

Singapore as Model: Planning Innovations, Knowledge Experts

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Introduction

In the short 50 years as an independent city-state-nation, after separation from Malaysia in 1965, Singapore has transformed itself from a declining trading post in the twilight of the British Empire to a First World economy. It would be too easy to dismiss this economic success due to its size; an entirely urban economy without the drag of a rural hinterland of poverty. However, smallness has its disadvantages. Completely devoid of all natural resources, including land and population, it is dependent on the global market for everything – capital, labor, materials, and food – to develop its domestic economy. Opening up to the world is therefore not a choice, but a necessity. Turning this necessity into an opportunity, Singapore is ever alert and receptive to the opportunities that are thrown up by the global economy, from its very founding in the early nineteenth century as a trading post to the contemporary phase of global capitalism. Economically, the world has always been the horizon of relevance for Singapore.

Singapore's economic success is also often dismissed as on account of its authoritarian political regime. The People's Action Party (PAP), under the first Prime Minister Lee Kuan Yew, had ruthlessly suppressed dissent and opposition in the decade and a half in its ascendancy to absolute political power. By the early 1970s, the Party had eliminated all effective political opposition and has since governed as a single-party dominant state without any effective opposition in Parliament. Over the years, it has also modified electoral rules and procedures which practically insure the Party's return to power in the five-yearly general elections (Chua 2007). Empirically, such absolute authoritarian regimes have a general tendency to lead to corruption

Worlding Cities: Asian Experiments and the Art of Being Global, First Edition.

Edited by Ananya Roy and Aihwa Ong.

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and economic disasters in much of the Third World. Against this general tendency, Singapore's economic success is all the more remarkable.¹ Undoubtedly, the absence of political opposition shields the government and the civil service from public pressures. However, instead of allowing this insulation to encourage corruption, the government has been able to mold the civil service and other statutory bodies into agencies of development, to capitalize on the stability provided by the unchanging regime to set and implement long-term plans without intermittent disruptions caused by changes in government, factors that have been fundamental to Singapore's economic success.

Global City

The history of Singapore's rapid industrialization began even before it became an independent nation. Firmly believing that an independent city-state economy would not be viable, the first-generation PAP leaders were counting on the Malaysian common market for the viability of its nascent industrialization in the early 1960s. Political separation from Malaysia, in 1965, disrupted this trajectory. Apropos the cliché that, in Chinese ideograms, "crisis is also an opportunity" (危机), the potentially dire economic consequences did in fact open up new perspectives and opportunities. First, the negative economic consequences were quickly transformed discursively into the rhetoric of struggle for "survival." To survive, Singapore needs an armed force of citizen-conscripts, racial harmony must prevail, and political differences and dissensions must be kept to the minimum and under control. But above all, economic growth must be promoted at all costs, including investments in human resource and infrastructure developments, creating a business- and tax-friendly environment to encourage foreign capital investment and establishing state enterprises where private capital fears to tread. "Survival" has thus provided the discursive and governance space for an interventionist or activist state that closely regulates Singaporean everyday life as part of the necessary condition for its highly entrepreneurial pursuit of national economic development, in step with the changing shape of global capitalism.² Since then, "to survive as a nation" in every sense of the word has become the national ideology, naturalizing the historical into both a motivational and a disciplinary framework for Singapore as a nation and individual Singaporeans.

Second, the loss of the desired Malaysian market led to a spatial and geographic reorientation: the entire "world" became imaginable as Singapore's "market." This imagination was felicitously made realizable through an export-oriented industrialization made available at that time by the new international division of labor. It is now a common refrain among

ordinary Singaporeans that “the world is our hinterland.” As an independent city-state or an island-nation among a world of nations, “the world” was brought into the visual horizon of its political leadership, causing the then Minister of Foreign Affairs to declare Singapore a “global city” (Rajaratnam 1972), two decades before the concept circulated in freely in urban discourse.

Success as Identity

After five decades of independence, by all conventional measures Singapore has been economically successful beyond anyone’s imagination, including even its first generation of political leaders, who were arguably the engineers of this success. Across the entire population, everyday material life has improved massively and the educational attainment level has increased, while abject poverty and homelessness are uncommon. Amidst this, Singaporeans are also well aware of the many shortcomings of the long-governing, single-party dominant PAP government. The commonplace suggestion that they are “apathetic” to its undemocratic or anti-democratic ways is but a caricature of a people who are well informed about the excesses of the government.³ However, along with the improvements in material life, they share the idea of being part of a “successful” nation, whose history is recent enough for everyone to feel a sense of achievement. Iconic achievements such as being rated the “best” airline and airport and the busiest port in the world, secondary school students being placed well in international mathematics or physics Olympiads or robotic competitions, and international awards for urban planning and public housing development all add up, finally, to a sense of arrival at a First World economy.

“Success” has entered the process of “self-scripting” of Singapore as a nation and of individual Singaporeans; the script is an open frame, with success as the key feature. At the national level, “success” as the defining feature of Singapore has already been in play since mid-1980s, scripted into the titles of two influential books. The first was a semiofficial history of Singapore from 1959 to 1984, entitled *Singapore: struggle for success* (Drysdale 1984). The second was an edited tome of more than 1,000 pages, entitled *Management of Success: the moulding of modern Singapore* (Sandhu and Wheatley 1989), assessing comprehensively the different aspects of Singapore’s political, social, economic, and cultural developments. Reflective of the self-confidence that comes with the success, a sequel, *Management of Success: Singapore revisited*, was issued in 2010 (Chong 2010), to “critically” reassess the success story. This line of framing Singapore’s development story, arguably, reaches its peak with Lee Kuan Yew’s own memoirs, entitled *The Singapore Story: from Third World to First* (2000). Economic success has become the emblem of the nation.

Individual Singaporeans also frame their subject positions in terms of Singapore's success, apropos their social class positions. For example, in assessing their wage-earning position, working-class Singaporeans are comforted by the fact that within Southeast Asia, they are much better off than the rest. Middle-class professionals have been reluctant to take up regional postings because of the relatively "underdeveloped" conditions in these locations. In instances when they do seek employment abroad, they will actively market the fact that they are Singaporeans, carrying the label "Singapore" as a brand name that signifies success, with nationally inflected personal qualities of being hardworking, efficient, and effective; the Singapore brand undoubtedly improves their likelihood to be recruited. So too do Singaporean entrepreneurs who venture overseas carrying the Singapore "brand" with them, as a signifier of quality and reliability with financial integrity, meaning without corruption. "Success" as a source of pride has become part of the technologies of the Singaporean self and a constitutive element of the Singaporean identity.

