



View of the Woodlands Checkpoint, Singapore



View of the Singapore Skyline from the Pasir Gudang Municipal Tower, Johor, Malaysia



View of the Sultan Ibrahim Building, Johor Bahru, Malaysia





Architecture of Territory
ETH Zurich
FCL Future Cities Laboratory

Hinterland
Singapore, Indonesia, Malaysia
Project 1, part 1

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Looking at the Southern Johor region, one is tempted to think of it as being another Shenzhen; a huge industrial park like the Indonesian islands to the south of Singapore. As the tight relation between Singapore and its hinterlands has grown to become unquestioned – in Johor like in the Riau archipelago – the national border between these geopolitical entities has lost in importance. This has given credence to an unspoken question: has Johor been turned into a mere suburb of Singapore?

Traditionally, the Southern Malaysian territory has been the productive hinterland that helped sustain the prosperous city-state of Singapore. At the same time, Johor's history as a sultanate stretches back over five hundred years and continues to contribute to the region's identity. Finally, the formation of a federal Malaysian Nation has left lasting traces in Johor, and also in Kuala Lumpur, the national centre of power. This territorial investigation focuses on the former, Johor, which continues to drive its national economy while fuelling on the economic energy of Singapore. Johor denies easy assessment, its multi-layered complexity adds to the challenge of its analysis. Yet, this project strives to dissect the region's prevailing phenomena and, wherever possible, tries to link the parts together to form an understandable whole.

This is the setting in which the following territorial investigation is placed. Johor denies easy assessment and is multi-layered up to the point of complete incomprehensibility. Yet, this project strives to analyze the region's prevailing phenomena and, wherever possible, tries to link the parts together to form an understandable whole.

One Bridge, Two Nations

The Johor-Singapore Causeway is a 1.1 kilometre slice of land that represents the only physical contact point between Peninsular Malaysia and the city-state of Singapore. There are many cultural, economical and political differences between these two nations and the way they are managed affects the life of about 60 to 100 thousand people who cross this bridge everyday.



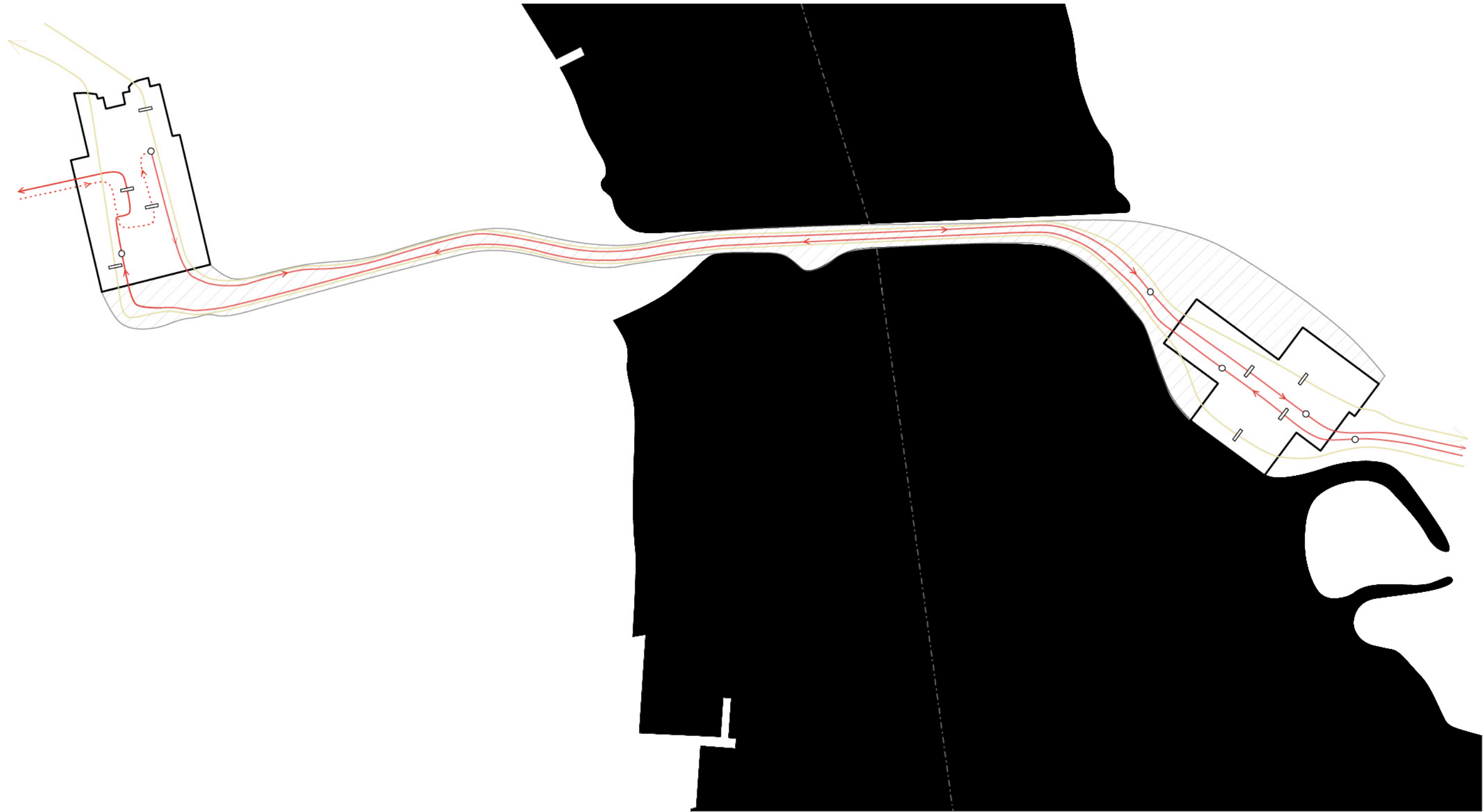
Singapore's territory in the background, nearing complete urbanization. The natural reservoir is one of the few remaining green spaces on the island.

The Causeway

The Johor–Singapore Causeway was the first strip of land linking Peninsular Malaysia and Singapore. It was completed in 1923. It encouraged the development of the two cities in significant ways, which has led to increased pressures over the control of this infrastructure. The causeway

is the most direct way to move between Johor Bahru and Singapore. In 1998 a 1'920 meter-long bridge called 'Tuas Second Link' was build on the western side of the Johor Straits to tackle growing traffic jams on the causeway.





Crossing the Border over the Causeway

- Bus stop
- Custom control
- by Bus
- by Taxi, Car and Motorcycle

Means of Crossing

The construction of the new Singaporean (the Woodlands, 1999) and Malaysian (Immigration and Quarantine Center, 2008) customs changed the way people could commute between the two countries. People coming from Singapore are now forced to move up to the Custom & Immigration Quarantine Complex CIQ of Johor before being able to

freely walk along the Malaysian coast. Nevertheless, this proceeding facilitates the control and the movement of the traffic, which is organised in different lanes (motorcycles, cars and taxis, buses, trucks and lorries).freely walk along the Malaysian coast side.



Car

Many trucks cross the causeway every-day. We had no access to the facilities but we saw that every one of them has to pass through an X-Ray scanner.

Time: 35 min
Price: 1.20 SGD
Users: businessmen, families



Motorcycle

Clearly the favourite mean of crossing for the daily commuters residing in Malaysia. It is faster than cars, especially at rush hour.

Time: 25 min
Price: no toll charge
Users: daily commuters



Swimming

Approaching Singapore's shore swimming or by boat is strictly forbidden, and one can hear many stories about Malay people having problems with Singapore's Work Permits who try to swim back to Malaysia.

Time: 40 min
Prohibited



Pedestrian

Since the new Malaysian CIQ was built, it is no longer possible to cross the causeway by foot. Before that, people coming from Singapore could reach Johor directly after the immigration centre that stood by the seaside. The picture shows the pipelines that transport water from Malaysia to Singapore.

Time: 15 min
Prohibited



Bus

It is one of the cheapest ways to cross the border. From Singapore, one can take it either from Bugis MRT Station (in the city centre) or Kranji MRT station (in the Woodlands). One arrives at JB Sentral Station in the centre of Johor Bahru. The main drawback of this mean of transport is that the passenger must get off twice to cross both customs by foot.

Time: 45 min
Price: 2.20 SGD
Users: students, retired and housewives



Taxi

Crossing the causeway by taxi is easy but pricier. Since not every taxi can cross the border, one usually has to get to the Singapore-Johor Taxi Terminal at Bugis. After crossing the two CIQ centres and without having to get out of the car, one can exit around JB Sentral.

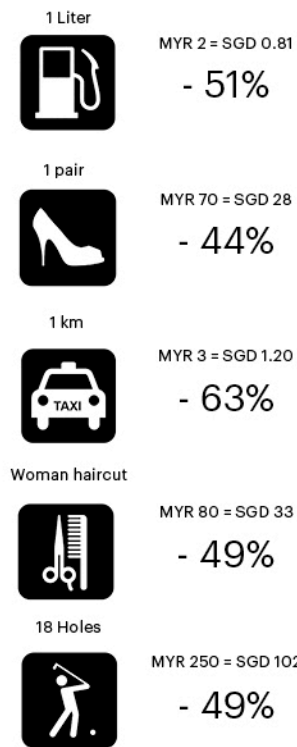
Time: 35 min
Price: 40 SGD
Users: businessmen and groups of Singaporeans on a shopping trip

A Worthy Trip

About 60'000 Malaysian vehicles cross the border to enter Singapore every day. The price difference between goods bought in Malaysia versus Singapore is remarkable, partly because of the currency exchange (1 Singapore Dollar (SGD) is worth around 2.4 Malaysian Ringitt (MYR)).

Many Singaporeans go to Malaysia to profit from these cheaper prices. On the other hand the Malaysian profit from Singapore's higher wages and education quality, and in general from the better choice of low cost companies in Singapore.

MALAYSIA



SINGAPORE



Singaporean Customs Restrictions

- Tobacco products: one package of cigarettes per person is allowed when entering Singapore, but it has to be already opened and the package cannot be full. The custom officer will control how many cigarettes are being imported and importers will be taxed on tobacco goods.
- No alcohol import is allowed for daily commuters from Malaysia.
- Three Quarter Tank Rule: Singapore cars has got to have a 3/4 full tank before entering Malaysia.



Meeting
Mr Ruben is project leader at Bahru Stainless. He lives and works in Johor Bahru, and commutes to Singapore every 2-3 weeks to attend meetings with international clients, and also on the weekends when he travels for leisure with his family.



Shopping
The two Singaporean teachers Nurul and Nur commute to Johor one or two times every month to do some shopping. They remember that they used to go to Johor already with their parents to buy food and other cheaper household goods.



Working
The construction sector generates many daily commutes as to take advantage of price differences between Johor and the city-state. Singapore is a growing market and the wages are higher than in Johor, but in Johor the construction material is cheaper, so it is an advantage for Singaporean to hire Malay building firms.



Studying
Mr Kian is a Malaysian Chinese from Johor. He has been commuting between Johor and Singapore since he was 7 years old, when he started attending a Singaporean Chinese school. In his first university years in Singapore he also used to live in Johor with his parents and traveled daily to Singapore by bus. The travel cost (about SG\$ 200 per month) were much cheaper than the cost of a student room in Singapore (about SG\$550 per month).



Racing
Nizim and Rashid are landscape architects from Singapore. In their free time they ride on the Johor Circuit in Pasir Gudang because there are no such circuits in Singapore.



Golfing
Johor is a dreamland for golfers because the prices and the courses available are much better. These two Singaporean friends drive to the Tanjong Puteri Golf Resort one or two times every week to practice their favourite sport.

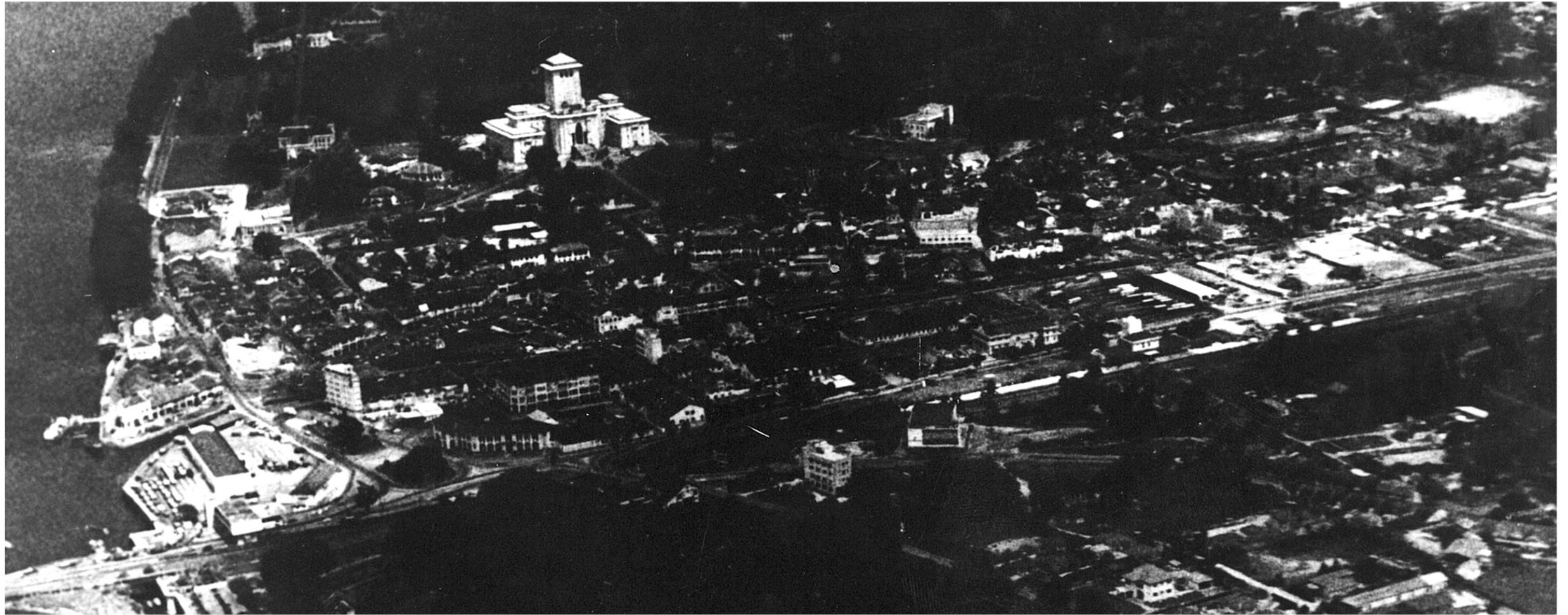
History of the Island and its Hinterland

The territory of Johor has oscillated throughout modern history between being agricultural hinterland and the seat of the Sultan. Over the past 200 years, the region from the southern tip of the Malaysian peninsula to Singapore and the Riao archipelago has undergone a multitude of political affiliations. These affiliations have included the rule of the Temengongs up to the 18th century and have split into two or more political entities thereafter.

The starting point of this overview of geopolitical history in Johor and Singapore starts off around 1800 with the Malay Sultanate, covering almost the entire region. It is proposed that the essence of the region's modus operandum

had already been laid out in that time but continued development up to the present day. In short, the whole Johor-Singapore area seems to strive for a reading as one entity, where its two main parts, the island and the hinterland, perform different but inherently interdependent roles. The one, Johor, with its fertile, even and vast land, seems to be ideal for agricultural production. The other, Singapore, located along one of the most important global shipping routes of all time, appears to be the dream version of every farmer's market. Within 20 kilometres from the mainland lies a harbour that easily sells and ships agricultural produce to the world.

In reality, the harbour market has long discovered that there is much more to trade than farmer's products, and the mainland has been trading (and governing) on its own. Within this balance of interests lies a history to be told.



Johor Bahru in 1932: The Istana Besar, seat of the sultan, throned over the city

From Pepper to Rubber: Agricultural Territory until 1957

In around 1800, the Sultanate of Johor-Riau, which had been existing in the region for more than 200 years was experiencing internal power struggles; the rule of the Malay Temenggongs was challenged by the Bugis of Sumatra. When Sir Stamford Raffles arrived in 1819, he was able to negotiate an agreement to split the empire into a Bugis

kingdom on the Riau archipelago and a Johor sultanate on the northern territories. Drawing on his diplomatic skills and the unsteady situation, he also obtained permission from the sultan to set up a trading port on the southern tip of Singapore Island for the East India Company.



"A tiger takes a stroll near the shoreline", National Archives Malaysia

Top: The first British Straits settlements

Bottom: The empire of the Temenggongs before the agreement of 1819



1820: "Endless Wood"

After travelling along the Johor Strait in 1825, John Crawford reported an 'unruffled sea' and 'endless wood of the most magnificent timber'. Together with Raffles, he was involved in the negotiations local rivalries in around 1820. Colonial administrator, diplomat and physician, he pointedly observed what was going to become Johor's most valuable resource: its vast land area. Apart from some Kampung along the shore, the land area was covered with jungle and was uninhabitable. The Temenggongs themselves had their seat on the southern tip of Singapore Island.



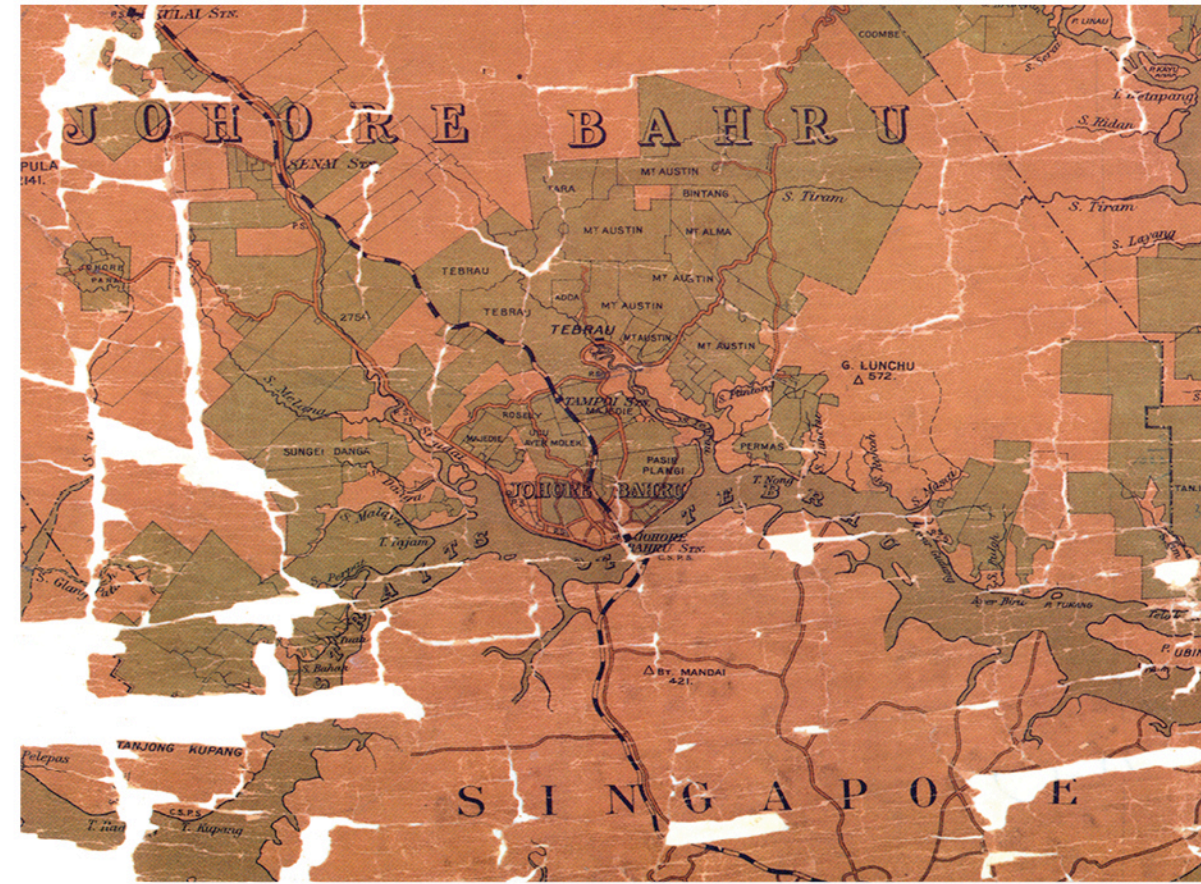


Top:
Spreading "Surat Sungai" concession villages in the Johor territory - and a growing Singapore

Bottom:
Singapore is an independent Straits Settlement, with the sultanate of Johor to its North

1860: Shifting Powers and the Surat Sungai

Towards the middle of the nineteenth century, the power balance in the region fundamentally shifted. Already in 1824, the British obtained full sovereignty over the whole island of Singapore from the sultanate of Johor. Simultaneously, persisting power struggles in the Temengong's empire lead to continuing negotiations. In 1855, the power balance had turned upside down. The British gave sovereignty to the Temengong's rule over the Johor territory. With the backing of the region's ever more dominant colonial power, the Temengongs quickly moved to putting their Johor land to use. Starting from 1857, concessions were issued for the setup of small plantations along the many rivers of Johor. The Surat Sungai, or 'concession to the master of the river', was a success especially among ethnic Chinese Singapore residents. Between 1855 and 1862, 70'000 Chinese were employed on those plantations. At the high time of this form of agricultural production, 9'000 tons of pepper and 21'000 tons of gambier were produced in 1890, all of which was shipped through the port of Singapore.



