

# Tidal Cities (Commission Members' Manual)

Welcome to the Tidal Cities, a visualisation tool and role-play exercise on coastal placemaking.

## Karagatan: A Brief History

The Planning Agency wishes to generate revenue from under-utilised land. Yet, the coast frequently floods, amid eroding shorelines and freshwater salinization. In the 1950s the coast was dotted with small-scale aquaculture (mussel farming and fish ponds), with increasing numbers of informal settler-migrants from the rural Philippines. In the 1980s, factories mushroomed depleting local groundwater reserves, worsening land subsidence. Following the devastation of typhoon Haiyan, the City Council issued a land clearance decree, forcing low-income (formerly migrant) fishing communities to relocate. Over the years, displaced communities have been campaigning, alongside pro-poor NGOs and activist groups, to resume their livelihoods in Karagatan.

### ROLEPLAY AGENDAS (11 roles / players):

1. Wildlife and Biodiversity Department representative
2. Social Housing and Welfare Agency representative

#### Two Resident Association representatives:

3. A high-end gated community spokesperson
4. Low-income informal/irregular residents' representative

#### Two business representatives:

5. A property developer
6. Factory Owners' Association spokesperson
7. Disaster Agency representative
8. Leader of the Fisheries Cooperative Union
9. Transport Ministry representative
10. Human Rights Advisor to the Mayor
11. National Heritage Trust representative

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	Infrastructure	Description	Pros and Cons	Cost
1	Artificial reef	A built underwater structure, typically designed for the purpose of promoting marine life, while mimicking features of a 'natural' reef. It may also combine 'sills' for vegetation.	<ul style="list-style-type: none"> <li>+ Increase biodiversity</li> <li>+ protection from tidal surges</li> <li>- relatively low protective function</li> <li>- vulnerable to industrial discharge (cannot be built in front of industrial areas)</li> </ul>	\$
2	Giant seawall	A static feature as a form of coastal defence constructed to protect areas of co-habitation behind it. Prevents exchange of sediment between land and sea.	<ul style="list-style-type: none"> <li>+ High protection value</li> <li>+ real estate development possible</li> <li>- blocks sea access, resettlements necessary</li> <li>- pollution of coastal waters</li> </ul>	\$\$\$
3	Sand engine / sand motor	A type of beach nourishment where a large volume of sediment is added to a coast. Winds, waves and tidal activities aid redistribute sand over years.	<ul style="list-style-type: none"> <li>+ long-lasting flood protection, eco-friendly</li> <li>+ High cost-efficiency</li> <li>- relatively low magnitude of protection, not suitable for diked areas</li> <li>- sand extraction necessary (biodiversity)</li> </ul>	\$\$
4	Floating modular platform	Buoyant flat surfaces above water, typically rising with flood water levels.	<ul style="list-style-type: none"> <li>+ increase land area</li> <li>+ high symbolic value for city attractiveness</li> <li>- resettlement of fisher communities necessary</li> <li>- privatization of sea waters</li> </ul>	\$\$
5	Multifunctional/super dykes	A wide, unbreachable, adaptable dyke combined with other functions of urban life even more closely integrated into the landscape (could be more industrial or support a nature reserve).	<ul style="list-style-type: none"> <li>+ increase safety from tidal water and create land</li> <li>+ fulfil other purposes of city development (traffic, housing etc.)</li> <li>- ecosystem destruction</li> <li>- resettlement of coastal communities necessary</li> </ul>	\$\$\$
6	Retention ponds	Surface pools designed to store water from surface run-off.	<ul style="list-style-type: none"> <li>+ decreases inland floods in the whole city area</li> <li>+ increase recreational areas</li> <li>- no coastal protection function</li> <li>- Resettlements of inland spaces necessary</li> </ul>	\$\$
7	Barrage	An artificial barrier across a river or estuary to prevent flooding, aid irrigation or navigation, or to generate electricity by tidal power.	<ul style="list-style-type: none"> <li>+ decreases coastal floods and rainwater floods (just directly along the coast)</li> <li>+ combines with other functions (power generation, road infrastructures)</li> <li>- impacts on estuarine ecosystems</li> <li>- prevents fisher's access</li> </ul>	\$\$

Maximum budget available: 6\$  
Mix and match possible in (almost) any combination