Issue 01/16

SUARA INNOVASI

An Innovative City is a Sustainable City

KLCSI
KUALA LUMPUR CENTRE FOR SUSTAINABLE INNOVATION

What makes a city sustainable

Living labs - making changes in real time

How a river is changing Kuala Lumpur

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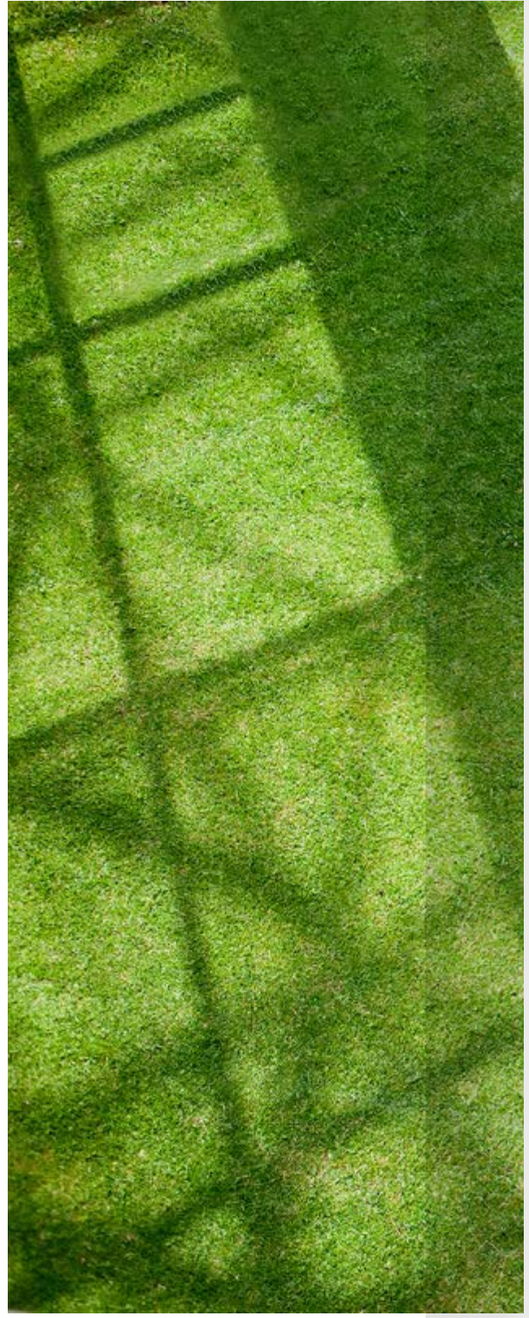

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Foreword

Dr Thomas S.K. Tang
Managing Director, ***KLCSI***

Welcome to the inaugural edition of '***Suara Innovasi***' or the voice of innovation.

We cordially invite you to join us on our journey towards improving the liveability of Kuala Lumpur through the efforts of the Kuala Lumpur Centre for Sustainable Innovation or **KLCSI**. The Centre is a joint venture between **AECOM** and Yayasan Wilayah Perseketuan, a private company and a government agency who both share the common goal of making sustainability happen using innovative and creative means. The concept of sustainability is not new, but here at the Centre we are adopting the living laboratory concept for the city, which makes this approach distinct.

In this edition, we share with you the views of the private sector, the public sector and academia on what sustainability means for KL city. In our lead article we show how other cities around the world have responded to this challenge. We further feature one of the projects that is literally changing the face of the city, the 'River of Life'. Lastly we introduce you to 'Eco-Rollability', 'Eco-Homes for the Aged' and 'Managing Our Resources to Help Nature Manage her Resources'; initiatives designed to influence public behavior and ideas about the future.

'***Suara innovasi***' is an intended play on words. We truly hope that in reading this edition you will listen to our 'voice' and act now to make our city liveable and great.

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WHAT MAKES A SUSTAINABLE CITY?