1. Johor estates in 1940, founded largely in the 18th century
2. Singapore in 1860, Fort Canning Hill
3. Johor Bahru in 1860, Developing into a plantation village
4. Jetty of the causeway railway ferry



From Gambier to Rubber: Establishment of Large Estates

From the turn of the eighteenth century on, European firms discovered Johor as plantation grounds for coffee. They were issued new kinds of concessions by the sultan, making huge plots of land available to them. For half a century, the smaller Surat Sungai plantations existed scattered in between the new estates. A government act in 1917 finally consolidated the new, larger grouping of territory and ended the time of the Surat Sungai concessions.

Already in the nineteenth century, rubber became the most important produce in Johor and continued to be so until long

in the twentieth century. Equally, the established land ownership structure of large-scale estates continues to persist to this day. Lee 'the rubber and pineapple king' Kong Chian set up his plantation company around the turn of the twentieth century – a firm that is still operating in Johor today. Following on the success of agricultural endeavours in the region, Johor Bahru steadily developed into a plantation village.

Since all goods that were produced in the mainland were shipped through Singapore's harbour, the causeway crossing became a crucial bottleneck for the region's economy early on. For transportation reasons and in face of a lack of roads through

the Johor jungle, the Surat Sungai concessions had already been set up along the rivers. They were easily accessible from the northern Singaporean shore, which around 1850, was already well connected to the harbour settlements on the south by roads. The system of local transportation experienced huge enhancements when the Malaysian railroad network was extended into the Johor area and continued on the other side of the Causeway all the way to the city of Singapore. In the beginning of the twentieth century, a train ferry ran across the causeway making it possible for train cars to pass through without unloading.



Top:
1923: the newly constructed causeway enables a continuous railway connection between Johor and Singapore

Bottom:
The sultanate of Johor is gradually losing its sovereignty

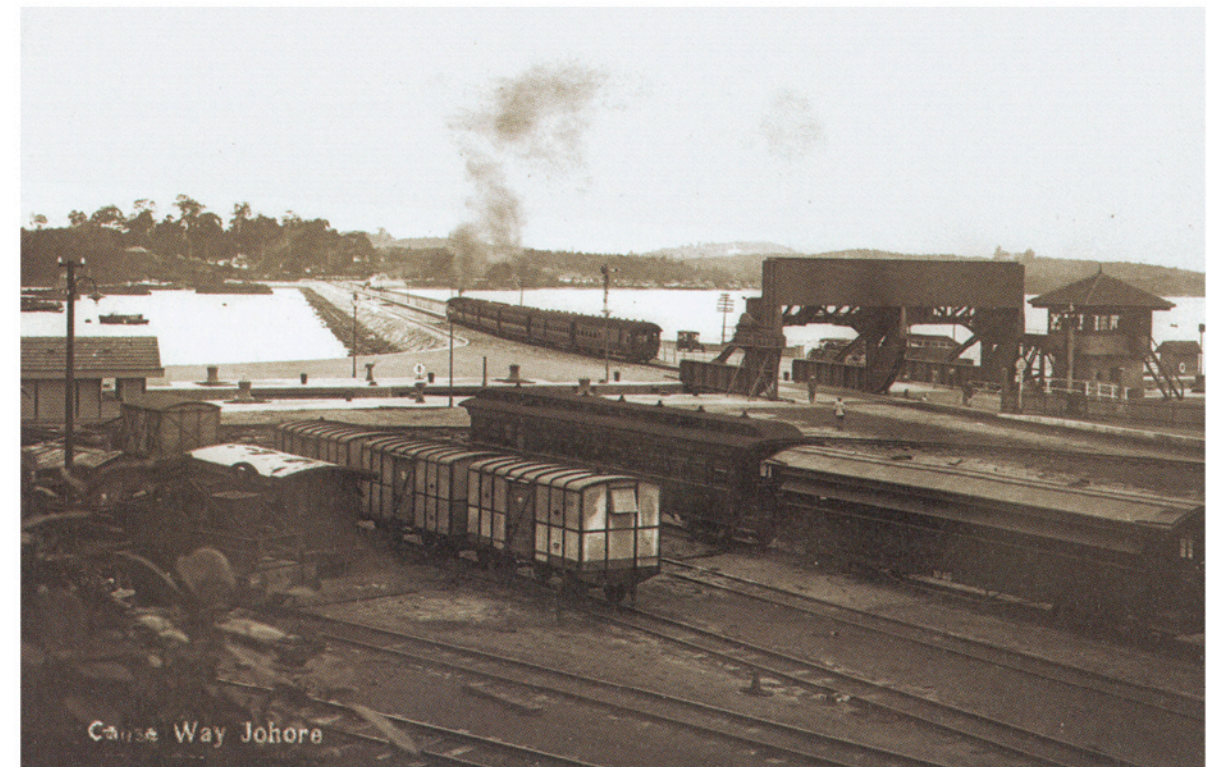
1923: Construction of the Causeway

With the expansion of rubber estates in the twentieth century and increased traffic across the Causeway, a permanent crossing was erected and opened in 1923. It connected the road and railway network terminals of Johor Bahru in the north with the ones at Woodlands in the south. The causeway was a huge success and saw a steady increase in traffic. It was a crucial piece within the plantation-harbour system of Johor and Singapore. During the 1930's, it also became part of the developing leisure culture. Car rallies were held there and newly established tour busses took Singaporean citizens on comfortable weekend getaways to the Johor countryside.



Meanwhile, the power balance in the region continued to shift in favour of the colonial rulers. The sultanate of Johor adopted a new administration modelled after the British system and had to accept a British adviser in 1904. The suggestions from his office were, as in other countries within the 'British resident system', mostly binding and significantly reduced the Sultan's sovereignty.

With this background in mind, the construction of the Istana Besar in the 1860's as the new seat for the Sultan in Johor Bahru appears more as a cosmetic measure rather than as a demonstration of actual power.



Causeway railroad in Johor Bahru

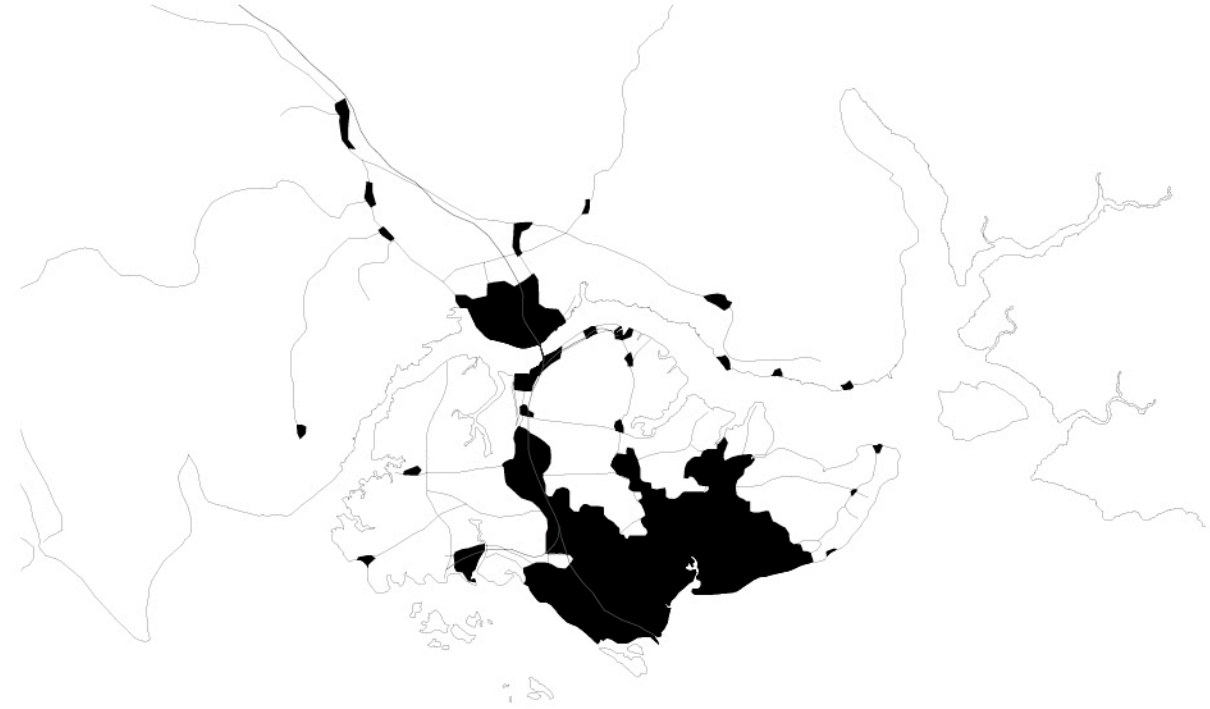
From Rubber to Industrial Estates: Developing Territory after 1957

After the Second World War, the Malaysian government initiated a thorough transformation of the country that introduced new highways, ports and industrial areas to Johor. Separated from Singapore by an international border, the



Southern Malay state, suspended between cooperation and competition, entered a phase of ambivalent relations with Singapore that continues today. relations with Singapore that continues until today.

Johor's first industrial harbor in Pasir Gudang, 1975



Top:
Beginning of industrial Developments

Bottom:
Singapore as part of Malaysia

1964: Singapore's Merger with and Separation from Malaysia

In 1963, Singapore merged with the Malaysian states in the north to form Malaya. Seen as an economic and political solution to rising unemployment and the threat of revolutionary tendencies in the population, the merger was seen by the governments as a way to bring stability to Malaya and Singapore at the aftermath of the Second world war. However, the union was short-lived as intensifying racial tensions brought on by federal policies of affirmative actions ("bumiputera policy") that preferentially favoured Malays resulted in disputes between racial groups, primarily the Chinese and Malays. This was further exacerbated by the failure to establish a common market, hence undermining the major economic purpose of the merger. The combination of the need to prevent widespread bloodshed due to brewing racial tensions and the breakdown of the economic promise of the merger resulted in the expulsion of Singapore from Malaysia in 1965.





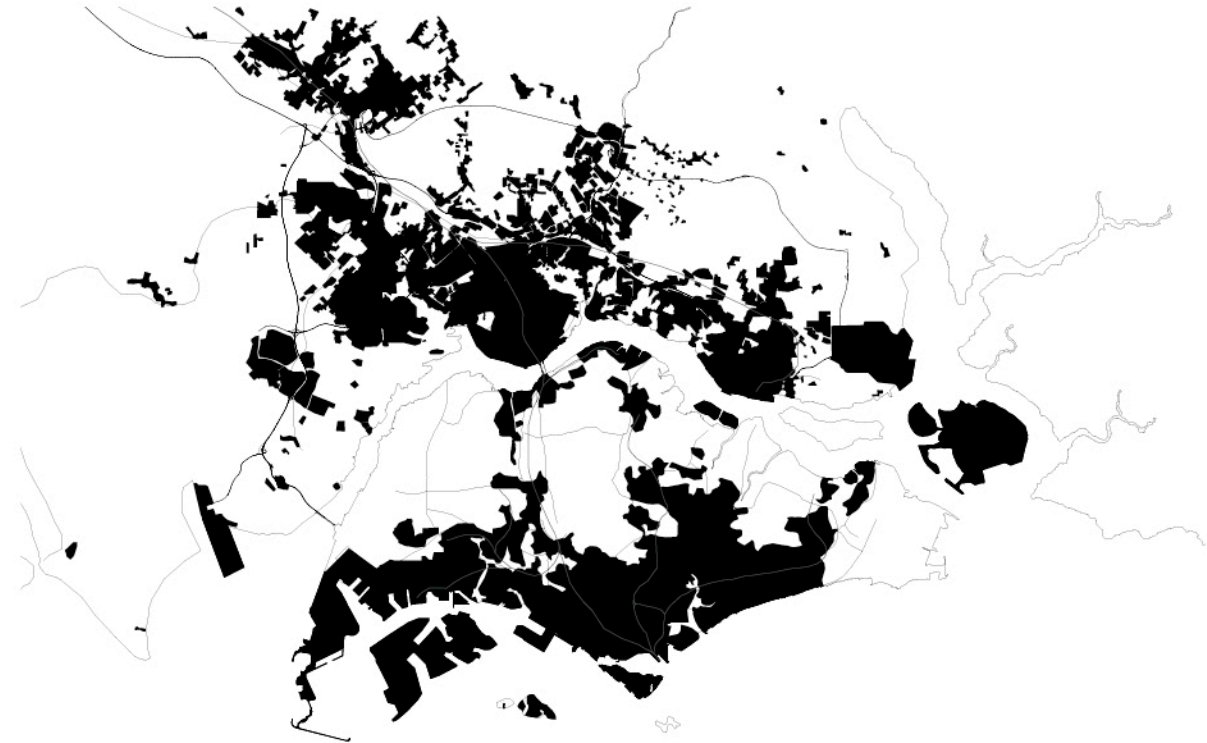
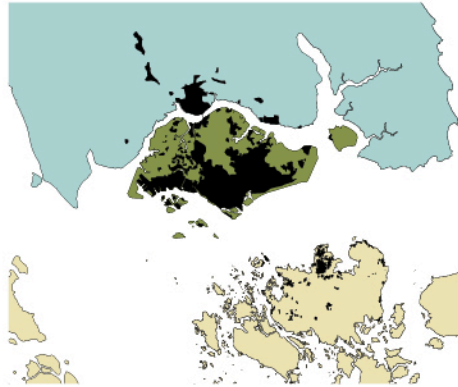
Top:
980 spreading urban area over Singapore and the start of industrial development in Johor Bahru

Bottom:
The three nations in the region

1980: Two Nations

Continuing Industrial Development

Starting from the 1960's, Singapore saw an increase in industrial development with the creation of large industrial and housing estates throughout its territory. For the first time in its history, the problem of a restricted land area became eminent. As a result, reclamation work began on the Southwest coast of the island and companies began relocating land intensive industries to Johor. The Malaysian government immensely fostered direct investment from Singapore starting from the 1970's. New road and port infrastructure were created and the first agricultural estates around Johor Bahru were converted into industrial parks.



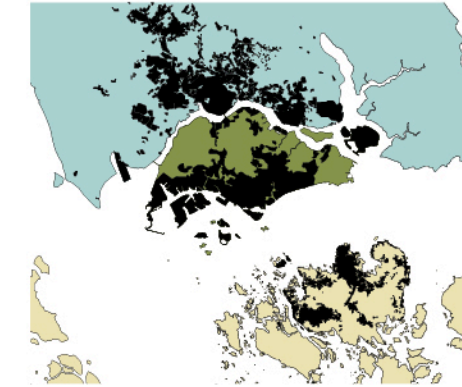
Top:
Johor's urban sprawl vs. Singaporean density

Bottom:
The tri-national metropolitan region of Singapore

2012: Metropolis Region

Spanning Across Three Nations

Since 2006, Johor's administration has been emphasising the establishment of service related developments in its territories. This initiated a growth of suburban sprawl within the persisting structure of plantations. Owned by large Malaysian or multinational corporations, estates of all sizes have been transformed into mostly private and gated living quarters. The growth of an urban middle-class occupying semi-detached houses and villas has resulted in the inevitable adoption of various characteristics positioning Johor as a suburban hinterland to Singapore. At the same time, steady economic development in the manufacturing and service sectors have resulted in further growth of industrial estates, which can be attributed to significant Singaporean investment in the area. Johor too complements this development with continued emphasis on structural industrial development in the hope to rival Singapore, in the cargo, hospitality and leisure sectors.



Towards a Service Economy

2020 is perceived as a very special year for Johor and all of Malaysia. Government officials, investors and the general population do little to hide their excitement in regards to the prospects and hopes expected in Malaysia by the year 2020. The year 2020 marks the target time of Malaysia's development goals.

In 2020, Malaysia's economic and social indexes are expected to reach the status of a 'developed nations'. Rooted

in agricultural production and boosted further through manufacturing activities, the country aspires to lift its economy once again through an active development of the the service sector.

For decades, Johor has been at the forefront of development thanks to its direct exposure to Singapore, which has served as a role model for Johor's economic development and a source of direct investment. Culturally, Johor remains

separated from its southern neighbour, where ethnic, religious and cultural landscapes take a heterogenous form that could never be mirrored in Johor. Still, the odd couple of Singapore-Johor has come from far and managed to form a region that is truly unique in its complex structure and balance of powers. The following chapter aims to highlight some of these phenomena and their backgrounds.

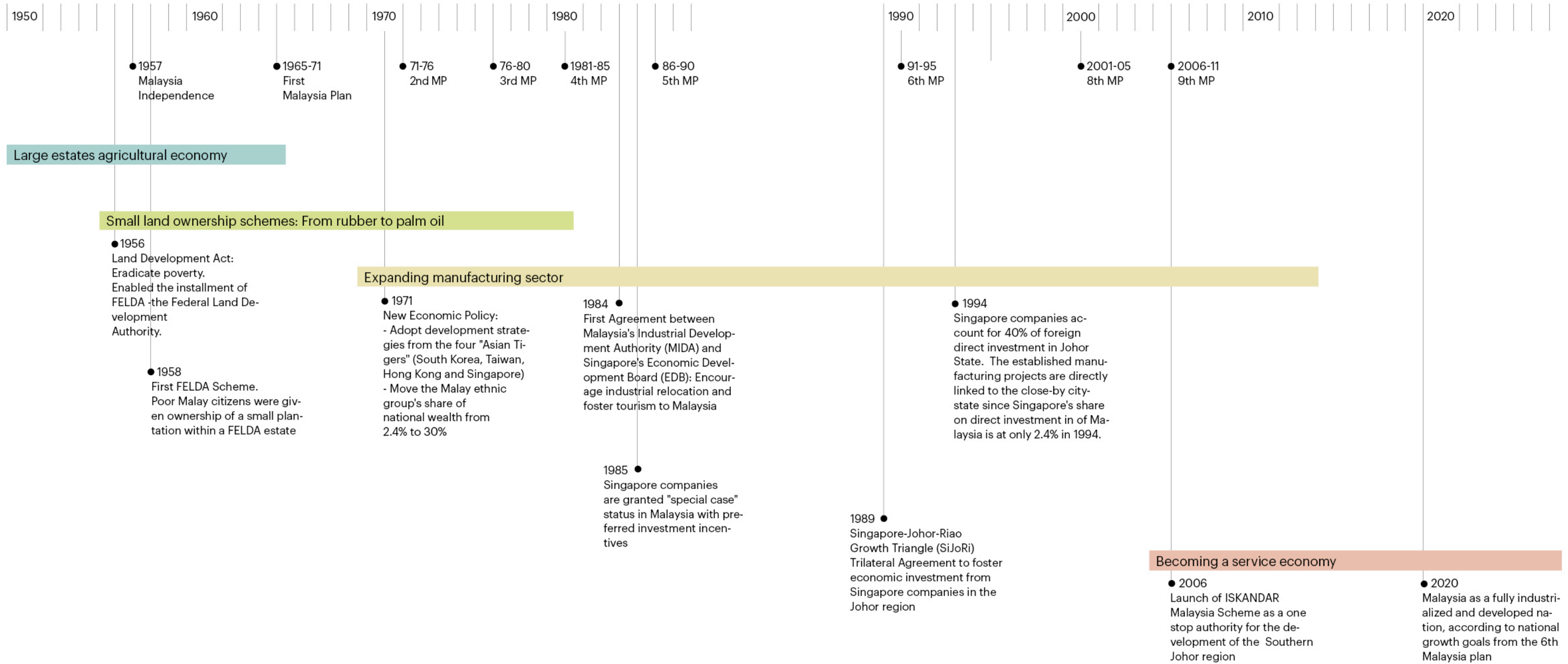


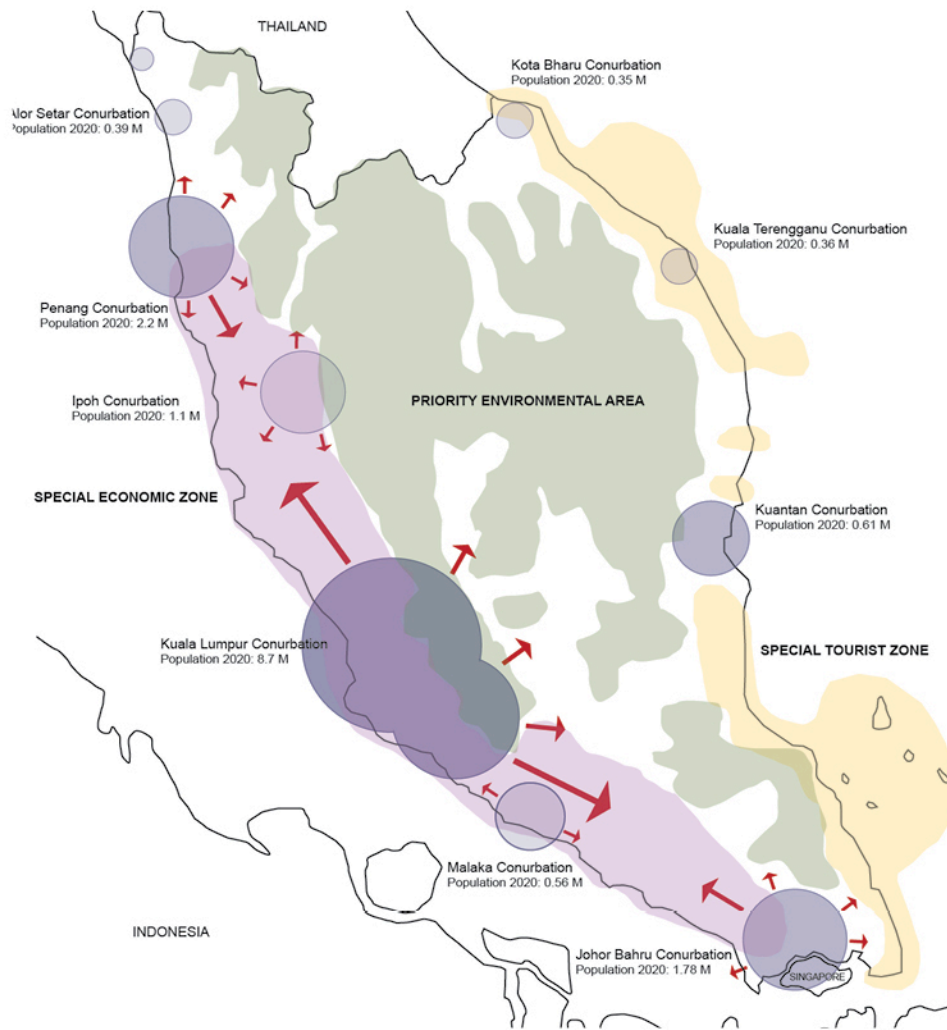
Pasir Gudang: Rowhouses and a field waiting to be developed

Planning Change: Economic Development in Malaysia

Since its independence in 1957, Malaysia has developed from a territory centring on agricultural production to a manufacturing and service based economy. This transfor-

mation of the economy was fostered by succeeding 'Malaysia Plans'. As a federal instrument, they covered administrative, territorial and economical policies.