Yet, "failure" haunts success. Fear of failure becomes a motivation for individuals to compete fiercely to maintain – better still to extend – their success. The same fear of failure keeps the government constantly in search of the next niche for development thrown up by shifts in global capitalism. Arguably, it needs to extend success for political legitimacy, as a commonplace opinion is that economic success is the bargain that has been struck between the PAP government and the citizens of Singapore. Should the economy cease to grow or, worse, regress, PAP's legitimacy of absolute dominance in political power would be severely disrupted. This may explain the PAP government's addiction to growth, to limitless accumulation of wealth in national reserves which are invested globally for further accumulation.⁴ Nevertheless, it is sufficiently confident of its path to success that the Singapore Civil Service College established, in 2003, a Civil Service College International (CSCI), as a consultancy with a mission "to share Singapore's experience in public reforms and good governance with governments around the world to promote good governance and generate goodwill and cooperation across international borders."⁵

This aspiration to share the Singapore experience may be said to have been derived from many instances in which Singaporean public policies and state entrepreneurial activities have been studied and copied by other governments. When Tony Blair was Prime Minister of the United Kingdom, he floated, as part of his "Third Way" reforms, the idea of considering Singapore's compulsory social security savings scheme, the Central Provident Fund (CPF), in lieu of a national pension, although the suggestion was subsequently dropped. In general, the CPF is a model of an individual private account pension savings system that the Bush government tried to introduce in the United States, to ameliorate the foreseeable pension fund

crisis due to extended longevity. Singapore's electronic road pricing system that taxes vehicular entry into the city has also been studied by various global cities, including London, where a version of the system is in place, and New York, where a pricing system was proposed by the mayor but defeated. Admittedly, these false starts and failures in attempts to transplant and institute the urban traffic-control system and the CPF social security system into Western liberal democracies, a very different political and social environment from that of Singapore, show that lessons from Singapore cannot be readily copied. Nevertheless, given these and many other instances, one can suggest that the aspiration of the CSCI is not misplaced. As this chapter will demonstrate, the aspiration has been matched by the expressed desires and actual practices of many cities in Asia which evoke "Singapore as Model" for their own developments.

Singapore as Model

The case of Bangalore is illustrative. According to Bangalore's urban historian Janaki Nair, the then Chief Minister, Veerendra Patil, made "a strong plea for a fresh vertical orientation for the city after a visit to Singapore in 1970 ... since then, dreams of Singapore have dominated the vision of Bangalore's future" (Nair 2005: 124), the general argument being that, "With imaginative planning and foresight, Bangalore can be developed as the Singapore of South India" (Nair 2005: 124). Nair suggests that Singapore "exerts a powerful hold on the imagination of town planner, CEO, politician, and citizen alike. The reasons are not hard to find. Singapore is an achievable ideal, a realizable utopia as the city-state shares the common legacy of colonial rule with Bangalore, is an Asian society with some common social features, and above all, has transformed its spatial and economic identity in less than 40 years" (2005: 124).

At a more expansive national level, political leaders no less than the late Deng Xiaoping, the man credited with the capitalist transformation of China, had instructed the massive Chinese state bureaucracy thus: "Singapore's social order is rather good. Its leaders exercise strict management. We should learn from their experiences, and we should do a better job than they do."⁶ This general instruction has provided an ideological umbrella for practical appropriations of lessons from Singapore in economic, political, and urban planning, management and governance at different managerial and spatial levels, scales, and sites. These range from replicating the practices of "clean and green" in the city of Dalian, examined by Lisa Hoffman in this volume, to joint ventures between Chinese municipal enterprises and Singapore state-owned companies in developing comprehensive estates where the Singapore experience, knowledge, and practice of urban

planning are directly applied, often with little modifications, as in the case of the Suchou Industrial Park⁷ near Shanghai, in 1992, or the Sino-Tianjin Eco-City project, initiated in 2008, where Singapore's planning practices are being combined experimentally with new technologies of urban sustainability. The success of Suchou Industrial Park is such that, according to the current Singapore Prime Minister, Lee Hsien Loon, during his week-long tour of inland China in September 2010, in every city, "the local Chinese government leaders want an SIP-like park of their own" (Peh 2010). At the managerial level, municipal officers from China have been arriving in Singapore, since 1992, to attend a special program, dubbed "The Mayors' Class," to learn of Singapore's experiences and practices in city government, at the Centre for Public Administration, at the Nanyang Technological University,⁸ and, finally, at the state level, there have been high-level exchanges between the PAP and the CCP in order to learn from each other (Goh 2009). The Chinese and Bangalore examples are illustrative of the fact that across Asia "Singapore as Model" for lessons of development has been deployed from the merely rhetorical to actual practices in planning and governance to the fantasized without any likelihood of realization – such as in the case of the recently independent but continually politically and economically unstable Timor Leste, at different scales in different locations.

Fragmenting Singapore into Discrete Lessons

Singapore's economic success is the result of a comprehensive package of inextricably linked ideological, political, and economic practices. There are a number of active ingredients. They include the Cold War historical context, which tolerated excesses of political repression in anti-communist authoritarian regimes around the world and thus enabled the PAP to emerge as a absolute power in a greatly modified "Westminster" parliamentary political system (Rodan 2005). The new international division of labor, that began in the early 1960s, provided the economic opportunities for Singapore, along with the other newly industrializing "Tiger" economies in East Asia, to industrialize rapidly by serving as a low labor cost production location for the global market (Rodan 1989), and, subsequently, to continually intensify capitalization of its industrial sector into ever-higher technology- and knowledge-based industries as opportunities and niches in the global economy became available, the most recent being biotechnology and pharmaceuticals. The long-governing authoritarian but financially incorrupt political leadership used its absolute power to fully own so-called natural monopolies and other major sectors of the domestic economy and, subsequently, to corporatize the successful state enterprises into publicly listed companies in

which the government continues to hold the majority shares, under its sovereign wealth funds (Low 2002; Saw and Low, 2009: 12–16, 22–6). The government used its absolute power to enact draconian compulsory land acquisition legislation (Koh 1967) that “empowers” it to nationalize land at radically increased levels of discount compared with the prevailing land prices, so as to facilitate the production of affordable public housing at the national scale (Chua 1997) and the implementation of a comprehensively planned land, air, and sea transport infrastructure network – realized incrementally over decades, within the budgetary capacity of the public coffer (Chin and Fong 2006) – and in early 1990s, the information technology infrastructure (Neo and Soh 1993), which is still continuously being enhanced, to keep pace with technological developments. Finally, all these economy-driven developments, along with the expansion of education institutions at all levels, which is essential to culturally socialize the population into an productive workforce, are wrapped around an ideology of “vulnerability” and “survival” (Chan 1971), which generates an intense mass anxiety that acts as a “galvanizing” and motivating force to compete and succeed at both the individual level and as a people, a nation. According to George Yeo, Singapore’s Minister of Foreign Affairs and current PAP ideologue, “Our success is the result of anxiety, and the anxiety is never fully assuaged by success.”⁹

Taken as a whole, this constitutes an inextricably tied network of factors, each interacting with and contributing in complex manners to the history of Singapore’s development; indeed, the multifarious ways in which these facts interact synchronously at any one time and diachronically across the past 50 years defy any linear description. Each of the factors developed historically and contingently, to cope with a given situation in which the new nation found itself, and continues to be modified to adjust to changing domestic and global economic and political conditions. The contingent character of Singapore’s success is constantly highlighted in political rhetoric. For example, when asked about the “secret” of Singapore’s success by students of the Skolkovo Moscow School of Management, Lee Kuan Yew had a single response: “Luck,” followed by “personal drive” and “sincerity of purpose.”¹⁰ By this, he is referring to the common refrain that Singapore is a country that will not have a “second chance”; that if its leaders make a single serious mistake in policy decisions, the entire nation’s economy could unravel quickly and precipitously. The contingency of success is ideologically used both to warn and to motivate Singaporeans not to take success for granted, as success gets incorporated into the Singaporean identity. Singapore and Singaporeans are to stay competitive permanently, as development is likened to an “unending marathon.”