In his inspirational book 'Triumph of the City', the economist Edward Glaeser explains that 'cities have survived the tumultuous end of the industrial age and are now wealthier, healthier and more alluring than ever'. Written almost a decade ago, this line remains unchanged as cities seem to be as prosperous and dominant as ever in modern society. But is this sustainable? In this sense, how do we define sustainable cities? Are they cities that withstand the tests of time against economic and social challenges? Or is it because they are resilient to the ravages of disease and disaster? Or should the true test be the ability to grow painlessly while withstanding the pressures on the environment and quality of life?

THE FACT IS -
CITIES ARE POPULAR

People much prefer city life where opportunities abound allowing them to abandon the rural landscape in pursuit of more rewarding jobs and lifestyles. Technology, science and productivity all play a role in specialization and division of labor, allowing people this freedom of choice. In 1900, the urban share of the world's population was 13 percent, and rose to 29 and 50 percent in 1990 and 2007 respectively. Today, the developed world has a proportion of 75 percent urbanization, compared to the developing world's share of 44 percent. By 2030, projections show that the world is expected to reach a 60:40 split between urban and rural populations. This suggests that cities are only going to get bigger over time.

As cities grow, it is evident that many challenges lie ahead for planners, architects, engineers and other expert professionals to come up with new ways to serve densely concentrated populations efficiently and effectively. Given comparable income and lifestyles, residents of cities are more efficient than their rural cousins due to economies of scale. They actually use far less energy per head than equivalent communities living in single family houses commonly found in rural neighborhoods. Not only are the benefits shared in terms of energy but city residents also share common walls, floors and ceilings with their neighbors, which means less materials required to build structures. But even with these savings, as more people migrate to cities, the demand for more buildings and infrastructure is relentless. Asia, the world's fastest growing economy, is reputed to need over US$3 trillion worth of infrastructure in the next decade.

Hardware alone, however, is not the panacea to solve future problems for cities. Liveability is as much a key aspiration as is the city's desire to achieve its economic, environmental and social goals. The intense pressures of living in cities can inflict sizeable gashes on the social fabric of a city's population. Coping with these challenges is sometimes not as straightforward as building more infrastructure. Even in modern cities, disenfranchised citizens end up engaging in anti-social and damaging activities when the malaise goes beyond demands for jobs and homes into socio-politics and uneven distribution of wealth. Liveable cities hence need to offer intangible prospects of betterment such as public security, good schools, livable conditions, sound healthcare, space for leisure and play and cultural hubs that reflect the vibrancy and diversity of a city's people. Access to clean air, fresh water and healthy family-focused lifestyles is a further imperative. Importantly, these benefits must be distributed equitably across all strata of society so that everyone can enjoy a reasonable quality of life while savouring the richness of a city's inner soul.

THERE HAVE BEEN MANY ATTEMPTS TO RATE THE SUSTAINABILITY OF CITIES

For example, the SustainLane US City Rankings is a peer-reviewed national survey that ranks the most populous US cities in terms of their sustainability practices. In the UK, Forum for the Future uses a sustainable cities index of 13 indicators ranking the largest 20 British cities. One of the two best known global indices, the Green City Index was developed by the Economist Intelligence Unit to span the globe and identify cities that have made significant progress in environmental performance and climate change resilience. Kuala Lumpur is ranked mid-table in the list of Asian cities in the latest report. The other notable index is run by the Carbon Disclosure Project, or CDP, which lists over 150 cities and their respective carbon emissions and goes on to outline the corresponding economic threats and opportunities presented by climate change.

