Development of Anderson Road quarry site

Region	**Asia and the Pacific**
Award Scheme	**Shanghai Manual**
Themes	**Climate Change** **Housing** **Land** **Regeneration** **Resilience & Risk Reduction**
Sustainable Development Goals	**Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable** **Goal 13 - Take urgent action to combat climate change and its impacts**

Summary

The Anderson Road Quarry Site development is a transformative urban project aimed at addressing Hong Kong's pressing housing needs while embedding sustainable and resilient design principles. The site, which covers around 40 hectares, was once a quarry providing construction materials but was decommissioned in 2017.

Background and Objective

Located in southern China, Hong Kong faces a number of climate-related risks, including annual rainfall exceeding 3,000 mm and tropical cyclones, in which urbanization coupled with limited land availability has left the city with a growing need for land to support its 7.5 million residents. The Anderson Road Quarry Site, with its 40-hectare land area, was a perfect candidate for redevelopment. The primary objective of this project was to meet housing demands while also enhancing the resilience of the city to climate change. This included addressing flooding risks and providing green spaces for recreation and environmental benefits. The project aimed to balance urban growth with sustainable practices, creating a thriving community that could serve as a model for future developments in the region.

Actions and Implementation

The planning and implementation of the Anderson Road Quarry Site development were characterized by extensive public engagement, especially with younger citizens, to ensure that the new community met the expectations of the residents. The development incorporated green and low-carbon practices, with a focus on resilience against climate change. The authorities decided to allocate approximately 15.5 hectares for parks, reservoirs, and flood retention ponds, addressing flood risks while enhancing green spaces. A design contest was held to ensure the project honoured the site's historical significance as a quarry, leading to the creation of a Quarry Park. This park included zones inspired by quarry operations, offering recreational and fitness facilities for residents. Blue-green infrastructure was a key element of the design, featuring

flood retention ponds, underground rainwater storage, and permeable paving. The flood retention pond, which can store up to 24,000 m3 of water, helps mitigate flood risks by controlling runoff. Similarly, an underground rainwater storage tank collects runoff and ensures a reliable water supply. Ecological depressions and permeable surfaces were integrated to manage urban runoff, reduce waterlogging, and enhance groundwater recharge. Pedestrian connectivity within the development was also prioritized, with covered escalators, footbridges, and lift towers designed to improve accessibility and reduce reliance on vehicles. The project team also encouraged youth involvement through community engagement initiatives, which fostered a sense of belonging and promoted a green, low-carbon lifestyle.

Outcomes and Impacts

The Anderson Road Quarry Site development has had a marked impact on both its residents and the surrounding area. The new community is now home to 30,000 residents, benefiting from a well-integrated mix of housing, commercial areas, and recreational spaces. The incorporation of flood retention systems has significantly alleviated pressure on the city's drainage infrastructure, reducing the risk of flooding in the surrounding areas. The introduction of green spaces, such as parks and the Quarry Park, has not only enhanced the quality of life for residents but also improved the overall environmental quality, supporting biodiversity and mitigating the urban heat island effect. The project has been recognized for its proactive approach to involving the community, particularly youth, in the planning process. The creation of pedestrian-friendly facilities has reduced traffic congestion and encouraged walking, aligning with the city's goals of reducing carbon emissions and promoting sustainable living. The integration of ecological infrastructure and smart technology to monitor water levels and weather conditions ensures that the community is well-prepared for extreme weather events, further enhancing its resilience to climate change.

Sustainability and Scalability

The Anderson Road Quarry Site development stands as an exemplary model of sustainable urban planning. The use of blue-green infrastructure, including flood retention ponds, rainwater storage, and permeable surfaces, ensures that the development can withstand the impacts of climate change while minimizing its environmental footprint. By integrating sustainable solutions into the very fabric of the community, the project not only meets current needs but also sets a precedent for future urban developments in Hong Kong and beyond. In addition, the scalability of the project lies within its ability to be replicated in other urban areas facing similar challenges. The combination of flood management, green spaces, and pedestrian-focused connectivity can be adapted to different contexts, making it a valuable blueprint for sustainable urban growth.

Gender and Social Inclusivity

From the outset, the Anderson Road Quarry Site development emphasized inclusivity, particularly for vulnerable groups such as the elderly and people with disabilities. The design of pedestrian connections incorporated features such as escalators and footbridges with lifts and stairs for barrier-free accessibility. The inclusion of community spaces and recreational facilities, such as sports courts and walking trails, caters to a diverse range of age groups and social needs. The project team actively engaged with visually impaired individuals to refine the design of the pedestrian infrastructure, ensuring that it met their specific needs. Moreover, the community engagement process was designed to foster a sense of belonging among all residents. The project's focus on youth participation, including regular site visits and discussions, empowered younger generations to take an active role in shaping their environment, promoting social cohesion and intergenerational dialogue.

Innovative Initiative

One of the most innovative aspects of the Anderson Road Quarry Site development is the integration of "blue-green infrastructure" that combines natural and artificial solutions to address urban flooding. The flood retention pond park, which doubles as a recreational facility, is the first of its kind in Hong Kong and serves as a landmark for the development. The use of smart technology to monitor water levels and weather conditions adds a modern, data-driven element to the project, enabling proactive management of the community's water systems. Additionally, the project has incorporated eco-friendly materials, such as composite wood and natural stone, for pedestrian walkways, blending urban development with the natural environment in a seamless way. The focus on creating a walkable, low-carbon community through enhanced pedestrian connectivity further underscores the project's innovative approach to urban planning.

Resources devoted to delivery

The successful delivery of the Anderson Road Quarry Site development required significant resources, both in terms of funding and human capital. The project involved extensive planning, with close collaboration between government authorities, engineering firms, and the local community. Resources were allocated to ensure that sustainable and climate-resilient solutions were incorporated into every aspect of the development, from flood management systems to pedestrian infrastructure. The government also invested in community engagement initiatives, ensuring that residents had a voice in the planning process and that the development aligned with their needs and expectations.

Conclusion

The Anderson Road Quarry Site development is a testament to the potential of sustainable urban planning to address the dual challenges of urbanization and climate change. Through innovative design, extensive community engagement, and a strong commitment to sustainability, the project has created a model for future urban developments that prioritizes resilience, inclusivity, and environmental stewardship. By

incorporating green infrastructure, enhancing pedestrian connectivity, and promoting a low-carbon lifestyle, the development has not only provided much-needed housing but has also set a new standard for what is possible in urban development.