are (in Chinese):
遷安（河北）、白城（吉林）、鎮江（江蘇）、嘉興（浙江）、池州（安徽）、廈門（福建）、萍鄉（江西）、濟南（山東）、鶴壁（河南）、武漢（湖北） 、常德（湖南）、南寧（廣西）、重慶、遂寧（四川）、貴安新區（貴州）和西咸新區（陝西）。