Ninth Malaysia Plan(2006-2011)

- Metropolitan Centers
- National Growth Corridors
- Natural Reserve Areas
- Recreation Areas

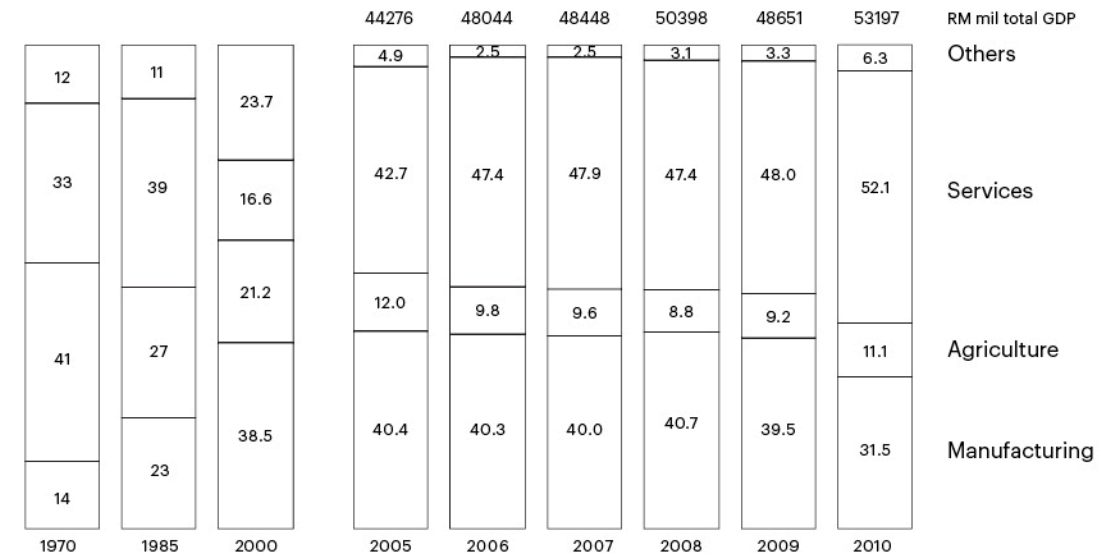
Physical Development Strategy

The ninth Malaysia Plan was set up in 2006 at the time of the Asian financial crisis, a period also characterised by an unsettled world economy rattled partly by rising oil prices. It proposed to maintain the same national budget until 2010 and to continue the post World War II sequence of federal economic development plans. Envisioning an annual GDP growth of 6%, the plan highlighted five goals:

1. Moving the Malaysian economy up the value chain
2. Raising capacities for innovation and knowledge and nurturing a ‘first class mentality’
3. Addressing socio-economic inequalities
4. Improving living standards
5. Strengthening institutional capacities to implement changes.

At the core of physical development strategies was the introduction of national growth corridors. Stretching between the existing urban centres on the West coast, they were meant to spread economic development beyond Kuala Lumpur. At the same time, the establishment of an environmental area in the central and eastern parts of the Malaysian peninsula was supposed to prevent the urban development from uncontrolled destruction of natural areas.

Johor State: Transformation of the Economic Sector



Johor State Economy: on the Forefront of Change

How successful has the Malaysian development strategy been in the Johor region? Available indicators show that the share of service and manufacturing related industries has been growing significantly in this state over the past forty years.

The massive support and fostering of both local and foreign investment in manufacturing projects has resulted in a rise of the manufacturing sector's contribution to the GDP from 14% in 1970 to almost 40% in 2000. Telling from these numbers, the Malaysian growth strategy has been a success on the economic level in Johor State.

A surprising outcome can be observed in the numbers quantifying changes in service related industries. The service sector contributed to 40% of the GDP in 1985, before shrinking in importance in 2000 when it only accounted for less than 20%. At the same time, other industries besides the aforementioned

three expanded from around 10% in 1985 to almost a quarter of the GDP in 2000.

This can be interpreted as a relocation of services into the informal sector, possibly as an aftermath of the 1997 Asian financial crisis, which devastated the service sector.

Up to the present day, the Southern Johor region counts at least three abandoned shopping malls. Planned around the turn of the millennium, their present derelicts exemplify the struggle of the region's service sector in the aftermath of the global crisis.

Starting from 2005, the service sector showed a slower but steady increase in its contribution to the GDP in Johor state. The establishment of the Iskandar special administrative region in 2006 presented the prospect of more sound development of the service sector in recent years.



Abandoned Pacific Mall building close to Johor Bahru city center

Political Meets Economic Power

Johor is one of Malaysia's thirteen states and one of the nine states with a hereditary ruler as its titular head. The Sultanate of Johor joined the Federation of Malaysia in 1948 and has been the first state to adopt a constitutional monarchy. Traditionally, the sultan as the head of the state has had to be a member of the Johor royal family.

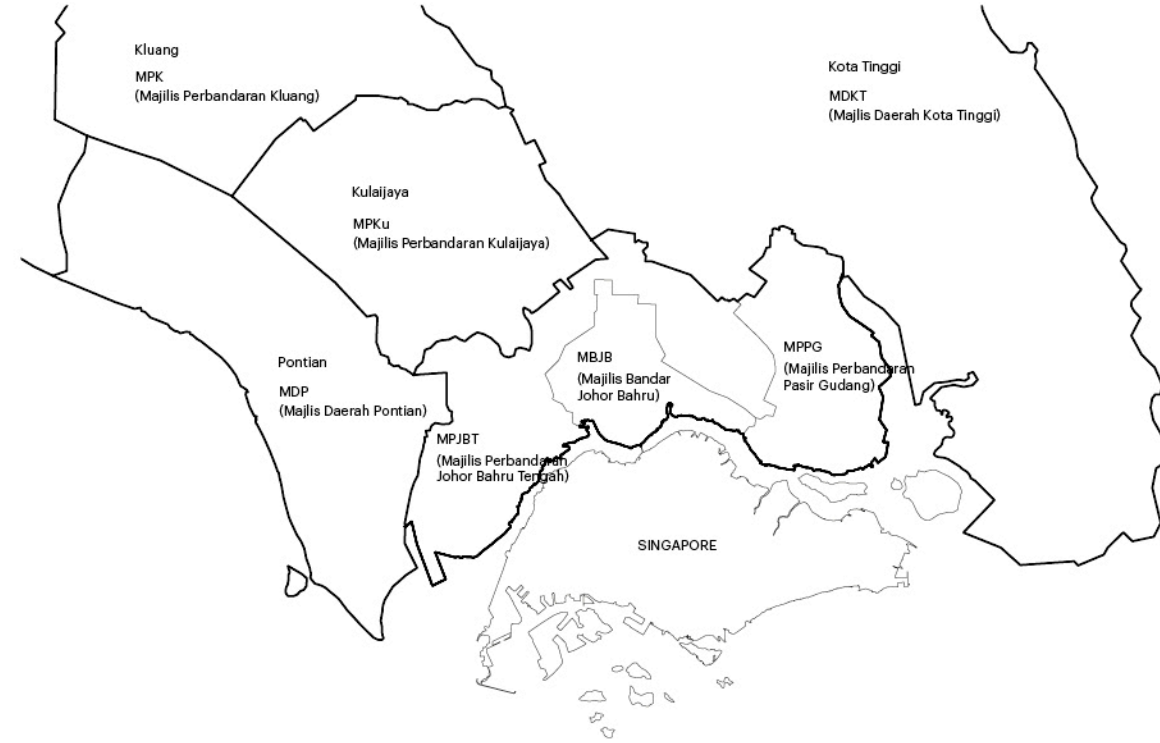
Today, Johor is the only state in Malaysia to employ its own military: The Royal Johor Military Force. Formed



The State of Johor's Ten Districts

— State
— District

in 1885, it is the private army of the Sultan. Although the state government is headed by its chief minister, important political decisions and strategies are laid out by the Sultan. Among other issues, his assessment and advice have culminated in the project for a third crossing between Johor and Singapore. Like him, many representatives of Johor's elite are members of the 'Johor Civil Service', a club that surrounds the Sultan.



The Municipalities Neighbouring Singapore

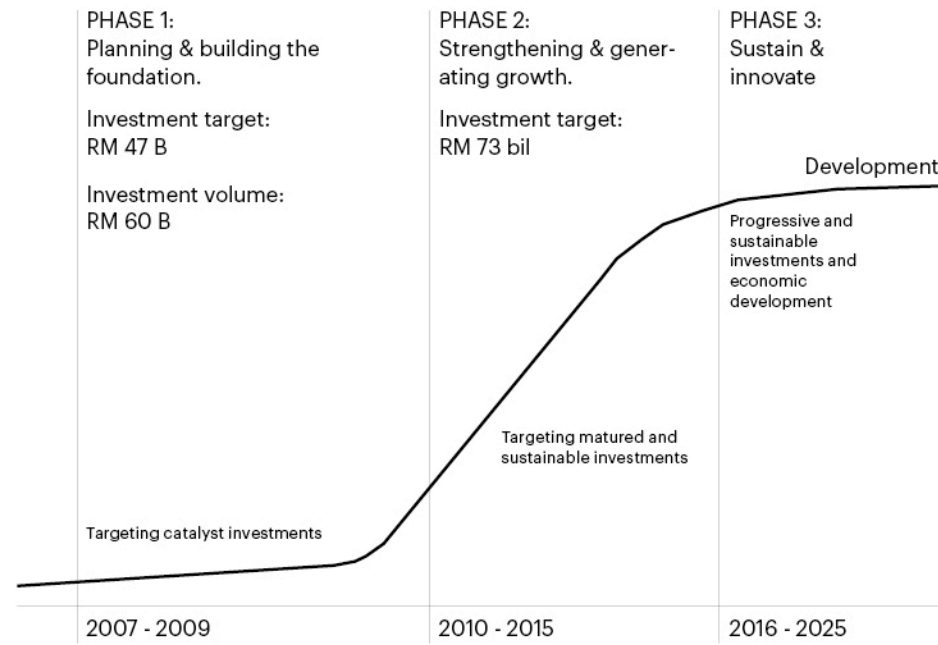
— District
— Municipality

Administration Levels in the Southern Johor Region

The State of Johore consists of ten Districts. Closest to Singapore is the district of Johor Bahru, which is also the location of Johor's state capital.

Within the district of Johor Bahru, the local administration is divided among three municipalities. Together with the municipality of Kulajaya, neighbouring to the north, these territories are central to the Southern Johor special economic region, which later became the Iskandar Malaysia region.

Economic Development Strategy of the Iskandar Region Over the First Three Decades



Iskandar Malaysia - One Stop Investment Region

From 2006 to 2011, the ninth Malaysia Plan gave special attention to the newly formed Iskandar special administration region at the southern tip of the growth corridor. Its political body, the Iskandar Region Development Authority (IRDA), was provided with RM 101'111 billions to boost the urban, economic and social development of the region.

Named after the line of the Sultans of Iskandar, the declared region strives to equip Southern Johor with a unique selling point, especially targeted at its southern neighbour.

Planning started in 2005 on the initiative of Malaysia's then prime minister for the feasibility of such a territorial construct. Once considered as having potential, actual planning started in the same year and led to the publication of a comprehensive development plan (CDP) in 2006. It included seemingly all possible implications for the future region, from urban planning, economic incentives, to cultural and social actions.

Modelled after the Pearl River Delta Economic Zone in China, Iskandar Malaysia predominantly aims at providing potential investors with an attractive ground for the setup of

new projects in all possible fields, including manufacturing, hospitality, leisure, education, and finance.

Incentives, such as tax exemptions for flagship projects can be negotiated comprehensively with the IRDA, which also assists with permits and regulations. Within Malaysia, only in the Iskandar region can investors enjoy full foreign ownership of property and companies, as well as full foreign staffing.

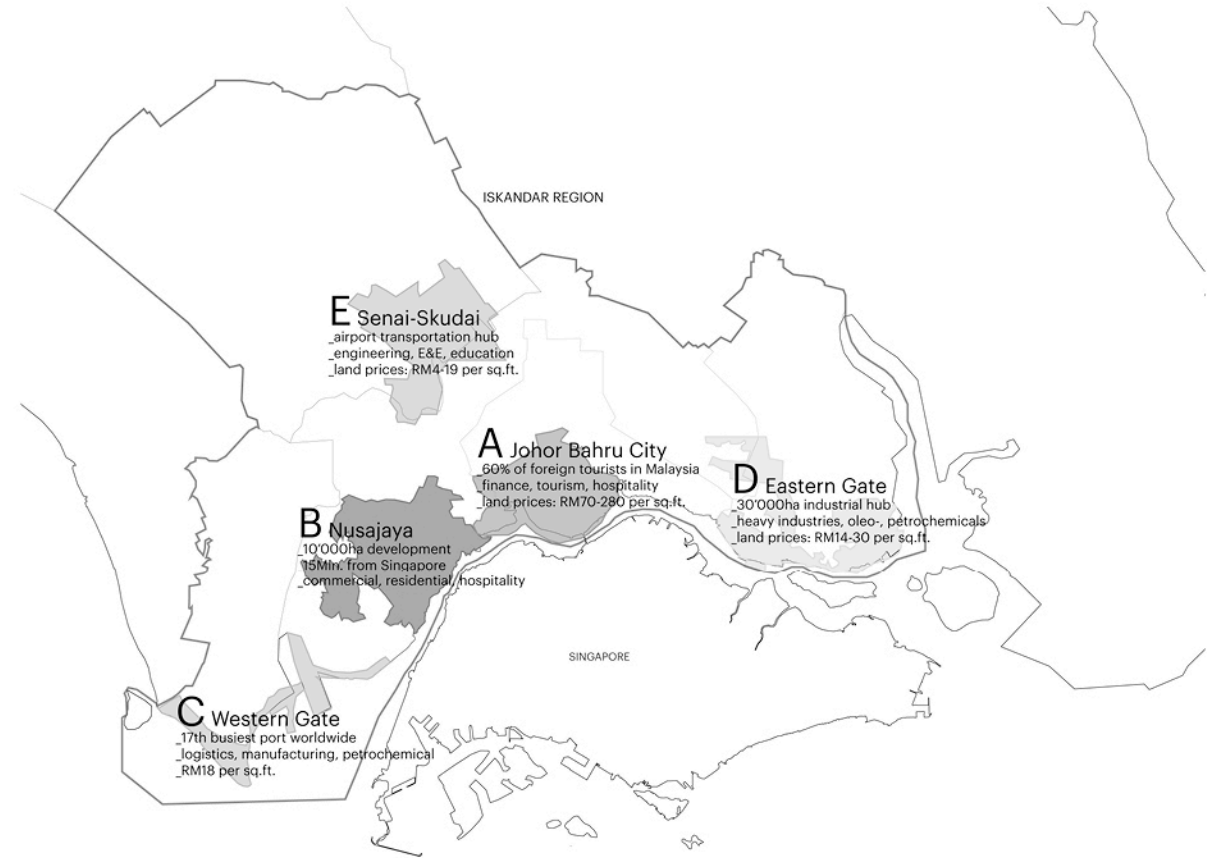
According to the CDP, development is channeled into five flagship zones: A to E. Allowing investments in a variety of projects, they are meant to channel developments into urbanistically reasonable and sustainable paths. Officially, it is a declared aim of the Iskandar plan to realise a social and economic development in a manner that is most beneficial to both the local population, as well as for natural resources. Concentration of heavy industrial activities in zone D, for example, or the accumulation of land intensive service related projects in zone B, speak of this strategy.

Time wise, the CDP proposes a three part vision of the near future until 2025. In a first phase, signature projects are meant to stimulated efforts in raising capital. From the

government side, they either lay out basic infrastructure, such as highways, or put up architectonic signs of the region's ambitions. The relocation of the state administration into its new representative home within the Nusajays flagship zone (B) can be interpreted within this strategy, as to reaffirm a picture of both a shining and stable regional governance. From the private site, flagship projects, such as fashion outlets and entertainment parks are meant to attract follow-up projects.

As of 2012, the financial goal of raising RM 47 billions in investment had been reached and exceeded as incoming capital had reached RM 60 billions. At this point, however, the region is just encountering its biggest tipping point that will most likely determine if the project moves forward.

Why is that so? According to the proposed vision, as well as to a broad consensus among politicians, investors and observers in 2012, a broad audience of possible investors has been watching the progress in Southern Johor. They are asking, whether the realised catalyst investments are economically sound past their introductory phase and whether other large scale companies are setting up businesses in Iskandar. At this point,



1. Zones within a zone: The five flagship areas and the Iskandar Malaysia outline
2. The unilaterally declared "Singapore-Johor Bahru" ring road - Iskandar trying to connect to Singapore at eye level (without becoming a suburb, that is)
3. Downtown Nusajaya in an "artist's Impression": Opening competition with Southeast Asia's finance-Goliath Singapore

no sound assessment can be given regarding the success or failure of Iskandar. What can be observed right now, is that the new economic framework and massive infrastructure upgrading has immensely transformed the Southern Johor landscape. Even if the vision of a skyscraper riddled financial downtown in Nusajaya seems to be far away from realisation within the next few years, other urban phenomena have spread wide across the region. Either introduced or boosted by the new planning, they are all showing a reading of the Johor territory that may after all not be what Iskandar intended; Johor as a suburb of Singapore.



2.



