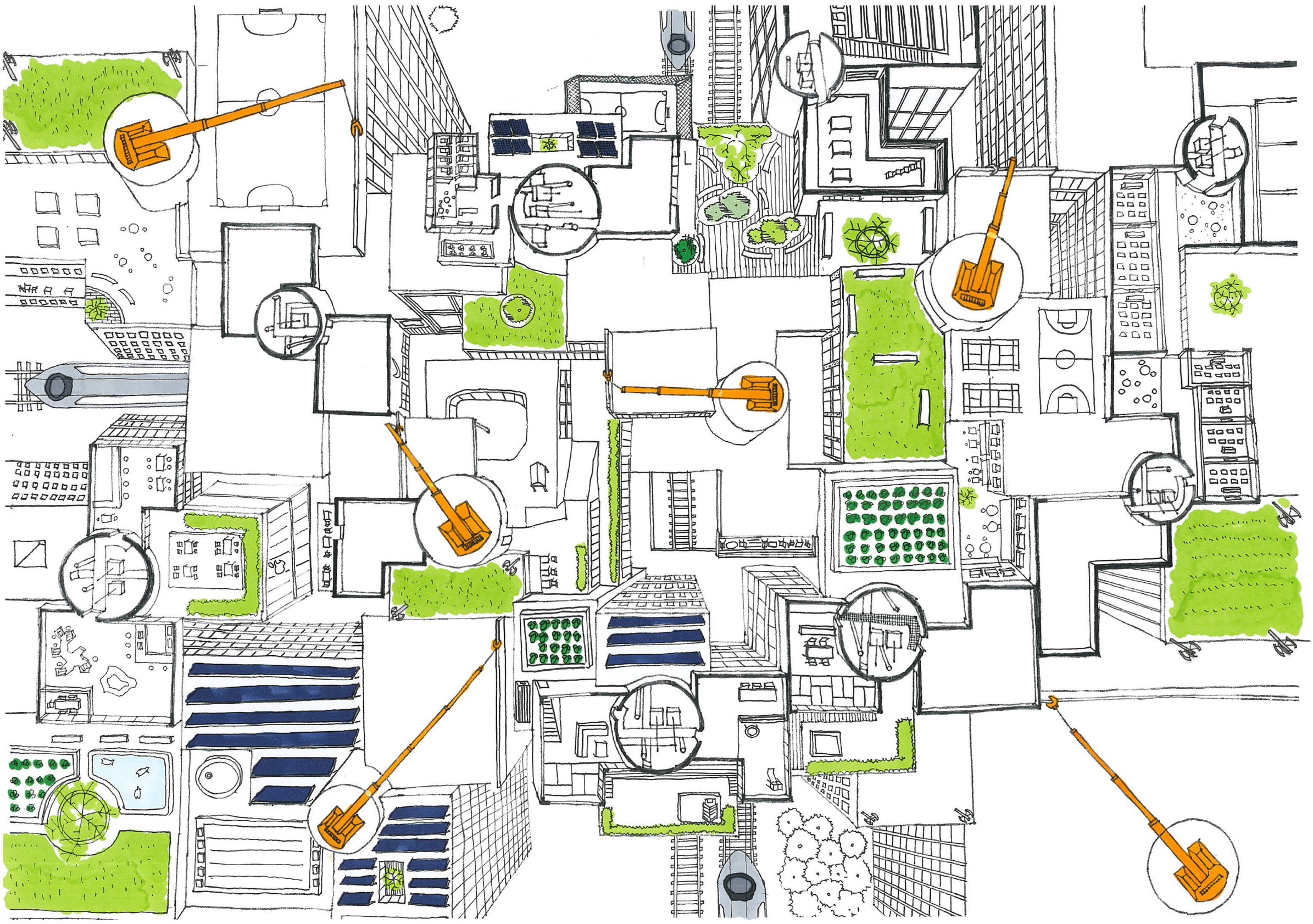
Kowloon City Castle 2.0 Sustainable Neighbourhood

