

The state of the circular economy: waste valorization in Hong Kong and Rotterdam

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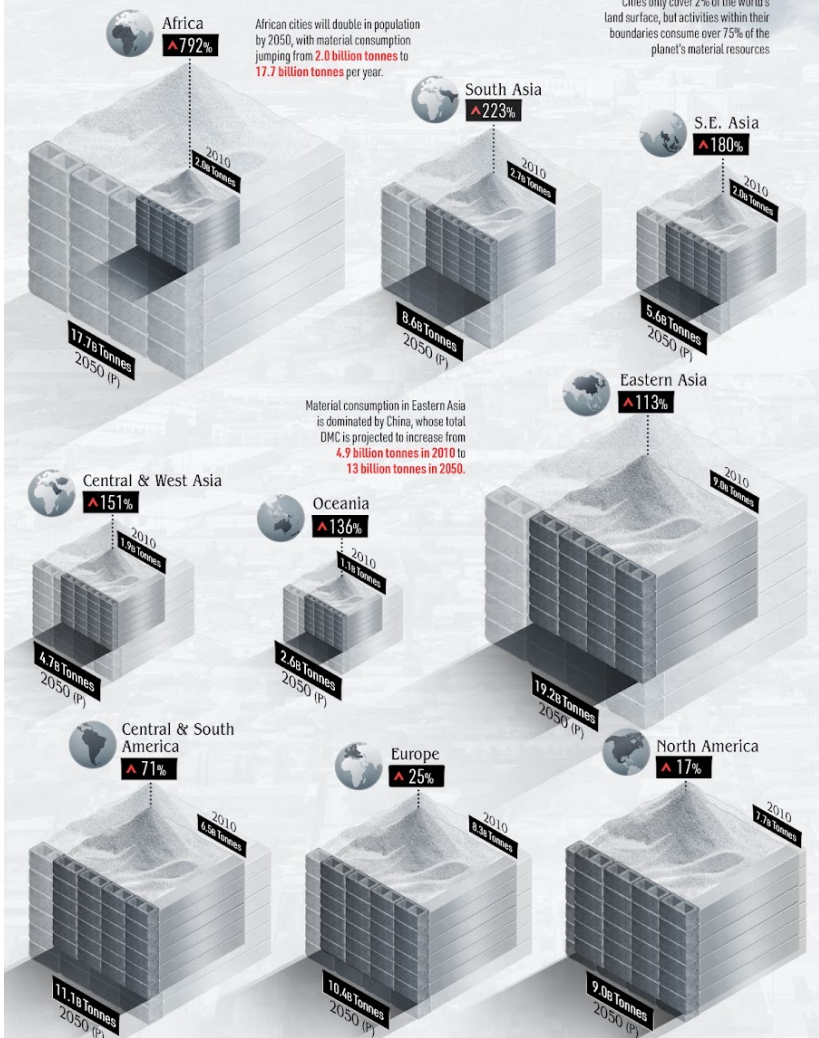
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The Material Impact of GLOBAL URBANIZATION

The global population living in cities and towns is expected to rise 80% by 2050. With the expansion of cities, the material consumption is expected to grow from **41.1 billion tonnes in 2010 to 88.8 billion tonnes by 2050.**



Source: United Nations, 2022.

In 2050

- + 100% materials globally
- + 800% in Africa
- + 25% in Europe

60% of all global waste is from construction

Renovation generates 30 times more waste than construction

A fully urban material stream

High (urban) circularity gap

High risk: 6-12% of GDP is from construction industry

Reuse is good but it does not equal reduction

How to set up a CDW value chain that thrives out of the reuse and downscaling of waste

How to transition from a large one that exploits raw materials?