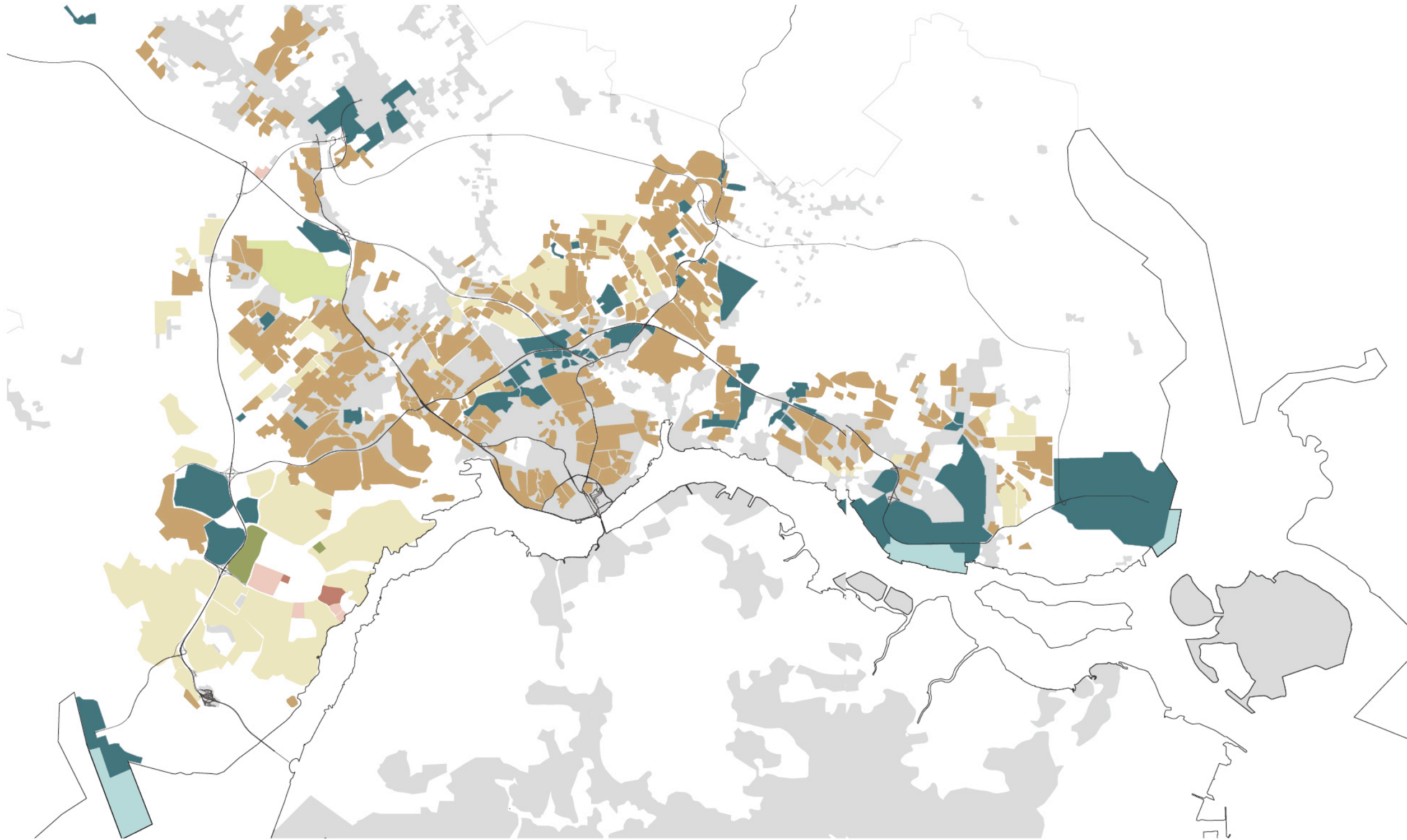
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Morphology of the Hinterland

Travelling to Johor from Singapore, one will observe a number of urban phenomena that are greatly different in the city-state. Vast lots of heavy industrial land, almost randomly sprinkled with some greened vacancies and dormitory housing, palm oil estates of all sizes and endless rows

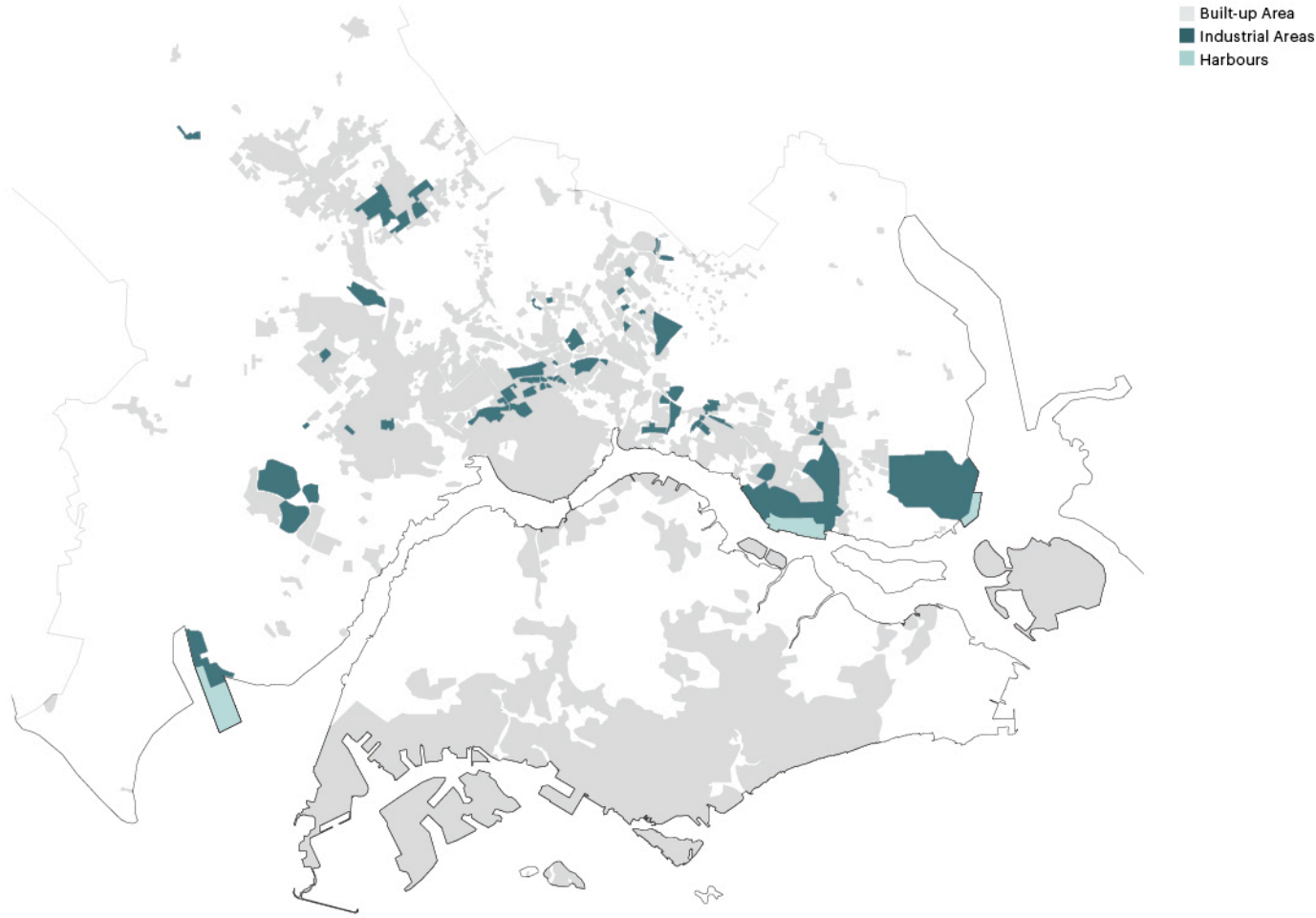
of suburban semi-detached houses. Travelling itself can be demanding in a grid that seems to mainly consist of cul-de-sacs and private roads. This section proposes to catalogue prevailing urban phenomena of the Iskandar region while questioning how far they are driven by Singapore.





The Map of the Hinterland

Starting with the outline of the Iskandar region, this map gathers all those phenomena, which have appeared to the authors as most striking in both shaping the territory and being an expression of a hinterland relationship with Singapore.



TYPE 1: Manufacturing Sites

Johor's true bread and butter business has been the manufacturing sector for over forty years. Furthermore, most of this business has traditionally been closely linked to Singapore. Carpenters for instance seem to have made a united migration to Johor long ago, as have most of the heavy and 'dirty' industries.

Today, traces of production sites are scattered all across the territory, spanning over an impressive variety of scales. small scale domestic manufacturing businesses still run in the traditional Kampung along the river deltas of the eastern and Western areas. Shophouses industries, sometimes informal, are producing metal and wood parts. They line up along arterial roads, for example on the way to Kota Tinggi in the north-east or Senai. These production business are integrated into the urban fabric, otherwise characterised by the presence of residential dwellings. Finally, Johor also offers a respectable number of industrial estates catering to medium and large size firms, all the way up to multi-national corporations. Bahru Stain-

less from Spain is setting up Asia's biggest stainless steel production plant in Tanjung Langsat in the eastern end of the Iskandar region. The project is scheduled to be operating at full capacity in 2020.

In terms of scale, Johor seems to offer every kind of production site imaginable. If Singapore's core effort centres around high-tech industries, with neighbouring Indonesia trying to absorb the spillover, then Johor seems to remain a territory for the more rough production processes at the lower end of the value chain. Corporations are running light to medium size productions in Johor, but high-end dust-free laboratories are still waiting to make their way into the Johor production landscape.

plant in Tanjung Langsat in the Eastern end of the Iskandar region until 2020.

In terms of scale, Johor seems to offer every kind of production site imaginable - only, if it comes to the areas of production, there is less of a variety. If Singapore's core effort centers around high-tech industries , with neighboring Indonesia trying to absorb the spillover, then Johor seems to remain

as a territory for the more rough production processes at the lower end of the value chain. Corporations are running light to medium size productions in Johor, but high-end dust-free laboratories are yet waiting to make their way into the Johor production landscape.



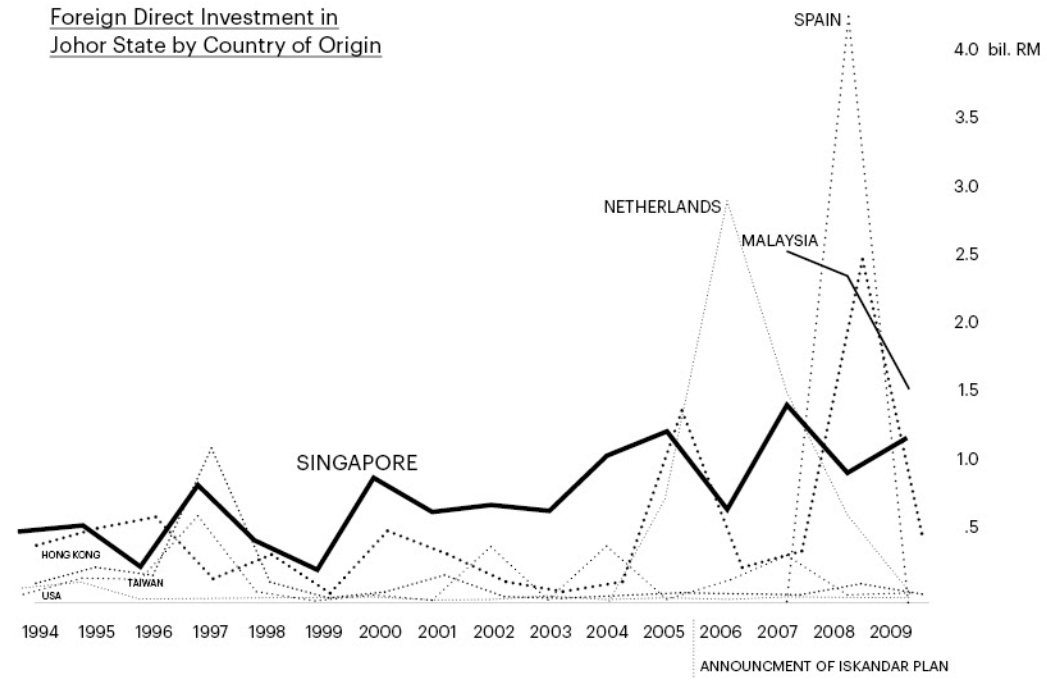
- 1. Medium industry production site in Pasir Gudang
- 2. Contemporary shop houses within a residential development in Johor Bahru
- 3. Vacant plots among light industrial buildings in Senai

1.

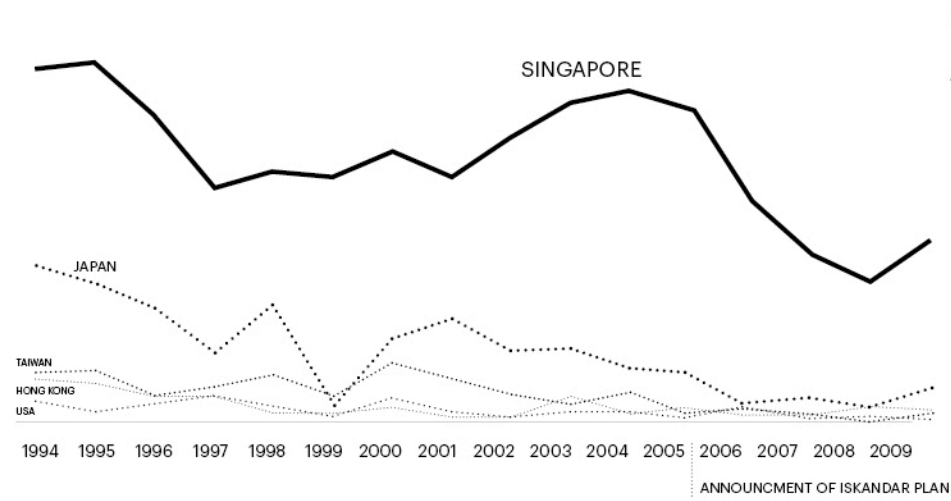
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3.

Foreign Direct Investment in Johor State by Country of Origin



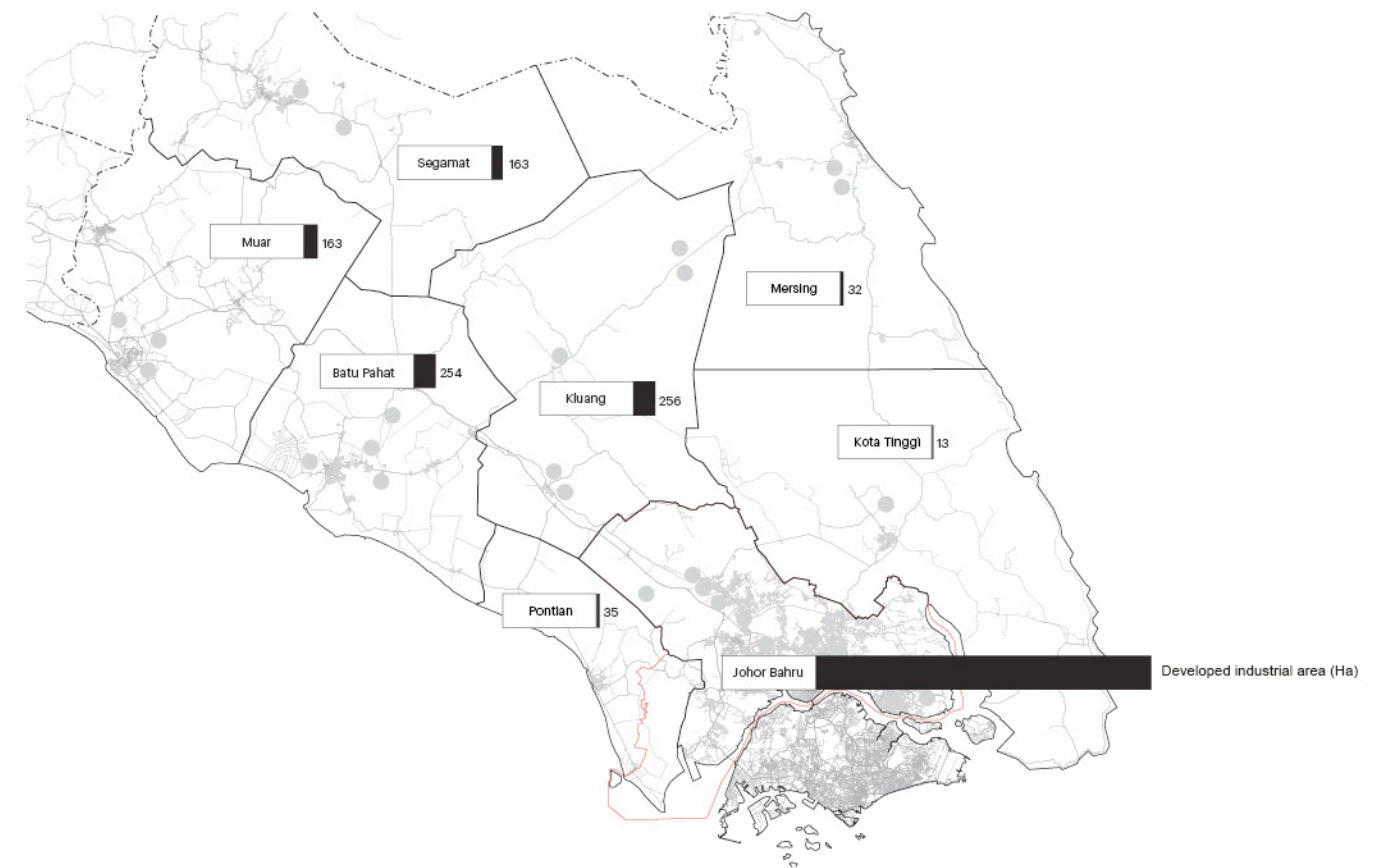
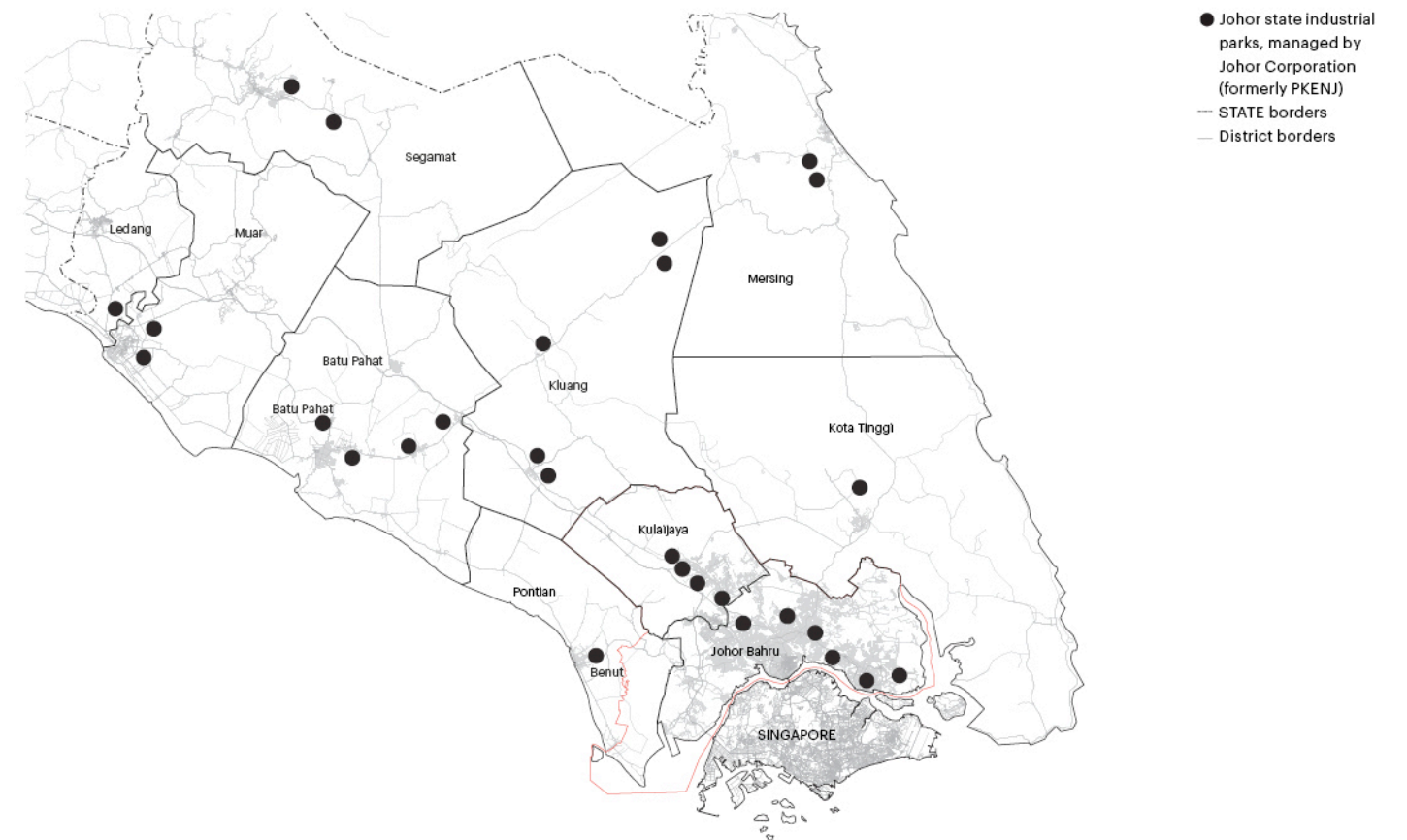
Number of Approved Manufacturing Projects in Johor State by Foreign Parties



In Focus: Government-related Industrial Development in Johor

Malaysia's national strategy of the 1970's to develop the country after the role models of the so-called Asian Tigers has been particularly successful in Johor. Being only 1 kilometre of water apart from Southeast Asia's rising tiger city, the state has attracted all kinds of Singaporean investment in Malaysia over the years. And, it has since strived to provide foreign companies with a fertile and easy ground. In 1977, the Johor Economic Development Corporation (PKENJ) was founded. As a 'government linked company', it leased large land plots from the state in order to

develop them into future industrial parks. Pasir Gudang in the east of Johor Bahru and Tebrau, north of the city centre were the first parks to be established. Johor's PKENJ laid out the street grid and basic infrastructure and started sub-leasing plots of all sizes to interested investors. Foreign companies would found a local branch to run their business in Malaysia and were guided through the regulations by PKENJ.



- Johor state industrial parks, managed by Johor Corporation (formerly PKENJ)
- STATE borders
- District borders



TYPE 2: Building Proximity: Highway Infrastructure

Travelling along the Southern Johor highways, most traffic conditions can fit into two very distinct categories: streets are either fully congested, with cars and motorcycles sneaking through even the tightest of spaces, or the streets are completely empty, seemingly vacant until a lonesome horizon.