These historically contingent developments have been drawn together by the PAP to constitute a relatively coherent national history of its success.

However, this holistic history of Singapore's economic success is not useful to others precisely because of its uniqueness, a uniqueness that might be interesting but is largely irrelevant, because it is well nigh impossible to reproduce the exact historical conditions anywhere else. Therefore, "modeling" after Singapore cannot be a process of "cloning" Singapore elsewhere. It is inevitably a process of fragmentary borrowing, mimicking, replication, and other modes of emulation, in the form of "lessons" learned from Singapore's experiences and practices.

In modeling after Singapore, the entire Singapore story is disaggregated or disassembled into a set of analytically and heuristically unrelated discrete practices, and each can be independently abstracted as a formula for "best practice" that can be dispersed across space and time in Asia and beyond. Each of these unique practices can be extracted and reassembled, singularly or in different combinations, with or without modification, in completely new contexts. Correspondingly, with confidence fueled by the very fact that it is being studied and emulated, the Singapore government and its agencies are happy to oblige. They transform home-grown contingent efforts at nation-building into abstract, technical lessons of urban economic development that can be imparted transnationally, that can be exported as urban planning expertise and management know-how, either as goodwill in the form of international aid or as profit-driven commercial consultancies, to the emerging economies of Asia and elsewhere. Together, appropriation by others and exporting by Singapore constitute a dovetailing process that realizes Singapore as Model.

The new assemblages can range, in ascending degrees of comprehensiveness, from mechanically replicating Singapore by reproducing its monuments – such as the Merlion sculpture, an icon invented by the Singapore Tourist Board to make it easier for foreign tourists to remember Singapore and, at the extreme of absurdity, a replica of the statue of Stamford Raffles, the putative founder of Singapore as a free port, with his head replaced by a bust of Beethoven – in Citra Raya, a private housing estate in Surabaya, Indonesia (Idawati 2010), through the greening of Dalian city to the construction of the Suchou Industrial Park. At the ideational level, Singapore is evoked, in ascending order of abstraction and lack of realism, for political and ideological justification for comprehensive long-term planning and implementation of urban infrastructure in the case of Bangalore, where "unlike Singapore, [the field of power is] composed of a range of forces over which the state has but a tenuous hold (Nair 2005: 124; see also Michael Goldman, this volume) to the complete fantasy of development dreaming in the case of Timor Leste, in its current state of severe political and economic instability. In these latter instances, one could say that Singapore's success is more "referred," as conceptualized by Aihwa Ong in the introduction to this volume, for a sense of "possibility" by its admirers rather than "modeled."

In either mode of evoking “Singapore as Model,” the application of bits and pieces of “lessons” from Singapore often generates unintended consequences, as analyzed in the rest of this chapter.

Industrialization and Migration

The Tiger economies, including Singapore, had entered export-oriented industrialization at a propitious time – in the 1960s – in which, to escape high labor costs at home, manufacturing enterprises from developed economies of the West and from Japan moved low-end manufacturing to low production cost, cheap labor locations abroad. Crucially, in Asia, at the time, three of the largest “reservoirs of labor” were not available for capitalist exploitation: the People’s Republic of China (PRC) was a communist state in the throes of the Cultural Revolution; India had its own form of “socialism” of state enterprises and import substitution; and Indonesia was in the middle of the political instability of the post-1965 coup and massacre and, also, by the early 1970s, had come into oil wealth. Consequently, the Tiger economies had very little competition for foreign direct investments (FDI) for two decades. Had the three large labor pools come into competition for FDI then, the achievements of the Tiger economies would undoubtedly be much less impressive than they are today. Again, the contingency of development cannot be over-emphasized.

Specific to Singapore, keeping this historical context in view reduces the claim that economic success has been due entirely to the foresights and decisions of the first-generation PAP leaders, individually or as a team. As it was, from the early 1960s, foreign capital flowed in, transforming the trading economy into low-end industrial manufacturing, quickly mopping up unemployed Singaporeans; the unemployment rate declined steadily from 8.3% in 1966 to 3.9% in the mid-1970s (Krause, Koh, and Lee-Tsao 1987: 190). By the early 1970s, there was a labor shortage and female factory workers from the immediate neighbors, Malaysia and Thailand, filled the textile and consumer electronics factories. By early 1980s, it became obvious that with its small population, Singapore could not possibly compete, in the low-wage and low-skill economic sector, with developing Asian economies with a large surplus labor force. The government radically increased wages by more than 40 percent in the mid-1980s, forcing low-end, labor-intensive manufacturing industries to either move out or invest in higher technology to reduce labor input. After the 1997 Asian Financial Crisis, Singapore intensified the shift to “knowledge-based” industries, especially in the financial sector and in the biosciences and pharmaceuticals industries. By the end of the twentieth century, the major export sectors were highly capital-intensive, technologically advanced, and knowledge-based industries – petrochemicals, pharmaceuticals,

electronics, transport and logistics, financial services, and water-management technologies – and, in 2010, Singapore emerged as the fourth financial center of the world, behind New York, London, and Hong Kong.¹¹

At every step of these economic development strategies, the entrepreneurship of the Singapore state is unmistakable. In the 1960s, a large area of coastal swamp was drained to develop the first industrial zone, the Jurong Industrial Park. In the 1970s, the waterfront district, which has always been the commercial district, was reclaimed extensively to extend the banking and financial district; the area quickly came to be known as the Golden Shoe, because of its real-estate value (Chua 1989). In the early 1990s, a set of seven small islets to the south of the main island was amalgamated by reclamation at a cost of \$4 billion, to constitute Jurong Island, to be completely dedicated to petrochemical industries; by 2003, it was producing \$22 billion of products (*Economist* 2004). Finally, the water-body at the mouth of the Singapore River has been reshaped as a bay through reclamation, with the reclaimed land being developed into a mixed-use district of offices, high-end condominiums, and arts and entertainment establishments, containing the iconic Esplanade Theatre on the Bay and the Sands casino and resort, and the shores of the bay reserved as public recreational areas – as are all coastlines on the island, except where taken up by port facilities. The Singapore River, polluted by decades of human settlement and the cottage industries on both sides of its banks, was subjected to a 10-year clean-up program and recovered to a gleaming pristine condition (Hon 1990).

