Making the Most of Urbanization's Potential

There are many good reasons for people to leave the country for city life ("urbanization"), as millions of Asians are doing today: job opportunities, availability of services, bright lights and excitement, or an escape from constraining social and cultural traditions in rural villages. Some people are also pushed into urbanization as they flee hunger and poverty, conflicts, natural disasters and environmental crises like desertification. There is, however, one common denominator—all these people are seeking a better life, and usually urbanization can satisfy that wish.

Interestingly, there are growing numbers of reports of the joy that young Indian girls experience when leaving the strictures of rural life—with its obligation of arranged marriages and subservience to a male-dominated traditional society—to work in a factory in the city. It may be difficult for Westerners to think of work in a factory, earning $100 a month, with the opportunity to meet both boys and girls who are not from your own village or family, as a sort of emancipation. But it certainly seems to be, even if the distant family still holds great sway.

My friend Ashok left his home in a small village in the northern Indian state of Himachal Pradesh for New Delhi for quite different reasons. He came to Delhi to earn enough money to send his two daughters to a private school because India's public education system is so lousy. He wants them to have the education that he wishes that he could have had. And so with an average income of $10 a day, he is able to support the lives of his

wife and daughters in their village. But Ashok does not want to stay in Delhi, despite all its opportunities, because he misses his family dearly. His dream is to save up enough money to buy a business or farm back in his home village.

And so it is that Asia is in the midst of the fastest tide of urbanization that the world has ever seen. Asia's urban population has jumped from 27% of the total population in 1980 to 48% in 2015, while over the same period China's urban population skyrocketed from 19% to 56%, India's increased from 23% to 33% and Indonesia's increased from 22% to 54%.[1] Despite these mind-boggling statistics, we are little more than half way through Asia's potential urbanization process. For example, Asia's urban population of 48% of total compares with 94% for Japan and 89% for Australia. According to the UN, 64% of Asia's population could live in urban areas by 2050, with urbanites accounting for 76% of total in China, 50% in India and 71% in Indonesia.

This means that Asia's transition from having 10% of its population living in urban areas to 50% (in 2025) will take only 95 years.[2] This compares with 210 years in the case of Latin America, 150 years in Europe and 105 years in North America. China made this urban transition in just 61 years! Overall, from 1980 to 2010, Asia added more than 1 billion people to its cities, with a further billion set to become city dwellers by 2040.

Asia leads the world for megacities, meaning cities with populations over 10 million. Eight of the world's ten biggest megacities are in Asia—Tokyo, Shanghai, Jakarta, Seoul, Beijing, Guangzhou, Karachi and Delhi (New York City and Mexico City are the only non-Asian cities in the top ten). But while Asia's megacities capture the headlines, most urbanites actually live in second- or third-tier cities and towns. Asia is also home to eight of the world's most densely populated cities—Mumbai, Kolkata, Karachi, Shenzhen, Seoul, Taipei, Chennai and Shanghai. Such high density makes their populations highly vulnerable to natural disasters.

While Asia's new urbanites have their personal motivations for moving to towns and cities, urbanization can bring many great benefits to the whole economy. As people move from the countryside to the city, they also usually move from a very low-productivity job on a farm to a much higher-productivity job in a factory or construction or the urban services sector. There are also many great efficiencies arising from business and life being on a much larger scale (economies of scale). And there are also economies of agglomeration to be harvested as different businesses and

workers cluster together creating networks for knowledge-sharing and cooperation, as well as boosting competition.

It is more cost effective for governments to provide public services in big cities than in villages. City governments also usually have much more resources for public services like education—for example, the quality of public education in China's cities is very much better in its cities than in the countryside. Urbanites are usually faster adopters of new technologies, in part because information technology infrastructure is better developed in cities. And most significantly, cities can also become hubs of creativity and innovation, thanks to the co-location of companies, universities, research institutes, and cultural and sporting activities, which attract creative workers and create an environment which is propitious for innovation.

Despite all these potential benefits of urbanization, Asia's model of urbanization is flawed in many respects. In China, migrants from rural areas are denied access to social services. In all emerging Asian economies, too many people leave rural poverty only to live in urban slums with poor infrastructure, while most of Asia's cities are environmental disasters. In the case of Asia's advanced countries, very few cities offer an "ecosystem" which fosters innovation-driven development. In other words, there is much that can be done by Asian governments to make the most of urbanization's potential.

INSIGHTS FROM SIR W. ARTHUR LEWIS

In 1979, Sir W. Arthur Lewis, from the small Caribbean island of St Lucia, was awarded the Nobel Prize in Economics for his simple, but profound, insights into economic transformation. Lewis paints a picture of a "dualist economy" which has an advanced capitalist sector, but also a "subsistence" non-capitalist backward sector.[3]

"Surplus labor", with very low productivity in the subsistence sector, migrates to the capitalist sector, attracted by higher wages. This enables the capitalist sector to grow, and make profits which fuel continued investment. Initially workers' wages do not increase. The demand for labor by the capitalist sector is satisfied by a continued flow of surplus labor from the subsistence sector. And economic activity and wages in the subsistence sector are not affected because the surplus labor had only very low productivity.

But comes a day, predictably, when the surplus labor becomes exhausted. Labor shortages are felt in both the capitalist and subsistence sectors. And wages begin to rise. This moment is known as the "Lewis turning point".

This is a very critical point in an economy's development process. It is the moment where businesses can no longer rely on cheap labor alone for their competitiveness. They need smart labor. Investment in human capital, technology and research become necessary to drive development forward, especially as cheap labor activities migrate to lower-cost countries. Asian countries like Japan, Hong Kong, Korea, Singapore and Taiwan navigated their Lewis turning points successfully to become high-income, knowledge-based economies, notwithstanding their current challenges. By contrast, Malaysia and Thailand have become bogged down as middle-income economies, as they have not adjusted to the challenges of this phase of their development.