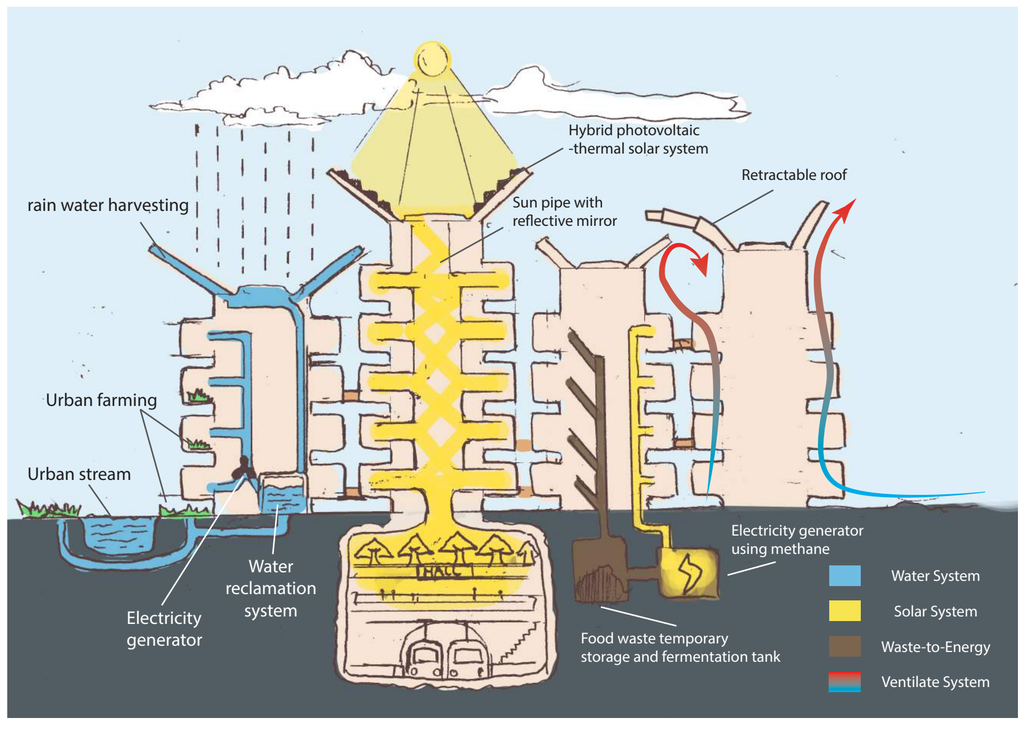


Concept

The Kowloon City Castle was honoured for its tight-knit community, where love and friendships were found between neighbours. To accommodate the high population, unauthorized building works were constructed within the City, and the living condition were reported to be poor and unhygienic.

The proposed neighbourhood is a network of pine-like buildings bridged together. Pine symbolizes the value of tenacious and perseverance in Chinese culture, echoing the Lion Rock spirit of 'never give up' in Hong Kong. Imitating the Welcoming Pine in Huangshan, we would like to deliver the essence of being open and friendly.

Inspired by that, we would like to create a pleasant and sustainable neighbourhood, integrated with the state-of-the-art technology, that connects all walks of life together while being able to cope with the growing population in Hong Kong.



Solar System

Sun pipe distributes the daylight to the lower levels of the building and reduces the demand for artificial lighting.

The Hybrid Photovoltaic-Thermal Solar System combines solar cells with solar thermal collectors. It converts solar radiation to electricity whereas the remaining solar energy is captured for water heating. The system decreases the operating temperature of the solar cells and enhances its performance. It can optimize the utilization of solar energy to generate electricity and heat up water. This hybrid solar system with tracking can orient the solar panel for maximum efficiency.

Water system

The rainwater harvesting system collects water for building use.

Grey water is used for producing electricity by a turbine generator within the building.

Water is reclaimed for urban stream and farming.

Food waste system

Food waste as organic matter undergoes anaerobic digestion to produce methane gas as a source of energy to supply the building use.

Ventilation system

During summer, cool wind enters the building, it rises and leaves as hot air. In winter, the hot air is trapped by a retractable roof to provide a warmer environment with the building.

1

The Piezoelectric flooring/ energy harvester by using footstep system is installed in the dance studio. It utilises the kinetic energy of human movement to generate electricity for the building use.

