Future Cities
Urban planning Hong Kong style: the high-rise way

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High-rise cities: mistake of the 1960s or a necessary part of low carbon urbanization?

My proposition:
- That the HK model is highly relevant to new and growing cities from a climate, nature and well-being perspective
- However, there are challenges both in terms of embodied carbon, a stable power supply, and social interaction and engagement
- But in part at least these problems have solutions
- And this high-rise approach has some relevance to new-build in the UK
The context

- Rising populations
- Urbanisation
- Climate mitigation
- Climate Resilience
- Biodiversity
- Local food supplies
- Economic
- Social imperatives
## Different urban forms

<table>
<thead>
<tr>
<th>Examples</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-rise High density</td>
<td>Hong Kong: highly urbanized areas 24,000 persons/km²</td>
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<td>Across the territory – 6,780 persons/km²</td>
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<td>40% of the territory is protected country parks</td>
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<tr>
<td>High-density low-rise</td>
<td>Vauban, Freiberg</td>
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<td>13, 650 persons/km²</td>
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<tr>
<td>Low-density low-rise</td>
<td>Welwyn Garden City</td>
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<td>3681 persons/km²</td>
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</tbody>
</table>
Hong Kong: urban & rural

9 new towns – green
Older areas - grey
New developments in pink
Little development in many areas – Lantau, much of the new territories including Sai Kung
Living in the vertical city

You wake up in your flat on the 36th floor of an apartment building, brush your teeth, get dressed and take a lift to the shopping mall below. You grab a quick steamed bun for breakfast before descending into the MTR, which whisks you beneath mountains and water to the district where you work. There, you complete the same process in reverse, re-emerging from the underground, up several escalators, through footbridges upstairs shopping malls, and into your office on the 55th floor of an office tower, changing lifts at a 36th floor sky lobby in between.
Not always what you expect

Above street level: restaurants, public seating areas and gardens

The podium floor: in residential buildings

Shared space: cafes, pools, gyms, home-work rooms, party rooms.

3-D city: walking on different levels

Market places: traditional markets

Multiple use public spaces e.g. Science Park

Planning and wind modelling to avoid reduced wind movement.
Climate benefits

- Public transport: 90% of journeys
- Most people live within 500m of a transport hub
- Public transport profitable – affordable to construct and run.
- Reduced need for roads
- Less infrastructure related embodied carbon
Environmental benefits

• Surrounded by nature
• Space for water – reservoirs and flood waters
Social benefits

• Shorter commute times
• Nature & leisure space close by
• Communal space - well-used
The challenges: energy & the environment

- Embodied energy
- Elevators and stability of energy supply
- Heat island effect
The challenges: social

- Community and crime
- Heritage – sense of place
- Participation and democracy
The Solutions

- Low carbon materials – timber
- Governance – local control
- Design for resilience – trees, balconies, wind movement
- Reflecting the vernacular
• Can we assume sufficient stability of supply of power in developing countries?

• If low-rise, high density is the answer, what is the right level? What is economical?

Once you get above a certain height lifts are necessary especially with an ageing population?

• To what extent better to just refurbish buildings in existing cities?

• Pilot and trial new materials or reuse of existing materials.

• Strategic planning systems needed – transport + housing + employment.
Conclusions: the benefits solving the problems

Climate mitigation

Space for agriculture

Nature – leisure

No one size fits all solution!

Embodied Carbon:
- Use new materials
- Good design to address heat islands

Social issues:
- Good design & governance essential