3 challenges

The **responsibility** of waste management

- High costs + low value = high public responsibility
- *Which regulations for higher value waste?*

The **geography** of waste infrastructures and locations

- From global to regional waste facilities
- *Which new regional infrastructures?*

The **discourses** on the economic value of waste

- From a problem to a development opportunity
- *Which political strategies to create a circular building coalition?*

2 cases of city-regions

Hong Kong & Rotterdam

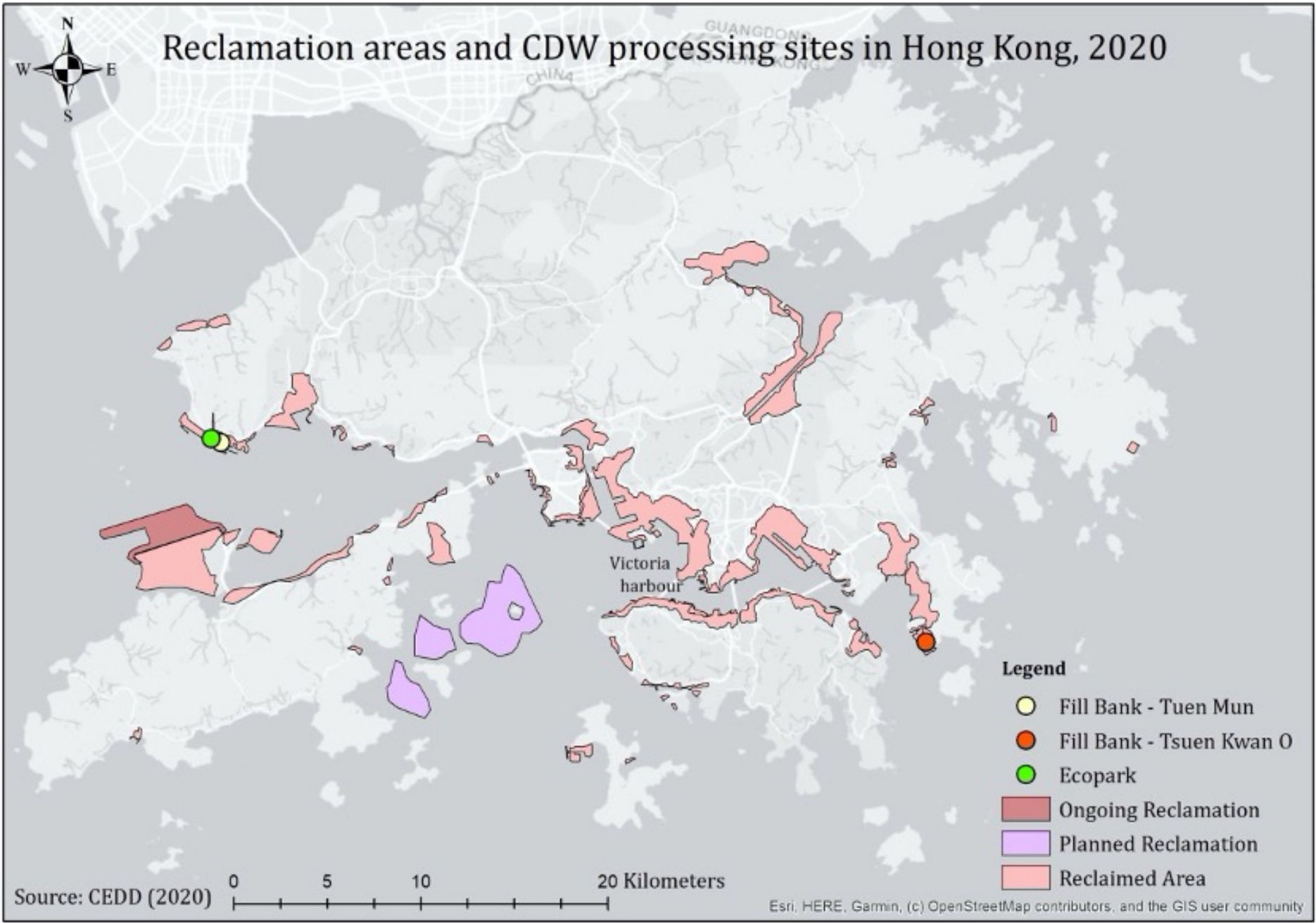
Why this comparison?