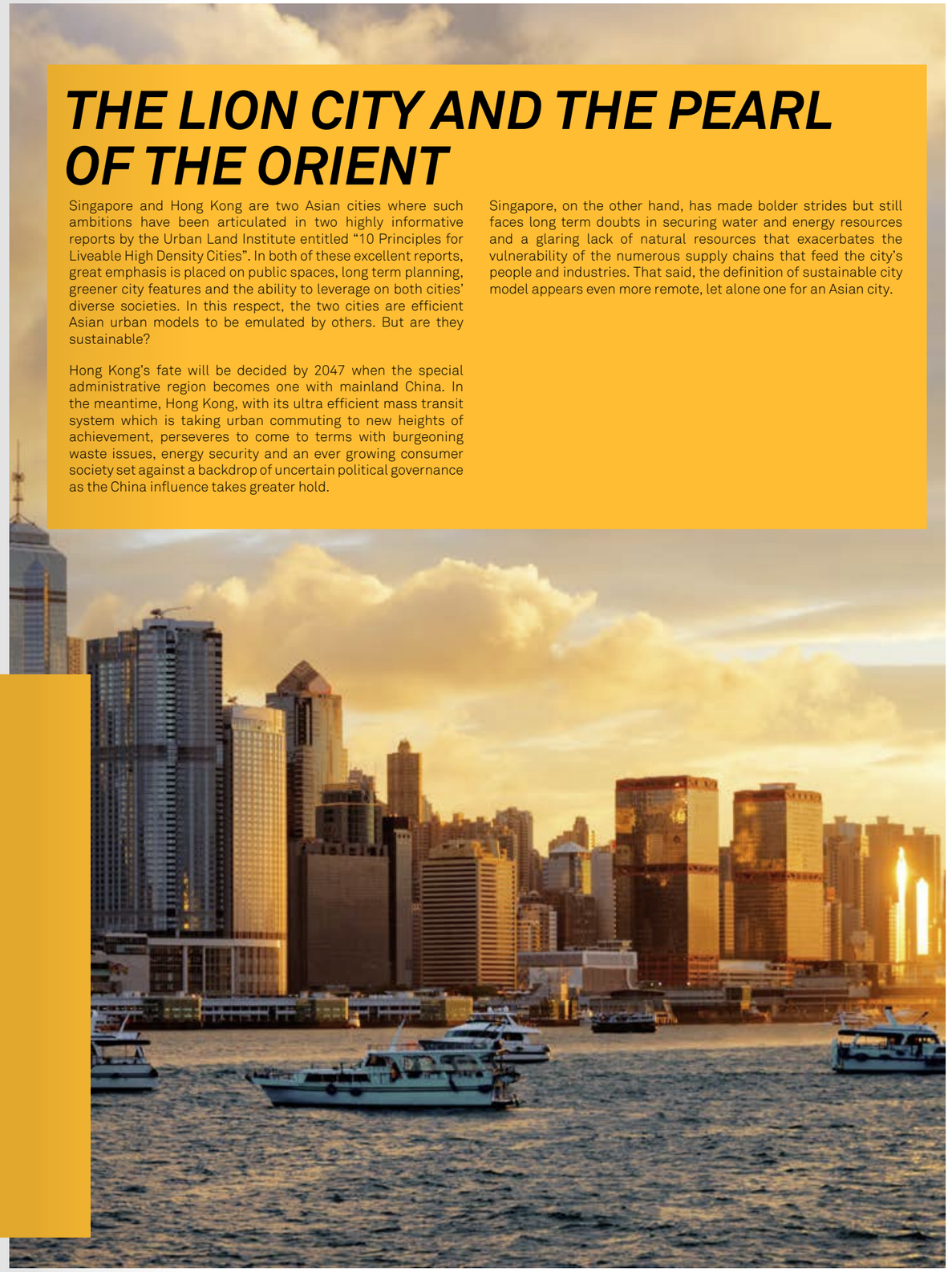
In 2012, AECOM reviewed a number of published sustainability indices and programs available online which included sustainable cities programs, liveable cities programs and indices of economic sustainability as well as measures of economic activity and growth together with environmental impacts. The aim of this exercise was to establish a list of cities with successful sustainability strategies. As existing rating systems - such as those mentioned previously - use a range of different metrics for ranking a city, by focusing on different aspects of sustainability such as environmental factors, community liveability, economic drivers and transportation systems, the study deliberately avoided attempting to collate and rationalize metrics but instead to pinpoint key cities for review. In total, a final list of 54 cities was selected for comparison. The analysis considered a range of factors and sustainable initiatives within each urban area.