Many analysts argue that China reached the Lewis turning point around 2010.[4] Certainly Chinese wages have increased dramatically, with an average annual growth rate of 15% in dollar-terms between 2000 and 2012, and with continuing increases expected through to the year 2020 at least.[5] And China has been losing investments to lower cost countries like Vietnam, Bangladesh and Cambodia. There have even been reports that some iPhones will be assembled in India, starting from 2017. China's many initiatives to climb global value chains (GVCs) which we discussed in the previous chapter are critical for enabling China to graduate successfully from its Lewis turning point. If China does not navigate this stage successfully, it could fall into a "middle-income trap" and see its development severely stunted. Indeed, as we have discussed in earlier chapters, China's reform momentum may have run out of steam, and its future progress is very much in question.

Transition through the Lewis turning point is challenging for other reasons. The current generation of rural migrants in China's factories is different from the first waves of migrants. They are better educated, more aware of their rights, and more willing to protest. So, not only have Chinese workers been demanding high wages, they have also been demanding better working conditions and the right to form trade unions. More recently, wage increases have slowed a little due to the sluggish world economy, and there have been growing numbers of factory closures, layoffs, restructurings, relocations and pay cuts. All these factors have combined to provoke a massive wave of labor unrest in China.

Labor Unrest in China

China is in the midst of a big wave of labor unrest and could well become the "epicenter of global labor unrest".[6] According to the China Labor Bulletin, a Hong Kong-based advocacy group, there were over 2700 strikes and protests in 2015, more than double the previous year.[7] Labor unrest can take many forms, such as strikes, suicide threats, holding corporate executives hostage and threatening to reveal a company's dirty laundry. Such unrest has also been facilitated by social media and grass-roots activist groups.

The main factors driving this new wave of labor unrest are unpaid wages, severance payments and other benefits like pension contributions. The fact that some local governments habitually fail to enforce labor laws doesn't help. In addition, younger workers have higher expectations and are no longer willing to tolerate the abuse and exploitation their parents had to endure. High profile industrial disasters, like the 2015 explosion at a Tianjin chemicals warehouse, are also motivating labor unrest.

In the face of this labor unrest, the Chinese government is caught between the devil and the deep-blue sea. It has been pressuring companies to pay workers unpaid salaries and other benefits. It has also been offering financial assistance to companies to retain workers. But it has also fearful of labor unrest turning against the government, in the context of more general social unrest. It has thus been clamping down aggressively on protesting workers, imprisoning activist groups and dismantling grass-roots labor rights groups. China would be one of the world's worst countries for workers, according to the International Trade Union Confederation.[8]

A recent appalling example of repression, in March 2015, was the case of a group of eight construction workers who were arrested for staging a protest over unpaid wages in the city of Langzhong in Sichuan province.[9] They were found guilty of "obstructing official business", and sentenced to six to eight months in jail, with the court holding a public sentencing to humiliate them. The employers who did not pay their wages got off scot-free.

Today's labor unrest highlights the fragile state of China's social contract. The public has accepted the Chinese Communist Party's (CCP) monopoly on political power because it had guaranteed economic growth, full employment and improved living conditions. So today's labor unrest, and social instability more generally, is spooking the CCP, as it clings to power.

The CCP has every reason to be spooked. Labor unrest could increase further in China in the coming years, as the country needs massive restructuring of its economy to return to a high-growth path. Inefficient, debt-ridden "zombie" state-owned enterprises need to be brought to heel, which will require massive layoffs (up to six million according to some estimates). As will the shift from a manufacturing-export colossus to modern service-oriented economy. Quite obviously factory workers cannot be transformed into management consultants overnight. It is not surprising that the government is now becoming cautious about the necessary restructuring of zombie companies, since it will lead to structural unemployment. At the same time, delaying these necessary reforms would also compromise further growth prospects.

How the Chinese government manages the labor unrest in the years ahead may well determine the survival of the Communist regime. Its current knee-jerk reaction toward repression is not the most effective way. It needs to let steam out of the social pressure cooker. One thing that it should certainly do is to allow workers to form free trade unions, as they provide a means of dialogue between labor and management, which could ease labor unrest. But as part of President Xi Jinping's clampdown on all voices of dissent, clandestine labor rights organizations are also suffering from renewed repression. Chinese legal trade unions must be affiliated with the official All-China Federation of Trade Unions which is merely a stooge of the Communist Party, which typically supports management over workers. The government should also bolster social security nets, rather than increasing its public security budget for even more repression.

In addition to having very poor labor rights, China's rural migrants suffer from great discrimination in their life in China's cities, through the household registration system, known as the "hukou" system in Chinese.

CHINA'S URBAN APARTHEID

When the new Communist government assumed power in 1949, after its victory in China's civil war, it decided to prevent the movement of rural citizens to the city through a household registration (hukou) system. Each Chinese citizen had either a "rural" or "urban" hukou, which was basically an internal passport system. This was a divisive system that created two classes of citizenship. Urban citizens worked in the industrial sector and had access to social welfare and full citizenship. Peasants were confined to

farms where they grew food for urban workers, but for the rest, they had to fend for themselves.

As Professor Chan Kam Wing said, "These measures effectively circumscribed the peasantry's economic, social and political opportunities and rights, creating a massive pool of super-low-cost rural labor tied to land of very little market value—essentially a de facto underclass."[10]

But when China opened up to the global economy in the 1980s and 1990s, there was a great need for low-skilled manual labor to work in factories, construction and low-end services. So the Chinese government lifted restrictions on internal migration for rural labor who then became the backbone of China's manufacturing GVCs. But these rural migrants did not become eligible for regular urban welfare benefits like access to schools, health-care, pensions or public housing.

Rural migrant labor, while living and working in the city, retained their rural hukou, and became an urban underclass, de facto foreigners in their own country. They are often referred to as China's "floating population". Even their children who were born and grew up in the city retain a rural hukou. Thus, a city's population is now divided into local and outside populations. In short, it is a system of urban, social apartheid.

China's floating population has risen exponentially since the early 1980s when it was only 20–30 million. By 2000, it was 130 million, after which it leapt to 250 million in 2014 (more than 10 million of whom are college graduates). By the year 2020, they could be close to 300 million.

