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Trends in
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JOHOR'S FOREST CITY FACES
CRITICAL CHALLENGES

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Trends in Southeast Asia

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FOREWORD

The economic, political, strategic and cultural dynamism in Southeast Asia has gained added relevance in recent years with the spectacular rise of giant economies in East and South Asia. This has drawn greater attention to the region and to the enhanced role it now plays in international relations and global economics.

The sustained effort made by Southeast Asian nations since 1967 towards a peaceful and gradual integration of their economies has had indubitable success, and perhaps as a consequence of this, most of these countries are undergoing deep political and social changes domestically and are constructing innovative solutions to meet new international challenges. Big Power tensions continue to be played out in the neighbourhood despite the tradition of neutrality exercised by the Association of Southeast Asian Nations (ASEAN).

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Johor's Forest City Faces Critical Challenges

By Serina Rahman

EXECUTIVE SUMMARY

- The Forest City project in Johor, Malaysia is part of a larger plan to elevate Johor to development success, similar to Shenzhen's evolution from Hong Kong's backwaters to being a modern metropolis.
- However the project was embroiled in controversy from the beginning. The mixed development was meant to create sustainable homes, recreational areas, schools and business infrastructure that would house about 700,000 people, generate annual revenues of about RM30 million for the state, and create more than 60,000 jobs, including a substantial number for locals through a quota.
- Sudden capital controls imposed by China on its citizens in early 2017 put a spanner in the works. Middle-class Chinese struggling to afford homes in China's big cities were Forest City's prime clientele and the new regulations preventing the transfer of funds for property purchase and the use of credit cards for investment transactions have brought future sales and the completion of signed commitments into question.
- Forest City will now have to focus on other markets in order to meet its sales targets. While the project has its merits, the economic benefits might be overstated as a number of socio-economic and environmental impacts have not been fully taken into account.

Johor's Forest City Faces Critical Challenges

By Serina Rahman¹

INTRODUCTION

Forest City, the multimillion dollar mixed development project rising out of four artificial islands in the Tebrau Straits off the southwestern coast of Johor appears by most accounts to be a bundle of contradictions. While potentially injecting millions of ringgit into, and spurring great infrastructural development in the surrounding areas, it has jarred the local property market.

New foreign exchange regulations in China add further questions to its financial viability.

While Forest City is portrayed as a role model for future cities, especially in its application of green technology and environmental sustainability, the land reclamation that underpins its existence is doing serious damage to local seagrass, mangroves and fishery habitats. Claims that the project has the potential to create thousands of jobs for the local population have been countered by those who question the wisdom of allowing such a huge influx of foreigners, both as contract workers and as residents, as well as its implications for the racial status quo.

To the general public, the saga of Forest City began in early 2014 when sand barges seemed to appear overnight to begin round-the-clock reclamation work without public notice or signage on the project. Those caught unawares included the Singapore government. It eventually lodged an official complaint with the Federal government, and Malaysia's Department of the Environment issued a stop-work order. The Detailed Environmental Impact Assessment (DEIA) process revealed that some

¹ Serina Rahman is a Visiting Fellow at the ISEAS – Yusof Ishak Institute, Singapore.

local regulations had been sidestepped. While most local leaders had already known about the project in 2013, the information and RM3 million in compensation from the developer had not yet been passed on to the affected villages.

Controversy continues to surround the project till this day and the development swings between being the victim of political positioning for the upcoming elections and the bogeyman of choice for the media and local community; obliterating all mention of other developers and developments in the area which could have as much environmental, economic and social impacts as Forest City.

In contrast to the typical tale in developed nations of project instigation, endorsement and financial support, Forest City was envisioned by a Malaysian person of prominence and modelled on the success of Shenzhen and its evolution from Hong Kong backwater to thriving metropolis. That a Chinese developer became the main actor in the project is a nod to China's re-emergence as a global player and to its strategic interests in Southeast Asia. The adaptation of sustainable development principles as one of the project's main marketing pillars incorporates the developed world's enchantment with balancing environmental and community needs with larger national political and economic goals. Issues arise when the implementation of the vision is hampered by political manoeuvring, and by discrepancy between top-down economic agendas on one hand and the everyday lives of the people most affected by the development on the other.

This paper will take a closer look at the sustainability of the Forest City project — both economic and environmental, and explore the market for the final product on offer, the political entanglements that have emerged, and the actual economic costs of the project as a whole. It also provides an update to the DEIA report that was ordered in January 2015.

It argues that the economic value of the project might be overstated, given its actual environmental and social costs. While the initial motivation was based on a clear vision and on worthy goals, the implementation has elicited many questions due to some lack of clarity, and the consequences of divergent objectives at lower levels of the project hierarchy and among its stakeholders. The socio-cultural implications of the Forest City project, while numerous, will be discussed in a subsequent publication.

This present paper is the result of more than eight years of extended fieldwork and total immersion in the community living around the Forest City project.

PROJECT BACKGROUND

The Forest City development is a joint venture between Country Garden Group, a Guangdong-based company listed in Hong Kong since 2007, and Iskandar Esplanade Danga 88 Sdn Bhd (EDSB), which is partially owned by Kumpulan Prasarana Rakyat Johor (KPRJ), a Johor state-owned company.² The partnership gave birth to Country Gardens PacificView Sdn Bhd (CGPV). According to Sultan Ibrahim Ibn Almarhum Sultan Iskandar, Johor's monarch, Forest City was his idea and he was the one who brought in the developers and investors; through the development, opportunities would abound for local employment, retailers, infrastructural improvements and state government revenues.³

According to CGPV executive director Md Othman Yusof, the Sultan "wanted to see balanced development", and existing plans under Iskandar Malaysia focussed too much on the southeastern side of the state while the "south-western side appeared to be left out".⁴ Sultan Ibrahim himself stated that "ordinary Johoreans must see the spillover effects" and he wanted "the people to benefit from all these changes".⁵

A report by Malaysiakini⁶ in 2014 revealed that Country Garden has a 66 per cent stake in Country Garden PacificView Sdn Bhd through

² CGPV website <<https://cgpvforestcity.wordpress.com/about/>>.

³ "It will be insane to tell investors not to come to Johor", *New Straits Times*, 22 March 2015 <<http://www.nst.com.my/news/2015/09/%E2%80%98it-will-be-insane-tell-investors-not-come-johor%E2%80%99>>.

⁴ "Johor sultan 'initiated' Forest City mega project", Malaysiakini, 19 March 2014 <<http://www.malaysiakini.com/news/292541>>.

⁵ "Sultan Ibrahim also wants a balanced development where the people will benefit", *The Star*, 19 March 2015 <<http://www.thestar.com.my/news/nation/2015/03/19/ruler-is-strict-when-conferring-awards/>>.

⁶ "The case of Forest City and the Johor Sultan", Malaysiakini, 14 July 2014 <<http://www.malaysiakini.com/news/268649>>.

Country Garden Waterfront Sdn Bhd, Country Garden Danga Bay Sdn Bhd and Country Garden Real Estate Sdn Bhd, all Malaysia-registered subsidiaries. EDSB holds the remaining 34 per cent stake as the representative of the state government. In turn, EDSB itself is 64.4 per cent owned by Sultan Ibrahim, 15.6 per cent owned by Daing A. Malek, who is also a director in EDSB, and 20 per cent by KPRJ, or the Johor state government.⁷ Daing A. Malek is also the executive director of Country Garden PacificView Sdn Bhd.⁸ One of Johor's biggest sand extraction companies is Mados Sdn Bhd, which as at 17 July 2014 according to Malaysiakini was 99.95 per cent owned by the late Johor sultan, Sultan Iskandar Sultan Ismail, while the remaining shareholders were his second wife and their children. Mados Sdn Bhd has the sand extraction rights to a shoal in Teluk Ramunia, which is the source of the sand used in the Forest City reclamation.⁹

On the Country Garden website, Forest City is positioned as being "adjacent to Singapore" and is highlighted as the showcase of a "Liveable Eco-City" concept with 20 sq. km of parks and recreational spaces. Forest City is not Country Garden's only Malaysian endeavour. It is also behind the Country Garden Danga Bay project, a "5-Star Integrated Seaview Development" in Johor Bahru, and is in a joint venture with the Malaysian Mayland Group of Companies for the Mountain View Villa Township development in Rawang, Selangor and Diamond City, a landed housing development in Semenyih, also in Selangor.¹⁰

Forest City is Country Garden's largest project worldwide; a complete metropolis on four islands comprising apartment and villa housing, office buildings, parks, hotels, shopping malls and an international school. Its proximity to Iskandar Puteri (formerly known as Nusajaya,

⁷ "Of reclamation, sand and the royal company", Malaysiakini, 18 July 2014 <<http://www.malaysiakini.com/news/268962>>.

⁸ "Country Garden's Big Sell", *The Edge Singapore*, 16 February 2016 <<http://www.theedgeproperty.com.sg/content/country-garden%E2%80%99s-big-sell>>.

⁹ Forest City Detailed Environmental Impact Assessment report, p. 5-27.