All these highly valuable land reclamation projects have been financed completely by the state, without any dependency on private capital that might impede progress. Parcels of land are leased, by open tender, to carefully selected industrial players, who are often directly invited by the government, often as partners with state-linked companies. The Economic Development Board (EDB) has been the appointed agency, from the very beginning, to market these land parcels to potential multinational investors. The success of the EDB is often written up in hyperbolic language. Its former Chairman, Philip Yeo, has assumed “mythological” status for not only developing Jurong Island but also, since his appointment in 2001 as Chairman of the Agency for Science and Research (A*), for being credited with single-handedly developing the biotechnology industries; between 2000 and 2005, biomedical manufacturing sector output quadrupled from S\$6 billion to S\$23 billion, accounting for 5 percent of GDP. For his public service, Philip Yeo was decorated, in 2006, with the Order of Nila Utama (First Class), a national recognition of the highest order.

In each phase of this economic development over the past five decades, an adequate labor supply has been a constant problem. As mentioned above, by the early 1970s, barely a decade after the industrialization program had begun, there was already a shortage of labor. Since then, it has become an

endemic problem. Given the increasingly complex economy, Singapore is now in permanent competition with other developed economies for “talents.” This has spawned an aggressive immigration program to attract high-end educated labor to Singapore, euphemized as “foreign talent.”¹² Unlike the unskilled or semiskilled contract workers – domestic maids, office cleaners, waiters and waitresses, and construction, shipyard, and other heavy industrial workers – who must be repatriated by their employers when the contract ends, the “foreign talents” population can be divided into two groups. At the lower end are predominantly educated middle-class immigrants from elsewhere in Asia, currently mostly from Malaysia, India, and the PRC; they might use Singapore as a stepping stone to a third country in the West or stay and become naturalized citizens. At the high end is a “flow-through” population of the globally mobile top professionals, including research scientists, and very senior managers of multinational companies, including Singapore state enterprises. These globally mobile individuals add value to their respective local industries during their few years of sojourn, even if Singapore is unable to hold onto them permanently. For example, the short-term tenure of bioresearch scientists since 2000 has been absolutely necessary to get the biosciences industrial sector off the ground and running.

The immigration policy goes beyond simply importing ready-made talents. Education policy is also used to provide scholarships for all level of education, from secondary schools to PhD scholarships to high-potential students from all over Asia. At the secondary and undergraduate levels, the ASEAN scholarships bring in high-achieving students from the region, and provide them with free education in exchange for their staying on in Singapore for two years of employment before returning home; many of these students remain in Singapore after graduation, as employment opportunities at home are likely to be no longer commensurate with their academic qualifications. At the postgraduate level, potential PhD candidates are asked to take up citizenship as part of the scholarship, in order to study in the premiere universities of the world. The biosciences industrial sphere is being staffed significantly by such recruits. The A* scholarship has become the most coveted scholarship among local and foreign students.

The aggressiveness of the immigration program is reflected in the population figures; the Singapore population has grown by 1.5 million in a decade, reaching 5 million in the 2010 census, of which more than one third are foreigners. The ubiquity of both high-end and low-end foreign workers has given rise to public debates. Unskilled migrant workers who are able to work for low wages because all their routine maintenance costs are borne by the employers have depressed wages and share the employment opportunities of low-income Singaporeans; the ready availability of such workers is indicative of their abundance in Asia, which the government reads as a competitive

threat – thus the government has resisted the institution of a minimum wage (Abdul Rahim 2010). With regard to the “foreign talent” spectrum, the middle class, especially new entrants to the workforce, sense that they are not being trained on the job for greater responsibility and higher wages because of the readiness and ease with which companies can import employees who can take up a position immediately.

These employment-related resentments and the heavy pressure that the increased population places on public transportation, public health facilities, schools, and housing prices have roused the generally politically inactive Singaporeans to be vocal about their unhappiness. The government has responded by radically reducing the intake of permanent residents in 2010, the year it began to prepare for the 2011 general election; the intake of permanent residents dropped to less than 5 percent, from a high of more than 15 percent the previous year. Nevertheless, this is merely a slowdown, and not a shutdown, of the immigration program. Convinced that 6.5 million people are needed for sustainable economic growth, the government is determined to maintain the immigrant intake until the target population size is reached. It is prepared to face the potential political cost in its unwavering belief that the unpopularity of its decisions has always been short-lived, because they prove to be the “right” decisions in delivering economic growth, and that the current immigration policy should be no exception.¹³

In Singapore, as in other nations, the industrial and immigration policies and their implementation are decisions taken at nation-state level, beyond the powers of municipal or even provincial governments and administrations. In these macro-decisions, in Singapore as a city-state, it is the “state” that needs to be emphasized rather than the “city.” No city, as a small part of a larger province and of an even larger nation, has absolute control over its territorial boundaries and the flow of population into it, as a state does. No city is permitted to monopolize major business sectors, so as to build up a huge capital base as financial resources to develop independently its own, self-contained physical infrastructure. Nor would a city be permitted by the nation-state government to define its own population policies, which include controlling inflows and outflows of immigrants. In exercising complete control over such policies, the Singapore government is acting as a state; in this sense, we should address Singapore as an “island-nation,” with a single-tier state government that is well insulated from the conflicting pressures of multiple levels of city, province, and state governments and administrations, to avoid conceptual confusion caused by the concept of the “city-state.”

Given the absence of control, discourses and practices of modeling after Singapore by another city inevitably misrecognize the former’s success as the achievements of a “city” rather than those of a “nation.” Without the power-monopolizing capacity of the state to develop in a coordinated manner, modeling after Singapore by other cities seems, unavoidably, to

take the form of a generalized “referencing” to Singapore’s success story, while in practice only taking away fragments of the integrated developments of Singapore as an island-nation, to be “replicated” locally. This often produces untoward rather than intended desired consequences. For example, as Michael Goldman shows in this volume, the infrastructure development of Bangalore, whose mayors and urban planners are wont to cite Singapore as Model, is largely that of a single corridor strip between the city and Mysore. Furthermore, without the financial resources for even the development of this corridor, the state government only assisted in the destruction of existing settlements through enforced land acquisition, creating opportunities for private investors to speculate on transforming the acquired agricultural lands into real-estate properties for the rising middle class.