This means that China's apparently impressive urbanization needs to be interpreted carefully, since the floating population makes up a growing of urban residents. While some 56% of the Chinese population may live in urban areas, only 37% do so with urban hukous (not far ahead of India's urbanization rate of 33%). China's floating population now represents some 19% of China's total population, a share that has been continuously rising. In manufacturing hubs like Shenzhen and Dongguan, rural migrants represent some 70–80% of the city's population, while about 40% of Shanghai's population are rural migrants.

Many urban, middle-class Chinese are very happy with the hukou system. They like having rural migrants to work as maids and nannies. And they appreciate having a low-cost working class to work in factories, building construction, restaurants and massage parlors. But they also object to the idea of sharing their privileged access to public social services with peasants. Indeed, according to some surveys, large numbers of China's city dwellers look down on rural migrants and would never want

to live next to them. At the same time, some rural migrants would prefer to keep their rural hukou because they fear losing the plot of land in their village.

The hukou system imposes great costs on the Chinese economy, despite the country's ambition of becoming a global economic power. It traps rural migrants in low value-added activities and near-poverty, by preventing them and their families from improving their human capital and benefiting from basic social services. The social costs are also large. Families are split up. There are some 61 million children "left-behind" in their villages, usually staying with their grandparents. They typically receive a poor education in country schools, with enormous class sizes and very few computers. There have been cases of child suicides, and reportedly widespread psychological problems.

The hukou system is also a major factor driving China's yawning inequality. And rural migrants are treated like second-class citizens, as they suffer from disenfranchisement, marginalization and vulnerability. Large numbers of rural migrants live in factory dormitories, construction sites and slum conditions in "villages-in-city". And many suffer from wage arrears and other abuses at the hands of their employers. In short, they are at the very bottom of the GVC.

Over the years, there has been talk of reform of the hukou system, but little action. Most recently, in 2014, the Chinese government announced an ambitious urbanization blueprint to increase China's urbanization rate to 60% in 2020 (from 54% in 2014), with plans to grant 100 million urban hukous to rural migrants during the period to 2020.

Priority for urban hukous will be given to those with stable work and the well-educated, only exacerbating China's inequality. Further, the government also announced a full opening for migration (with hukous) to towns and small cities, an orderly opening in medium-sized cities, while maintaining strict control in very large cities. But this is not expected to improve the lot of rural migrants, most of whom are attracted by the very large cities which offer the most job opportunities, and have by far the best infrastructure.

Overall, under these reforms the share of the floating population would only decline a couple of percentage points by 2020, and it would take three to four decades at least to fully dismantle China's hukou system, if ever. Interestingly, some argue that the government really wants to maintain the hukou system, because it also operates as a system of social control. For example, the Shanghai government has been trying to control

real estate prices by imposing restrictions on the capacity of residents without a Shanghai hukou to purchase real estate.

The cost of offering social services to rural migrants is usually cited as a reason for not reforming the hukou system, especially by local governments which would foot the bill for providing public services. But such concerns about the cost of hukou reform are totally ingenuous. The Chinese government has plenty of money for building high-speed trains, creating new institutions like the Asian Infrastructure Investment Bank, and establishing military installations in the South China Sea, but at the same time claims that it does not have enough money for the country's rural migrants.

The slow pace of hukou reform will not only pose great costs on the Chinese economy. It also runs great risks for the Communist Party. Labor and other social unrest is invariably perpetrated by rural migrants, especially the new generation of migrants which is more aware of their rights.

All things considered the hukou system is a relic from a bygone era of history, which has now gotten out of control. It should be abolished as soon as practicable to enable all Chinese citizens to make the most of urbanization's potential. Professor Chan Kam Wing has made ambitious, but realistic, proposals for gradually eliminating China's hukou problem over the period through to 2030.[11] But it does not seem that Beijing is reading them.

While the hukou system is fairly unique to China, most of Asia's emerging countries have disenfranchised underclasses who suffer from urban poverty in slums.

Urban Poverty and Slums

It should not be surprising that Asia's poverty rates are much lower in urban areas than in rural areas given the availability of employment and public services in cities and towns. Indeed, urbanization has been one of the principal drivers of economic development and poverty reduction in Asia. But urban poverty is still a major problem, especially in India and other South Asian countries.[12] And as Asia's urbanization proceeds, Asia's poverty is becoming increasingly urban in nature.

While urban poverty is in some ways similar to rural poverty, a life in urban poverty can also be fundamentally different and profoundly insidious. Very often the urban poor lack the familiar social and community networks of rural areas, they can be victims of crime and violence, exposed

to pollution, and be at a greater risk of HIV/AIDS. Slums are the urban face of poverty, and emerge when cities do not provide basic services and jobs for their citizens, and do not plan and regulate urban development.

Although we all have some sense of what a slum is, UN Habitat has come up with a helpful definition—"a slum household is a group of individuals living under the same roof in an urban area who lack one or more of the following: 1. Durable housing of a permanent nature that protects against extreme climate conditions. 2. Sufficient living space which means not more than three people sharing the same room. 3. Easy access to safe water in sufficient amounts at an affordable price. 4. Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people. 5. Security of tenure that prevents forced evictions."[13]

Asia's slum population has declined significantly as a proportion of total urban population over the past decades—from 49% of the total urban population in 1990 to 30% in 2009—in tandem with the reduction in poverty in the region.[14] But as Asia's urban population has grown, the actual number of people—over 500 million—living in slums has not declined over this 20-year period. Even in Asia's great success stories, slum population remains very high, with China's at 29% of the total urban population, and India's and Indonesia's at 29% and 23% respectively. The slum situation is horrendous in countries like Bangladesh (62%), Nepal (58%), Pakistan (47%) and the Philippines (41%). And many more live in slum-like conditions in areas which are not officially designated as slums.

Asia is increasingly suffering from an "urban divide" as the rich live in well-serviced, gated communities, while the poor live in slums or poor neighborhoods, either in the inner-city or the edge of the city. Poverty leads many Asian slum populations to settle in areas greatly exposed to natural hazards. For example, Metro Manila, one of the world's most densely populated city, with its 13 million inhabitants, is often a victim of typhoons, floods and earthquakes, with its slum population being the most affected. And fires in Manila's slums are also a regular occurrence, with a fire tearing through Navotas in early 2017, leaving 15,000 homeless.