¹⁰ "Country Garden's Big Sell", *The Edge Singapore*, 16 February 2016.

Johor's government centre) also gives it quick access to Edu-City, an education hub that boasts a number of international schools, colleges and universities. The sheer size of this development is often cited as the justification for reclamation. While Iskandar Malaysia still has 2,217 sq. km of available undeveloped land (three times the size of Singapore), it lies inland unfortunately; Md Othman Yusof, CGPV's Executive Director, explained that inland sites simply cannot match the appeal of a waterfront city.¹¹

This metropolis is projected to house 700,000 people, initially expected to be mostly from China. It opened its second international sales office in a high-end neighbourhood of Kuala Lumpur at the end of 2016, and more sales galleries are planned for Taiwan, Myanmar, Dubai and Indonesia. Middle-class Chinese who are unable to afford housing in expensive Chinese urban centres such as Beijing and Shanghai have been the main targeted clients for this development.¹² However, since new regulations on foreign exchange were announced in China in January 2017, this strategy may have to quickly adapt to focus on international markets.

Although no final figures have been released by CGPV, a *Straits Times* report¹³ estimated that 116,666 new homes will be built (under the assumption that each unit would accommodate six people). The units currently on offer on the Forest City website range from 1 bedroom/ 1 bathroom/1 balcony apartments of 59 square metres to 4 bedroom/ 3 bathroom/1 balcony units of 173 square metres. While the sales gallery scale model features villas on the island, current sales seem to be focussed on the apartments, with no additional information on the website of potential bungalows or semi-detached houses. The property website

¹¹ Ibid.

¹² "Is China building a ghost city on Malaysian islands?", City Lab, 30 December 2016 <<http://www.citylab.com/housing/2016/12/is-china-building-a-ghost-city-abroad/511757/>>.

¹³ "Johor's Forest City could house up to 700,000: Developer", *Straits Times*, 13 May 2015 <<http://www.straitstimes.com/business/johors-forest-city-could-house-up-to-700000-developer>>.

mysgprop.com¹⁴ indicates that as of November 2016, 1,252 1-bedroom units, 542 2-bedroom units and 268 3-bedroom units were available for sale. Units with 2 or more bedrooms are eligible for at least one parking space. Half of the apartment blocks and the individual villa units on the scale model in the Forest City Show Gallery display “sold” tags.

The development is pitched as a “3D multi-layered urban planning concept” that ensures that there are parks, activity spaces and railways to lessen pollution at pedestrian-friendly levels. Vehicles will be parked in a transportation hub or in lower levels of the islands. Forest City properties are sold under “freehold property rights” with “zero inheritance tax” and “no economic environmental constraints” to property ownership on the islands.¹⁵

Property in Forest City is priced to begin at US\$170,000; about a third as compared to those available on the Chinese mainland and a quarter of property prices in Singapore. The common use of Mandarin and other Chinese dialects in the region and myriad incentives provided by the Malaysian government make ownership highly attractive to Chinese nationals. The Forest City website projects a 6–9 per cent rental yield for its properties. Potential buyers from China are bussed to the Forest City show gallery as part of subsidized Singapore-Malaysia tours organized by Country Garden, and are met by sales agents who reportedly achieve an immediate 50 per cent sales success from the groups.¹⁶

A Liveable Eco-City

Forest City prides itself on being a “Prime Model of Future City” [*sic*] and much of its website showcases innovations for sustainable development. Among these offerings are its position as a car-free city, where vehicles are docked in either underground parking or in a breathable transport

¹⁴ <www.mysgprop.com/forest-city-country-garden-johor/>.

¹⁵ CGPV website.

¹⁶ “This S\$143b Chinese-made city in Johor ‘scares the hell out of everybody’”, *Today Online*, 22 November 2016 <<http://www.todayonline.com/business/chinese-property-investors-gamble-s143b-jb-be-next-shenzhen>>.

hub, and a free monorail service, for lower carbon emissions and a safer neighbourhood, which transports people throughout the development. Vertical greening includes building façades covered in plants and rooftop gardens.

Vincent Woon, CGPV's Strategy Manager also explained the company's interest in nurturing urban and rooftop farming, and its work with Sasaki Associates to ensure the recreation of critical marine habitats, a walkable urban environment and a contiguous rooftop landscape that links all parts of the development yet accommodates the need for stormwater run-off and native habitats. The green approach can also be seen in the details; green technology is widely applied in this development, from a smart metering system to control energy consumption and leakage to numerous electric car charging stations and recycled materials in its speed humps and parking blocks.¹⁷

Sasaki's US\$40.9 billion masterplan depicts a "symbiotic relationship" between built and natural environments in which a 250-hectare seagrass preserve will be recreated, and more than 9 km of mangroves and 10 km of shallow coves and mudflats will be re-established. All of this, it claims, will maintain the area's ecological sustainability and provide resilience against sea-level rise. In an interview with *The Star*, Sultan Ibrahim discussed his interest in the environment of Johor, citing Forest City as an example of a development that emphasizes environmental protection and greenery.¹⁸

Forest City is also applying for GreenRE certification, a green rating standard driven by Real Estate and Housing Development Association Malaysia (REHDA), which promotes the development of more sustainable and liveable built environments. The Forest City website thus extolls its incorporation of natural elements; its natural lighting and ventilation; its optimized heat and energy conservation and rainwater harvesting systems; water-efficient devices; and recycled water use.

¹⁷ Interview with Vincent Woon, CGPV Strategy Manager 14 December 2016.

¹⁸ "Sultan Ibrahim wants a balanced development where the people will benefit", *The Star*, 19 March 2015 <<http://www.thestar.com.my/news/nation/2015/03/19/ruler-is-strict-when-conferring-awards/>>.

Location, Location, Location

While much of the Forest City website discusses its green innovations in urban planning and development, access to Singapore seems to be one of its core marketing pillars. The website notes that it is only 2 km away from Singapore, just 39 km away from Singapore’s main shopping strip Orchard Road, and that it plans to have a 24-hour shuttle bus to and from the island city-state. There is also mention of recent approval for the establishment of new entry points and independent customs facilities by sea and by land, through Forest City.

Much of the Forest City promotional material in Hong Kong and other parts of China also emphasizes the project’s proximity to Singapore.¹⁹ Marketing paraphernalia highlighted, for example, the ability to “enjoy the prosperity of Singapore and the affordability of Malaysia”, as well as the duty-free benefits of the newly reclaimed islands and the ease of attaining long-term residency through the Malaysia My Second Home programme. In its show gallery and on its website, location maps point out the ease of access to both Singapore and other parts of Malaysia by highways, the planned High-Speed Railway line between Singapore and Malaysia, and Singapore’s Mass Rapid Transit (MRT) system.

Iskandar Malaysia

Launched by former Prime Minister Abdullah Badawi in 2006, this economic corridor was created to reignite investor interest in Malaysia. Managed by the Iskandar Regional Development Authority (IRDA), Iskandar Malaysia (IM) was always seen as the potentially most successful of the five promoted corridors because of its proximity to Singapore. The Forest City project is located in the Western Gate of the Iskandar Development Region²⁰ which had initially been designated as a completely industrial area, centred around the Port of Tanjung Pelepas

¹⁹ Personal communication with Bo Wang, a New York-based Chinese artist and filmmaker who was Artist-in-Residence at the Nanyang Technological University, Singapore, 4 October 2016.

²⁰ A map of the Western Gate of the Iskandar Development Region can be seen in Figure 1.

(PTP), the Tanjung Bin Power Plant and the Tanjung Bin International Maritime Centre.²¹

Early critics of Forest City declared that it would “block the growth of PTP and threaten the development of Iskandar Malaysia as it was not part of the master plan”. Datuk Zamani Kassim, CGPV Project Director at the time, stated that Forest City would be integrated into the overall plan of Iskandar Malaysia.²² Forest City now leverages on its proximity to Edu-City, Iskandar Malaysia’s centre for international educational institutions, and collaborates with Iskandar Malaysia to establish research centres and technical training institutions.²³ An MOU on its smart city initiatives was signed between IRDA and Forest City in December 2015.²⁴ IRDA also serves as facilitator and consultant for CGPV, providing relevant expertise and acting as a neutral platform for agencies and stakeholders to discuss priorities and concerns.²⁵

ECONOMIC VIABILITY

In its Statement of Need, the DEIA report states that investments of RM700 million (S\$233.9 million) will be made to upgrade infrastructure around the Forest City site,²⁶ and that the no-build option would mean

²¹ “Iskandar Malaysia Flagship C: Important facts and details on the Western Gate Development”, Iskandar Regional Development Authority, August 2008 <<http://www.worldwidepropertyinvestment.com/uploads/1/1/0/2/11028993/flagship-c-en.pdf>>.

²² “Johor residents object to Forest City at dialogue”, *The Edge Financial Daily*, 22 September 2014 <<http://www.theedgeproperty.com.my/content/johor-residents-object-forest-city-dialogue>>.

²³ CGPV website.