THE LION CITY AND THE PEARL OF THE ORIENT

Singapore and Hong Kong are two Asian cities where such ambitions have been articulated in two highly informative reports by the Urban Land Institute entitled “10 Principles for Liveable High Density Cities”. In both of these excellent reports, great emphasis is placed on public spaces, long term planning, greener city features and the ability to leverage on both cities’ diverse societies. In this respect, the two cities are efficient Asian urban models to be emulated by others. But are they sustainable?

Hong Kong’s fate will be decided by 2047 when the special administrative region becomes one with mainland China. In the meantime, Hong Kong, with its ultra efficient mass transit system which is taking urban commuting to new heights of achievement, perseveres to come to terms with burgeoning waste issues, energy security and an ever growing consumer society set against a backdrop of uncertain political governance as the China influence takes greater hold.

Singapore, on the other hand, has made bolder strides but still faces long term doubts in securing water and energy resources and a glaring lack of natural resources that exacerbates the vulnerability of the numerous supply chains that feed the city’s people and industries. That said, the definition of sustainable city model appears even more remote, let alone one for an Asian city.



WHEN ARE CITIES VIABLE?

In essence, cities achieve economic viability when two major criteria are satisfied - resource availability and economic drivers. Resource availability impacts political stability and public security; water and energy are prerequisites for any settlement to be successfully established. In resource-rich cities, the economy can then be driven by strategic investment in key industries provided the supporting factors such as education, healthcare and housing aremade available for the workforce. High standards of quality of life, through investment in environmental protection and in space for enjoyment and leisure as well as for commercial purpose, attract talented workers. On this basis, it is possible to evaluate cities according to size.

Large cities, for instance, evolve through different stages of development. Global supply chains have lifted some cities from low value industries such as manufacturing and agriculture to higher value-added industries like financial services and trading. Large cities attract investment and people. This influx of people encourages diversity, which in turn promotes innovation. However, growing populations often increase resource consumption resulting in stresses including deteriorating water and air quality. Large cities hence tend to channel their efforts into developing infrastructure that will support their populations, e.g. waste systems, smart energy grids and efficient public transportation networks that have high ridership. A marked problem that large cities face is that of urban sprawl.

Medium cities tend to reach a critical size based around a core industry, beyond which it is not in their interests to grow. Often the model is geared around a cluster of companies making the city a recognized leader in a particular field. Emphasis is placed on quality of life issues like public security, environmental protection, education and healthcare to attract high calibre professionals as well as provide family friendly settings. Medium cities furthermore have flexible systems to adapt to market trends and policies and incentives that promote agile entrepreneurial business models. In terms of infrastructure, medium cities exhibit a good road network which allows extensive use of automobiles where people choose to drive due to low connectivity of public transportation systems. With increasing awareness about sustainability, there is an interest in expanding public transportation networks to regional transit routes. Medium cities are also best placed to act as centres for research and development.

The economies of small cities are founded on niche industries such as tourism or culture. In most cases, these are resources that are unique to the city e.g. scenic features or natural phenomenon like hot springs or slopes that draw investment and visitors; or in some cases there is a shift from a sunset industry like mining to a more lucrative one like cultural tourism. This shift is accompanied by retraining of the local workforce to develop value added support services e.g. catering and hospitality for the main industry. The exclusivity of a small city is a critical success factor hence development of infrastructure in mass mobility tends to not be a major investment. Small sustainable cities share certain common characteristics that allow them to stay sustainable. For instance, university towns are where local industries are geared towards student needs; others are tourist resorts; and a third category consists of experimental cities where it is possible to test new small-scale initiatives.