Especially for visitors from Singapore, used to intelligent traffic control systems, Johor's conditions might appear as striking. They cast a light on the current state of infrastructure in Johor. Public bus transport is available, but is in best case rudimentary and slow. The Iskandar CDP highlights the importance of a future monorail and tram system, but its realisation is not part of the regions initial phases. Hence, the overwhelming majority of the working population relies on individual modes of transport to commute. Gas is subsidised in Malaysia, making driving an affordable mode of transportation for even lower income individuals.

On a second note, there seems to be an unfortunate relation between road conditions and traffic conditions. New roads are empty, whereas the old highways remain over-used throughout the entire day. Singaporean sports car owners have discovered this relation and established the popular habit of going racing on new Malaysian highways.

This, too, is telling of another characteristic of Johor's infrastructure. Although the whole region is laid out in a decentralised manner, road construction has been heavily focussing on the region's western side around Nusajaya. While this newly created part of the city is now ready for development, in the east, with its existing large industrial cluster around Pasir Gudang, traffic has been almost collapsing in the last years. Individual commuters often depend on the Pasir Gudang highway, but are also partly dependent on cargo traffic between the industrial estates in the east, and the region's biggest container harbour in the west – Tanjung Pelepas – a passage that constitutes a bottleneck.

Although an upgrade of the Pasir Gudang highway was included in the budget of the ninth Malaysia Plan, this has not happened yet and is again subject to political decision making.

Thus, the current traffic infrastructure in the Iskandar region can be considered as imbalanced. It appears as an absurd thought to imagine that the expat staff of a newly established company in the Iskandar region would ask for public transportation, since the suburban lifestyle has been one of the main reasons to relocate here in the first place.

The IRDA, on the other side, seems to be catering mainly to international investors and employees, at least for the initial Iskandar phase, where road infrastructure is also the easiest way to enable flows of people and goods. If the DCP lives up to its own goals in the future, a railway and tram complement seems to be indispensable in order to ease traffic on the streets.



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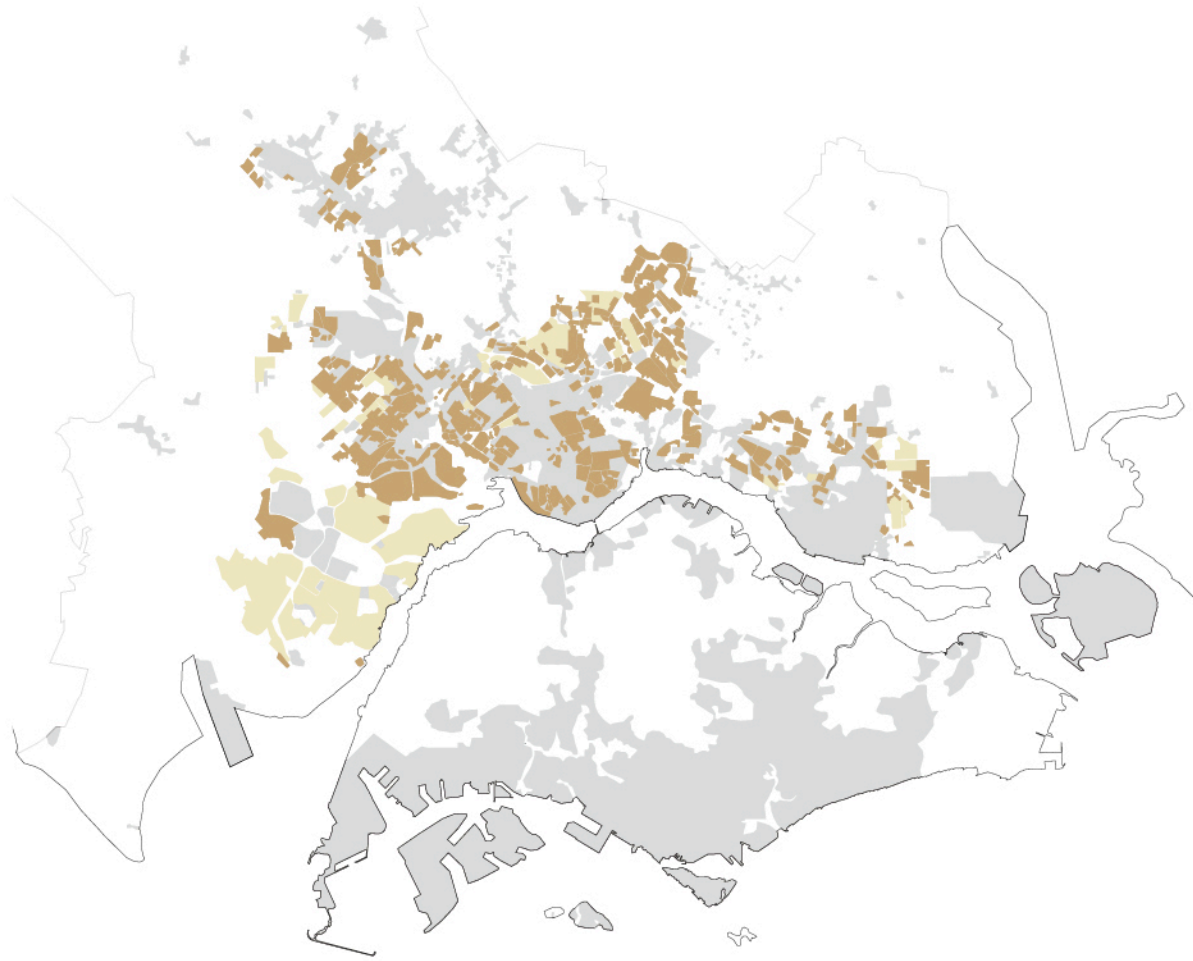


3.



4.

- 1. Elevated part of the new highway to Kuala Lumpur
- 2. City Center Mall in Pasir Gudang: Private vehicles are the prevailing modes of transportation
- 3. Congested traffic in Pasir Gudang
- 4. New highway in Nusajaya, West Iskandar



Built-up Area
 Suburban Housing (existing)
 Suburban Housing (planned)

TYPE 3: Villa for the Price of a Flat: Building Suburbs

If manufacturing is the sector that continues to bring most revenue to Southern Johor, then middle class housing estates are the region's backbone. The dream of a suburban home is appealing to locals and expats alike, including Singaporeans. Privately developed estates cover more than half of the built up area in Iskandar. They are by far the most widespread popular types of dwellings. Seemingly endless rows of semi-detached houses, villas and row houses line up along the main arterial roads. If one has ever needed a demonstration ad oculos to render valid the reading that Johor is a suburb to Singapore, it is nowhere clearer than on the drive from Johor Bahru to Nusajaya.

The land ownership structure of large privately owned estates benefited the middle class' conquest of this territory. Countless firms have developed their plantations into gated housing communities. Up to the 1990's, the majority of developments centred around the city centre of Johor Bahru. With the opening of the Second Link in the

West between Malaysia and Singapore in 1998, the focus shifted towards the West. The Iskandar CDP has further emphasised this development through the declaration of its Nusajaya flagship zone B.

The life of this zone has been marked by persistent ambivalence. Proclaimed as the region's new shining centre of governance, finance and attractions, it is at the same time Singapore's most ideal suburb in Malaysia. The brochures of real estate developers put it forth explicitly: It's only 15 minutes from this spacious 'paradise' to Singapore's crowded and busy territory. Even if the vision of a financial centre in Nusajaya will be realised in the future, the region's current development phase depends on money coming in from Singapore. For the money that could only buy a HDB flat in the city-state, one can afford a single family house with a garden in Johor.

In the end, the urban fabric seems to be the most negatively affected. The suburbs in Johor barely have a continuous street network, reducing accessibility enormously to one or two entry points of a private com-

munity and to the means of entering by car. Proposed as planning for 'security' - which, to the Singaporean eyes is one of the major concern in Johor - this strategy sets social and economical segregation in stone.



1.



2.



3.

1. Segregated street network North of Johor Bahru
2. Condominium high rises are rare in Johor Bahru, although a few exist along the strait
3. Row houses North of Johor Bahru



TYPE 4: Building Stability: a new Administrative Center

After its first few years in existence, Nusajaya and its proposed development into a centre for service-related economies still seem like fairly fragile construction. Every support is needed - and it comes from Johor's highest level; The state administration has moved in 2008 from its old seat in Johor Bahru to the new 'Nusajaya' in the Western flagship B.

This represents an ambitious move as government offices used to play a major function within the city life of Johor Bahru, the region's traditional centre, which now has an even harder time to sustain itself. Nusajaya's success is not clearly visible yet. What is more, Iskandar Malaysia's vision of five distinct flagships depends on a critical mass of people that live and work in the new metropolis. In 2012, such an explosion of population numbers is not in sight yet, leaving the current projects somewhat stranded in a large, empty landscape.

Perhaps it does need a bold move to reaffirm the feasibility of the Iskandar plans. Taking this economic and marketing background

into account, the relocation of state administration offices serves this purpose. It is the built manifestation of the region's ambitions and confidence (and of its hope that this attitude radiates towards possible investors.)

A further piece within this mosaic of planning is the architecture of the new state administration building. It emphasises Malay-Islamic roots and creates a virtual history of the place that has actually never been there.



New administrative building in Nusajaya. The architectural decoration evokes Malay and Islamic traditions



TYPE 5: Building Attraction: Leisure, Education and Hospitality

During the ongoing initial phase of Iskandar Malaysia's development, the government has invested in catalyst projects, and private initiatives have been launched.

Of them, most are situated in Nusajaya, the western flagship B. Out of the biggest projects, the Johor Premium Outlets shopping centre has touched down in Senai to take advantage of the town's good highway accessibility from all other parts of the Iskandar region. Even though Johor Bahru, which officially serves as flagship A, is more centrally located geographically, getting into the city is a nightmare by car, which may be one reason why the old downtown has not yet seen any catalyst investments. Like the relocated state offices, all other major developments are located around flagship B.

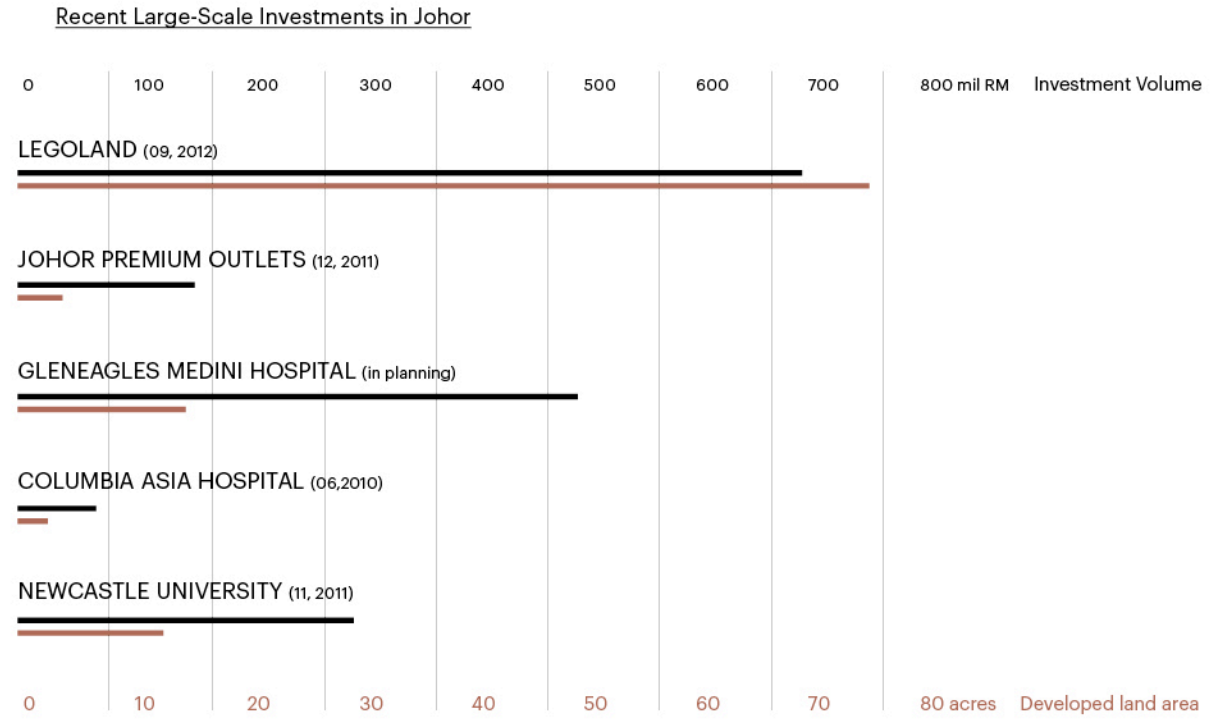
One of the most interesting changes takes place in the educational sector. At least eight higher education institutions have signed contacts to establish branches in or around the the so called 'EduCity'. Among them are Carnegie-Mellon University from

the United States, Raffles University from Singapore, the Netherlands's Maritime institute of Technology and UK's Newcastle University Medicine, which has already moved into its facilities. The confidence of these institutions can be considered as a very optimistic sign of the future success of the Iskandar Region, at least in economic terms.

Apart from these flagship projects, the vast majority of investment happens in large real estate projects, for example, the Puteri Harbor Project, which covers an enormous 688 acres. It combines living, working and amusement park facilities with waterfront access. If realised as planned, it will bring RM 2.3 billion into the region. The Medini development, within which the Gleneagles Hospital from Singapore is going to erect its private health clinic for a wealthier clientele, totals 2'225 acres and is scheduled to require RM 4.2 billion to be completed. Three real estate investment companies have stakes in this project and all are involved in the current planning process.

Yet the question remains whether these developments are going to be able

to amount to a lively, sustainable and accessibly city. Telling from past experiences with private housing developments and the state's seemingly limited intervention in the planning processes, this is more than doubtful from the present perspective.





1.



2.

Old Attraction:

1. The ZON, duty free shopping mall and ferry terminal
2. Inside the ZON: Visitor traffic is low. Products offered are cheaper than in Singapore, but the variety is smaller.



1.



2.



3.

New Attractions:

1. Legoland's construction site
2. Fenced-off campus of NUMed
3. Johor Premium Outlets, not particularly popular among targeted Singaporeans ("we can have the same discounts in Singapore if we wait")

Homegrown Industries

Oil palms were introduced to the British colony of Malaya in 1910 by Scotsman William Sime and English banker Henry Darby. The British owned and managed the first few plantations and their companies (e.g. Sime Darby, Boustead) remained listed in London until the 1960's - 1970's. The autonomous industrialisation of Malaysia started in those years based on the agricultural sector inherited from the British. The politicians of the time tried successfully to

fight the poverty of the former colony. Millions of hectares of palm oil plantations continue to contribute to the welfare of Malaysia.



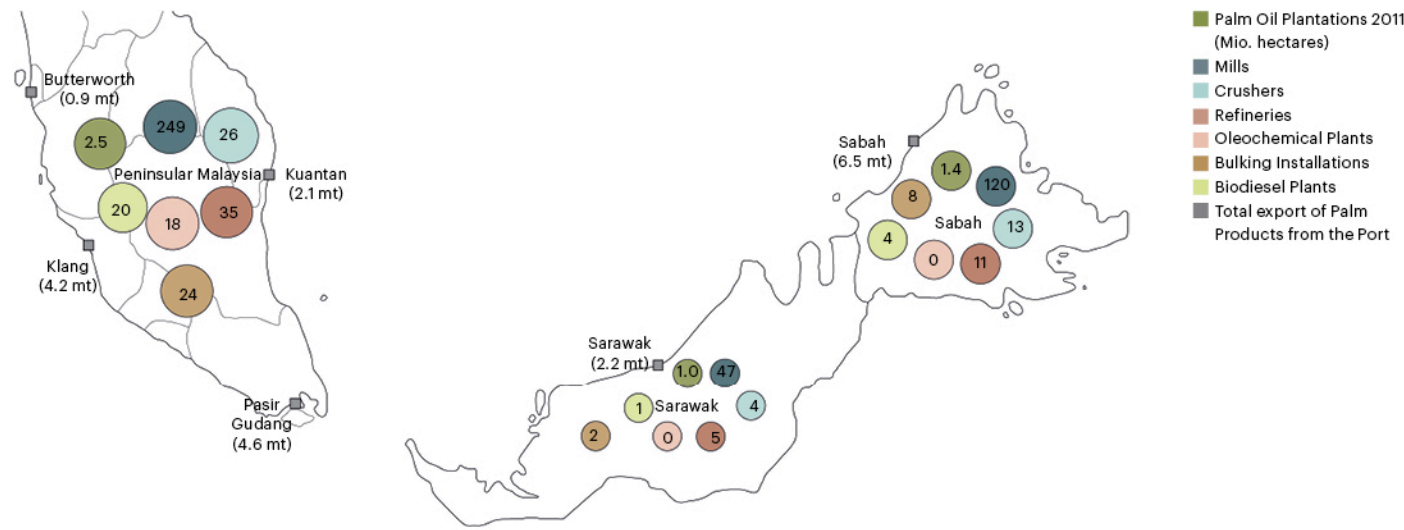
Palm Oil Industry in Malaysia

In 2011, Malaysia produced 18.9 million tonnes of crude palm oil on 5 million hectares of land. The sector employs more than 570'000 people.

Malaysia is the largest exporter of palm oil in the world; whereas China is the largest importer for the tenth consecutive year, with off-take amounting to 3.98 million tonnes or 22.1% of total Malaysian palm oil exports, followed by the

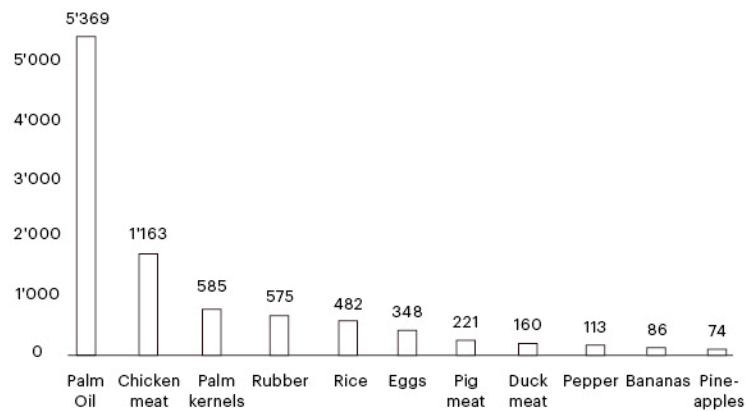
European Union (11.2%), Pakistan (10.1%), India (9.3%), USA (5.8%), Egypt (3.9%) and Japan (3.0%). These seven markets combined accounted for 11.78 million tonnes or 65.4% of the total Malaysian palm oil exports in 2011.

Extracted from the fruit of the oil palm, the oil is used in foods, cosmetics, detergents and biofuel.



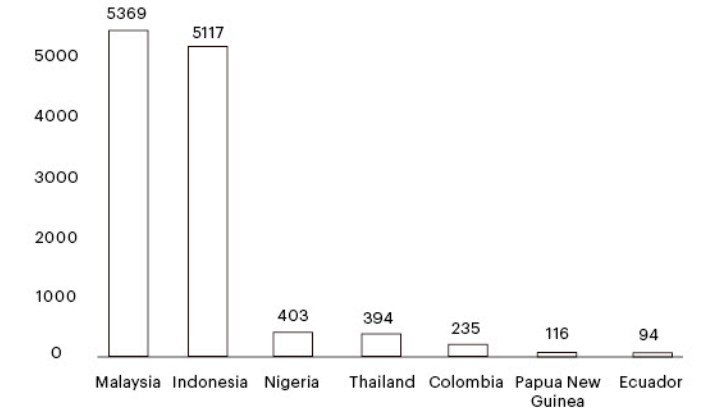
The Malay Golden Goose
Palm oil is the most profitable product of the Malaysian agriculture and it dominates the sector with a productive yearly output of 5'369 USD millions.