Similarities

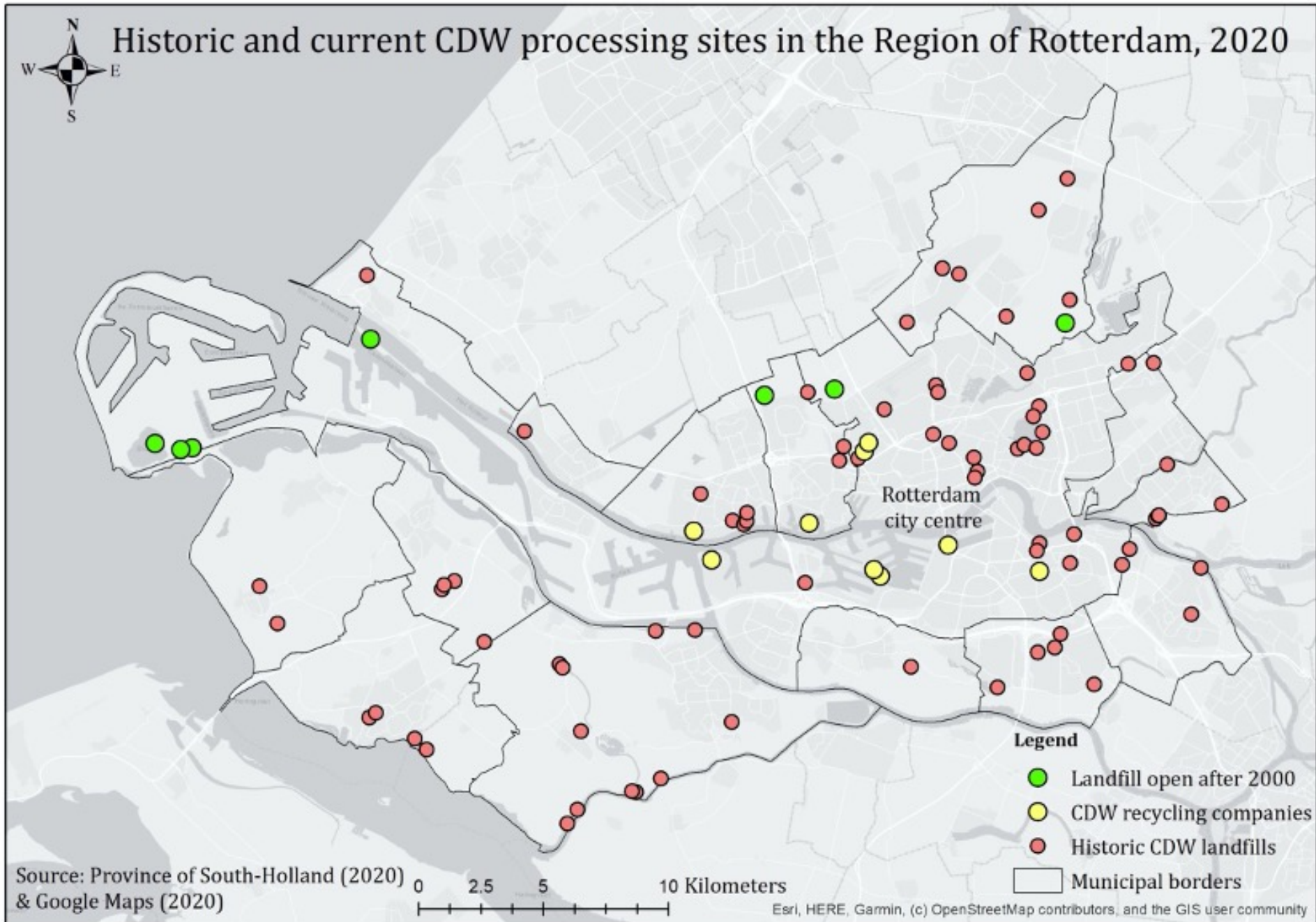
Differences

The valorization of waste





Historic and current CDW processing sites in the Region of Rotterdam, 2020



	Post-war	1970s – 1980s	1990s – 2020s
Periods:	Waste disposal	Waste management	Waste valorization
Governance rationale	No restrictions or regulations on CDW	Prohibitions public regulations and (mostly) public disposal Reclamation or landfilling	Privatization, marketization, partnership. Increased landfilling charges
Geography	Scattered and local	Regionalization and displacement of unsorted components	Concentration of CDW processing capacity. Multi-utility industrial sites near agglomerations
Economic-environmental nexus	CDW Secondary to (re)construction. Resource dependency	Increasing concerns about waste's environmental burden on economy	Waste as opportunity for regional economic development