²⁴ “Iskandar Malaysia and UKTI sign MOU to promote collaboration on Smartcity initiatives”, Media Release, Iskandar Malaysia website <<http://iskandarmalaysia.com.my/iskandar-malaysia-ukti-sign-mou-promote-collaboration-smartcity-initiatives/>>.

²⁵ J.N.R. Williams, “Evaluating the diverse impacts of megaprojects: The case of Forest City in Johor, Malaysia”, Massachusetts Institute of Technology, USA, 2016 <<https://dspace.mit.edu/handle/1721.1/105036>>.

²⁶ Forest City Detailed Environmental Impact Assessment report, p. 4-5.

that the state government will lose potential revenue in fees, taxes and premiums of RM30 million (S\$9.6 million) a year. The local population would also “not be able to benefit from an estimated 62,200 new employment opportunities”.²⁷ A minimum 30 per cent quota of local employment was recommended by the DEIA Report.²⁸

Prime Minister Najib Razak has stated that the project will not only improve the local economy through job opportunities, but also help boost tourism and spur the development of manufacturing, high-tech services and the financial sectors.²⁹ Sultan Ibrahim confirmed that the investment will add to the state government’s surplus budget;³⁰ it will receive fees such as annual assessments and quit rent from the developers.³¹ With projected tax revenues of RM66 billion (S\$21.11 billion) over the next twenty years and an expected contribution of RM1.98 trillion (S\$630 billion) to the nation’s GDP, CGPV executive director Datuk Md Othman Yusof is confident that the total investment of about US\$100 billion will attract good returns.³² Forest City is visited by 300 to 800 visitors daily,³³ and had a total of about 100,000 visitors in 2016³⁴ with at least 11,000 units already sold.³⁵ PM Najib projects that Forest City will turn Johor into the next Dubai.³⁶

²⁷ Ibid., p. 6-2.

²⁸ Ibid., p. 14-3.

²⁹ “Forest City has great potential”, *The Star*, 7 December 2016 <<http://www.thestar.com.my/news/nation/2016/12/07/forest-city-has-great-potential-najib-mega-project-has-already-attracted-investments-worth-rm10bil/>>.

³⁰ “Sultan of Johor speaks his mind”, *The Star*, 18 March 2015 <<http://www.thestar.com.my/news/nation/2015/03/18/sultan-of-johor-speaks-his-mind-ruler-gives-a-special-no-holds-barred-interview-on-a-wide-range-of-t/>>.

³¹ “It will be insane to tell investors not to come to Johor”, *New Straits Times*, 22 March 2015.

³² “Forest City has great potential”, *The Star*, 7 December 2016.

³³ Ibid.

³⁴ Interview with Vincent Woon, CGPV Strategy Manager, 11 January 2017.

³⁵ “Forest City has great potential”, *The Star*, 7 December 2016.

³⁶ “Forest City project can turn Johor into next Dubai: Najib”, *Straits Times*, 21 January 2017 <<http://www.straitstimes.com/asia/se-asia/forest-city-project-can-turn-johor-into-next-dubai-najib>>.

In an interview with *The Star*,³⁷ Sultan Ibrahim of Johor pointed out that for every square foot of land reclaimed by CGPV for the Forest City project, RM0.30 (S\$0.10) is placed in a fund to help affected fishermen, bringing in more than RM104 million (S\$33.26 million). The Sultan was most likely referring to the Johor Fisherman’s Foundation announced by Azli Mohamad Aziz, the South Johor Fisherman’s Association Chairman.³⁸ The monies in the foundation will be used for oil palm and other business ventures, with profits being channelled back to fishermen affected by development in both Gelang Patah and Pengerang. To launch the Foundation at the time, a start-up contribution of RM10 million (S\$3.2 million) was requested from the state government. Added to that was the RM3 million (S\$1 million) in compensation disbursed by CGPV to the community in 2013.³⁹ All these funds would provide substantial financial and other support to fishing communities, especially in light of declining catch numbers worldwide.

Is There a Market?

The CGPV website highlights the stable property market in Johor as being characterized by “high transparency” and a “commonwealth legal and banking system” that will protect the interests and privacy of the buyers. It also declares that there will be “asset value preservation”. However, soon after the public became aware of the scale of this mixed development, pundits began to predict a glut in the Iskandar property market. The Forest City properties will add to the existing 336,000 homes already planned for Johor. As at end 2014, there were 719,421 homes already in existence in the state.⁴⁰

³⁷ “Sultan of Johor speaks his mind”, *The Star*, 18 March 2015.

³⁸ “New foundation set up to care for fishermen”, *The Star*, 13 October 2014 <<http://www.thestar.com.my/news/community/2014/10/13/help-for-fishermen-new-foundation-set-up-to-care-for-fishermen/>>.

³⁹ Interviews with former advisors to Forest City who declined to be named, 14 December 2016.

⁴⁰ “Johor’s Forest City could house up to 700,000: Developer”, *Straits Times*, 13 May 2015.

With financial struggles in China, many suggest that large ventures like Forest City will be the final nail in the real estate coffin. The *Wall Street Journal* reported that the CGPV attitude towards these naysayers was, “we will create the market and the customers will arrive”.⁴¹ Sultan Ibrahim in turn interjected that the developers were not building all the units at once, and that the middle class in China and elsewhere (including Malaysia) would in any case need to find a place to stay given rising costs in many capital cities worldwide.⁴² The Sultan has been very firm in his drive to develop Johor and his vision is to move his state capital from the infamy of being the “sleepy backyard of Singapore”⁴³ towards becoming the second biggest city in Malaysia after Kuala Lumpur.⁴⁴

Chinese visitors to Forest City have tended to marvel more at how beautiful the scenery is and how much they enjoyed the view from the Forest City beachfront, than be bothered by Singapore’s industrial skyline.⁴⁵ Bo Wang explained the oblivion as a comparative lack of pollution to China where smog is the order of the day. Forest City being promoted as a planned city with all manners of environmental protection, safety and energy reduction has apparently enchanted the Mainland Chinese as being a novel and remarkable concept.⁴⁶ Interviews by the *South China Morning Post*⁴⁷ indicate that indeed, middle-class buyers are

⁴¹ “Ambitious Chinese developers plan cities abroad from ground up”, *Wall Street Journal*, 1 March 2016 <<https://www.wsj.com/articles/ambitious-chinese-developers-plan-cities-abroad-from-ground-up-1456815602>>.

⁴² “Sultan of Johor speaks his mind”, *The Star*, 18 March 2015.

⁴³ “It will be insane to tell investors not to come to Johor”, *New Straits Times*, 22 March 2015.

⁴⁴ “Make JB the second biggest city”, *The Star*, 23 March 2016 <<http://www.thestar.com.my/news/nation/2016/03/23/make-jb-the-second-biggest-city-johor-ruler-strategic-location-a-prime-catalyst-for-realising-its-fu/>>.

⁴⁵ Personal communication with Nick Allen (MIT researcher), 6 June 2016.

⁴⁶ Personal communication with Bo Wang (NTU Artist in Residence), 4 October 2016.

⁴⁷ “How China’s overseas property dream turned into a nightmare”, *South China Morning Post*, 26 March 2017 <<http://www.scmp.com/news/china/policies-politics/article/2080433/how-chinas-overseas-property-dream-turned-nightmare>>.

taken in by the seductive package of clean tropical surroundings, access to good schooling, easy long-term residency options and proximity to Singapore when they commit to purchasing Forest City units.

However, the recently announced regulations on individual foreign exchange and restrictions on currency use have thrown a spanner in the works. Not only will this reduce the ability of average middle-class Chinese nationals to buy up the available lots, it has put an immediate halt to installation payments by those who have already made the initial down payment. Property agents will now have to focus on Chinese nationals who already have funds overseas, or they will have to substantially broaden their clientele to other countries.

Researchers have noted growing optimism in the Malaysian property sector and overall warming of perceptions since the MH370 disaster. But they warn that maintenance of these glitzy properties will need to be improved if international investor confidence is to be maintained. More efficient commuting options between Singapore and Malaysia would also help to sustain investor interest.⁴⁸

In essence, for markets beyond China, CGPV will have to find selling points that appeal to the non-Chinese buyer. As it stands, Forest City properties generate little interest among Malaysians as apartment prices there are comparable to those in the Kuala Lumpur city centre, which is by far a more desirable location; and furthermore, local buyers tend to focus on landed property.⁴⁹ Table 1 shows a comparison between condominium property prices in Forest City with those from a number of other locations. Individual bungalow or semi-detached houses on the Forest City islands are reported to be more expensive and Chinese nationals looking for landed property for their retirement have settled on those in nearby gated communities such as Leisurefarm Resort.⁵⁰

⁴⁸ Leng K.Y. and V. Mavroeydi, “Iskandar Malaysia Labours to Develop”, ISEAS Perspective 2014, No. 58.

⁴⁹ Talk by Loong Chee Wei on PRC Investment in the Real Estate and Construction Sectors in Malaysia at ISEAS – Yusof Ishak Institute on 20 March 2017.