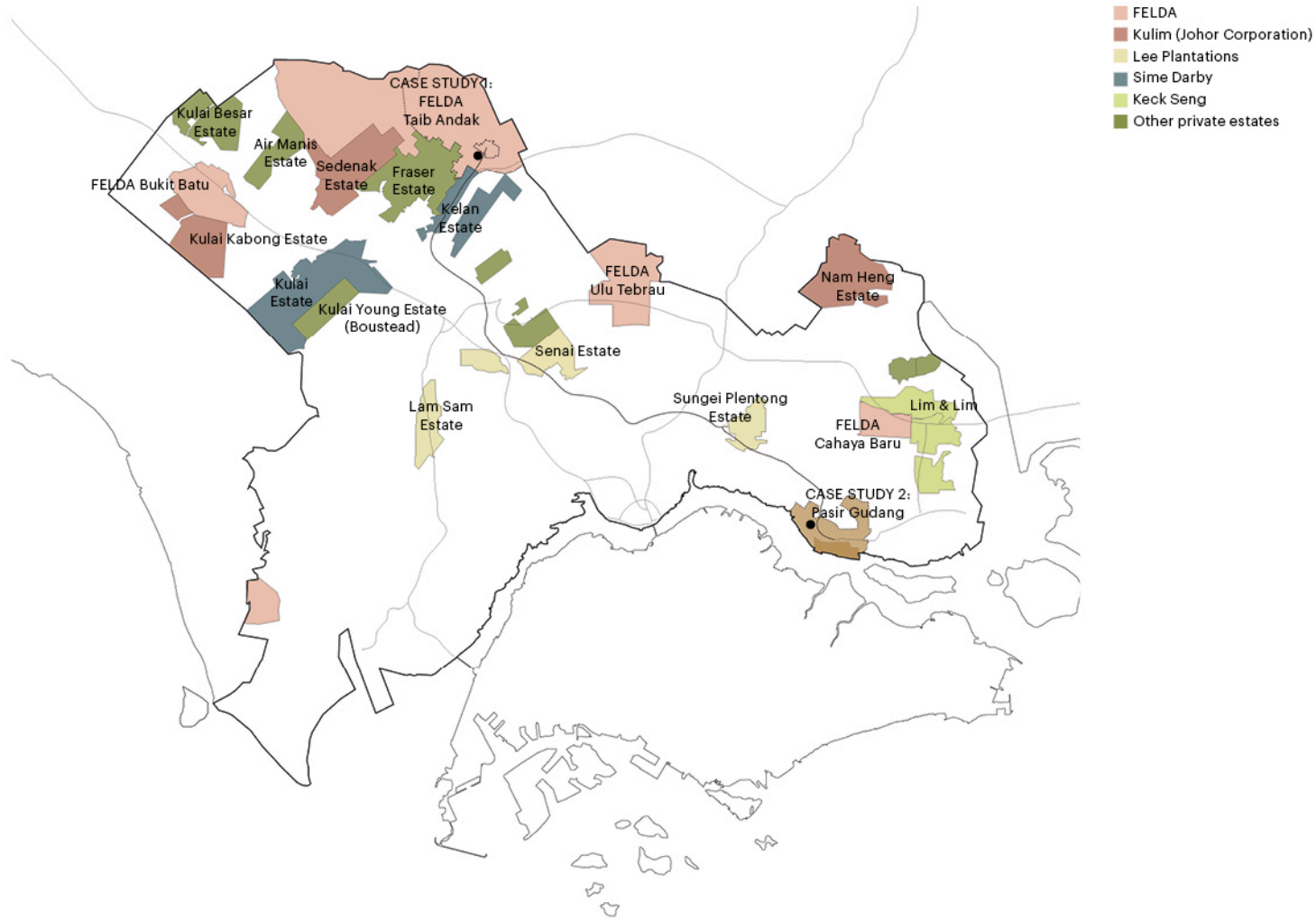
Yearly Agriculture Production Volume in Malaysia, 2011 (in 1 Mio. Dollar)



Malaysia vs. Indonesia
Indonesia and Malaysia dominate the global palm oil market. In 2007 Indonesia became the world top producer of palm oil, surpassing Malaysia in quantity but not in quality. Thanks to developed downstream production plants, Malaysia can sell processed palm oil at higher prices.

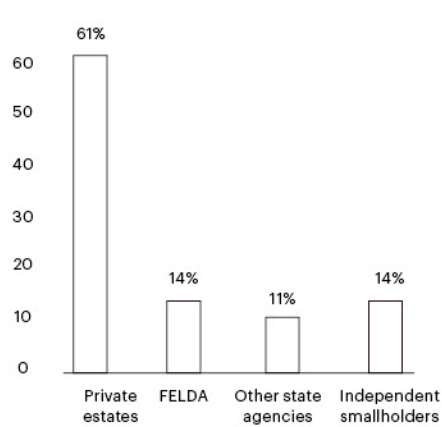
World Palm Oil Production 2011 (in 1 Mio. Dollar)





Palm Oil Production Sites in Iskandar
 The map shows an overview of the biggest palm oil plantations in the Iskandar region. Private owners such as Sime Darby and Boustead have been present in Malaysia since the beginning of the 20th century. Since Johor Bahru has grown as a metropolis many palm oil plantations have been transformed into industrial parks, golf courses or housing developments in the past 30-40 years; now, they appear as randomly leftover plots.

Plantation Ownership in Johor State (%)



Land Preparation

Access roads and terraced fields replaced the tropical forest. The productiveness (5000 kg oil per hectare) and profitability of palm oil is very high in comparison to coconut (2260 kg/ha) or sunflower (800 kg/ha).



3-Year-Old Palms

Oil palms are planted in a 30 foot grid so that passages can be easily integrated into plantations. After 2 or 3 years the first fresh fruit bunches can be harvested.

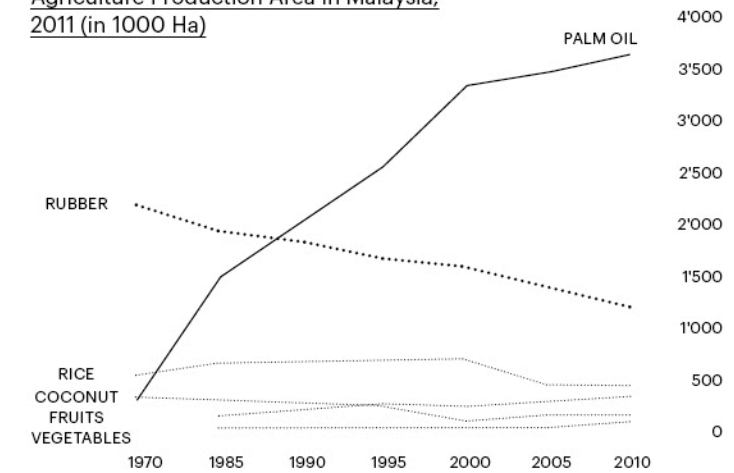


20-Year-Old Palms

After 20-25 years the palms are old and stop to be productive. They are then cropped and a new planting cycle begins.

Palm Oil as a Successful Alternative
 The palm oil plantations' importance begins in the 1960's, when the world prices of tin and rubber plunged. The palm oil's use and demand have increased steadily since then. In Malaysia, its proliferation was promoted by the Federal Land Development Authority (FELDA), which opened its first palm oil settlement in 1960 and is nowadays the world's biggest palm oil planter.

Agriculture Production Area in Malaysia, 2011 (in 1000 Ha)

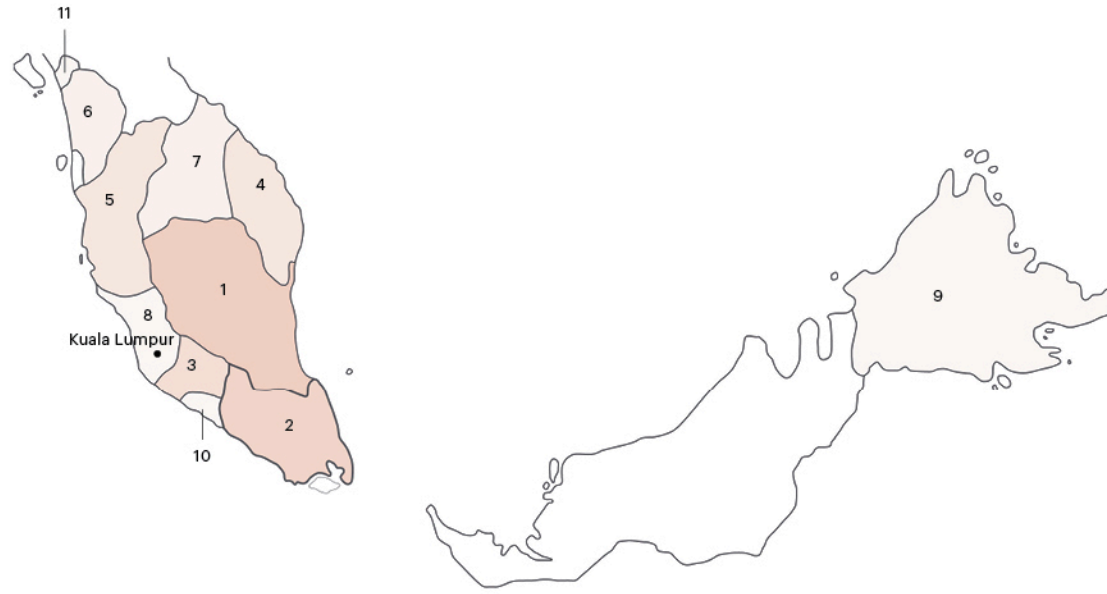


FELDA: Village Cooperatives for Palm Oil Production

The Federal Land Development Authority was formed on 1 July 1956 when the Malaysian Land Development Act came into force with the main aim of eradicating poverty. Settlers were each allocated 10 acres of land (about 4 hectares) planted either with oil palm or rubber, and given 20 years to pay off the debt for the land. After Malaysia achieved independence in 1957, the government focused on value added of rubber planting, boosting exports, and alleviating poverty through land schemes. In the 1960's and 1970's, the government encouraged planting of other crops to

hedge the economy when world prices of tin and rubber plunged. Rubber estates gave way to oil palm plantations.

In 1961, FELDA's first oil palm settlement opened, measuring only 375 hectares of land. As of 2000, 685'520 hectares of the land under FELDA's programmes were devoted to oil palms. By 2008, FELDA's resettlement broadened to 112'635 families working on 853'313 hectares of agricultural land throughout Malaysia. Oil palm planting took up 84% of FELDA's plantation land bank.



FELDA Sites in Malaysia

The map shows that Johor is an important spot for the production of the palm oil managed by the state. The reallocation of the poor population happened mostly in the Southern Peninsular states of Malaysia. In the most urbanised state, Selangor, FELDAis involved in only four villages. Plantations need much land and human resources to work the fields.

STATE	SETTLERS SCHEMES	FELDA Settlers per State, 2011
Pahang (1)	43'123 115	> 40'001
Johor (2)	27'641 73	20'001 - 40'000
Negeri Sembilan (3)	16'429 49	10'001 - 20'000
Terengganu (4)	7'463 21	3'001 - 5'000
Perak (5)	5'914 17	2'001 - 3'000
Kedah (6)	3'185 10	0 - 2'000
Kelantan (7)	3'115 11	
Selangor (8)	1'929 4	
Sabah (9)	1'649 64	
Melaka (10)	1'330 5	
Perlis (11)	857 3	
MALAYSIA	112'635 372	



Palm oil fruits ready for the mill



Poverty Alleviation Schemes

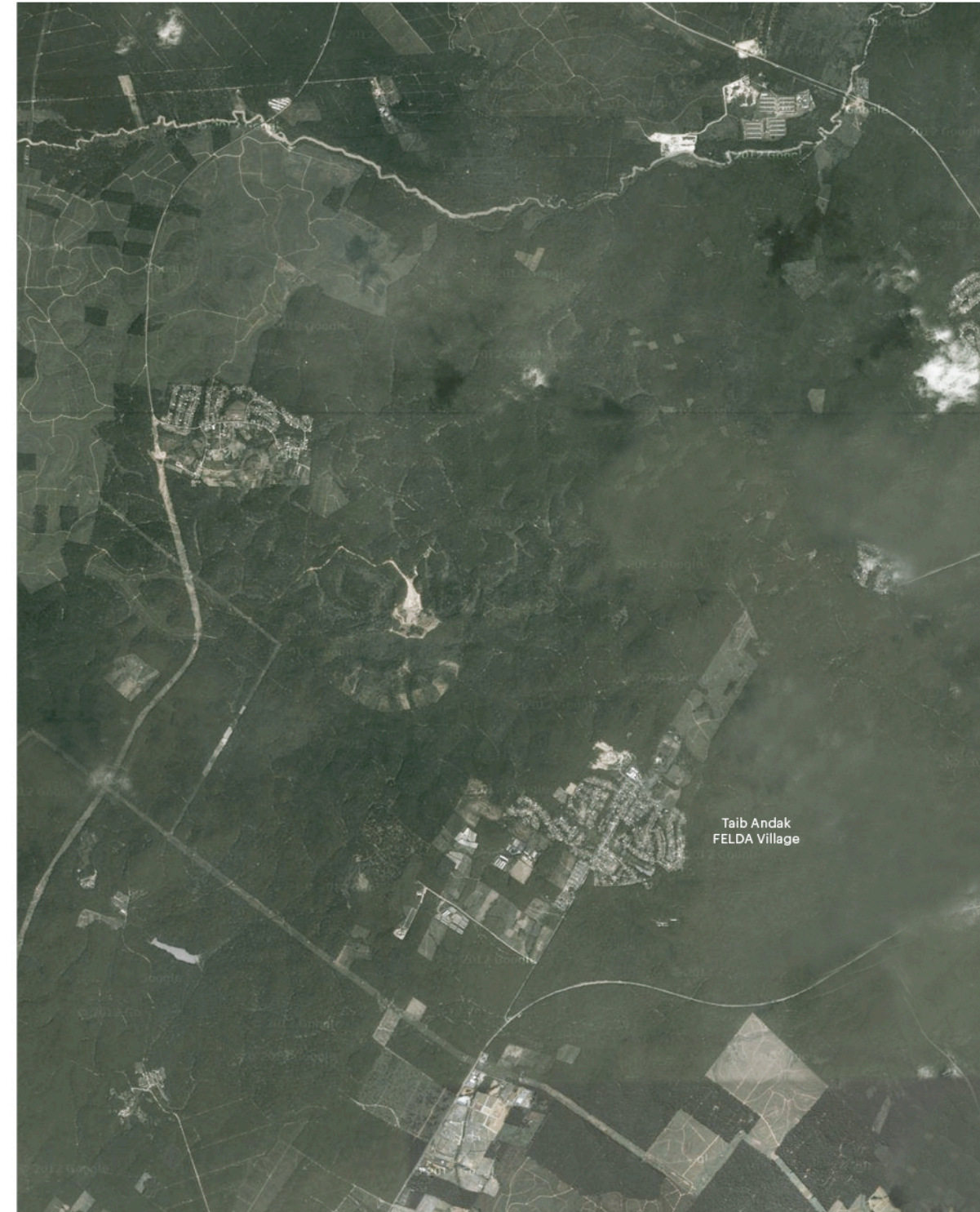
FELDA was established on July 1st 1956 by Tun Abdul Razak, Malaysia's second Prime Minister. The goal of the program was to eradicate poverty by giving land to the landless in order to generate income and to prevent social conflicts. Only Malay people could join the program. Minister Tun Abdul Razak hoped to reduce the socioeconomic

disparity between the Chinese minority and Malay majority via the 1971 Malaysian New Economic Policy, which lasted until 1990. The initial target was to move the ratio of economic ownership in Malaysia from a 2.4:33:63 ratio of Bumiputra (ethnic Malay people), Other Malaysian and Foreign ownership to a 30:40:30 ratio.



From Rubber to Palm Oil

The FELDA logos show three important moments in the Malaysian history: in the beginning the logo was green and shows peninsular Malaysia, where began the plantations, then based on rubber. In 1971 the logo changed according to the Malaysian New Economic Policy. The successive logos are orange because of the success of the palm oil plantations which, as we can observe, really improved the welfare of the farmers. In fact the government stopped to build new FELDA schemes in 1996.



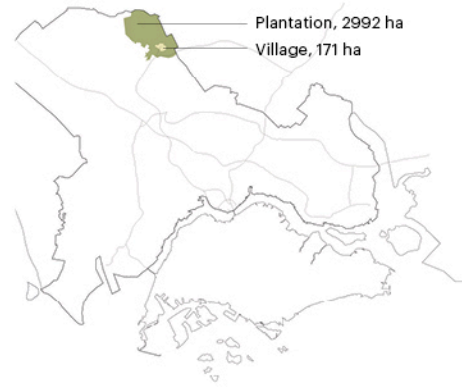
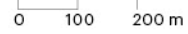
Income from the Field

The field work is the main source of income for the settlers, so they strive to increase the farm productivity and quality. Complementary non-farm activities include a mini-market, aquaculture and livestock.



The New Productive Village
 FELDA Taib Andak was named after the first chairman of FELDA, Mr Tan Sri Taib Bin Hj. Andak. It is situated 42 kilometres north of Johor Bahru and was established in 1960. This was the sixth scheme opened in the country and the first in Johor. It is significant because this was the first scheme with palm oil as a main crop. The village expanded in eight phases and counts 620 settlers today. The village grew around a central axis that connects the entrance with the palm oil mill. A mosque lays at the centre.

- Staff Houses
- Worker Houses
- Office
- Multi-purpose Hall
- Oil Station
- School
- Park



FELDA Evolution

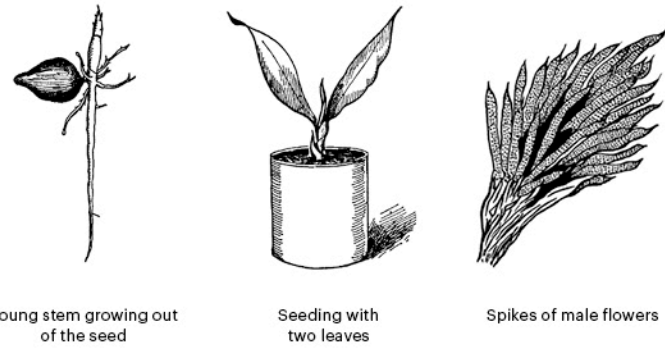
Most of the FELDA settlers are now between 60 and 70 years old. They came to the villages as landless poor and thanks to the State's initiative, they reached over the years a remarkable livelihood: they earn between RM 3'500 and 5'000 (US \$1'096 to \$1'565 per month). The children of the first settlers can take over the father's land if they are married, but most of them choose to work in factories or in the services sector outside the village. The FELDA community is very proud of their children becoming doctors, lecturers, bank managers, lawyers and so on.

Mr. Haji Tukimin Bin Mohshed, 63 years old, widower, lives and works in FELDA Taib Andak since he was 13. He has got three sons. The oldest is 43: two of them work outside the plantation.

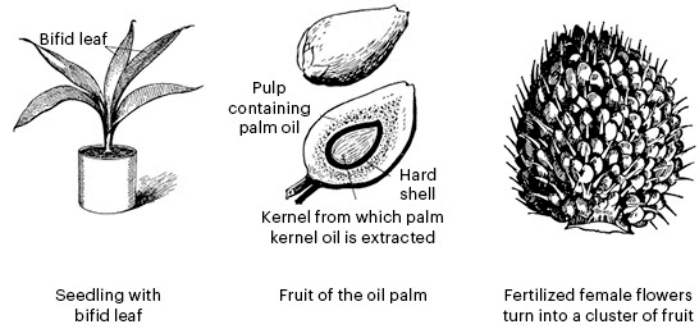




Harvesting activity, Keck Seng Plantation, Pasir Gudang.



Young stem growing out of the seed Seedling with two leaves Spikes of male flowers

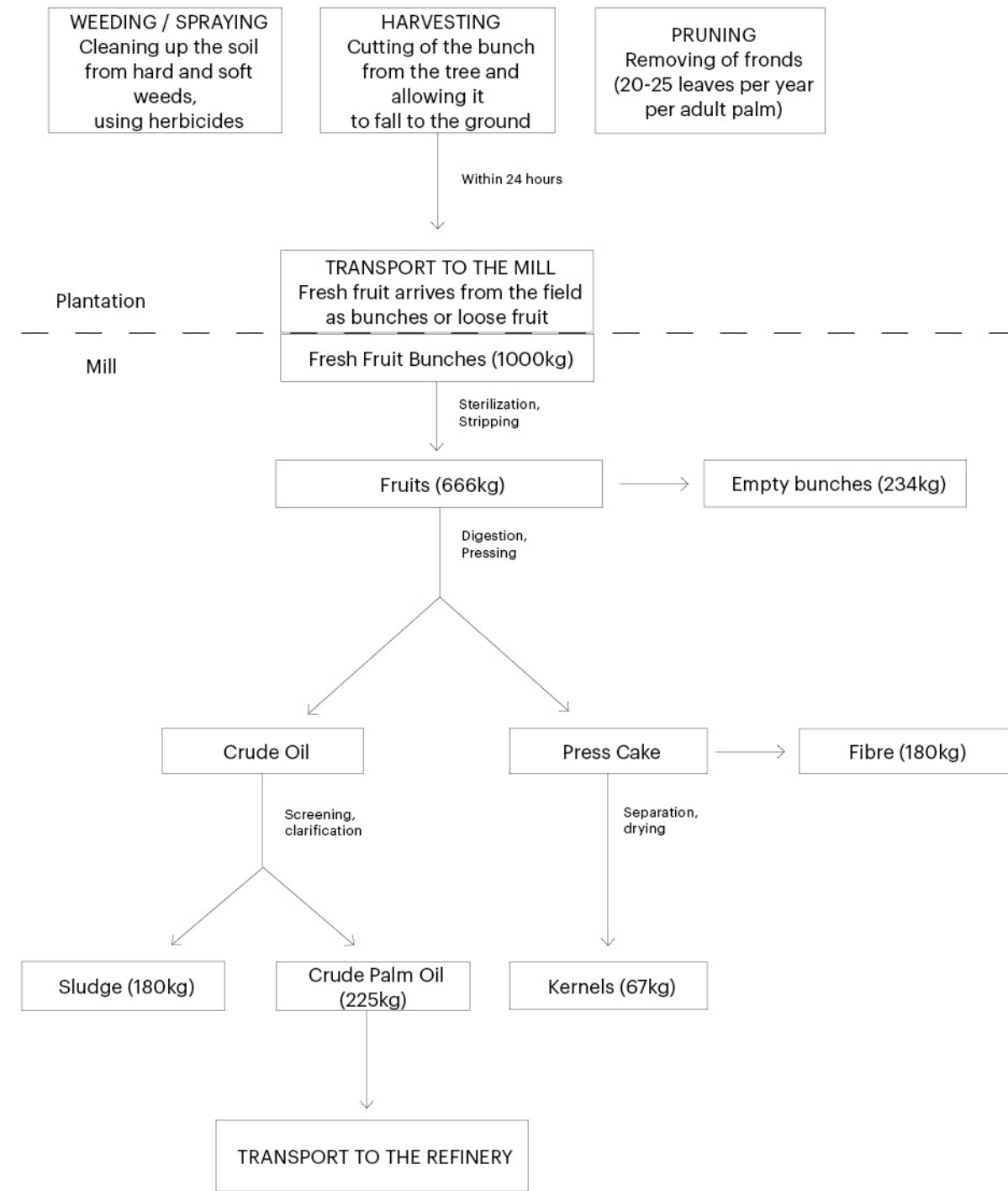


Bifid leaf Pulp containing palm oil Hard shell Kernel from which palm kernel oil is extracted Fertilized female flowers turn into a cluster of fruit

Production Process in the Palm Oil Plantation

The main activities in the plantation are manuring, harvesting, spraying, weeding and pest control. It takes about six months for the oil palm to produce a fruit bunch out of a flower.