Asia's urban divide is just one manifestation of Asia's divided societies. And the enormous disparities between in wealth, services and opportunities can be a source of social frustrations and political tensions. Fragile democracies and authoritarian regimes should beware of restive urban populations.

Asia's future is being threatened by unplanned urbanization. But there is much that governments can do to tackle these issues and make the most of urbanization's potential—rapid economic growth alone cannot solve urbanization's challenges. It is critical to provide infrastructure and public services in tandem with the growth of urban populations, an issue that we will explore in one of the following sections. Urban planning is also necessary, rather than just allowing the uncontrolled settlement of any land, irrespective of whether it is a high-risk location. And an effective system of land tenure must be established. Many slum dwellers are merely squatters with no title for the land.

But too many local governments are ineffective and/or corrupt. The building collapses and factory fires that are ever too frequent, especially in Bangladesh and India, are just one manifestation of this. Usually, as in the case of Rana Plaza, they are due to building owners flouting building, safety and fire regulations, often with the complicity of local authorities.

In the next section, we will have a look at life inside Dharavi, India's most famous slum, before digging in deeper to Asia's infrastructure deficits, focusing on Indonesia's capital of Jakarta.

DHARAVI, INDIA'S MOST FAMOUS SLUM

Asia has many large slums, like Manila's Tondo, Jakarta's Kelurahan Penjaringan, Dhaka's Korail, Karachi's Orangi Town, Baotou's Beiliang in China, Osaka's Kamagasaki, Seoul's Guryong Village and Hong Kong's rooftop slums. But Mumbai's Dharavi may be the most famous, thanks in part to the film it inspired, "Slumdog Millionaire".

Tragically, India is tainted by having the world's biggest slum population. And according to one estimate, over 60% of the population of Mumbai lives in slums. Some even refer to Mumbai as the global slum capital. And yet, it is India's capital of finance, business and cinema capital. This is India, with the best and worst of everything.

Slums, like all human settlements, are a world of the own, and a world to discover for the curious at heart, as we will see in Dharavi. Obviously, there is the squalor. And there is no shortage of that at Dharavi. Although there are no hard data, most of Dharavi's slum dwellers reportedly survive on a $1–2 a day. There are about one million people living within 1 square mile (almost 3 square kilometers), making it perhaps the most densely populated area on planet earth.

The entire residential area lacks any sort of infrastructure such as roads, public conveniences and toilets. With an average of 1 toilet per 500, most residents use alleys or the local river as a toilet, even though the river is also a source of Dharavi's fresh water. Children play in open sewers, while dead rats line the alleyways, and live ones run up and down.

The slum has severe public health problems, with a long history of epidemics and other disasters. While India's life expectancy is 67 years, the average life span in Dharavi is less than 60. Virtually all housing has been constructed illegally, and is extremely crowded and small. Up to five people sleep in each tiny bedroom.

But Dharavi is not only squalor. There are also important businesses there with leather, textiles, pottery, jewelry and steel being the most important industries, along with a large recycling business.[15] There are reportedly some 300 bakeries. And with "slum tourism" a recent fad, Dharavi is now receiving a rising number of visitors. According to one estimate, Dharavi would have a billion-dollar economy, with over 15,000 factories, which export products all over the world.

Dharavi's business is illegal, untaxed and unregulated. Needless to say, the work environment is extremely hazardous and unsafe, resulting in fatalities and disease. Toxic sludge flows down alleyways. And child labor is widespread—many of Dharavi's kids start school, but few of them finish.

Dharavi is also a hub of creativity, which was highlighted in a mobile museum, the "Design Museum Dharavi", conceived by two Amsterdam-based artists. In addition there is the Dharavi Biennale, "Alley Galli Biennale", which showcases installation and performance art. And Dharavimarket.com has been established as an ecommerce marketplace for leather product manufacturers, potters, shoe makers, jewelers and various accessory makers who want to sell their wares on domestic and international markets.

Dharavi also has a vibrant society. Since all activities involve sharing cramped spaces, life is a continuous social affair. As many urban planners say, Dharavi has a very strong sense of community, its residents seem happy, and the crime rate is very low—although one should not romanticize too much about life in Dharavi.

There are three main communities—Hindu (60%), Muslim (33%) and Christian (6%)—each living in its own district, with temples, mosques and churches. Badi Masjid, a mosque, is the slum's oldest religious structure. Dharavi residents come from all parts of India, not only the local Maharashtra state.

Dharavi has a long history.[16] The area was a mangrove swamp inhabited by Koli fishermen. Then the slum was established in 1882 during the British colonial era, and grew due to the expulsion of factories and residents in downtown Mumbai by the colonial government. Some 60% of Dharavi's families have lived in the slum for more than 60 years.

There have long been plans to redevelop Dharavi. It is located on prime building land, and would be worth millions to developers. But resistance is great from its inhabitants and activists. Offers of compensation for the locals have been inadequate. And many residents like Dharavi's very cheap and affordable housing, with rents as low as $3 a month. Mumbai is one of the world's most expensive cities. The slum is also conveniently located smack in the middle between Mumbai's two main suburban rail lines, the Western and Central Railways.

It is tempting for city governments to succumb to the temptation of such development projects. But history shows that they are invariably a heartless failure. Former slum residents usually get packed up into characterless apartment blocks. All sense of community is lost. And industries like pottery and recycling disappear.

It would be much more human to provide slum residents with adequate infrastructure, and titles to the property they occupy, and then help them clean up the slum. De-slumification might then occur naturally in tandem with economic development, and obviate the need for simply demolishing whole communities. But Indian cities are still grossly underprepared to deliver a high quality of life that is sustainable in the long term. In a recent survey, Mumbai scored an appalling 4.2 on a scale of 1–10 (New York scored 9.70), but it was still the second highest ranking of the assessed 21 Indian cities, with Chandigarh bringing up the rear with 2.[17]

Appalling infrastructure may be the bane of life in Mumbai and indeed much of "Incredible India". But when it comes to infrastructure deficits, India is far from alone in Asia. The Asian Development Bank estimates that Asia's infrastructure needs amount to $1.7 trillion a year, including the effect of climate change mitigation and adaptation costs, if the region is to maintain growth momentum.[18] And with Asia's urban population growing rapidly, an ever-increasing share of these infrastructure needs is to be found in urban centers. And yet, ironically, Asian cities like Hong Kong, Singapore, Tokyo and Seoul have some of the world's best infrastructure, something that make visitors from Australia and North America feel rightly jealous. This is yet another manifestation of the "Asian divide".

