

# Cities from the sea: the true cost of reclaimed land

Asia is growing. Literally. From Malaysia to Dubai, luxury developments are rising on artificial islands and coastlines. Everybody wins - except the local sea life and the fishermen who depend on it

by Wade Shepard in George Town

Main image: Bulldozers level sand dredged from the sea at Colombo International Financial City, Sri Lanka. Photograph: Dinuka Liyanawatte/Reuters

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About this content

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“Before, there were many fish,” says fisherman Mohd-Ishak Bin Abdul Rahman as he pulls a dried up crab from his net. A few years ago he could just walk out into the surf and pick up crustaceans with his bare hands, he tells me. “Now, nothing.”

He blames the palisade of new luxury condominiums that rise on the coastline behind him. Built on 240-acres of land artificially reclaimed from the sea, they are part of the Seri Tanjung Pinang 1 (STP1) project. Started in 2006, it brought a taste of new Asian modernity to what was then a rural area beyond the fringes of George Town, Penang’s only city. It also took away the fish, says Mohd-Ishak.

The 72-year-old is the undisputed chief of Tanjung Tokong, a fishing village of 100 houses built by the community a few decades ago. He is also the leader of a movement of fishermen protesting against development projects they claim are destroying the island’s fisheries, and with them their livelihoods.



Clockwise: Land being reclaimed in Penang for the STP2 project; fishing boats at Tanjung Tokong; Mohd-Ishak, the chief of the village

Mohd-Ishak says his family has been fishing the area for at least five generations. As we talk, shirtless fishermen watch cautiously from handmade hammocks, half-broken plastic chairs



and pieces of junk that washed up on the shore.

The contrast between the village with its shacks built from planks, beams and drift wood and the condos, swimming pools, luxury mall and Irish-themed pub is extreme.

Now the second phase of the STP project is in full swing. Dredgers, barges, bulldozers and diggers operated by a local subsidiary of the China Communications Construction Company (CCCC) are busy creating 1,000 more acres of land for luxury development. Slated for completion in 15 years, the STP2 development is expected to have an eventual value of \$4.4bn.



Asia is growing.  
Literally

Land reclamation is nothing new in Asia - China, Hong Kong and Japan have been at it since the 19th century - but it has recently reached epidemic proportions. Maritime ecosystems are abruptly transformed as natural islands are artificially conjoined with coastlines, natural shorelines are extended and artificial islands are built from scratch.

Cities on China's coast reclaimed an average of 700 square kilometres of land - that's about the size of Singapore - from the sea every year from 2006 to 2010 for new houses, industrial zones and ports. The 130 sq km of land that was reclaimed to build the new city of Nanhui was significant enough to reconfigure China's national map, and the reclaimed land for the Caofeidian economic zone was twice the size of Los Angeles.



Reclaimed sand is sprayed at the construction site for Colombo International Financial City, Sri Lanka; a general view of the construction site; a sign at the site

Concerned these megaprojects were getting out of control and doing irreparable harm to the environment, Beijing stepped in earlier this year and put an end to land reclamation projects that were not spearheaded by central government.

Meanwhile, many Asian cities are picking up where China left off. Besides the STP projects on Penang, Malaysia has massive reclamation works under way for the 700,000-person Forest City in Johor; the Philippines is reclaiming 1,010 acres from the sea for its New Manila Bay - City of Pearl; Cambodia is building a slew of Chinese-financed properties on reclaimed land; Dubai has turned reclamation into an art form; and Sri Lanka is building a new financial district on the dredged and deposited land of Colombo International Financial City. Around a quarter of modern-day Singapore was open sea when the nation state came into existence in 1955.



Fishing boats off the coast of George Town, Malaysia; Chinese dredging vessels in the waters around Mischief Reef in the Spratly Islands; trucks carry sand at the Forest City development in Johor Bahru, Malaysia



Apart from acting as geopolitical flash points - reclamation in the South China Sea is repeatedly bringing the region to the brink of conflict - sourcing the sand is a major problem. Malaysia, Indonesia, Cambodia and Vietnam have already banned the export of sand, with reports of a multibillion dollar black market run by organised crime syndicates. Some of Indonesia's Riau Islands have mysteriously disappeared - loaded on to barges and shipped to nearby Singapore, reports suggest.



## 'Incredible profits'

The verdant, hilly island of Penang has been gripped by a development boom since the

historic centre of George Town was declared a Unesco world heritage site in 2008. As tourists poured in from all over the world, so too did prospective property buyers looking to take advantage of the Malaysia My Second Home programme, and floods of east Asian real estate speculators.

“Penang has this obsession with wanting to become like Hong Kong and Singapore,” explains Andrew Ng Yew Han, a local film-maker who has documented Penang’s development.

But while 70% of the island is a forested blank slate for development, much of that is too hilly to build on safely - as proven by a recent landslide that wiped out a high-rise construction project and killed 11 workers.