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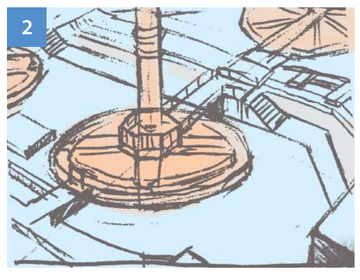

Food waste undergoes anaerobic digestion in the fermentation tank to produce methane gas.

3

The daylighting system allows sunlight to penetrate into the underground shopping mall to create a relaxing atmosphere.

4

The modified paternoster facilitates the flow of people up and down the building, while it is modified to accommodate the use for elderlies and children.

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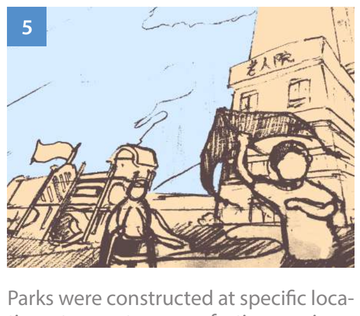

Parks were constructed at specific locations to create a comforting environment that connects the elderlies and children together.

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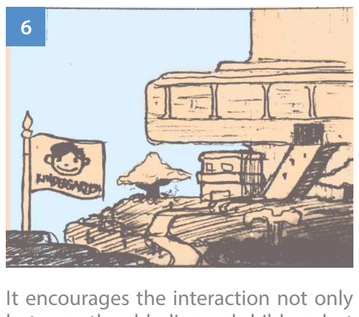
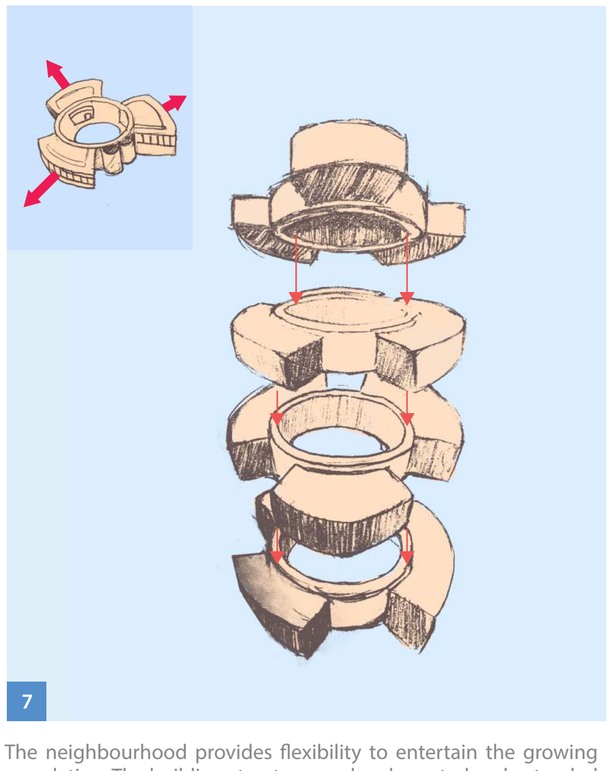
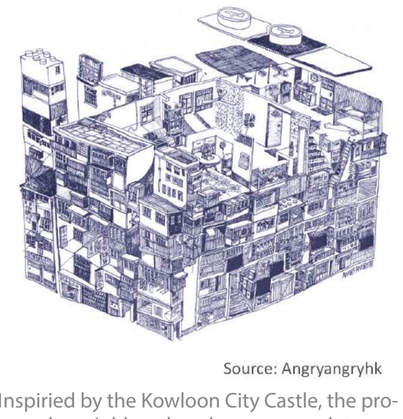


It encourages the interaction not only between the elderlies and children, but also among the neighbours.

7



The neighbourhood provides flexibility to entertain the growing population. The building structure can be elongated and extended by adding the building blocks on top of it.



Source: Angryangryhk

Inspiried by the Kowloon City Castle, the proposed neighbourhood accommodates a dense population in a pleasant and open environment.

The building structure resembles the appearance of pine, with its growing height and extension of branches.