⁵⁰ Personal communication with Ernest Goh, Resident of Leisurefarm Resort currently engaged in discussions with property agents and potential buyers of his landed property, 2 March 2017.

Table 1: Comparison of average condominium property prices per square foot.

Location	Property	Average price per square foot (RM)	Average price per square foot (S\$)
Johor Bahru	Forest City ^a	RM1,280	S\$409
	Horizon Residences, Bukit Indah ^a	RM623	S\$199
	Fairway Suites, Bukit Indah ^b	RM497	S\$159
Kuala Lumpur	The Binjai, KLCC ^b	RM3,208	S\$1,025
	K-Residence, Avenue K ^b	RM1,387	S\$443
	Lakeview Homes, Mt Kiara ^b	RM550	S\$175
	Mount Kiara Banyan ^b	RM682	S\$218
	Nadi Bangsar ^c	RM1,270	S\$406
Singapore	Siglap Seaside ^c	RM5,321	S\$1,700
	Clement Canopy ^d	RM4,382	S\$1,400

Sources:

- a. "Forest City's Chinese buyers in limbo over developer's penalty claims", *Today Online*, 3 April 2017.
- b. "Property Snapshot 3: What are prices like in Johor Bahru?", *The Edge Property*, 3 February 2016.
- c. Survey of current prices on www.propertyguru.com.my, 5 April 2017.
- d. Personal communication with Janette Woo, Singaporean property agent on 3 April 2017.

While it was often posited that Singaporeans would be the main buyers in the Iskandar Development Region given the higher cost of living and of homes in Singapore, the response has in fact been lukewarm, partly due to Johor’s minimum purchase price regulation: Foreigners can only buy properties worth more than RM1 million and there is a capital gains tax of 30 per cent for units sold within five years of purchase.⁵¹ Should the property be put on the resale market, the price tag would be far beyond the reach of the average local budget. In addition, Malaysia’s reputation for lack of certainty and of transparency in business and investment transactions — although improving — is another stigma that Singaporean buyers do not easily forget. Recent media coverage of the predicament faced by Chinese nationals who committed to Forest City units but who are now unable to follow through with payments given capital controls regulations⁵² adds to the negative perceptions that need to be overcome.

Questions of Safety

Yet another reservation that potential buyers have concerns safety. CGPV takes pride in the speed with which they are able to reclaim land and build their properties. The Forest City Show Gallery has an exhibition area that depicts the method with which “new land is created from the sea”; one month after sand dumping begins an island is formed, and eight months after that, foundation work begins. Chinese building contractors have a reputation for carelessness and for having little regard for safety.⁵³ This can also be seen at the Forest City project site as there is free access

⁵¹ “5 Reasons to be careful when buying property in Johor and Iskandar”, *Straits Times*, 14 May 2015 <<http://www.straitstimes.com/business/5-reasons-to-be-careful-when-buying-residential-property-in-johor-and-iskandar>>.

⁵² “Forest City’s Chinese buyers in limbo over developer’s penalty claims”, *Today Online*, 3 April 2017 <<http://www.todayonline.com/singapore/penalty-clause-adds-to-woes-of-forest-city-chinese-buyers>>.

⁵³ “Beware of China’s Safety Record”, *New York Times*, 26 November 2015 <https://www.nytimes.com/2015/11/26/opinion/beware-of-chinas-safety-record.html?_r=0>.

by anyone to the CG Causeway through the construction entrance, where large heavy vehicles travel at speed, some while packed full of workers. Interviews with people who work on-site reveal that little heed is paid to health and safety standards and several local and foreign workers' lives have already been lost since construction began.

It is also clear that in spite of the technological innovations used to reclaim and build, sand dumped on (mud) seabed needs more than the publicised time to settle. Cracks are clearly visible in both the Show Gallery and hotel buildings and sections of the new road and dispersal link show signs of settlement and ground-level sinking. These are quickly covered over, and a contractor has been hired to constantly monitor ground levels.⁵⁴ Staff of a food outlet within Forest City reported that they faced many wiring and other problems; large chunks of the ceiling once fell just before they opened and a glass door pane shattered without warning during operating hours.⁵⁵ An interview with a development consultant who declined to be named⁵⁶ revealed that the ground is indeed clearly sinking and that the Show Gallery roof has leaks, both due to the haste in which it was built, as well as to the desire to keep costs to a minimum.

According to the consultant, however, because piling has been cast in clusters deep in the rock base (beyond the seabed depth) and further strengthened with walls of concrete encircling both reclaimed land and piling clusters, the buildings are stable. The visible cracks occur at the prefabricated material joints, a common surface-only occurrence in this type of construction method. But according to the consultant, land settlement will continue, leaving the building suspended on the piling showing a gap between the building floor and the actual ground level.

⁵⁴ Personal communication with an employee of the contractor who declined to be named, 7 January 2017.

⁵⁵ Personal communication with a former employee of the food outlet who declined to be named, 2 April 2017.

⁵⁶ Interview with former development consultant who declined to be named, 14 December 2016.

Some parts of the settlement cannot be refilled with sand or other substrate as they have already been sealed off with the enclosing concrete. There could then be a hollow piling structure under the building. Externally visible areas of settlement will have to be either refilled or steps built for smooth access to the building from the actual ground levels.

The questions that arise from the physical reliability of the islands and their infrastructure are difficult to dismiss. This is even more so for potential buyers from Singapore where reclamation has been the norm and where residents are used to seeing reclaimed land left to settle and rehabilitate naturally for years before any form of construction begins on it.

Political Entanglements

Adding to the controversy surrounding Forest City is the political furore that has emerged around the project — especially as Malaysia moves towards its national elections. The recent tiff between Tun Dr Mahathir Mohamad and Sultan Ibrahim reignites long-standing tensions between the royal houses and the former premier. The friction began when the former curtailed royal powers during his term as Prime Minister⁵⁷ and removed royal immunity from persecution. The Johor Sultan, in particular, has often accused Tun Dr Mahathir of stoking racial and religious discord for political gain,⁵⁸ which he says goes against the state practice of *Bangsa Johor*. The former Prime Minister's apparent attempts to invoke xenophobic fears of Chinese investors are believed to be an attempt to pull away rural Malay votes in the UMNO stronghold to his new opposition party, Parti Pribumi Bersatu Malaysia (PPBM). The Forest City project has thus become the unwitting pawn in this political positioning.

⁵⁷ Norshahril Saat, *Johor Remains the Bastion of Kaum Tua*, Trends in Southeast Asia, no. 1/2017 (Singapore: ISEAS – Yusof Ishak Institute, 2017).

⁵⁸ “Johor ruler slams Dr M over Chinese investment comments”, *The Star*, 16 January 2017 <<http://www.thestar.com.my/news/nation/2017/01/16/political-spin-angers-sultan-johor-ruler-slams-dr-m-over-chinese-investment-comments/>>.

Yet another theory put forward to explain the vilification of Forest City is the battle between the business interests of Mahathir and the Sultan. The affiliations are simple; Forest City is a state project sanctioned by Sultan Ibrahim. The placement of the Forest City project obstructs some of the initial development plans of the Port of Tanjung Pelepas (PTP),⁵⁹ which is a federal project launched during Mahathir's term as Prime Minister and helmed by his close associate Syed Mokhtar Al-Bukhary.⁶⁰ Add to that are Mahathir's current animosity with the current Prime Minister Najib Razak and the latter's recent embrace of China and Chinese investors. Together, these elements result in public relations problems for CGPV and the Forest City project.

In defence of Sultan Ibrahim's decision to reclaim Forest City in the Tebrau Straits is his demand that there not be "too much interruption to the lives of the people in the vicinity".⁶¹ This too could be a veiled reference to the long-term plan in the IRDA Blueprint to transform much of Mukim Tanjung Kupang into a Port City, with possible displacement of the villagers into "resettlement areas".⁶²

While most buyers, especially those from overseas, will leave the political parlance in the background, the negative publicity does have some effect on Forest City's branding. These issues may not have a direct impact on the financial success of the project but they are a neat reflection of development and political economy concerns. Furthermore, this battle between the elder statesman and the Johor Sultan which was publicly

⁵⁹ "Iskandar Malaysia Flagship C: Important facts and details on the Western Gate Development", Iskandar Regional Development Authority, August 2008 <<http://www.worldwidepropertyinvestment.com/uploads/1/1/0/2/11028993/flagship-c-en.pdf>>.

⁶⁰ "The sprawling empire of Syed Mokhtar Albukhary", KiniBiz Online, 12 November 2013 <<http://www.kinibiz.com/story/issues/58876/the-sprawling-empire-of-syed-mokhtar-albukhary.html>>.

⁶¹ "It will be insane to tell investors not to come to Johor", *New Straits Times*, 22 March 2015.

⁶² "Iskandar Malaysia Flagship C: Important facts and details on the Western Gate Development", Iskandar Regional Development Authority, August 2008.

played out in the press is one between two giants, both of whom inhabit totally different spheres from those who live in the immediate vicinity of the Forest City projects.