Transformation of cities from size to size can sometimes be a deliberate choice fuelled by political desire. In other cases this can be evolutionary as markets rise and fall or if societies change e.g. a city with an ageing population has the opportunity to reinvent its housing and healthcare programmes accordingly.

But whatever size or model is adopted, there is a requisite for cities to retain a clean environment (air, water, waste etc.) while stretching the targets of economic development. Cities that have managed to strike such a balance between development and environmental quality can be counted as heading towards sustainability.

LESSONS LEARNT

In the final analysis, a series of lessons emerged.

Promote sustainable economic development
Cities should leverage on local assets; authorities should promote green economic development and attracting new investment is crucial.

Shift to sustainable transport
Cities should build local and regional connections; connectivity of living and working spaces is essential; multiple modes of transport are needed to enable a seamless shift from private vehicles to mass transit; and they should use cleaner fuels for vehicles to reduce air pollution and other innovative tools and techniques like road pricing and smart apps for wayfinding.

Implement smart growth planning
Cities should integrate regional and local planning systems so that planning goals are aligned; transit oriented development (TOD) should be implemented; urban cores should be densified so that city centres are vibrant places for work and play; habitat and agricultural should be preserved so that natural eco-systems are protected and in turn build resilience to protect the city from natural disasters like flooding and typhoons; and a strategic migration and immigration policy to attract the right mix of talent should be implemented.

Shift to clean energy
Cities should cut high energy use in buildings; and they should use more renewable and low carbon energy sources.

Create sustainable infrastructure
Cities should innovate and implement green infrastructure such as green roofs and bioswales.

Employ smart technologies
Cities should automate smart management systems in energy, water, transport, waste and public safety.

Create liveable communities
Cities should inculcate culture, social events, sporting events and programs so that the city develops a unique brand for itself.

Encouraging healthy communities
Cities should create facilities for healthy communities such as cycle paths, natural green spaces and family friendly activity hubs; organic and urban agriculture should be practiced.

Provide world class medical care
Cities should have a differently-abled friendly environment for the challenged and the elderly.

Promoting leadership and public awareness
Cities should establish community sustainability champions and departments in the government; the community should be kept Informed and involved.

Preserving environmental habitat and open spaces
Cities should restore habitat to protect biodiversity

INNOVATE, OR STAGNATE

In the long term, cities that aspire to be sustainable cannot afford to stay still as new challenges surface over time. Cities have to be constantly striving to find new ways to innovate. Rising costs, for instance, often affect successful cities, driven by inflation as well increasing costs of land and property. These factors in turn influence the costs of living for the average citizen, posing a dilemma for politicians and authorities.

The costs of maintaining a city also include ageing infrastructure as growing populations and workforces impose larger and larger burdens on utilities and public services. Businesses can also have a say on how best to spend taxes and investments on city improvement to protect their vested stakes and profit interests, probably best through public private partnership models and corporate responsibility programmes.

In time, ageing city populations will deepen the problem. Asia stand to face the biggest test, as one in four Asians will be over the age of 60 by the year 2050. Although the successful ageing of a population should be seen as a triumph for mankind, it does however present a key dilemma as the demand in cities for proper care for that age group, in terms of access to public places and changes in home living conditions, increases proportionately with the pace of a silvering society.

In conclusion, it is undeniable that cities, as the nexus of social and economic activities, will become the focal point for mankind's future development. This depends on how ready we are to manage and control our own fate. Smart cities may hold part of the answer but systems are sadly - but thankfully - still controlled by humans.

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INNOVATIVE VIEWPOINTS

AN ACADEMIC WITH A VISION WITH A GREENER, COOLER KL

SI caught up with Professor Yasmin Othman, Director of the Universiti Malaya Centre of Innovation and Commercialisation, and asked her for her views on KL's sustainability.