In the following section, we look at Indonesia's infrastructure crisis which is also inhibiting poverty reduction and economic growth, and is breeding dangerous slums in its major cities.

INDONESIA'S INFRASTRUCTURE CRISIS

Jakarta and other Indonesian cities are feeling the pinch of the nation's infrastructure crisis at many different points. Indeed, under-investment in the nation's infrastructure, chiefly transportation, would have lopped more than one percentage point a year off Indonesia's potential economic growth over the past decade, thereby robbing the country of further poverty reduction and prosperity growth.[19]

Although traffic is notoriously bad in many Asian cities, Indonesia's capital city of Jakarta's traffic is regularly rated as among very worst traffic in the world.[20] Other Indonesian transportation infrastructure is also totally inadequate, notably rail networks, seaports and airports. This is of course a great inconvenience to Indonesian citizens. But it also has severe adverse effects on domestic business and foreign investment. Indeed, Indonesia's logistics costs, at around 24% of GDP, are very much higher than neighbors like Malaysia and Thailand.[21] A telling example of Indonesia's logistics problems is that it is cheaper to import oranges from China than from the Indonesian island of Kalimantan.

The 34 million Indonesians who still live in urban slums also suffer from an acute infrastructure deficit,[22] especially for things like water, sanitation, electricity and Internet access.[23] Some 80% of Indonesians lack access to piped water, and 98% of the population doesn't have access to sewerage systems. This means that, taking account of all the population's deprivations, Indonesia's poverty would be higher than based on income measures of poverty.

Many Indonesian regions suffer electricity blackouts and brownouts, with power demand outstripping supply. Indonesia may be on the brink of a power crisis, despite the country's abundance of energy resources. Some 47% of the country's primary schools lack access to electricity, effectively excluding their students from e-learning. Indonesia has only around 1.2 fixed broadband connections per 100 persons, as compared with 8.4 in Malaysia and 5.0 in Vietnam.

How did Indonesia get into its infrastructure crisis? Indonesia's infrastructure investment collapsed during the 1997/1998 Asian financial crisis, and has not fully recovered since. Infrastructure spending averaged

less than 2–3% of GDP over the 2000–2014 period, compared with 6% during Soeharto era before the financial crisis. In sharp contrast, China and Indonesia's neighbors have been investing 7% or more of GDP in infrastructure.

There are several factors which have kept infrastructure spending low, notably low and falling government revenues, heavy public spending on subsidies and entitlements, and a 3% cap on the budget deficit, which has limited government financing for infrastructure. It is also the product of ineffectual government under the previous President, Susilo Bambang Yudhoyono, who did not manage to get many projects got off the ground. In short, Indonesia's infrastructure spending is way below the level that is needed to cope with continuing rapid urbanization.[24] It is also below the level need to sustain a respectable economic growth rate of 6–7% of GDP.

The present government of President Joko Widodo has made infrastructure investment one of its highest priorities, while the new Indonesian National Medium Term Development Plan (2015–2019) devotes significant attention to infrastructure. And there has been an acceleration in the launch of projects. However, despite these good intentions, Indonesia faces many challenges in addressing its infrastructure crisis, which will take many years, if not decades, to solve. The government doesn't have the wherewithal to finance the country's infrastructure needs. And not even the finances of the World Bank, Asian Development Bank or the much-publicized Asian Infrastructure Investment Bank would be sufficient. Although there is much talk about the potential of public–private partnerships, the best thing that Indonesia could do is to make better efforts at improving tax collection and tackle the widespread tax cheating of the country's elites.[25]

But despite the urgency of the situation, the government bureaucracy has been slow to move into action, in part due to weaknesses of institutional capacity. Inefficient state-owned enterprises dominate the infrastructure scene. And to attract private sector interest requires a robust pipeline of bankable projects. But Indonesia suffers from issues of project preparation quality, regulatory clarity, legal certainty and corruption. One of the biggest bottlenecks is land acquisition as local people refuse to sell their land or only do so at very high prices.

For Indonesia to make the most of its rapid urbanization, it needs to make very much more serious efforts to improve the state of its urban infrastructure. Otherwise, urbanization will lead to growing urban poverty, squalor and slums, with even greater risk of social instability, crime

and violence. Too many Asian cities are also becoming environmental disasters.

ASIA'S URBAN ENVIRONMENTAL DISASTER

A few years back, the Asian Development Bank bravely made a case for "green urbanization" in Asia.[26] And there certainly are some reasons why urbanization can be good for the environment. Urbanization brings higher productivity thanks to economies of scale and agglomeration, thereby reducing the economy's ecological footprint. As development proceeds, lower-pollution services take over from manufacturing as key driver of the economy. And compact urban-living reduces energy consumption, a major source of pollution.

Environmental-friendly infrastructure and public services are more affordable for urban governments, than in dispersed rural communities. Experience also shows that urbanization can foster innovation, including for green technologies. And as urbanization drives economic development, emerging middle-class populations will pressure governments, even in authoritarian China, to manage the environment better. Middle-class families are very rightly worried about the health of their children.

Many economists believe there to be an "environmental Kuznets' curve" (the original curve by economist Simon Kuznets pertained to inequality). This means that while the early stages of economic development see a deterioration in the urban environment, over time, urbanization and development become positive forces for the environment.

When you visit cities like Singapore and Tokyo, it is easy to be convinced of an environmental Kuznets' curve operating in Asia. But most Asian countries are not at all in this situation. Urbanization and development are creating great stresses for the environment, and vulnerabilities to climate change and natural disasters are only getting worse. Indeed, much of Asia is still very much on the bad side of the Kuznets' curve. And it will take very many years, if ever, for most Asian cities to see the good side of the Kuznets' curve.