The great disparity between the three levels of society participating in this development illustrates the political economy realities involved. Those who will potentially benefit financially from Forest City hold much power over the project's future. These are the privileged few. Those who are able to participate through their purchasing power stand to benefit in terms of lifestyle choices and well-being. Thirdly, the people whose lives and future livelihoods are directly affected by the project's impact on the environment, have little to no opportunity to participate in the project or to enjoy its benefits.

Accurate Economic Costs of Project

The economic valuation of the project took into account potential investment, fees, taxes and other returns. In a valuation of costs and benefits, the DEIA calculated that over a period of fifty years, with an 8 per cent discounted loss of environmental services, the total present value of the streamed annual loss will be RM116 million (S\$37.10 million).⁶³ In coming to this figure, the following items were taken into consideration:

- i. direct use values of mudflats lost to reclamation (through potential income from the sales of cockles, bivalves, gastropods, shrimps/prawn and fish);
- ii. direct use values of muddy seabed lost to dredging (calculated as above);
- iii. costs to fishermen (through loss of fishing ground and increased costs of fuel consumption);
- iv. loss of seagrass habitat productivity (through direct use values of fisheries, tourism, education and research and indirect use values of nutrient cycling and carbon sequestration).

⁶³ Forest City Detailed Environmental Impact Assessment report, p. 16-13.

No details were provided on the components considered under fisheries, tourism, education and research. But then even those figures would be insufficient since the following habitats and/or ecosystem services values have not been included in the calculation:⁶⁴

1. Ecosystem connectivity values;
2. Nutrient and pollutant sequestration;
3. Coastal protection from sea level rise, wave action and erosion;
4. Sediment trapping and stabilization.
5. Ecological engineering values;
6. Food chain and sediment community biodiversity values for nearshore and coastal productivity;
7. Fisheries species nursery, feeding and breeding grounds;
8. Aquaculture and recreational fishing values;
9. Ecotourism and aesthetic values;
10. Food chain value (through benthic invertebrates);
11. Fisheries value (i.e., gleaning);
12. Biodiversity and structural complexity values;
13. Medicinal values;
14. Non-use and existence values;
15. Socio-cultural heritage and identity values.

Assessing the habitat alone, however, is not enough. In order to accurately determine the proper economic value (or opportunity costs) of the development, the following variables also need to be taken into account:

1. Economic contribution of fisheries input (e.g., materials and supplies, production factors);
2. Economic output values of fisheries industry and fisheries-related

⁶⁴ Adapted from “An Assessment of Fisheries and Marine Ecosystem in Peninsular Malaysia”, World Wildlife Fund Malaysia 2013; B. Japar Sidik, Z. Muta Harah and A. Arshad, “Seagrass shoals of Sungai Pulai Estuary, Johor”, *Malaysian Nature Journal* 66, nos. 1 & 2 (2014): 1–19; and the writer’s fieldwork, 2008–2017.

manufacturing industries (e.g., downstream fish processing, packaging, ice manufacturing);

3. Costs of damages incurred from accidents or net damage related to the development or its contractors;
4. Subsidies values;
5. Increasing market prices for fish given scarce resources;
6. Fisheries option values (opportunities for fishing at a later date);
7. Recreational fishing;
8. Socio-cultural heritage and identity values;
9. Bequest values (fishing by the next generation).

In addition, fishing-dependent communities who make up the majority of the people living around the Forest City project are among the most vulnerable of socio-economic working groups. They have a high dependence on fisheries for cash income, whereby the ability to earn cash, such as through the immediate sales of fish, translates into access to essential services, goods and food. Thus the actual value of the sale of a day's harvest at sea is far higher than the monetary value assigned to it.⁶⁵ Should all these variables be taken into consideration, the actual costs of the project would be far higher than its projection in the DEIA. While there are ways to mitigate and offset these costs, the fact remains that the prices tagged to the properties for sale should be far higher, with more taxation or other fees being needed to ensure that some financial benefits are channelled to those immediately affected by the physical and environmental effects of the development.

ENVIRONMENTAL SUSTAINABILITY

The environmental sustainability of the Forest City project has been an issue that has dogged it since its inception. Given the great emphasis on its green qualifications, a higher benchmark is at stake. But with

⁶⁵ C. Béné, "Small-scale fisheries: Assessing their contribution to rural livelihoods in developing countries", FAO Fisheries Circular No. 1008. Food and Agriculture Organisation of the United Nations, Rome, Italy, 2006.

the controversy that has erupted around it however, the project's environmental credibility has been harder to establish.

In Forest City's immediate vicinity is Mukim Tg Kupang, a sub-district of Gelang Patah inhabited by a population of about 10,972 people⁶⁶ settled in nine villages. Many of these are artisanal nearshore and estuary fishermen, while others work in the port or its surrounding factories and facilities. The fishermen in this area fall under the South Johor Fishermen's Association and comprise both Malay and Chinese locals who have been dependent on the area's natural habitats for generations. While Orang Seletar indigenous people also fish within the Forest City development area, they are not residents there and often come from Kampung Simpang Arang near Gelang Patah or the Danga Bay area.

Controversy

To the fishermen and many others in the Mukim Tg Kupang community, the start of reclamation came as a surprise. Photo evidence taken by a local community organization, Kelab Alami, showed marker buoys put in place by 1 January 2014. Then sand barges arrived to offload tons of sand around the clock. The Forest City DEIA document states that reclamation for Phase 1 of the project began on 22 January 2014, with seventeen sand barges working continuously twenty-four hours a day with at least seventeen trips to shuttle sand between Teluk Ramunia and the Forest City reclamation site.⁶⁷ The project had an immediate goal of dumping 25,406,201 m³ of fill material to create the first island. The entire project would require a total of 161,891,980 m³ of fill material.⁶⁸ By the end of February 2014, a small island of sand was already visible.⁶⁹

During this period there was still little information about the project available to the average community member. Sand dumping continued

⁶⁶ Forest City Detailed Environmental Impact Assessment report, p. 11-7.

⁶⁷ Ibid., p. 13-110.

⁶⁸ Ibid., p. 5-20.

⁶⁹ Kelab Alami photo documentation.

and fishermen at most jetties were only able to grumble amongst themselves about the potential impact to their livelihoods. Democratic Action Party (DAP) politicians Cheo Yee How and Liew Chin Tong raised the matter⁷⁰ but it was not until Singapore had sent a diplomatic note to the Federal government in May 2014 that action was taken.

Singapore's Concerns

According to the Singapore Ministry of Foreign Affairs (MFA) Press Release,⁷¹ Singapore's concerns about the Forest City project revolved around the lack of information provided to them by the Malaysian government. Diplomatic notes were sent by various parties in Singapore, including the Prime Minister, to their counterparts in the Malaysian government. The matter was also raised during the Malaysia-Singapore Joint Committee on the Environment Working Group meeting in Malaysia in May 2014. The issues on which Singapore requested clarification included the following: potential changes in water current speeds and the subsequent impact on navigational safety; possible erosion that might affect shoreline and Second Link infrastructure; and changes in water quality and morphology that might affect the coastal and marine environment and local fish farms. Singapore requested that all reclamation work be put on hold until these issues were investigated and the DEIA report was shared.

Initially the Chief Minister of Johor, Khaled Nordin reassured Singapore that the Forest City development would have no environmental impacts. At the same time, the state government asked CGPV to prepare an action plan to resolve the issue of sediment plumes resulting from the reclamation work.⁷² The order for mitigation work to be carried out on-

⁷⁰ "The case of Forest City and the Johor Sultan", Malaysiakini, 14 July 2014.

⁷¹ Transcript of Senior Minister of State for Foreign Affairs Masagos Zulkifli's reply to Parliamentary Questions, Ministry of Foreign Affairs, Singapore website, 9 July 2014 <https://www.mfa.gov.sg/content/mfa/media_centre/press_room/pr/2014/201407/press_20140709.html>.

⁷² Williams, "Evaluating the diverse impacts of megaprojects".

site was issued on 2 June 2014, a request for a DEIA was sent to CGPV on 6 June 2014, and on 17 June 2014 the stop work order was issued by the Johor Department of Environment (DOE Johor).⁷³ DAP spokesperson on environmental issues, Cheo Yee How, reported however that work continued on the ground despite the stop-work order.⁷⁴ This claim was corroborated by Kelab Alami photo documentation of trucks transporting sand to the reclamation site via the CG Causeway, which could now be reached from the main J4 trunk road through Mukim Tg Kupang after mangrove and secondary forests were cleared for this thoroughfare.