Hi Prof Yasmin, thanks for agreeing to be interviewed. Why don't we start with a bit of background about yourself and what you do?

I look after UM's Incubation Centre linking industry with the university's work in research and innovation. I am a scientist as well, so I view things using science as the core of what I do, that is new technologies with a bias to innovation.

What is your take on 'sustainability'?

I don't like to fall back on clichés, but it is really about the fact we can't ignore what we do today if we really want to be ready for tomorrow. Similarly, we cannot ignore our current needs either. If we don't address these then we cannot achieve buy-in to readiness for the future.

What are the key issues facing us today?

I would say dwindling resources and living on a finite planet as what we use today has a finite nature.

How about Kuala Lumpur's sustainability?

Kuala Lumpur has gotten a lot better. People are aware of KL's needs but we need to sort out KL's historic problems [such as density]. One approach has been the zoning of the administration to outside of the city, that is, moving part of our population to Putrajaya. But we can do more for KL, greening the city for instance. Transportation is also a problem. People are disconnected because of traffic. Even with social media, we lack proper communication [and to meet face to face] as it is impossible to drive across the city. We need to redesign the city to allow physical communication.

So, what is KL doing right?

We have the KVMRT.

But people's attitude needs to change. The idea of driving cars to the doorstep must cease, but that is not going to happen yet. Connectivity is the answer. We used to have mini-buses but these were banned because they contributed to congestion. But if the KVMRT is to succeed, we must address the 'first and last mile' challenge.

We must also connect our green spaces. We talked of green corridors in KL's masterplan.

But can you walk entirely on grass from one end of the city to the other?

Sure, we have many good policies, but policy is not the issue, mindset and acceptance of change is the challenge to overcome.

What about KL as a resilient city?

KL is incredibly resilient, but this needs to translate into quality of life issues.

Is there adequate planning to meet sustainable growth needs?

Our planning tends to be responsive. We are reactive rather than proactive.

Universities need to play a more connected role to the city [in this respect]. University life provides a lot of ideas on what people need. Universities can be living laboratories to test ideas for making KL liveable, in a way like a solution provider to the community.

But we are still quite reactive. A lot more could be done to preparing alternatives [to what we do now]. I mentioned the case of Putrajaya earlier. This is a good exercise but not enough has been done to encourage young people to live there. Johor is trying to do the same with Iskandar. I don't think it makes sense to build more vertical and denser living spaces. Cities should put in height and density restrictions to make them more liveable.

How can education play a key part in KL's sustainability?

This is the beginning and the end. (Laughs).

Malaysia has not put in enough [in sustainability]. We are good at school level but this does not reach the general public. Young people lose these ideas once they start work. How can we reach these people? To change them, we must also sell benefits. Benefits should include intangible ones such as increasing quality time to do things we enjoy or time that we can use to improve our health. But it is important to get people to sacrifice for the future.

The universities need to create communication channels with the community. [At UM], we have community-based programmes like UMCares. Our connections with industry are another channel, but this is not as good as it could be.

How can we leave a legacy for our young?

Knowledge. Broaden their capacity to embrace change. Making a resilient society.

What role can businesses play?

I don't think companies are doing enough for KL's sustainability. We can legislate but it would be more effective to leverage on consumer demand for a better living environment [to drive companies to improve their performance]. Corporate Social Responsibility (CSR) is really important. The value lies in building the right relationships. Universities can play a role in this. We often have the knowledge and talent but we are out of touch with what problems businesses face. We can develop innovative solutions for industry in a low risk environment.

How do you see KL developing in 20 years?

Greener. More connected. Cooler. More energy efficient. I would like to see ways of harnessing wasted energy.