Another example is the city of Shenzhen, in Guangdong, southern China. By the late 1980s, export-oriented industrialization had become the model for other developing countries around the world; in particular, China quickly became the “factory for the world.” Cities such as Shenzhen were readily able to follow Singapore’s early strategy in developing low-cost, export-oriented industries, initially financed by foreign investment capital from the Chinese diasporas in Hong Kong and Taiwan and, subsequently, by foreign capital from beyond the ethnic connections (Ye 2010). However, after more than two decades of rapid development of low-wage manufacturing industries that supply global brands, in May 2010, workers in Shenzhen went on mass strikes to demand higher wages and better working conditions after a string of suicides among the young workers at the Taiwan-owned electronics factory, Foxconn. The success of the workers in securing a significant hike in their monthly wage encouraged similarly poorly paid industrial workers to down their tools, and walk out of the factories to demand higher wages.

Shenzhen, like many other cities elsewhere in Asia – for example, South Asian cities with low-wage textile manufacturing – is apparently unable to escape from the trap of low-wage industrialization and move up the technological ladder, as Singapore has done with relative ease. This is partly because Shenzhen draws its low-wage workers from the rural areas of the country, where the supply of rural–urban migrant workers seems inexhaustible, which enables employers to depress the wage level. Second, the migrant workers are citizens of the Chinese state, although they might not be in Shenzhen legally according to the citizen registration system, rendering it difficult for the municipal government to discipline them without the risk of intensifying social unrest. This is in diametrical contrast with Singapore, where a very significant proportion of the industrial workers are foreign migrant labor who can be augmented or repatriated according to the demands of the economy, without any domestic political repercussions. This is again a result of the absence of the power of the municipal government to control the flow of migrants into the city. The relative permanence of the

low-end migrant workers, in the face of Shenzhen's booming economy and a rising middle class, is reflected in the incident recalled by Ananya Roy in her closing chapter in this volume. During a press conference between a group of urbanists who were in Shenzhen for an international conference and a group of local reporters, an urban geographer from Singapore, Brenda Yeoh, "asked the reporters what they saw as the symbol of Shenzhen. Their answer, put forward without hesitation: the migrant worker." While, as Roy observes, this answer might have been influenced by the fact that "a few days ago *Time* magazine had named 'The Chinese Worker', specifically Shenzhen's migrant workers, as one of 2009's 4 'runners-up' for People of the Year," it is nevertheless not without empirical reality.

From Garden City to City in a Garden

An immediate impression for a first-time visitor to Singapore is its "orderliness," "efficiency," "cleanliness," and "greenness" as a city. Physically, the orderly efficiency is a result of a rigorously implemented master plan that remains largely unchanged, with periodic updating and detailing in actual developments. In early 1970s, a British colonial master plan that divided the island into urban, suburban, and rural belts was discarded. With the advice of a UN planning team, the government adopted a plan which conceptualized the entire island as one single planning and functioning entity. Initially, a "ring" of residential housing estates was to be developed around the water-catchment area of three reservoirs in the center of the island. A large area to the west was designated as the Jurong Industrial Estate, and the Changi International Airport was constructed at the eastern end of the island (Chua 1997: 27–50). Housing estates, light industrial facilities, and all the other land uses would fill up the interstitial spaces over time. An integrated road and mass rapid transit network was to eventually link all the functional districts, integrating the entire island into one functional unit. In general, this broad outline of the planned island has been maintained.¹⁴

In this total physical transformation of the city according to a single master plan, the first Prime Minister, Lee Kuan Yew, has claimed the credit for being the instigator of the idea of Singapore as a "garden city," as an environment that is conducive to attracting foreign capital and workers; an "oasis" of respite for the multinational managers who must venture regularly into the chaotic environment in the region. The prescience of this idea is attested to by the choice of Singapore as a regional headquarters for multinational enterprises. Assisted greatly by the tropical climate, in which plants grow readily, the economic motive behind the greening of the city is translated into a drive to "beautify" the city, with the National Parks Board importing flowering plants that will flourish in the local climate, from

anywhere in the world. Conservation of local plant species takes a back seat to the ornamental decoration of the island.

The greenness humanizes the city. Visually, at ground level, the canopies of leaves reduce the height of the city, veiling the monotony of the concrete high-rise public housing blocks in which 90 percent of the island's population resides, and the steel-and-glass jungle of the office buildings and shopping complexes, where air-conditioning enables long hours of work and leisure, respectively.¹⁵ Greening thus softens the harshness of the high-rise city, an unavoidable consequence of land scarcity; the trees reduce the city to a human scale. The canopies of leaves also shelter the streets from the sun, allowing the pedestrianization of the sidewalks throughout the city, in the tropical heat. Greening thus contributes greatly to the visual and livable qualities of the city – qualities increasingly recognized by cities around the world. Inspired by such recognition and, perhaps, by the intensification of “green” politics globally, in early 2000 the Urban Redevelopment Authority re-designated Singapore as a City-in-a-Garden, apparently reversing the equation between nature and the human-made environment. Alas, “nature” has not been allowed to run rampant.¹⁶ The change of slogan from “garden city” to “city in a garden” is no more than an empty gesture, with limited symbolic value.¹⁷

The systematic cultivation of a green environment integrated into a totalizing city-state plan has inspired cities in Asia and beyond to develop their own “garden city” plans. For example, Dalian, a northern Chinese city, has not only drawn on Singapore as a model to undertake “greening,” but has also adopted similar strategies in cleaning up the environment and transforming the city. According to Lisa Hoffman (this volume), “The city’s policies of cleaning up industrial pollution, moving industrial facilities from the city center, opening up the seashore for recreational uses, and increasing the per capita green space also have garnered the attention of multinational businesses.” She argues that the ability of the mayor to transform the city has been crucially supported by the central government, which declared Dalian itself as a “Model City of State Environmental Protection,” giving him the power and authority to execute a comprehensive plan – executive power equivalent to that of the state, as in Singapore.

The National Public Housing Program

On an equally ambitious scale as the greening of Singapore is the national public housing program. In 1961, the two-year-old PAP government established the Housing and Development Board (HDB), as improving housing conditions was a covenant between the new government and the newly enfranchised citizen-electorate. The HDB began with providing very basic,

one-room rental flats. However, within three years the government had instituted a home-ownership program which enables residents to own a 99-year lease on their HDB flats. In 1968, Singaporeans were allowed to use their social security savings, known as the Central Provident Fund (CPF), to purchase public housing.¹⁸ It works thus: an employee is compelled by law to save a portion of the monthly wage, with proportionate contributions from the employer, as his/her CPF; the employee buys a 99-year lease on a public housing flat, using his/her CPF for the initial down-payment and monthly mortgage; and the fund is then transferred by the CPF Board to the HDB, which holds the mortgage. The transaction cost is minimal because interest on the mortgage is set at half-a-percent higher than the interest that is paid to the CPF savings. The entire closed-circuit transaction does not involve any commercial financial institutions. By the late 1980s, 90 percent of Singaporeans and permanent residents were living in HDB flats. The remaining 10 percent has been excluded from public subsidized housing on account of their high monthly household incomes or their personal preference to live in exclusive private housing. In practice, home-ownership in Singapore is now universal except for the bottom 10 percent of the income strata, who live in small public rental flats of one or two rooms. The government continues to devise new subsidy schemes to try to transform this bottom 10 percent into homeowners, for both economic and ideological reasons.