The Question of the DEIA

Thus it was revealed that this almost 2,000-hectare project was approved and launched without a DEIA. According to the Malaysian Department of Irrigation and Drainage (DID) Guidelines, for any coastal reclamation involving an area of 50 hectares or more, it is mandatory that an EIA be carried out. All reclamation projects of any size require impact evaluation studies that include hydrodynamics and morphological change modelling reports.⁷⁵ Following this, the project allegedly broke up into islands of 49.3 hectares each, to avoid the DEIA process.⁷⁶

According to the National Policy Plan-2 (NPP2), sensitive coastal and marine ecosystems such as wetlands (mangrove) and seagrass areas, especially those critical to marine fisheries should be gazetted as protected areas. Any proposal involving reclamation needs to be referred to the National Physical Planning Council. The actual area within which Forest City was proposed is labelled Management Unit (MU) 3-9: Merambong under the Iskandar Malaysia Shoreline Management Plan.⁷⁷ This area

⁷³ Forest City Detailed Environmental Impact Assessment report, p. 2-6.

⁷⁴ “Disagreement with the proposed Forest City project”, DAP Malaysia website <<https://dapmalaysia.org/en/statements/2014/09/22/19174/>>.

⁷⁵ Guidelines on Erosion Control for Development Projects in the Coastal Zone. DID Guidelines 1/97, Department of Irrigation and Drainage, Malaysia.

⁷⁶ Williams, “Evaluating the diverse impacts of megaprojects”.

⁷⁷ “Shoreline Management Plan: Blueprint for Iskandar Malaysia”, Iskandar Regional Development Authority (IRDA), 2011.

is deemed an Environmentally Sensitive Area (ESA) Rank 1, where no development is allowed save low-impact nature tourism, research and education. In order to begin work on Forest City, this protected area had to be de-gazetted. The Forest City DEIA mentions that DOE Johor issued a Preliminary Site Approval on 13 January 2014 for the reclamation of Phase 1. It was with this document that CGPV began reclamation work. The Johor State Economic Planning Unit, in a letter dated 3 September 2014, waived the need for the reclamation to be referred to the National Physical Planning Council.⁷⁸

In community stakeholder meetings, CGPV representatives insisted that they had no idea that the reclamation area held such a rich diversity of wildlife and fisheries species. They implied that they were given the go-ahead to begin work and to carry on as necessary.⁷⁹ A local advisor to CGPV who declined to be named⁸⁰ mentioned that he had warned them not to break up the project to avoid the DEIA process, but the plan went ahead nevertheless.

In its original plans, the Forest City development was to be a single geometrically shaped block of land wedged between Singapore and Malaysia. The map in Figure 1 depicts the land plots alienated to CGPV, amounting to about 1,900 hectares.⁸¹ Little public mention is made of Plot F on the northern side of the Second Link Bridge. Reclamation in this area would have an immediate impact on several floating fish farms there.

As part of the DEIA requirements, CGPV's environmental consultant, DHI Malaysia, carried out more than 50 modelling simulations to revise the shape of their islands⁸² to take into consideration the issues highlighted

⁷⁸ Forest City Detailed Environmental Impact Assessment report, p. 1-12.

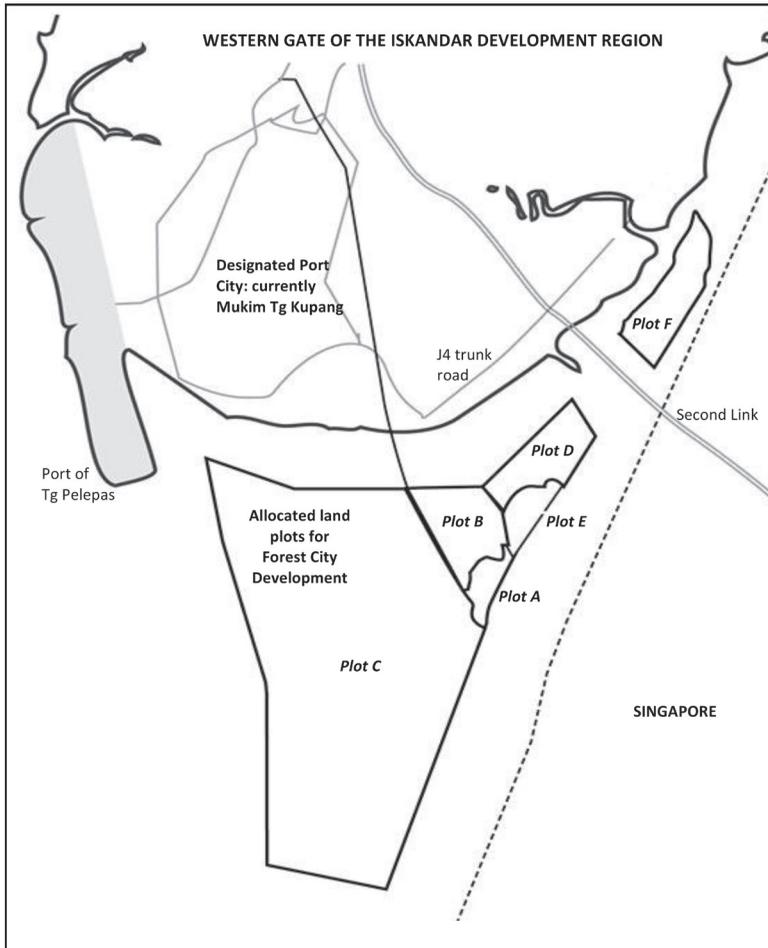
⁷⁹ Personal observation, CGPV stakeholder engagement, 1 October 2014.

⁸⁰ Interviews with former advisors to Forest City who declined to be named, 14 December 2016.

⁸¹ Map is adapted from the Forest City Detailed Environmental Impact Assessment report, pp. 2-2 and the Iskandar Malaysia Flagship C: Important facts and details on the Western Gate Development, August 2008. (Iskandar Regional Development Authority), p. 13.

⁸² Interview with Vincent Woon, CGPV Strategy Manager, 14 December 2016.

Figure 1: Forest City land plots (A to F) alienated to CGPV, set within the Western Gate of the Iskandar Development Region. Plot A was to be the first island reclaimed beginning January 2014



Source: Reproduced with kind permission of Benjamin Cheh Ming Hann.

by Singapore and to ensure minimal impacts on the natural habitats in the vicinity. Among the concerns taken care of were: the stipulation of a buffer of at least 1 km between the development and Singapore, the Second Link and PTP's future expansion area; a maximum change of current velocities of 10 per cent; buffers of between 200 m to 500 m between the development and the Tg Kupang seagrass meadow, 600 m from Merambong Island and 200–300 m from the mainland to allow for the movement of local fishing boats; sea level rise due to global warming; the prevention of possible flooding and erosion; and the ensuring of shoreline protection and vegetation.⁸³

The revised layout of the development thus evolved into four separate islands around the Tg Kupang seagrass meadow with specifications as listed in Table 2. With all mitigating tools and factors in place, this would help to reduce the impact of reclamation and construction on the Tg Kupang seagrass meadow. The revised island plan is shown in Figure 2.⁸⁴ This revision reduced the project's total acreage by about 30 per cent to

Table 2: Specifications of revised Forest City Island plan

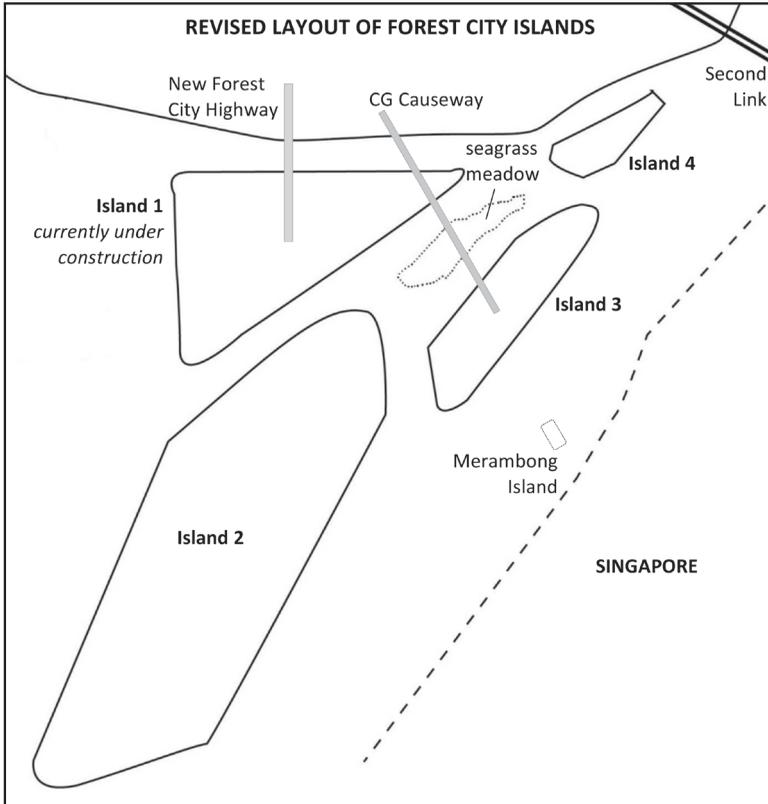
Island	Acreage	Purpose
1	979	High-tech industrial zone, CBD, residential, shopping mall, IT industrial park, playgrounds, transportation hub
2	1,895	CBD, tourism, residential, central park, sports park, hospital, ferry terminal
3	405	Customs, duty-free shopping, convention centre, luxury hotel, international exchange centre
4	164	

Source: www.mysgprop.com/forest-city-country-garden-johor/.