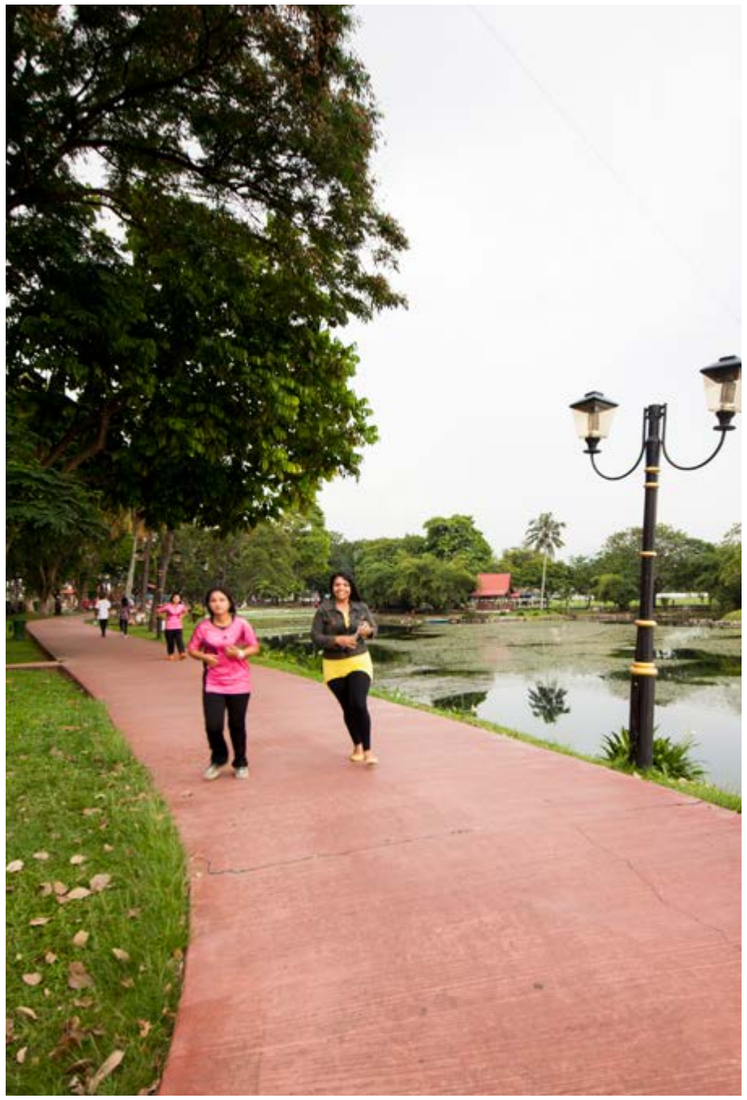
A good benchmark to compare with is the clean river project in Seoul that has transformed the city.

KL has incredible diversity and character. Our people are passionate. I would like to see more interconnectedness across our hubs like Istana Budaya, Sentul, Central Market, Art Gallery and so on.

A last word on innovation?

We need more adaptive technology, that's how innovation comes in. We should focus on existing buildings as well not just new ones. We should try to keep our history [rather than tearing it down.]

Thank you, Prof. Yasmin



THE DESIRE TO ENHANCE THE HEART OF MALAYSIA - KUALA LUMPUR

Datuk Roslan Hassan, Chief Executive Officer of Yayasan Wilayah Persekutuan (YWP), heads an organization of committed personnel with the core function to develop and improve the living standards of the underprivileged in the Federal Territories, which includes Kuala Lumpur, Putrajaya & Labuan.

Who are you and what is your role in your organization?

As Chief Executive Officer (CEO) of Yayasan Wilayah Persekutuan (YWP), my main role entails leading the development and execution of YWP's long term strategy.

I am responsible for daily management decisions and act as a direct liaison between YWP and its subsidiaries; to the Board of Trustees on behalf of the management; as well as representing YWP in public.

What is your concept of sustainability?

My concept of sustainability, in particular for Wilayah Persekutuan, is the ability of our communities to manage the triple bottom line - a process by which they can manage their (i) financial (ii) social and environmental risks (iii) obligations and opportunities. These three impacts are sometimes referred to as profits, people and planet.