As mentioned earlier, this “universal” provision of public housing has been made possible by the nationalization of land – with very draconian land acquisition laws, offering excessively low compensation for the landlords – from the early 1960s to the early 1990s, when the government started to pay the prevailing market value for acquired land. Fully aware that this violated the common understanding of property rights, the HDB’s official stance was, “The government saw no reason why these owners should enjoy the greatly enhanced land values over the years without any effort put in by them” (Wong and Yeh 1985: 41). It counseled the landowners to see this as their contribution to the welfare of society. One might say that public housing is Singapore’s mode of land reform and redistribution.

Compulsory acquisition of land affects more than just landlords. It always involves destruction of existing settlements and the displacement of their inhabitants. In contrast to common scenarios of displaced people being left homeless by developers or government agencies, the displacement and resettlement process in Singapore has always been handled with care. A survey of the settlement to be resettled is made to establish the number of affected households, including their business and agricultural activities, if any. No new households will be registered for resettlement after the survey. Resettlement will not begin until the replacement public housing flats for the affected households are ready. The compensation will factor in the size of

the dismantled house and every productive aspect of the dwelling; new factory premises will be rented to those with cottage industries, and shop-houses to retailers, and there will be cash compensation for animals and fruit trees owned by semirural village households. Large extended families that cannot fit into a single flat will be allocated as many flats as there are nuclear families within them. No one will be made homeless by the resettlement.

The national home-ownership program has consequences beyond the housing sphere. It contributes to transforming and disciplining the population into an industrial labor force, as the monthly mortgage payment with the CPF can be maintained only by employment that offers a regular income. Home-ownership has enabled Singaporean households to build up a valuable asset that can be sold to realize capital or rented out for a source of steady income; this is especially important for retirees, as there is no national pension for the aged. Such vested economic interests, or what the PAP called a “stake” in the country, renders Singaporeans politically conservative and in support of the status quo, the continuity of PAP rule being seen as a guarantee of the preservation of property investment (Chua 2000). Finally, home-ownership provides the PAP with a high degree of political legitimacy, which contributes to its popular vote base during general elections (Chua 1997). With universal state provision, property ownership has been “democratized,” leading the PAP government to pronounce Singapore “a home-owning democracy.”¹⁹

Housing Estate Planning and Allocation

As practically the monopoly supplier of housing to the nation, the HDB is able to develop comprehensively planned housing estates along both pragmatic and ideological lines. Each new town, optimally of 250,000 households, is planned to be self-sufficient in meeting the daily needs of the residents. A town center houses a transportation interchange for buses and mass rapid transit trains; and a shopping center, usually with a supermarket, a department store, and, often, a Cineplex as anchor tenants. All the necessities of everyday life are thus available in the town center. Primary and secondary schools are located within neighborhoods. Every ten to twelve blocks of flats shares a “neighborhood center” within a twenty minute walking distance, where a fresh produce market and a cooked-food center and lower-order goods and services, from convenience stores and hair saloons to medical clinics, can be found. The cooked-food center has become a convenient substitute for home-cooking, particularly for dual-income families without children. Land is allocated for places of worship for all the major religions. In short, there is no need for any resident to

leave the new town except to work and, occasionally, for high-value goods shopping in the city.

Many social policies are built into the planning and allocation processes of the public housing program. The blocks of rental flats that house the lowest 10 percent income households are placed alongside blocks of sold flats, without singling out and thus stigmatizing the lower-income households. The visibility of income inequalities and poverty is thus radically reduced. Pro-family social policies are built into the allocation process; for example, cash grants are given to married children who choose to live near their parents. Race relations too are managed throughout the allocation process. The quotas for different “racial” groups – *Huaren*,²⁰ Malays, and Indians – approximately proportional to their presence in the national population, are maintained at every block of flats to avoid racial territorial concentrations and the formation of enclaves, purportedly to reduce the potential of racial violence.²¹ Finally, homelessness, a visual manifestation of poverty, is a very rare sight anywhere. Whenever an instance of homelessness is reported in the media, the HDB will readily rent a flat to the family before it becomes a symbol of its failure to maintain its duty to provide for all citizens. A combination of planning and social policy has thus produced physical if not social integration of family, race, and class. The overall image of a HDB new town is one of “inclusiveness,” of multiracial integration and harmony.

This projected “inclusiveness” hides the real hardship among the poorest 10 percent of the population. The loneliness and ill health of the aged living alone, and the hunger of children with single low-income parents and in the families of the working poor, are only “visible” due to the fact that there are 1,800 voluntary welfare organizations catering to more than 100,000 families who are in need of some form of charity. They are poorly served by a very rich state, with a massive foreign reserve locked up in sovereign wealth funds, which relentlessly eschews redistributive social welfare because the government insists that redistributive welfare destroys the work ethic amongst its people. As income inequalities intensify in train with globalization (the Gini coefficient is currently around 0.52, the worst in Asia and only second to the United States in a global comparison), the position of the poor has become more desperate, forcing the government to institute some distributive schemes, including income top-ups for the very low income earners, while continuing its resistance to any system of social insurance schemes, as it points to the financial and operational difficulties of these schemes in European societies, especially the ballooning healthcare costs and the insolvency of public pension systems. The visual homogeneity of the physical environment of public housing estates thus hides the exclusion of the socially and economically disadvantaged Singaporeans who are the “collateral failures” of rapid capitalist economic development.

It should be obvious that every aspect of Singapore's national public housing program is inextricably tied to the political considerations of the single-party dominant government/state, whose longevity in holding onto parliamentary power depends crucially on its ability to improve incrementally, but continually, the living conditions, including housing, of the electorate. Ironically, in this aspect, the less than democratic single-party state appears not only more efficient but also more responsible to the basic needs of the entire population than a liberal democratic state. In Singapore, therefore, public housing is in every aspect a political good, beyond simply physical shelter.

The highly visible self-sufficient, high-density housing estates are a signal achievement of the PAP government. Every important visiting foreign head of government, from the UK's Queen Elizabeth to the late Deng Xiaoping of China, will be given a briefing about the planning process, a tour of one of the new towns, and an outing to some of the households. And the Singapore system never fails to impress. The political returns of a universal housing program are not lost on the visiting political leaders, who are all too conscious of their failures to provide universal housing for their respective populations. However, while the desire to "replicate" such a national program in their own countries is understandable, such a comprehensive national housing program has yet to be replicated anywhere in the world. As Janaki Nair writes with reference to Bangalore, "Singapore, as an ideal of city development, has thus inspired dreams of large scale infrastructural projects, rather than the more innovative public housing schemes that mobilized public (provident) funds for construction on a heroic scale" (2005: 336).