⁸³ Forest City Detailed Environmental Impact Assessment report, p. 6-3.

⁸⁴ Adapted from the Forest City Detailed Environmental Impact Assessment report, p. 5-14.

Figure 2: The revised layout of what are now four Forest City islands after the DEIA. The islands were remodelled to take into account Singapore’s concerns



Source: Reproduced with kind permission of Benjamin Cheh Ming Hann.

1,380 hectares. Its gross development value was thus also reduced from RM600 billion (S\$191.91 billion) to RM450 billion (S\$143.93 billion).⁸⁵ The development thus leaves the Tg Kupang seagrass meadow intact, albeit surrounded by the new artificial islands.

⁸⁵ “Country Garden’s Big Sell”, The Edge Singapore, 16 February 2016.

Is this Greenwashing?

Singapore's concerns about the Forest City project stemmed mainly from its environmental impacts. While the habitat descriptions and details in both the IM Blueprint and the DEIA may be inaccurate and/or incomplete, they do highlight some resident species of seagrass and marine fauna and acknowledge the importance of the habitat. According to the Blueprint (published in 2011), the biggest threat to these habitats was the Port of Tg Pelepas. At the time of publication of this Blueprint, the Forest City plan had not yet materialized; thus there was no expectation of other potential threats to the environment.

Copious publications have highlighted the importance of the area in terms of its biodiversity and significance to local fisheries and the ecosystems services that it provides. The intertidal seagrass meadow that the CG Causeway divides is the largest in Peninsular Malaysia and harbours at least eight species of seagrass and thirty species of seaweed which in turn supports the existence of numerous fisheries and other vital marine species. These include large endangered species such as dugongs and two types of turtles. The mangrove areas that line the coasts here are also known to harbour endemic (found only in this area) and endangered species, as well as enigmatic fauna such as the Estuary Crocodile, Smooth Otter and Leopard Cat, among others.

Beyond individual habitat and biodiversity importance is the value of these areas' habitat connectivity. The link between mangroves, intertidal mudflats, seagrass meadows and the nearby island rocky shore and soft coral areas facilitate and support the breeding, nursery and feeding grounds of a substantial web of marine species that provide for local community protein needs as well as the region's fisheries output. The Forest City project encompasses much of this area and if mitigating measures are not taken, it could possibly damage the links between these vital components of a larger ecosystem, thereafter severely affecting local fisheries supplies and community access to subsistence food sources.

An Update to the Environmental Assessment

While the DEIA took note of some of the issues that will result from the development and that had already occurred at the time of publication, an

update of the environmental status and the accuracy of the DEIA report is in order. The biggest impact of a reclamation project is assumed to be that of sedimentation plumes on surrounding habitats. The DEIA report states that a double layer of silt curtains would be installed around the reclamation site to prevent sedimentation.⁸⁶ However, photographic evidence taken by Kelab Alami showed that at least some of the silt curtains were not unrolled throughout the project reclamation period and were therefore not functional.

Research by seagrass specialists from University Putra Malaya (UPM) hired to monitor and eventually rehabilitate the local seagrass habitat indicated that there did not seem to be any sedimentation impact on Singapore, not only because CGPV was very careful when it came to the trans-boundary impact of their development, but also because of deeper waters and strong currents between the project site and Merambong Island, as well as between Merambong Island and Singapore. The research showed that the reclamation has had little impact on Merambong Island's fauna and flora thus far, because of these channels. This then means that there will be little subsequent impact on Singapore.

On the other hand, the presence of the CG Causeway had direct impact on the Tg Kupang seagrass meadow. Not only did it effectively smother 3.96 hectares of seagrass beneath it,⁸⁷ the reclamation left a "thick glutinous [layer of] silt, often many centimetres deep" on the northern half of the remaining seagrass meadow. Coupled with increased suspended solids in the water, the anoxic nature of the settled silt resulted in localised losses of fauna and seagrass death.⁸⁸ Dr Leena Wong⁸⁹ of UPM reported that the positioning of the silt curtains made a difference, and that relocating them could improve conditions on the seagrass bed. However, they would have to be properly installed (unrolled) and maintained in order to be effective.

⁸⁶ Forest City Detailed Environmental Impact Assessment report, p. 5-19.

⁸⁷ *Ibid.*, p. 16-5.

⁸⁸ Japar Sidik, Muta Harah and Arshad, "Seagrass shoals of Sungai Pulai Estuary, Johor".

⁸⁹ Interview with Dr Leena Wong, University Putra Malaysia, 21 December 2016.

The placement of both the CG Causeway and the silt curtains have led to the fishermen having to take a long detour around the project site instead of hugging the coast to get to their usual fishing sites. This has added to their fuel costs as accounted for in the DEIA report. In addition, because of construction in their regular fishing grounds, including the complete reclamation over some of their most prolific prawn-catching locations, they have had to find alternative fishing locations. To make up for decreasing catches, fishermen are not only going out more often than they used to but they are also diversifying in terms of target species and fishing methods. Fishermen who only used to fish for high value species such as pomfret and prawns now supplement their incomes with crab fishing for which incomes are comparatively stable.⁹⁰ While this is understandable given the desperation that subsistence fishermen are driven to, it adds pressure to already limited and decreasing resources.

The DEIA describes the use of a perimeter bund to contain reclamation fill material. UPM's Dr Leena Wong noted that this bund was made of sand; and that the sand from the bund itself could also be washed off in the tides or a storm, resulting in further sedimentation and negative habitat impacts.⁹¹ Norashekin Baharin, Kelab Alami's scientific officer and resident mangrove expert noted that the accumulation of silt and clay sediments resulting from the reclamation could transform the seagrass meadow into a mudflat and change the texture and substrate of the natural shoreline.⁹²

The key factor behind this is water hydrology. Long-term satellite mapping of the Tg Kupang seagrass meadow⁹³ shows that the presence of

⁹⁰ Personal observation/interviews from fieldwork, 2008–2017.

⁹¹ Interview with Dr Leena Wong, University Putra Malaysia, 21 December 2016.

⁹² Interview with Norashekin Kamal Baharin, Kelab Alami Scientific Officer, 21 December 2016.

⁹³ S. Misbari and M. Hashim, "Temporal and spatial dynamics of submerged seagrass at Merambong, Johor using Landsat data". In *ACRS 2015 — 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia, Proceedings Asian Association on Remote Sensing*, ACRS 2015, Quezon City, Metro Manila, Philippines, 24–28 October 2015.

the CG Causeway has had a visible impact on the habitat. While changes in meadow composition have occurred since the expansion of PTP in 2003, drastic one were clearly seen in 2014 only after reclamation began. The study showed that the meadow which comprised mostly seagrass, transformed into a largely macroalgae and mud area, with the seagrass reduced to mere patches. Kelab Alami photo documentation corroborates this and shows that areas with minimal water movement (such as the northern half of the Tg Kupang seagrass meadow) are overgrown with macroalgae (*Ulva sp.*,⁹⁴ *Gracillaria fisherii* and *Amphiroa fragilissima*⁹⁵) which adds further stress to the seagrass ecosystem and has resulted in low levels of oxygen. Dr Wong confirmed that the reduction in water flow has led to the death of most filter feeders such as sponges, tunicates and anemones. In their place is an increase of snails and clams; species usually found in mangroves.

The overabundance of macroalgae is detrimental to fishermen's gillnets, with some having to be destroyed; this results in additional replacement costs to the fishermen of between RM500 and RM2,000 (S\$160–S\$640). Local fishermen, especially those who depend on gleaning in the seagrass meadow report smaller numbers of dog conch. While this fisheries species are known to be seasonal, they have also been reported to move to deeper waters when stressed (i.e. when water quality deteriorates).⁹⁶ Easy access to the seagrass meadow at low tide through the construction entrance to the CG Causeway from the J4 trunk road has also resulted in greater numbers of local folk as well as the construction site workers collecting food. This has resulted in clearly unsustainable harvesting of local resources such as pen shells, dog conch and sea cucumbers.⁹⁷

⁹⁴ Kelab Alami photo documentation.

⁹⁵ Japar Sidik, Muta Harah and Arshad, "Seagrass shoals of Sungai Pulai Estuary, Johor".

⁹⁶ Z. Che Cob, A. Arshad, J. Sidik Bujang and M.A. Ghaffar, "Spatial and temporal variations in *Strombus canarium* (Gastropoda: Stromidae) abundance at Merambong Seagrass Bed, Malaysia", *Sains Malaysiana* 43, no. 4 (2014): 503–11.

⁹⁷ Personal observation, fieldwork 2008–2017.