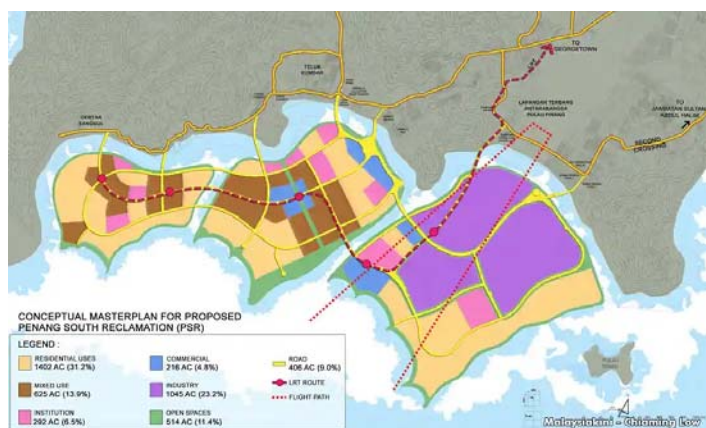
Rescue workers search for victims of a landslide at a construction site in Tanjung Bungah, Penang; Ariza terraces in Seri Tanjung, Penang; land reclamation next to a newly built hotel in the Forest City development



The state government’s crosshairs soon fell upon the other natural feature hemming in their ambitions: the sea. Taking a trick from the playbooks of their model cities, Hong Kong and Singapore, Penang launched several large-scale reclamation initiatives - many strategically placed in prime locations.

This ability to home in on high-value sections of cities to reclaim land for new development often produces incredible profits. Research from Ocean University of China professor Liu

Hongbin found that land reclamation in China can produce a 10- to 100-fold profit.



The plans for land reclamation in the south of Penang

“If you are confident that you can sell the properties at a high price, which is likely the case at the fringe of large coastal cities or in popular coastal tourism destinations, reclaiming the land from scratch could potentially be more profitable than building on extremely expensive existing land,” explains Matthias Bauer, an urban designer who has worked on reclamation projects in China.

However, there is a lot more at stake with these projects than the money that is invested in them.



## Habitat destruction

Not only are the fishermen of Tanjung Tokong banned from entering what was once an extremely productive fishing ground but there are now fewer fish in the waters near their village. Mohd-Ishak claims his catches have halved since development began.

Walking with him down the beach, another fisherman calls me over to his small house. His name is Haron Din, and his torso and legs are covered in the traditional tattoos that many fishermen in south-east Asia once wore.

At his feet lie piles of torn up old nets. He pulls out a dried up crab and explains it was dead long before it got tangled in his net. “The mud from the project suffocates them,” he says.



Haron Din says the mud from the reclamation area is killing local marine life; fishermen inspect their nets in Kuala Muda, near the border between Penang and Kedah, Malaysia; a long-dead crab in Din's nets



Holding a shiny new white net next to one of the 40 or so damaged ones littering the beach, Din complains that mud from the nearby reclamation area is killing the local marine life and doing irreparable damage to their fishing equipment.

The fishermen must travel further out to sea to find fish, which drastically increases both the cost of petrol and the dangers of the job. Unable to make a living in their sheltered bay, they now have to cross a busy shipping lane and contend with higher waves. There have already been a few deaths, Mohd-Ishak says.



Film-maker Andrew Han with village chief Mohd-Ishak

Mageswari Sangaralingam, a research officer for Friends of the Earth Malaysia, says the thousands of sq km of land reclaimed across coastal Asia has meant the annihilation of mangroves, wetlands and reefs - destroying the habitats and breeding grounds for fish, sea turtles, crustaceans, plants and other marine life. In addition, the new cities, transport hubs and industrial zones built on the new land inevitably create added pollution and waste, he says.

“The multimillion-ringgit fisheries sector here on which thousands depend is being traded off for development,” says Sangaralingam. “Fish are being wiped out, and the fishermen will soon be too as they lose fishing grounds.”



Ghost town ... Straits Quay, George Town, Penang

“You have this development and yet people are losing their jobs,” adds film-maker Han. “You have reclamation which promised development, but you have fishermen who are losing their livelihoods, looking for second jobs ... You build so many buildings here but in the end it doesn’t belong to us, it will be bought up by other people and foreigners.”

I visit Straits Quay - the high-end shopping mall surrounded by luxury condos overlooking the fishing village. On three trips here I’ve never seen anyone actually shopping in its luxury boutiques. The hallways are bare wind tunnels and even the giant atrium that acts as an opulent entranceway to the mall appears desolate, echoing the caws of resident crows and little else. If it wasn’t for a few stragglers slipping in and out to pick up groceries at the small supermarket - and the yacht owners drinking on the patio of the Irish-themed pub - the place could be called a ghost mall.

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