The fresh fruit bunches weight between 30 kilograms and 60 kilograms and are normally harvested 2 times per month.



Pasir Gudang: A Palm Oil City

Pasir Gudang began to develop from a palm oil plantation into an industrial area after the establishment of the Johor Port in 1977. In the 1960's the government already founded three FELDA schemes in this region 35 kilometres east of Johor Bahru, so the decision to transform the area in an industrial town was an important step for its development.

The most characteristic industries of Pasir Gudang developed near the port and are huge palm oil refineries which operate day and night. In this chapter we will investigate them and their relation to the local population of around 65'000 inhabitants.



FELDA Refinery



Nationalism and Competition

The industrial township Pasir Gudang was built at the beginning of the Malaysian industrialisation in the 1970's. Its strategical proximity to the Straits of Singapore was used to build a successful spot for the manufacturing and shipping of goods. The FELDA plantations as well as the private palm oil plantations in the surroundings use this industrial site to refine and ship the palm oil to importing countries.



Palm Oil Business	Healthcare	Property and Logistic Services		Restaurants	Property	Hospitality	Entrepreneur Venture
Kulim (Malaysia) Bhd	KPJ Healthcare Bhd	Damansara Realty Bhd	TPM Technopark Sdn Bhd	QSR Brands Bhd	Johor Land Bhd	Puteri Hotels Sdn Bhd	Sindora Berhad
New Britain Palm Oil Ltd	Al-Aqar KPJ REIT	Healthcare Technical Services Sdn Bhd	Tanjung Langsat Port Sdn Bhd	KFC Holdings (Malaysia) Bhd	Damansara Assets Sdn Bhd	Kumpulan Hotel Selesa	
			Johor Logistic			Sibu Islands Resort Sdn Bhd	
			Langsat Marine Base Sdn Bhd				

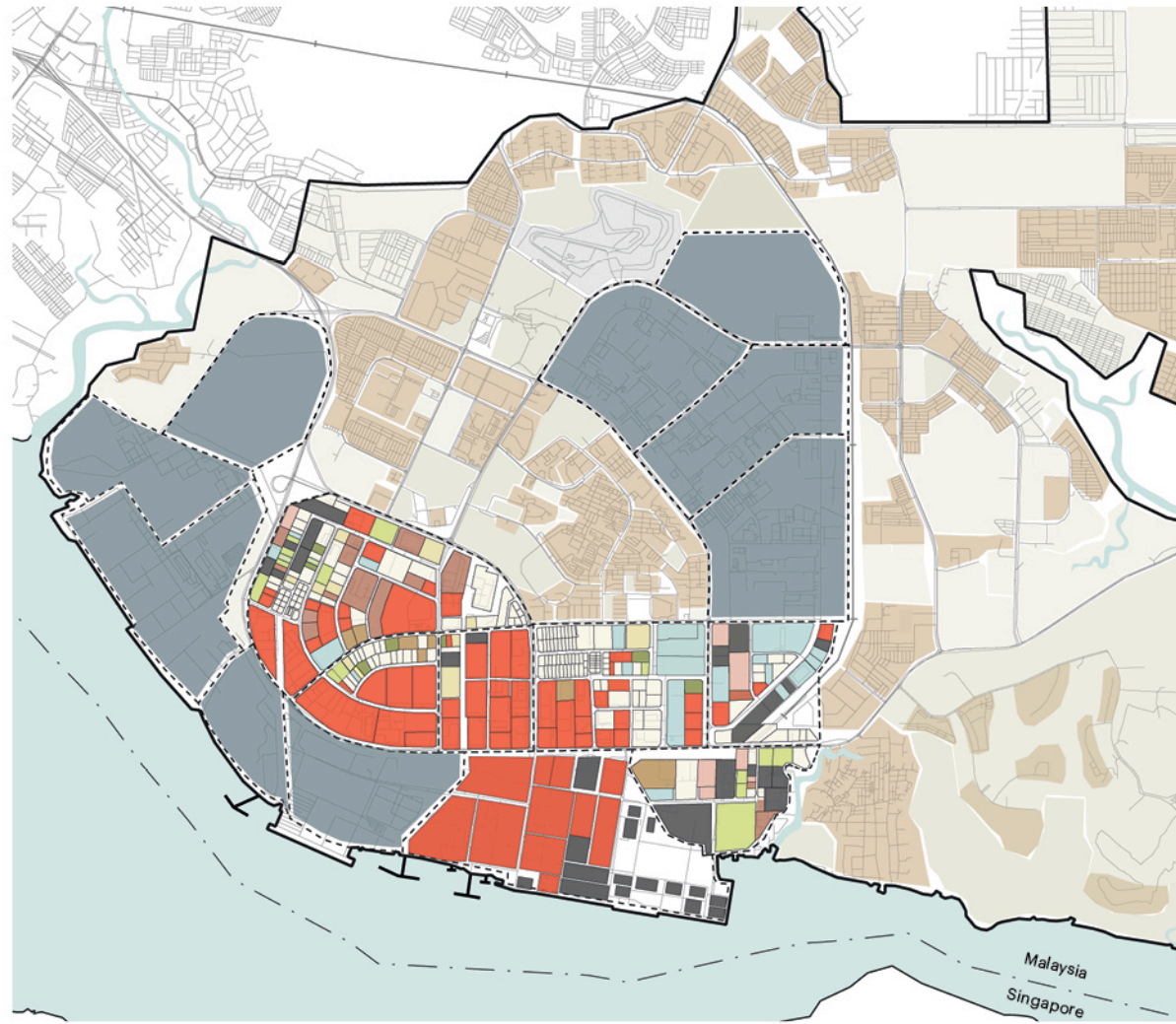
Johor Corporation

Johor Corporation, formerly known as the 'Johor State Economic Development Corporation' (JSEDC), was formed in 1968 as part of the Malaysian government's programs to restructure its multi-ethnic society by eradicating the economic imbalance between Malays and non-Malays.

Malaysian state economic development corporations were designed to break away from the bureaucratic binds of a regular government department and to become a commercially-oriented investment arm of the respective state governments. In 1977 JSEDC was appointed administrator of the industrial township Pasir Gudang, and managed its

land until 2009, when a new independent Municipality was established.

Johor Corporation continues to be one of Malaysia's leading business conglomerates, comprising more than 280 member companies and employing over 65'000 employees in Malaysia as well as regionally. In 2010, the Johor Corporation Group's turnover exceeded RM 7.5 billion and profit before tax of RM 962 million.

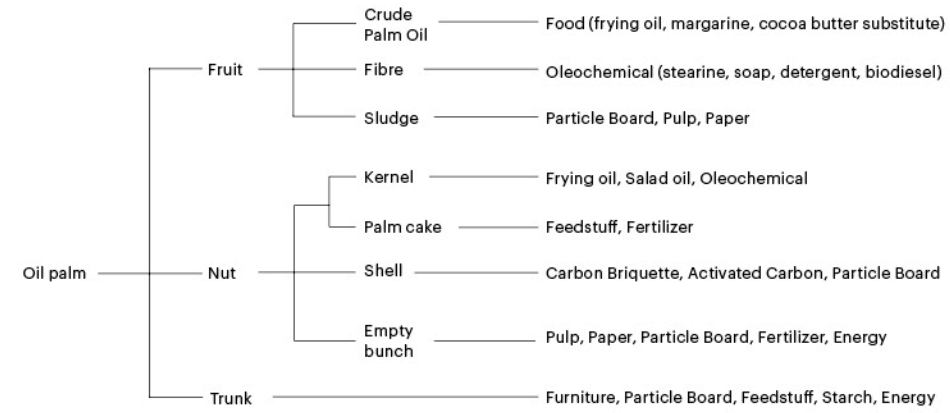
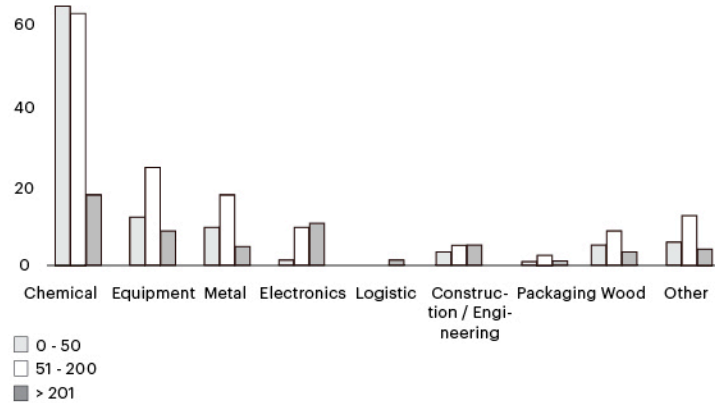


A Mix of Heavy, Medium and Light Industry

The industrial land is subdivided into 15 areas, but in each one the lease conditions are the same: from 30 to 60 years for a locked and cheap rate. In the late 1970's and early 1980's there were no regulations about environmental issues, so every company that applied received the land, without the need for planning or regulating its activities.

Industrial Park Name	Distance to Johor Bahru (km)	Total Area (Hec)	Still available (Hec)	Price (RM/m ²)	Lease Period (years)	For Industry Type
Pasir Gudang	36	936	6.7	13.0 - 16.7	30 - 60	Light/Medium/Heavy

Industries in Pasir Gudang by Number of Employees



Oleochemical Sector

The refineries grew in the Pasir Gudang area because of the big amount of palm oil production achieved thanks to the FELDA program and the economical incentives of the Malaysian State. The downstream of the crude palm oil produces many other chemical products that can be transformed from other industries (for example soaps or cooking oil producers). We can observe that the biggest and most common companies of Pasir Gudang are related to this important and successful sector.

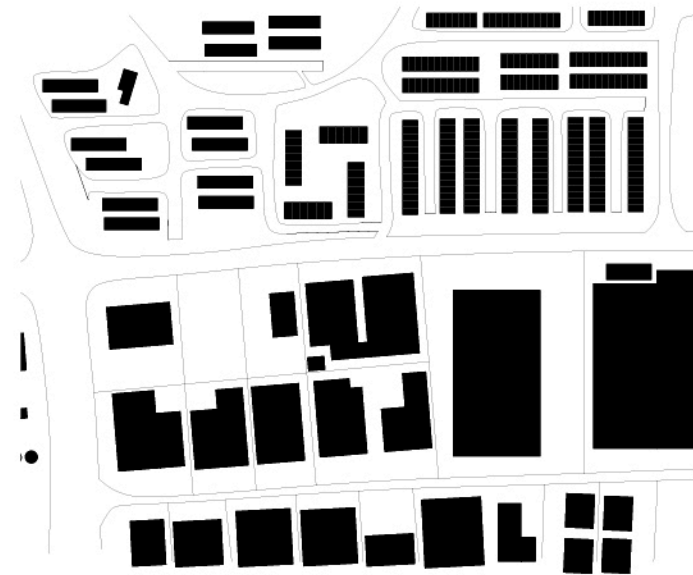


An Industrial Town

The name Pasir Gudang originated from the existence of a sand mine at Kampung Ulu. Sand ('pasir' in Malay) was dug and stocked in sand pits/stores ('gudang' in Malay) to then be exported to Singapore.

The oldest settlements of Pasir Gudang are the Kampung Pasir Gudang Bahru and Pasir Puteh, which were founded in the 1920's. The surroundings were occupied with rubber and palm oil plantations until the government decided to build a new industrial city at this location in 1977.

The industries grew step by step starting from the port, without any kind of zoning; the result is a village area as a leftover spaces. Nowadays the heavy industry have to be placed 250 meters away from housing areas.



Scale Comparison

The zone between housing and industry are characterised by wide truck-friendly streets. Rows of trees are planted along these streets. In the kampungs and near to the

palm oil plantation we can still find traditional Malay houses. The cheapest apartments are in mass housing developments, where many foreign temporary workers from Myanmar, Bangladesh and Indonesia live.



From Industrial Township to Municipality

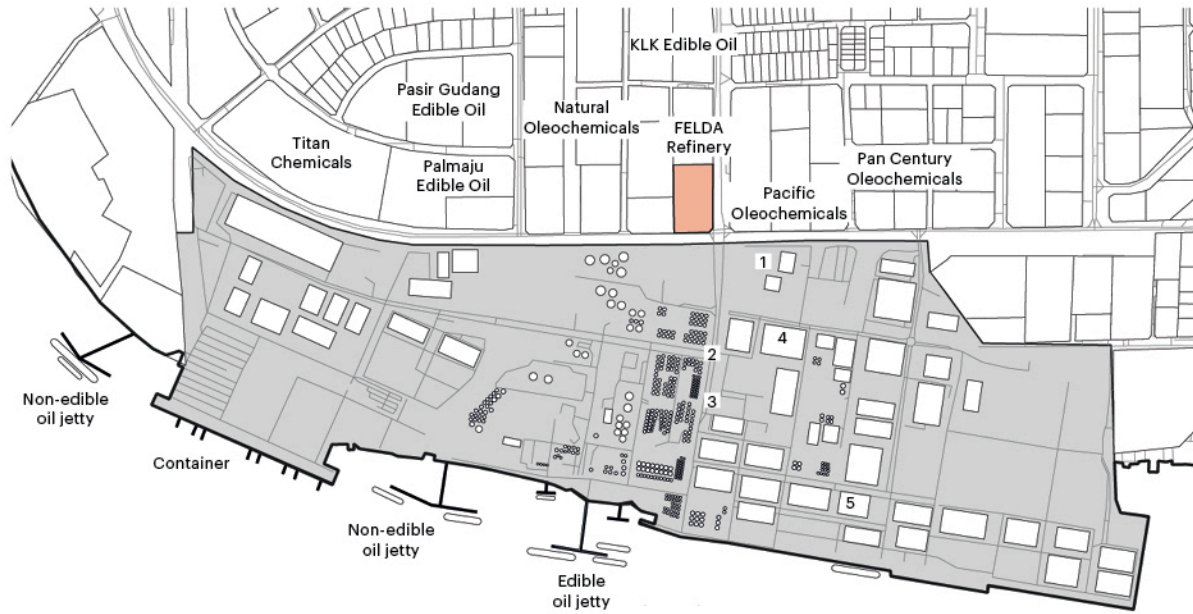
The Pasir Gudang Municipal Council (MPPG) was established on 1st July 2008 to replace the Johor Corporation that administrated the city since its foundation in 1977.

From September 2009, MPPG's management migrated to the new municipal tower. After 31 years of development and with a population of about 65'000, the former industrial park could begin to manage its own political power and finances.



Endangered Life

45 years after its opening, the Pasir Gudang industrial park remains a successful economic model. In fact, it is already being expanded in the Tanjung Langsat area (see Flagship Zone map). On the downside, air, water and soil pollution have steadily increased since the 1970's. Up to 80% of the industries of Pasir Gudang own water treatment plants, but the volume of polluted water thrown into the rivers is so much that it can not be controlled. As a result, the two Pasir Gudang rivers (Sungai Masai and Sungai Laloh) are consistently amongst the top 10 most polluted in Malaysia.



Johor Port Infrastructure

1. Customs Checkpoint
2. Security Checkpoint
3. Wisma JP Logistic
4. Security Service Center
5. Marine Center

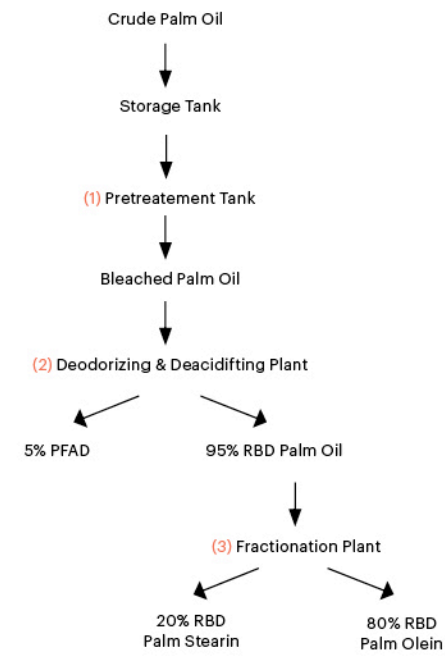
0 0.5 1 km

Johor Port

Johor Port is the largest palm oil terminal in the world. In 2011, 3'299'944 tonnes of palm oil were exported from it, which corresponds to the 18% of all Malaysian palm oil port exports. Founded with Pasir Gudang in 1977, it obtained the status of free zone in 1984 and was fully privatised in 1995. Johor Port is a logistical hub for Iskandar Malaysia and a part of the triangle formed by the poles of Tanjung Pelepas Port, Senai Airport and Johor Port.

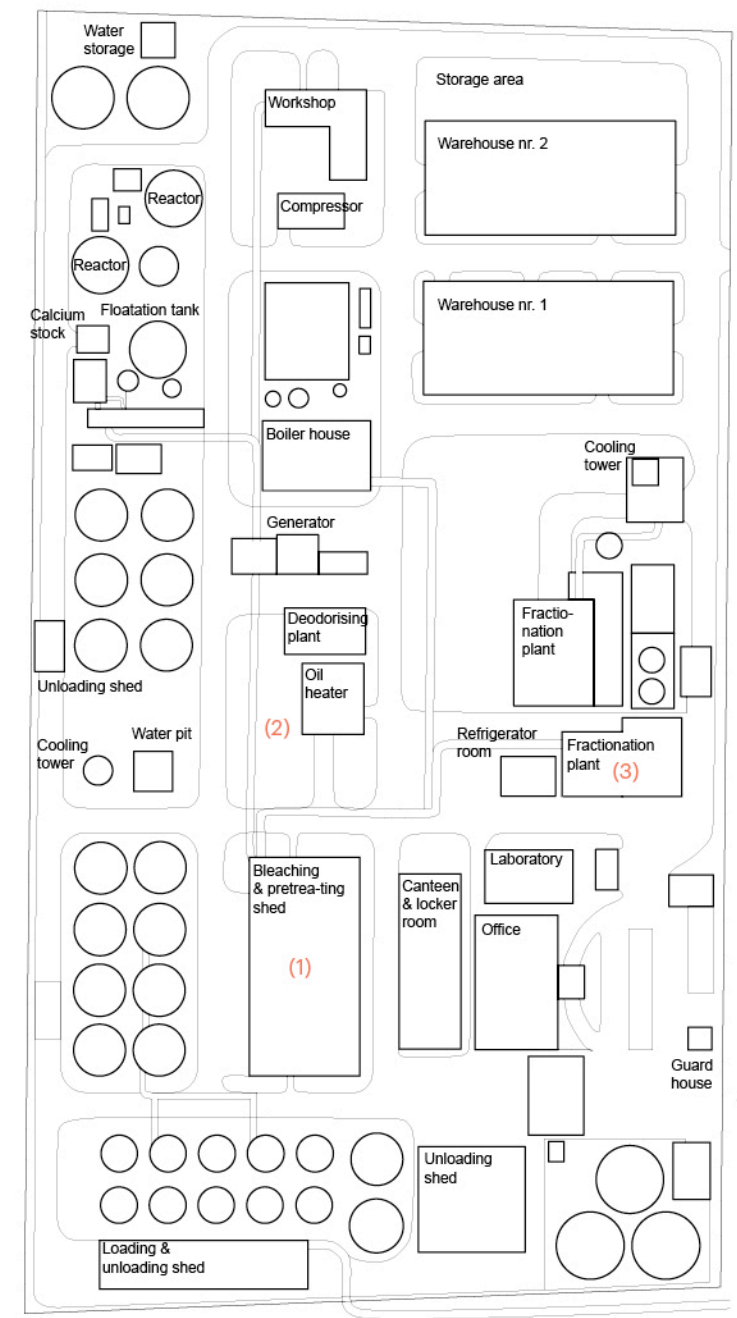


Palm Oil Refining Process



The Felda Refinery in Pasir Gudang

Palm oil products are made using milling and refining processes: first using fractionation, with crystallisation and separation processes to obtain solid (stearin), and liquid (olein) fractions. Then by melting and degumming, impurities can be removed, and then the oil is filtered and bleached. Next, physical refining removes smells and coloration to produce refined bleached deodorised palm oil, or RBDPO, and free sheer fatty acids, which are used as an important raw material in the manufacture of soaps, washing powder and other hygiene and personal care products. RBDPO is the basic oil product which can be sold on the world's commodity markets, although many companies fractionate it further into palm olein, for cooking oil or other products.