Exporting Urban Planning Expertise

However, the inability to mount a comparable national public housing program has not prevented the urban planning and implementation of high-rise housing estates from being carried out in Asian cities with rising middle classes and aspirations to be like "modern Singapore." Convinced that the Singapore urban planning guidelines and parameters "work," self-assured Singaporean government-owned and private architectural and planning consultancies have been marketing their expertise in environmental and infrastructure planning, and implementation of urban industrial parks and residential estates, to the world. In contrast to the traffic gridlocks, pollution, and generally unkempt environment of cities in developing, and even developed, nations, the orderliness, cleanliness, and efficiency of traffic movements may seem to Singaporeans and others *prima facie* evidence of Singapore's planning success. This self-confidence has been further reinforced

by the energy efficiency of compact residential developments in view of the global depletion of fossil fuels and the deteriorating physical environment due to carbon pollution. So convinced of this compact mode of development is Singapore that its theme for the 2010 Venice architectural biennale was “*1000 Singapores*,” imagining the entire world population of 6.5 billion living and working in 1,000 Singapore-size islands, as a solution to global sustainability. In the hands of the consultancies, the context and effects of the comprehensive planning of Singapore as one political, economic, and social unit are cast aside. The contextually and contingently determined urban and housing planning principles and guidelines are abstracted into formulas that can be applied transnationally everywhere, including Asia.

Two of the government-owned planning consultancy firms are notable. *Surbana*²² is a subsidiary of the Housing and Development Board, the public housing authority, and *Jurong International* is an outgrowth of the *Jurong Town Corporation*, the company that was responsible for the implementation of Singapore’s industrial estates. The metamorphosis of the functional state agencies into international infrastructure planning and engineering consultancies is obviously a result of confidence and knowledge gained in their success at home. *Jurong International* specializes in the development of industrial parks; as of 2008, it had a “project presence spanning 139 cities across 37 countries [almost exclusively in Asia, Middle East and Africa], amassing more than 1000 projects worldwide and counting.”²³ *Surbana* has projects in the following countries: the People’s Republic of China (PRC), India, Vietnam, Indonesia, Malaysia, Philippines, Qatar, the United Arab Emirates (UAE), and South Africa. It provides the entire range of urban physical development services: master planning, concept planning, infrastructural planning, architectural designs, mechanical and electrical engineering, and civil and structural engineering consultancies. The size of the projects ranges from reconceptualizing entire city districts, as in Doha, Qatar, to residential estates, and to single institutional buildings. This list of projects testifies to the recognition of Singapore’s expertise by other governments and international private corporations. In addition to consultancies, Singapore’s government-linked corporations (GLCs) have been invited to develop jointly industrial parks in different parts of Asia; such as in the Batam and Bintang Islands, Indonesia, Bangalore, and Vietnam, and the above-mentioned Souchou Industrial Park and Tianjin Eco-City in China. In all these projects, from master plans to industrial park developments, Singapore’s planning guidelines are obviously followed; anyone who is familiar with Singapore’s industrial parks and public housing estates will instantly see their replication in the Souchou Industrial Park.

Significantly, something happens in this transfer of knowledge and practice of urban planning from Singapore to other locations. In many instances, the Singapore model is evoked by private developers to rope in the government

to alienate large tracts of land, including using its power to displace existing settlements, with the promise of developing Singapore-style comprehensive developments. The private developers subsequently turn the land into speculative property developments; Michael Goldman (this volume) provides vivid examples of what he calls “speculative urbanism” at the hands of the Indian-grown multinational technology companies in Bangalore. In other instances, the acquisition of land runs into severe resistance which completely blocks the way to development. Gavin Shatkin (this volume) documents the example of the failed attempt by the West Bengal communist state government to clear local settlements of urban poor and villagers, near Kolkata, to make way, ostensibly, for an automobile factory, but with enough land in reserve for subsequent real-estate development.

Where the Singapore residential planning model has been relatively successfully adopted, as in the high-rise housing estates developed by Singaporean or local developers in China and Vietnam, or the above-mentioned specific case of Citra Raya in Surabaya, Indonesia, a socially and politically consequential irony arises: “democratization” of home-ownership through public housing in Singapore is transformed into the privileging of real-estate investment for the wealthy elsewhere. The visual “homogenization” of the everyday lives of all citizens/residents, through the physical integration of family, class, and race in housing blocks, is transformed into the visual accentuation of segregation, and exclusion of the privileged class into the planned and gated estates. Without a politically motivated national housing program that universalizes housing provision and redistributes and equalizes services for all citizens, the application of lessons from Singapore results in the construction of upper-income privileged enclaves. In its transnational travel, the housing estate planning processes that contribute to national inclusiveness and integration in Singapore are transformed, ideologically and materially, into processes of privileging the wealthy and exclusion of the rest in rapidly developing economies and societies. Ironically, an instance that recalls the humble beginnings of Singapore’s national public housing program of small rental flats – one that befits its then developing economic conditions – is registered halfway around the world from Asia, in Cingapura, a slum redevelopment project in São Paulo, Brazil, documented by Ananya Roy in her closing chapter.

Conclusion

In a short span of about 50 years, Singapore has transformed itself economically into a First World economy. This is the result of very conscious public policies that keep both local and global horizons in view. It is the result of a very active interventionist state that has implemented long-term urban development plans and a national public housing program at the center of

social policies. It is the result, also, of an economically entrepreneurial state that adopts new growth industries as quickly as it discards those that have served their usefulness, and have become a drag on the twin economic necessities of moving up the technological ladder and in intensifying capital. The interventionist and entrepreneurial state is embedded in a hegemonic single-party dominant polity which, insulated from popular political pressures, is able to implement long-term development plans while remaining agile in order to make appropriate changes when necessary. The aim, since political independence in 1965, has been to be a global city, to move from the Third World to the First. In this, the perception of others matches Singaporean self-perception and self-projection: “Singapore, a successful nation.”

Given its success, Singapore has been deemed worthy by many as a “model.” However, the ideological consensus generated by a common apprehension toward collective “survival” as an island-nation that sustains an competent, efficient, financially non-corrupt, less-than-democratic, party-state is the open secret of Singapore’s success – one that is not replicable. “Singapore as Model” cannot be and is not a desire for mimicry, for cloning. No doubt, as demonstrated above, a singular fragment – or a combination of several fragments – of the Singapore development journey and practices can be studied and assembled and inserted into new contexts, even if the results are, for various reasons, seldom without some slippage from the imagined or desired. More important, Singapore as Model is one of aspiration to a possibility, a possibility to be successful, just as Singapore has been successful. It is one of, “if Singapore can do it, so should we be able.” This, indeed, seems to be the attitude of China, which shares some common political and cultural attributes with Singapore. According to George Yeo, Singapore’s current Minister of Foreign Affairs, “from time to time, researchers and social scientists in China, they study Singapore and say, ‘Oh well, if it can work here, maybe it can work there ... their interest in the Singapore experiment is episodic. From time to time when it confronts issues and it scours the world for solutions, it looks at what Singapore does. Sometimes it likes what it sees, sometimes it does not like what it sees. And then it draws and abstracts the relevant lessons. This of course puts Singapore in a rather interesting position *vis-à-vis* China.”²⁴ One can imagine that the Minister says this with some satisfaction, because the largest nation in Asia, a rising global power, is studying the smallest one in Asia, and one that was thought, by most, unlikely to succeed.