Most Asian cities now have simply terrible pollution problems. As Asia's rural residents rush to live in cities, they buy cheap cars, take high-polluting public transport and work in dirty factories. Traffic-related congestion costs in Asia are estimated to amount to 5% of GDP. Many Asians still cook their food and heat their habitations with small fires, the major source of air pollution. And if they have access to electricity, it comes from

small-scale diesel electricity generators or coal plants. And the weak, incompetent and often corrupt governments who allow more than 500 million Asians to keep living in slums contribute to pollution by not providing clean toilets, and leaving trash to rot, rather than collecting it.

It is not surprising that the environment of most Asian cities is simply appalling and even life-threatening for many. Out of the world's 3.3 million premature deaths due to air pollution, 1.4 million occur in China, followed by India with 645,000 and Pakistan with 110,000. By 2050, there could be 6.6 million such premature deaths every year worldwide.[27] Asia tops the world when it comes to all the indicators of polluted cities. According to the World Health Organization (WHO), some 62 Asian cities figure in the list of the world's 100 most polluted cities by "particulate matter concentration", with the top ten including Delhi, Patna, Gwalior, Raipur, Ahmedabad and Lucknow from India; and Karachi, Peshawar and Rawalpindi from Pakistan.[28]

On an average day, the residents of Delhi breathe air fouled by fine particles at a concentration of 153 μg/m³. This has damaged the lung function of half the city's 4.4 million children so severely that they will never fully recover. Delhi's score is close to three times the Beijing mean and 15 times the WHO guideline of 10 μg/m³. Beijing, with its notorious air quality, only ranks 76th on the world list. China's air pollution may seem not so bad compared with other countries because some Chinese cities allegedly manipulate air pollution data to comply with the air quality standards.

But this WHO index only measures one of the many forms of pollution. There are many other Asian cities which suffer from other forms of pollution. In Linfen, China, the air is constantly soiled with burning coal. Also in China, a lot of lead ends up in the soil and water in Tianying, and ultimately in the bloodstream of children, because of a lack of regulation of lead production in China. In Sukinda, India, studies show that the drinking water includes more than double the international standard of Hexavalent Chromium. And in Vapi, India, groundwater has been found to contain mercury levels almost 100 times higher than the WHO's recommended amount.

Climate change is another factor adversely affecting urban life. Indeed, Asia has some 15 of the world's top 20 cities ranked in terms of population exposed to coastal flooding for the period 2010/2070, due to the effects of both climate change and socio-economic change.[29] And it is the urban poor who face the greatest risk from such natural disasters because they

tend to live in areas which are most prone to disasters, and have the least assets for protecting themselves. The cities are Kolkata, Mumbai, Dhaka, Guangzhou, Ho Chi Minh City, Shanghai, Bangkok, Yangon, Haiphong, Tianjin, Khulna, Ningbo, Chittagong, Tokyo and Jakarta. In terms of numbers, over 300 million Asian urbanites were at risk of coastal flooding in 2010, a figure which could rise to 410 million by 2025.[30] In 2010, about 250 million people were vulnerable to inland flooding, which could also rise to about 350 million by 2025.

The prospects for climate change, and thus Asia's urban environment, have only become worse since the election of US President Donald Trump. He has withdrawn the US from the Paris Climate Change Agreement, rolled back Obama-era clean energy regulations, proposed slashing the budget of the US Environmental Protection Agency (EPA) and appointed as EPA Administrator Scott Pruitt, who is a staunch opponent of the work of the Agency.

While many Asian cities will be adversely affected by global warming, they are also part of the problem in that they emit a disproportionate amount of greenhouse gases due to the concentration of economic activities in urban areas. But there is also much that Asian governments could do to turn around their urban environmental disaster, and make the most of urbanization's potential for Asia's development.

Since energy consumption is one of the biggest sources of pollution, it is critical to improve energy efficiency by eliminating energy subsidies, taxing pollution using the polluter-pays principle, promoting the use of renewable energy and smart electricity grids. And environmental regulations and standards should be elaborated and above all enforced. Slum conditions can be improved by providing basic services, and granting land titles to slum dwellers. And rather than passively letting urbanization happen, governments should create satellite cities linked by high-speed public transport, and incorporate environmental priorities into city planning.

Given the exposure of Asian cities to the adverse effects of climate change, they also have a stake in working toward solutions. This means implementing carbon taxes and/or cap-and-trade schemes and implementing the Paris Agreement on Climate Change. Already, three of the world's top five carbon-emitting nations are in Asia, viz., China, India and Japan. And looking ahead, Asian cities are poised to contribute more than half the rise in global greenhouse gas emissions over the next 20 years, if no action is taken. Urban infrastructure will also need to be able to cope with Asia's increasingly frequent natural disasters, notably by building in

safe areas, investing in drainage infrastructure and climate forecasting technology, and improving housing affordability for the poor.

With Asia's continuing rapid development, its environmental challenges and vulnerability to climate change and natural disasters will only get worse, in the absence of decisive action. Indeed, GVCs in Southeast Asia are likely to experience significant falls in productivity over the next 30 years due to rising temperatures and extreme heat stress impacting labor forces.[31]

As a late-comer to urbanization, Asia has much to learn from other countries' experiences and mistakes. With political will and leadership, it could solve Asia's urban environmental disaster. Most regrettably, however, except for a few cases, Asia's urban environmental crisis seems to be getting only worse, not better. Another area where Asian governments could do a lot better is in providing ecosystems that foster innovative cities.

Urbanization and Asia's Innovation Imperative

Economies like Singapore, Hong Kong, Japan, Korea and Taiwan have long reached the point where innovation should be a principal motor of economic growth. They have passed through the "copycat" stage of development, where much progress up the development ladder can be made by absorbing technology, knowledge and lessons from more advanced countries. And now that China has passed the Lewis turning point, it must also focus more on the innovation imperative.

Urbanization is key to innovation—meaning "new" or "significantly improved" products, processes, marketing or organizations—because cities are the human hubs where most innovation takes place. More than 80% of the populations of these five Asian economies now live in urban centers.