Increased turbidity from dredging and reclamation work is directly linked to a reduction in fish stocks. The DEIA report states that the total dredging area for the project will be 259.42 hectares.⁹⁸ This will have a direct impact on coastal mudflats that serve as a key source of food for fisheries species and fish stocks, which is further compounded by input from runoff and direct discharge of wastes from land to the estuary.⁹⁹ Fishermen reported that after new dredging or reclamation work began, there has been a spike in prawn catch around the dredged area. However, this only lasted for a short period as large numbers of fishermen then descended on the vicinity to earn the most that they possibly could. Conversely, crab numbers have decreased with reclamation and dredging, even after seasonal variations are taken into consideration.¹⁰⁰

The World Wildlife Fund Malaysia (WWFM) reported that the productivity of fishermen on the west coast of Peninsular Malaysia has been in decline since 2000. While landings figures may have increased in some locations, this is due to increased effort to land a catch (such as fishermen heading out to sea more often than usual), resulting in overfishing and unsustainable resource exploitation.¹⁰¹ This assessment can be seen in Mukim Tg Kupang.

The UPM team maintains that the CG Causeway needs to be removed to allow the sediment to be washed away naturally by the currents; this has also been stated in the DEIA. Thus far, the 2.25-km CG Causeway¹⁰² has been narrowed and shortened, but not yet completely removed. Dr Vincent Woon of CGPV stated that the complete removal of the causeway will be completed by March 2017.¹⁰³ At the time of publication,

⁹⁸ Forest City Detailed Environmental Impact Assessment report, p. 16-5.

⁹⁹ Japar Sidik, Muta Harah and Arshad, “Seagrass shoals of Sungai Pulai Estuary, Johor”.

¹⁰⁰ Interviews with fishermen/personal observation, fieldwork 2008–2017.

¹⁰¹ An Assessment of Fisheries and Marine Ecosystem in Peninsular Malaysia, World Wildlife Fund Malaysia 2013.

¹⁰² Misbari and Hashim, “Temporal and spatial dynamics of submerged seagrass at Merambong, Johor using Landsat data”.

¹⁰³ Interview with Vincent Woon, CGPV Strategy Manager, 14 December 2016.

the CG Causeway still remains. Sand that is removed from the causeway is meant to be transferred for use on the new islands, but reports by fishermen and Kelab Alami documentation have shown contractors pushing the sand back out to sea so that it is not visible at low tide, instead of transferring it onto trucks. The CGPV management was apparently unaware of this practice by their sub-contractors.¹⁰⁴ This deceptive displacement of sand added to the problems of the local fishermen as it created many new shallow areas around the project site. Several fishermen unaware of the changes in depth or traveling at night have been caught and grounded on these barely visible shallows, resulting in costly boat and propeller damage.

Dr Leena Wong reported that given even the minimal shortening of the causeway that has been done to date, noticeable changes are evident on the northern half of the Tg Kupang seagrass meadow. Their last monitoring visit in December 2016 revealed clearer waters, less macroalgae and some visible increase in fauna.¹⁰⁵ CGPV has repeatedly expressed their intention to support the replanting of seagrass and replenishment of fisheries species once the causeway is removed.

The DEIA report stated that while coastal mangroves might suffer from erosion due to hydrological changes in the area, they would not be affected by sedimentation. The report claims that the presence of larger reclaimed landmasses will in fact stabilize the mangrove habitats and that no mitigating measures are required.¹⁰⁶

On the contrary, Kelab Alami's Scientific Officer Norashekin Baharin notes that slower currents or less water movements do not bode well for mangrove forests as the influx of silt and clay affects both mudflat and mangrove benthos (animals that live in the substrate), as well as destroy mangrove roots.¹⁰⁷ Of greater concern is the clearing of coastal mangroves

¹⁰⁴ Interview with Dr Leena Wong, University Putra Malaysia, 21 December 2016.

¹⁰⁵ Ibid.

¹⁰⁶ Forest City Detailed Environmental Impact Assessment, report p. 13-122.

¹⁰⁷ Interview with Norashekin Kamal Baharin, Kelab Alami Scientific Officer, 21 December 2016.

that has taken place in Kg Pok to allow for the new Forest City dispersal link, as well as the still ongoing clearing of mangroves in the Shahbandar area (between Kg Pekajang and Kg Tiram Duku) to create factory space for the prefabricated panels for infrastructure in Forest City.¹⁰⁸ It has also been mentioned that a substantial plot of RAMSAR mangroves has been excised for use by Forest City for a golf course. Managed by a separate subsidiary of Country Garden, there is little awareness and/or publicity about the habitat damage and possible environmental repercussions in this area.¹⁰⁹

Evaluating Forest City's Environmental Practices

The language on the CGPV website leans more towards green marketing than environmental substance. Some of its habitat information is clearly incorrect. That said, however, there seems to be substantial effort behind the scenes to look into the application of green technology wherever possible. CGPV also constantly seeks the advice of UPM scientists and DHI Malaysia, their environment-modelling consultants, in planning their next steps.

The biggest obstacle that CGPV might face is a lack of understanding of conditions on the ground because work is entrusted to contractors who might not necessarily convey the right information and/or who might choose to cut corners. This has already been seen in contractor reports of successful silt curtain implementation when fishermen's reports and Kelab Alami documentation indicate otherwise. UPM researchers have also reported that the CGPV management might insist that the buffer zone between their development and the environmentally sensitive areas is 300 m but they are not aware that the actual buffer zone on the ground is barely 100 m. Again, this contradicts reports by their contractors.¹¹⁰

¹⁰⁸ Kelab Alami photo documentation.

¹⁰⁹ Personal communication with several staff of different local government agencies who declined to be named. Interviews between December 2016 and February 2017.

¹¹⁰ Interview with Dr Leena Wong, University Putra Malaysia, 21 December 2016.

The DEIA Report and Dr Woon stated that sand for the reclamation is sourced from Teluk Ramunia, but unverified reports from the village claim that sand from local hills is also being used at the project site. This then increases the negative environmental impact on the community with hill-razing for sand leading to floods and inland erosion.

While CGPV has the support of very qualified seagrass scientists, there seems to be a lack of authentic mangrove expertise in their midst. Representatives from their project site have previously asked Kelab Alami for advice on mangrove transplanting. Their questions indicated a clear lack of understanding of the mangrove habitat and its sensitivities.¹¹¹ It is unclear whether the Sasaki masterplan can be achieved if an expert on such matters is not engaged.

Also unexplored are the implications of a dense population on four small islands. While the DEIA report lists its future sources of water and plans for sewage treatment, as well as local authorities' confirmation of sufficient water supplies, the reliability of these declarations is in doubt. Local residents in the area already face regular unannounced water shortages and Johor is known for its water scarcity. There is a credible fear that water will be diverted from the local villages to serve the needs of luxury property owners. With doubts over quality standards in a Chinese development and the very real matter of land settlement, it is possible that sewage pipes will be damaged, thereafter leading to contamination of the surrounding areas. These issues and the measures taken to alleviate them do not seem to be thoroughly examined.

It is plausible that the habitats around Forest City will be able to recover once development is completed. That the completely smothered Tg Adang seagrass meadow managed to recover after the port expansion is an indication of the ability of the natural environment to survive stresses that are not sustained. However the Forest City Project will take thirty years to complete. Scientists have expressed worries over whether an ecosystem can withstand such a prolonged period of stress. Add to that the stress of other long-term projects in the immediate vicinity

¹¹¹ Interview with Norashekin Kamal Baharin, Kelab Alami Scientific Officer, 21 December 2016.

such as the Tanjung Piai Maritime Industrial Park by Benelac Holdings Berhad, the Tanjung Agas Oil & Gas Maritime Industrial Park within the Pulau River, the Port of Tanjung Pelepas planned expansion, Singapore's mega-port development in Tuas and the Sunway Iskandar project around the Pendas River, and the impact on the seagrass meadows and coastal mangroves in the Tebrau Straits will be heavy indeed.

CONCLUSION

The Forest City project is one of many initiatives intended to improve Johor's economic standing and increase contributions to its coffers. However in calculating the costs and benefits of this development, some parameters were excluded. As a result, the financial valuation may be inaccurate. The economic viability of this project is compounded by complications that arose from foreign exchange restrictions in China. After all, the entire design, sales and marketing pitch of the development seems geared towards the Chinese buyer. All this then will have to be transformed into a package that can overcome prevailing negative perceptions of Chinese development safety and quality and appeal to buyers from other parts of Asia and Europe. As it stands, Forest City has limited appeal to the local Malaysian and Singaporean buyer.

The environmental sustainability of the project can only be possible if enough mitigating measures are taken — especially the complete removal of the CG Causeway and the maintenance of the buffers between the artificial islands and natural habitats as stipulated in the DEIA report. The different departments and entities within CGPV also need to work more closely to ensure that all those involved in the development are on the same page. If a mutual understanding of the importance of preserving the environment — for whatever reason — is not achieved across the developer's staff hierarchy and between its divisions, it will be very difficult for the lofty standards that it has set for itself through its marketing and publicity material to be met.

Authentic environmental awareness and action by a developer is difficult to achieve but the value of that authenticity is priceless. Should CGPV be able to attain this, there is a possibility that the project's economic and environmental sustainability can be achieved.

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