Notes

- 1 Details of every maneuver and strategy, both political and economic, of the PAP government are readily available in the by now very extensive literature on Singapore. A list of selective references could include Chan (1971), Devan Nair (1976), Drysdale

- (1984), Rodan (1989), Sandhu and Wheatley (1989), Chua (1995), Tremewan (1994), and Mauzy and Milne (2002).
- 2 The ideology of survival is more fully developed in Chan (1971).
 - 3 For discussions of both the excesses of the government and citizens' consciousness of them, see Yao (2007).
 - 4 Significantly, in contrast to past practices of his father, who insisted on locking up all the profits from global investments in the sovereign wealth funds, the present Prime Minister, Lee Hsien Loong, has amended the constitution to have half of the annual profits, including capital gains, transferred into the annual operating budget of the government of the day.
 - 5 For more information about the CSCI, visit the Public Service Division, Singapore web site (www.psd.gov.sg/).
 - 6 See <http://www.nytimes.com/1992/08/09/weekinreview/the-world-china-sees-singapore-as-a-model-for-progress.html>
 - 7 For a detailed analysis of this industrial park, see Pereira (2003).
 - 8 According to the Centre's website, "To date [December 2009], the two programmes have benefited 765 senior and middle-ranking Chinese officials from diverse provinces and cities across China, enhancing their effectiveness as public administrators, and enabling them to apply best practices to bring about positive transformation in China. These two programmes start with improving the participants' skills and leadership ability in management, while incorporating into the curriculum the successful experiences that Singapore has in public and economic administration."
 - 9 George Yeo, cited in Kraar and Lee Kuan Yew (2010).
 - 10 See the *Straits Times*, September 20, 2010.
 - 11 See the *Straits Times*, October 21, 2010.
 - 12 For discussion on the expansion of biosciences research and enterprises in Singapore and its effects on the politics of citizenship, see Ong (2005). There was a brief discussion in Ong's essay on Johns Hopkins University's place in biosciences in Singapore. Since 2007, the provision of biosciences training has ceased due to contractual disagreements between the university and the leading Singapore government granting agency, the Agency for Scientific and Technology and Research (A*STAR). See <http://www.singstats.gov.sg/stats/themes/people/popindicators.pdf> (accessed October 14, 2008).
 - 13 This relatively open immigration policy is in radical contrast with elsewhere in Asia, which remains largely resistant to immigration because, first, underdeveloped Asian countries have a large surplus of underemployed domestic labor and, second, in developed countries such as South Korea and Japan, with a relatively homogenous society, racism and nationalism prevent them opening up to new immigrants, despite below-replacement birth rates and a rapidly ageing population.
 - 14 See the 2001 Concept Plan, Urban Redevelopment Authority, Singapore.
 - 15 When asked what the most important invention of the twentieth century is, Lee Kuan Yew answered that it is air-conditioning, because without that Singapore would be left in tropical stupor rather than achieving its current economic success; see George (2000).
 - 16 Interestingly, when the producers of the Singaporean film *Return to Pontianak* – Pontianak being both the name of a town in Indonesia and of a female Malay ghost – were looking for a location with a lush tropical green forest as the setting for

- the home of the ghost, they had to go to Johor, the southernmost province of neighboring Malaysia (Harvey 2008).
- 17 So far, the only visible act is the ongoing construction of a “temperate” botanic garden, to be housed in an air-conditioned greenhouse by the bay in the city center. Perhaps, is this a postcolonial fantasy of reversing the British practice of developing tropical plants in cold Britain?
 - 18 Space does not allow detailed discussion on the CPF scheme. Suffice it to say that for most HDB households, the deduction from the wages plus the employer’s compulsory contribution monthly for the social security savings exceeds the monthly mortgage payment needed on the flat; hence, ownership comes with no reduction in the monthly disposable income which would affect consumption in daily life. For details on the CPF, see Low and Aw (1997). What is also important is that the CPF is a source of capital for the government GIC; see Asher and Nandy (2008).
 - 19 As the monopoly supplier of housing, the government is constantly monitoring the prices of public housing properties and regularly intervenes to either stimulate the market or dampen the market as the domestic economic conditions dictate.
 - 20 “Race” rather than the less stigmatizing “ethnicity” is used here because it is the local practice. The term *Huaren* is used to designate ethnic Chinese in Singapore, so as not to confuse the national identity of PRC with the ethnic-cultural identity of Chinese Singaporeans.
 - 21 There has not been a single instance of ethnic violence in the past 40 years, but this has not stopped the government from constantly harping on about the potential for such violence in a multiracial society such as Singapore. The desire for racial harmony has become a repressive rhetoric that obstructs open discussions of historical and structural racial inequalities; see Chua (2007).
 - 22 Given the tendency of Singaporeans to create acronyms out of abbreviations, “Surbana” is likely to be the acronym of “Singapore Urban Agency.”
 - 23 See <http://www.jurong.com/presence.html> (accessed October 20, 2008).
 - 24 See <http://beyondsg.typepad.com/beyondsg/2010/07/speech-by-minister-george-yeo-chinas-reemergence-on-the-global-stage-at-the-futurechina-global-forum.html>

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The mandate of a knowledge and innovation hub extends more broadly, encouraging foreign re-search institutes and companies with major research and development activities to establish a base in a country and collaborate with foreign and local uni-versities and training companies to create a critical mass of talent and expertise, Knight says. But she points to Singapore as the furthest along in developing as a knowledge and innovation hub. Modeled on Dubai's Knowledge Village, Jeju is early in its development but reportedly plans to host up to 15 leading global universities by 2016, as well as a number of private primary and secondary schools from abroad. countries that indicated interest experts disagree on whether it will be able to maintain the momentum. Research, innovation and enterprise are cornerstones of Singapore's national strategy to develop a knowledge-based innovation-driven economy and society. Public investment in research and innovation has grown over the last 25 years. Through long-term planning and effective implementation, our investments in research, innovation and enterprise will secure our future. These will contribute significantly to our economy, and create more good jobs and opportunities for Singaporeans; improve healthcare for our population, especially our seniors; and transform our urban landscape for greater liveability and sustainability. Major Thrusts.