How can we ignite the innovation genie? Innovation analysts highlight the necessity of developing an "ecosystem" that fosters innovation. There is not one magic bullet. The OECD emphasizes things like knowledge and skills to generate new ideas and technologies, bring them to the market and implement them in the workplace; an open and competitive business environment; public investment in research; government incentives for business investment; and open access and participation in the digital economy.[32]

A Melbourne-based organization "2thinknow" has a different approach, as it emphasizes three preconditions for innovation, namely cultural assets, human infrastructure and networked markets.[33] Cultural assets include

arts, culture, sports, music, environment, parks and spaces—they inspire new ideas. Human infrastructure means universities and businesses which help with the development of ideas. And networked markets through physical trade or digital communication enable the sharing of ideas with the rest of the world.

Our take is that a melting pot of artists, academics and investors, men and women, young and old and of different ethnic and cultural backgrounds, provides a potent force for generating and realizing new ideas. It also helps if there is an environment which tolerates or even encourages differences, rather than conformity, promotes risk taking and does not instantly punish making mistakes.

How do Asia's leading cities stack up in terms of the innovation imperative? This is an impossible question to answer accurately and thoroughly. But let's have a look at a few indicators.

Universities are key for innovation. They produce our brightest minds, they are the cradle of much fundamental research, and many of the best ones work in partnership both with the business sector and internationally. Asian cities have some excellent universities, and they are certainly getting better. But overall they are not yet in the same league as Western universities like Oxford University, California Institute of Technology, Stanford University, University of Cambridge, Massachusetts Institute of Technology and Harvard University.[34]

According to the Times Higher Education, the highest ranked Asian university in 2016–2017 is National University of Singapore which comes in 24th. Other Asian universities drift off further down the top 100 list, namely Peking University, 29th; Tsinghua University, 35th; University of Tokyo, 39th; University of Hong Kong, 43rd; Hong Kong University of Science and Technology, 49th; Nanyang Technological University, 54th; Seoul National University, 72nd; Chinese University of Hong Kong, 76th; Korean Advanced Institute of Science and Technology, 89th; and Kyoto University, 91st.

And only seven Asian "think tanks" have been rated in the top 50 of Think Tanks Worldwide.[35] These are Japan Institute of International Affairs, Asian Development Bank Institute, China Institutes of Contemporary International Relations, Chinese Academy of Social Sciences, Korea Institute for International Economic Policy, China Institute of International Studies and Korea Development Institute.

The livability of our cities is key to attracting the "creative class", including from overseas, who typically drive the innovation process. So

how "livable" are Asian cities? Singapore is the most livable Asian city, based on Mercer's assessment of the political, economic, socio-cultural and natural environment, education, health and other public services.[36] But it only ranks 26th in the world, well behind many cities from Europe, Canada and Australasia, though ahead of 28th placed San Francisco, America's highest ranked city. You then have to slide further down the list to 44th place to find Tokyo, which is followed by Kobe (46th), Yokohama (49th), Osaka (58th), Nagoya (62nd), Hong Kong (70th), Seoul (73rd), Taipei (84th), Kuala Lumpur (86th), Busan (91st) and Taichung (100th). The highest ranked Chinese city is Shanghai at 101st, the top Indian city is Hyderabad at 139th, while Manila and Jakarta make it at 136th and 142nd respectively!

The low ranking for the livability of many Asian cities is hardly surprising in light of the horrendous pollution, the congestion and insecurity that many have, not to mention their restrictions on social and political freedom. And as my friend Asit Biswas has argued, the truly great cities have a soul.[37] This is where high-tech, squeaky-clean cities like Singapore or Korea's Songdo miss the boat. And this is why we love San Francisco and New Orleans.

An open competitive economy is also crucial for fostering innovation. And Asia's leading economies are doing pretty well on that score, according to the World Economic Forum's Global Competitiveness Index.[38] Singapore (2nd), Japan (8th), Hong Kong (9th) and Taiwan (14th) all rank in the world's top 20 nations. Just a bit further down the list are Malaysia (25th), Korea (26th), China (28th), Thailand (34th) and India (39th).

An open society and political system are crucial for the innovation imperative. Innovators need to be able to think the unthinkable, say the unsayable and do the undoable. Japan and Korea are regarded as free and open societies by most observers like Freedom House, even if there has been backsliding under the regimes of Japan's Prime Minister Shinzo Abe, and Korea's former President Park Geun-hye.[39] Taiwan also has an open and free society, and a vibrant democracy, but the island's freedom is constantly and increasingly undermined by interference from Beijing.

The situation is much less promising in Asia's innovation-oriented economies. Freedom House ranks Hong Kong as only "partly free", with things only getting worse due to recent restrictions on freedom of the press and freedom of assembly due to Beijing's nefarious influence over Hong Kong. Singapore is "partly free" case with the "soft authoritarian"

regime maintaining restrictions over freedom of speech, Internet and assembly. Such freedoms are very much worse in the "unfree China", and have only been deteriorating under the leadership of President Xi Jinping.

All things considered, Asian cities and countries are laggards in the global innovation race. Only seven Asian cities make it into the world's top 50 as estimated by the "global innovation agency", 2thinknow.[40] These cities are Tokyo, Singapore, Seoul, Beijing, Shanghai, Hong Kong and Osaka.

Over the years, there has been much analysis and speculation on the limitations of the Asian model, a few of which we will conclude with here.

Widespread government controls and regulations in many Asian societies stifle freedom of thought and action. Economies are dominated by established big business with collusive links to government, which protects their dominant positions. Most small and medium enterprises tend to be subcontractors for large enterprises, rather than startups and independent drivers of innovation. And financial systems are dominated by banks which service mainly large enterprises—risk capital for innovative startups is all too scarce.

Education systems tend to emphasize rote learning and memorization rather than critical thinking. All too often academics are locked away in prestigious ivory towers, rather than working in partnership with business. Societies are usually male-dominated, hierarchical, conservative and conformist, rather than risk taking. And migrants tend to be marginalized, rather than providing the power of diversity. This means that innovation in Asia rarely involves disruptive, major breakthroughs, and tends to be "incremental innovation" which adapts and perfects innovations coming from elsewhere.