Pipelines to the Johor Port

0 25 50 m

Global Hinterland

Until 2006, Johor used to be Singapore's playground for foreign direct investment. Companies from Japan and Hong Kong invested in the region as well but its international significance remained fairly limited. All this changed with the intense marketing and regulatory efforts brought by the Iskandar project. Other players have entered the arena and the investment volumes seem to have blown up. In 2000, Singapore was the largest inves-

tor with 100 approved manufacturing projects and a total volume of RM 1 billion. In 2008, a single project from Spain was established with over four times as much investment volume, making it by far the biggest project ever realised in the region. This is the most extreme example of an overall trend that sees Iskandar opening up to international corporations who are able to raise huge sums of money. For the territory, this has mixed implications, which this

chapter aims to trace. After a brief introduction over Spain's mega-investment, the focus of the following pages is going to be on the Senai industrial area. Located within the Iskandar flagship zone E, it shows a telling mixture of industrial developments.

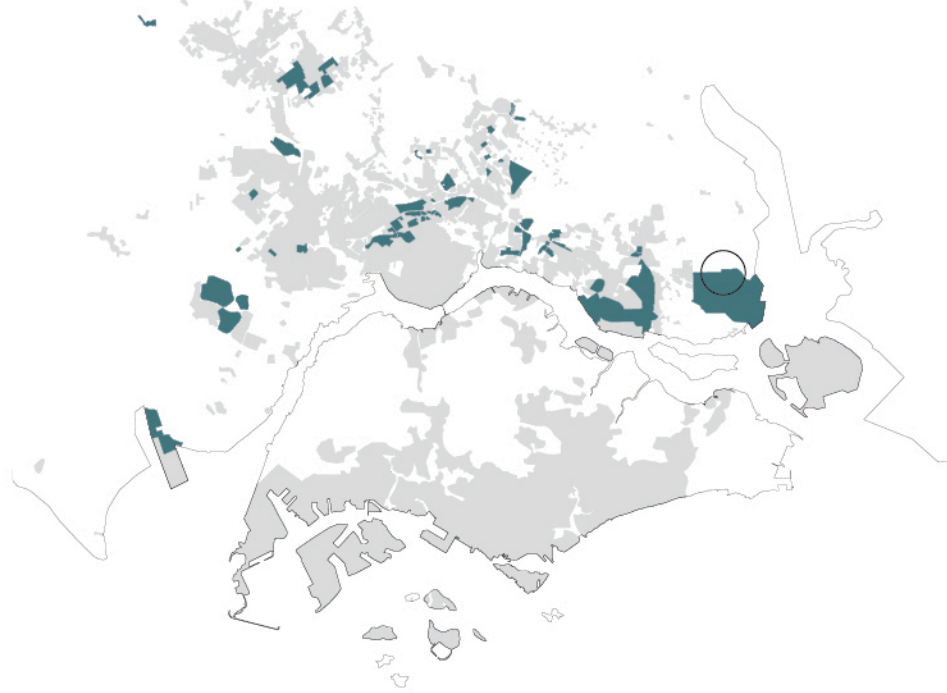


Bahru: Asia's Biggest Stainless Steel Production Plant

This RM 4.4 billion project spreading over 350 acres is scheduled for completion in 2020. The plant is expected to generate 1'600 jobs in other companies throughout the region. Approximately 30% of its production will be sold in Malaysia, giving local companies that require stainless steel a boost as they will no longer have to import this material.

In 2012, production had already begun in the first phase and the project seems to be on track.

The plant occupies a vast plot in the Tanjung Langsat area, which serves as an extended development to Pasir Gudang.



Location of Tanjung Langsat



Johor Technology Park: large scale industrial development on a former agricultural estate, surrounded by palm oil plantations

Endless Possibilities: High Tech in Senai

The Senai area is intended as a hub for new high technology industries that support Johor's efforts to move its manufacturing sector up the value chain. Located north of Johor Bahru, the area is well connected to other regions of Iskandar through the highway network.

Senai itself shows a broad mix of different industries, from informal shophouses over medium-sized manufactur-

ing firms, to large production estates of international companies. The built-up area sprawls far into the countryside, with industrial estates being surrounded by palm oil plantations. The different types of industries, as well as living areas and other built phenomena are distinctly scattered throughout the landscape and hardly interact or interfere with each other.



Location of Senai within
the Iskandar outline



Light industry factory in
Senai

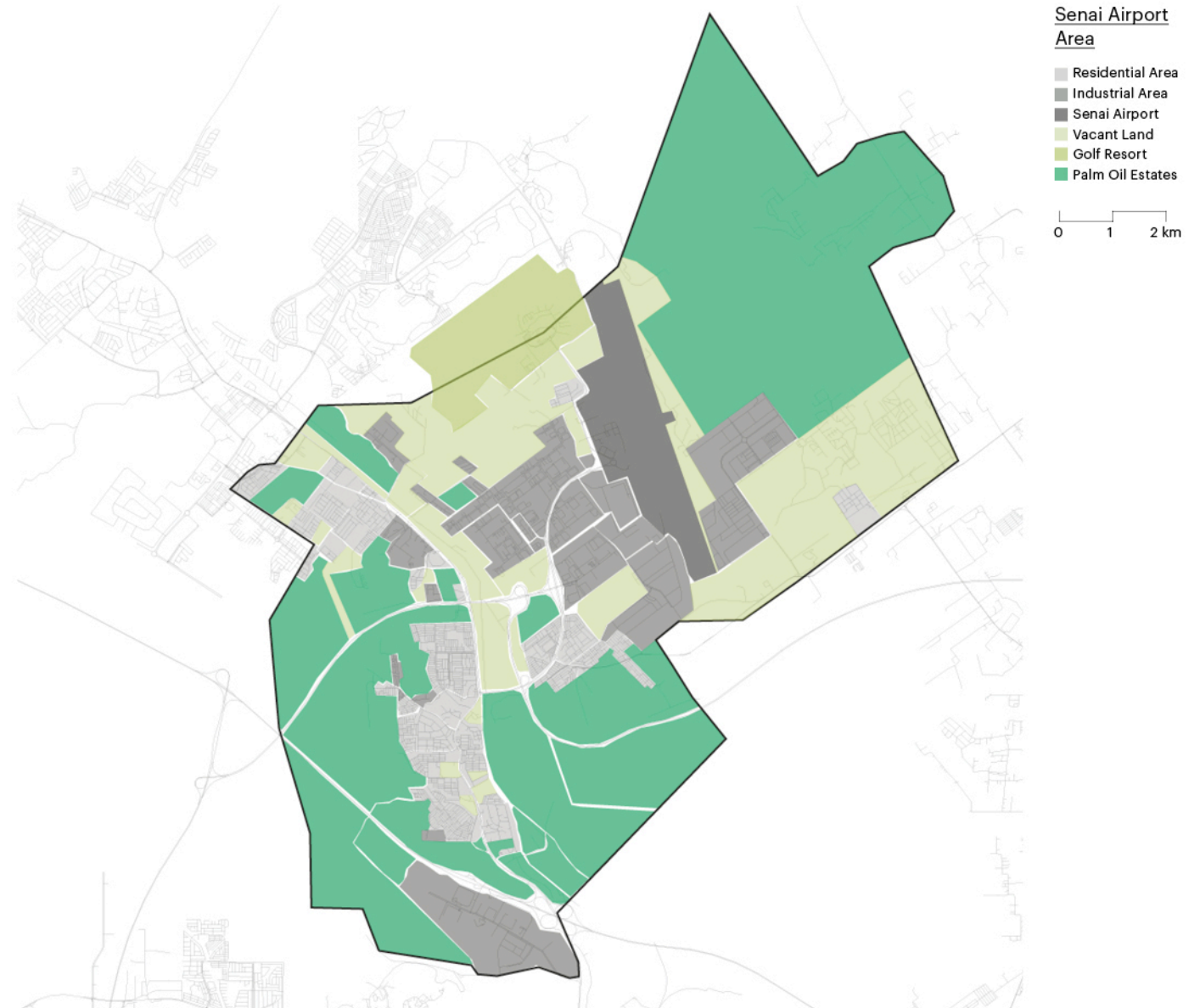


Top:
Map of Senai

Bottom:
Senai Highway - the town's
traditional main road,
lined by shop houses

**Senai Town and Estates:
Location and Borders**

The town of Senai is part of the larger Iskandar flagship zone E. As such, it is meant to develop into the region's high technology manufacturing cluster as it is a well connected air cargo hub. The flagship outline stretches far to the south and reaches into the campus of Univesiti Teknologi Malaysia (UTM), southern Johor's main higher education institution. Southeast of Senai's airport, it also includes a triangular land area to be developed into a 'High Technology Park' in the future. Plans for this project are already under way and the current palm oil plantation of Lee Corporation is supposed to disappear soon. Connectivity is the key to the flagship E concept: Senai has direct access to the a new highway leading from Johor Bahru to Kuala Lumpur, as well as to Iskandar's new lateral connection, stretching from Nusajaya in the west past Pasir Gudang to Desaru on the Malaysian east coast. The availability of easy access to national roads and international air and sea ports, together with the presence of UTM, is meant to establish a fertile cluster for up-and-coming manufacturing spin-offs.



Zoning and Urban Development
The old nucleus of Senai is a linear town that stretches along the old artery of the 'Senai Highway'; a double lane main street lined by shop houses. The new Kuala Lumpur expressway passes by on the south eastern side and has absorbed much of the traffic. Outside the old settlements, plantations used to stretch into the landscape with farm villages scattered in between them. In the 1970's, a transformation process began to develop some of those lands into industrial parks. The first ones were developed by Johor Corporation to the northeast of the old town, up to the airport and beyond it.

Since the 1990's the Johor Technology park - south of the Kuala Lumpur expressway - has been available, also managed by Johor Corporation. This estate, as well as the future 'Johor High Technology Park' in the southeast sit on grounds leased from the Lee Corporation - a private Malaysian Palmoil and real estate investment company. Therefore, any new investment within those parks has to be ratified by both JCorp and Lee Corp.

Industrial Park Name	Distance to Johor Bahru (km)	Total Area (Hec)	Still Available (Hec)	Price (RM/m ²)	Lease Period (years)	For Industry Type
Senai I	30	40.5	0	3.7	60	Light/Medium
Senai II	30	70.2	0	5.6	60	Light/Medium
Senai III	30	136	0.25	11.1	60	Light/Medium
Senai IV	32	51	0.86	13.0 - 18.6	30 - 60	Light/Medium
Johor Technology Park	21	184.6	41.7	14.9 - 20.4	30 - 60	Hi-Tech/R&D

Johor Corporation's Industrial Parks
 The majority of businesses have settled down in one of the industrial parks that are managed by Johor Corporation. Out of a total of five, the four older ones are almost completely occupied. They stretch between the airport and the old town centre. They are aimed at light and medium industries, like Dyson, manufacturing vacuum cleaners, or Panasonic, producing electronic products. According to industry estimates, Senai is an unofficial hub for the production of remote controls.

The industrial areas in Senai seems to be a success and have indeed added value to the local economy. According to the Iskandar Comprehensive Development Plan (CDP), Senai is also the proclaimed centre for high-tech developments. Flagship E is marketed as a Malaysian silicon valley, with a stimulating cluster of innovative firms and research institutions not far from UTM. Johor Corporation's Technology Park was seen as the first step towards this vision. After the first six years since these plans were announced, their realisation has no yet picked

up the same speed as the medium or heavy industry sectors. Companies producing semiconductor related products have been reluctant to move to Senai or Johor in general. For most of these firms, the setup of a new plant is a huge investment.

The current cluster of companies in Senai lacks two major characteristics of other high-tech conglomerations. In Senai, the companies are generally foreign. They don't have their research & development divisions in the region and are subsidiaries of large international corporations. These circumstances lead to a situation where the important decisions and discoveries are made elsewhere, with only routine production done in Senai.

Johor Corporation is currently planning another high technology park to cater especially to the desired medium-scale industries with a locally rooted clientele. The success of this attempt will depend on how open and accessible the environment is for young, up-and-coming firms.



Senai Industrial Sectors

- Chemical
- Metal
- Electronics
- Logistic
- Engineering
- Construction
- Wood
- Others
- Plots still available
- Johor Corporation Industrial Parks

0 250 500 m

Senai IV Industrial Park

Johor Technology Park





Senai

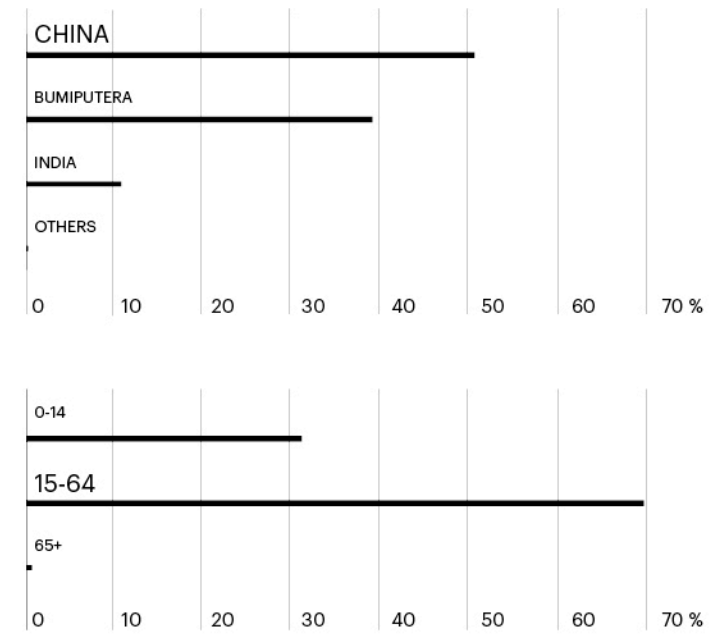
- Industries
- Housing
- Community Centres
- Park / Natural Area
- Hindu Temple
- Mosque
- Chinese Temple
- Church

0 1 2 km



Chinese shophouses along Senai Highway

Chinese Roots vs. Global Investors
 Remarkably, the state's effort for industrialisation has persistently overlooked an old part of Johor's economy, especially the Chinese ethnic group, which was already involved in small manufacturing businesses in the 1960's. Senai, for example, was an old centre for these types of small scale and often informal production. Still today, the majority of the population is of Chinese ethnic origin and Chinese signs are omnipresent around Senai Highway.



Malay Brain-Drain to Singapore

When asked about their thoughts on investment in Johor, the officials of a large German semiconductor company replied that infrastructure is the actual problem, even though it is far from being ideal for the sensitive, dust-free environment needed for production. Instead, companies identified the shortage of a qualified workforce in Johor as the major shortcoming.

One of the main reasons for this seems to be Johor's proximity to Singapore. With salaries usually twice higher in the city-state, many people prefer working across the border. Singapore aims to encourage this movement by loosening work permit requirement for Malaysians. In order to hire Malays, companies do not need to deposit a S\$5'000 security bond, which normally is the case when hiring foreign labor. Furthermore, work pass holders can re-apply for a new work permit after a job change without having to leave the country.

Not surprisingly, almost 60% of Malays abroad live in Singapore, and almost all of them are very well educated, according to official statistics. No domestic helpers migrate to Singapore from Malaysia. Instead, the typical migrant is the kind of person that seems to be missing in the Senai area to form an inspiring setting for high-tech startups. Secondly, of those Malays going abroad, well over 80% are of Chinese origin. Taking all those facts together, it is

incomprehensible how the Iskandar CDP is not making any integration attempts towards the Chinese community, especially in Senai. Education for most Chinese ethnics happens either in non-accredited private schools in Johor or Singaporean schools from early on. All this reflects Malaysia's ethnic issues and how they necessarily make an imprint on the Iskandar Malaysia development.

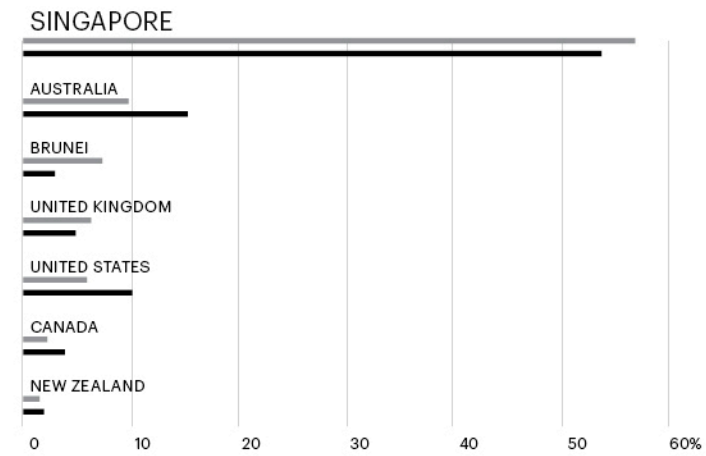
Two remarkable observation, however, can be made, when looking closer at the Malay diaspora. Not surprisingly, almost 60% of Malays abroad live in Singapore, but almost all of them are very well educated, according to official statistics. Not domestic helpers migrate to Singapore, but especially those people that seem to be missing in the Senai area to form an inspiring setting for high tech start-ups.

Secondly, of those Malays going abroad, well over 80% are of Chinese origin. Taking all those facts together, it is incomprehensible how the Iskandar CDP is not making any moves whatsoever towards the Chinese community, especially in Senai. Even more, education for most Chinese ethnics happens either in not-accredited private or Singaporean schools from early on, making it a dire necessity for those people to seek work abroad. All this reflects Malaysia's ethnic issues in a nutshell - and how they necessarily make an imprint on the Iskandar Malaysia development.

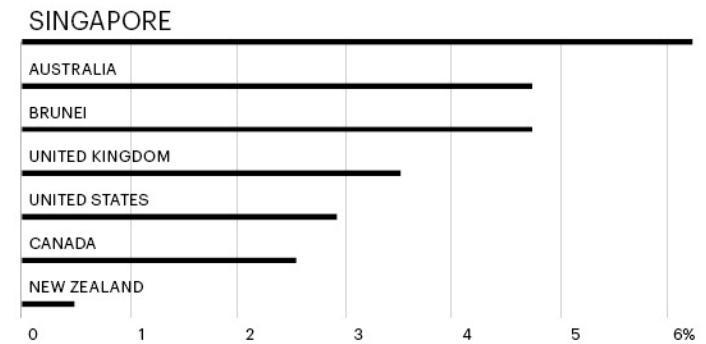


Approx. 250'000 Malays live in Singapore. That is 2.5 times the population of Senai and Pasir Gudang together.

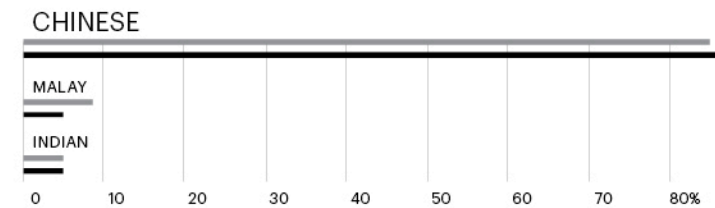
Malay Diaspora (gray) and Brain Drain (black) with Countries of Residence



Increase of Diaspora Individuals from 2000 to 2010



Ethnic Group's Share of the Diaspora (gray) and Brain Drain (black)



Johor: Hinterland vs. Capital

This territorial study of Singapore's northern hinterland comes at a particularly meaningful time as 2012 is commonly seen as a turning point for Iskandar Malaysia's feasibility in the future.

Loaded with hopes and expectations, Iskandar Malaysia has already made a firm imprint on the territory. Its new economic and administrative framework has boosted the region's development. Interestingly enough, the development plan oscillated between proposing the Southern Johor region as a global metropolis and integrating it into the region as a de facto suburb of Singapore. Thus the present ambivalent state of Johor suspended between the power centres of Kuala Lumpur and Singapore, its own state administration and the impact of multinational corporations' investments continues.

Expecting something like a production park for Sin-

gapore's over-performing high-tech manufacturing sector, Johor has presented itself as much more; a multi-layered, multi-faceted and self-contradictory territory. Seemingly, an important achievement of Iskandar Malaysia is to try to bring a direction, hope and an identity to the region. Its success in providing an alternative to Singapore will probably depend on two main factors. First, the development within the Iskandar territory has been driven so far by huge private estate companies that have no interest in creating an open, accessible city. The second aspect concerns the region's relation to Singapore. Although it is not likely for the two neighbours to get together as close and supportive partners any time soon - their cooperation and open as possible communication will probably be the second factor in sustaining Johor's success.



View of Johor Bahru from
One Raffles Place,
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