Most Asian governments are very conscious of their innovation imperative. Some even speak of the desire to create a new Steve Jobs or Bill Gates. But they are also uncomfortable with the free and open societies which provide the fertile soil that allowed such innovation leaders to flourish. Success stories like Chinese artist Ai Weiwei, SoftBank's Masayoshi Son or even Grameen Bank's Muhammad Yunus are too often seen as threats rather than social assets. As the old saying goes, if you want to make an omelet, you have to break some eggs. In this context, many Asian countries need to take new approaches in governing their urban economies and societies, if they are to make the most of urbanization's potential for innovation.

Asia's Best City: Singapore Versus Hong Kong

As Asia's leaders in terms of GDP per capita, and the region's only truly cosmopolitan cities, Singapore and Hong Kong have long vied for the crown of Asia's best city. But Singapore has crept well ahead of Hong Kong, a trend that is bound to continue, in light of China's persistent interference and mismanagement of Hong Kong.

However you measure it, Singapore has an edge on Hong Kong. Its GDP per capita is higher, despite Hong Kong having a locational advantage, sitting right next to fast-growing China. The Lion City is also ahead of Hong Kong when it comes to education, according to the OECD. Singapore is an easier place to do business, reports the World Bank, and is also ahead of Hong Kong in terms of competitiveness, with the World Economic Forum noting that "The challenge for Hong Kong is to evolve from one of the world's foremost financial hubs to become an innovative powerhouse". Innovation is one of the weakest aspects of Hong Kong's performance and the business community consistently cites the capacity to innovate as their biggest concern. Most other analyses of innovation capacity also put Singapore ahead of Hong Kong.

When it comes to the quality of governance, Singapore again maintains its edge in Transparency International's Corruption Perceptions Index, and the World Justice Project's rule of law index. And Hong Kong topped the list of 23 advanced countries in the Economist "crony-capitalism index". In other words, it has the worst cronyism of all the economies surveyed, while Singapore is further down the list at 5th. Despite Hong Kong's free market pretensions, its domestic economy is in reality dominated by cartels, monopolies and oligopolies. The tycoons control everything from supermarkets to drugstores, electricity supply to ports and buses, and construction. This pushes prices up and quality down, and results in low environmental standards. In other words, Hong Kong politicians and businessmen have their hands deep in each other's pockets.

The social and political context in Hong Kong has been changing dramatically, in response to two main factors. Student-led protests, under the banners of "Occupy Central" and the "Umbrella Movement", seeking greater social justice and democracy have unsettled both Beijing's and Hong Kong's leaders. Beijing has been more openly asserting its influence over Hong Kong, often in defiance of Hong Kong's constitution, the "Basic Law", since Xi Jinping has been China's President.

There are very many examples of Beijing's interference. Academic freedom and university autonomy are now increasingly compromised in Hong Kong. Publishers of books critical of Beijing have been abducted to the mainland. In a speech on the occasion of the twentieth anniversary of the handover of Hong Kong to China, Chinese President Xi Jinping made clear that Beijing is the boss of Hong Kong. Xi warned that "any attempt to endanger China's sovereignty and security, challenge the power of the central government" or to "use Hong Kong to carry out infiltration and sabotage against the mainland is an act that crosses the red line and is absolutely impermissible."

In sum, Hong Kong's fading freedom, together with China's growing interference and mismanagement of Hong Kong, is gradually undermining the island's uniqueness relative to other Chinese cities, and especially relative to Singapore.

Nevertheless, citizens from both Singapore and Hong Kong have many reasons to be cheerful. Their economies are very prosperous, and well-managed, and their societies are among the safest in the world. And while both can pride themselves as gastronomic hubs, Hong Kong wins hands down, with 6 Michelin three-starred restaurants, whereas Singapore only has one!

But citizens from both also have reasons to be frustrated. The gap between rich and poor is enormous, with Hong Kong having the highest inequality in the advanced world, just ahead of Singapore. Beyond the manifest glitz and bling of both cities, lurks poverty for too many citizens, as well as slave-like conditions for the low-skilled migrants who keep these economies ticking over. And Singapore is the world's most expensive city, with Hong Kong just a sliver behind at number two, according to one survey.[41]

All things considered, it is thus not surprising that Singapore should score much better than Hong Kong on international league tables like the World Happiness Report,[42] where Singapore ranks a respectable 26th, while Hong Kong is languishing at 71st out of the 155 countries covered.

Another report, by Civic Exchange, a Hong Kong-based think tank, suggests that Hong Kongers are miserable compared with residents from Singapore and Shanghai.[43] Some two-thirds of Hong Kongers believe that their city has become a worse or much worse place in which to live since they started living there, and that it is not a good place to raise children. Only about one-tenth of Shanghai and Singapore residents

have the same feelings about their cities. And it's young Hong Kongers who are most likely to say that their city has become worse, with 79% in the 18–29 age cohort saying so. Hong Kongers' main concerns are housing, quality of government, education and environmental protection.

What future for Asia's leading cities? As Hong Kong is increasingly swallowed up into China's world, its competitive edge vis-à-vis cities like Shanghai, in terms of rule of law, freedom of the press and good governance, will gradually diminish. It will continue to play an important role, but one that is less unique than in the past. Hong Kong is now little more than a Chinese economic dependency, reliant on China for its commerce and tourists, with very little economic independence. And political tensions will continue to rise, as Hong Kong's youth population become even more frustrated with Beijing's influence over Hong Kong, and push for greater freedom and even independence.

Singapore is a very different case. The government is resolutely committed to managing the economy as best it can, in Singapore's interest, and promoting a Singaporean identity. It maintains very good relations with both the US and China, and is able to balance relations with these super-powers, and remain staunchly independent. Singapore also has a unique broader Asian role, with excellent links, not only with China but also with Southeast Asia and India. As a Singapore-based journalist once said to me: "Singapore is the only truly Asian city in the region. All the other big Asian cities are more national in focus."

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GVCs and urbanization have provided immense opportunities for Asian economies and their citizens. But as we discuss in the next chapter, too many Asians are prevented from accessing opportunity because of discrimination, prejudice and persecution.

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