It also means that our communities should be able to survive shocks due to being exposed to diverse influences that enter Kuala Lumpur (KL), the window to and heart of Malaysia. Therefore, their lives and businesses should be closely connected to healthy economic, social and environmental systems. Subsequently, they will be able to create economic value and contribute to healthy ecosystems and strong communities.

What are the main issues facing us?

KL residents will face various challenges in order to achieve the objectives of transforming Malaysia into a high-income nation by 2020. The overall aim is to transform the region into a world-class metropolis that will boast top standards in every area from business infrastructure to liveability.

YWP has been serving the KL community for over 29 years and we recognize them as frontier of all incoming influences that enter Malaysia, be it positive or negative.

Accordingly, several main issues have been identified:

- First, economic issues comprising the high cost of living, income gap, competitive and meritocratic work opportunities and transportation.
- Second, in terms of education, the concerns are obtaining proper or formal higher education and financial costs related to it.
- Third, among social issues that have been commonly addressed are attitudes and behaviors of adolescents and youths, including the lack of focus on social tolerance and moral values.
- Lastly, the key environmental issues comprising air and water pollution. We are also struggling to adopt the recycling concept into our daily lives, though it has been highly promoted and widely accepted by the first world and developed countries.

Do you think KL is a sustainable city? What is KL doing right?

KL has undergone vast improvements in transportation, communication systems and networks. We play an important role in the global dispersion of production and marketing activities locally and globally.

We have increased the importance of knowledge-based economic activities particularly related to the development of information and communication technology.

There is also a growing responsibility in terms of managing the development of Kuala Lumpur in the maintenance of roads, drains and community facilities such as public open spaces, parks and cemeteries.

Other necessary measures being carried out dynamically are the urban planning, parking, traffic management, enforcement of business premises and public housing. Nevertheless, sustainability requires continuous development, effective coordination and anticipating probable problems both from within and outside KL.

How can innovation help KL's sustainable development?

Innovation will help to contribute new options and opportunities to the population, government and organizational communities. Thus, innovation can help KL cultivate an innovative and creative community that moves towards achieving world class standards. Consequently, the quality of life of KL people will improve. It is clear that innovation is the best way to facilitate KL's sustainable development.

Is current policy sufficient to meet our challenges?

Yes , it is sufficient for the time being. But remember the definition of a policy is a plan or course of action for a government, political party, or business to influence and determine decisions, actions, and other matters. So my personal views about policy would be it might change to suit the current situation and enable actions accordingly. In structuring a policy especially for a country, one should follow proper standard & guidelines in order to avoid confusion and problems.

Do you think KL has sufficient resilience to withstand shocks and stresses?

As mentioned, the community of Kuala Lumpur consists of a beautiful diversity of race, religion and individual beliefs as the profile of its people comes from east and west Malaysia and global expatriates. In that sense, I believe that Kuala Lumpur is resilient and prepared with sufficient capabilities and resources to adapt to any situation whether good or bad.

How do you think technology plays a role?

Technology has the potential to be the prime tool for immediate and diverse information. For example, we can use the modern method called "crowd sourcing" to develop a database that will facilitate to organize and analyze information reported to us from all sources.

Consequently, this will assist the KL community to predict global and local trends and work patterns, thus strengthening their innovation, justification and decision-making process.

With the advancement of technology in building, economy and the environmental fields, KL will be a more sustainable city to achieve Vision 2020 and uplift Malaysia to be on par with other developed countries.

Do you think there is adequate planning to meet sustainable growth needs?

From my point of view, the government and relevant organizations are taking specific measures on "planning and structuring" the development of a greater KL.

The said plan will enable the planners to meet the existing and new trends of sustainable growth that is needed, especially in this modernized and fast growing era.

How can education play a key part in KL's sustainability?

Education plays a very important role in everyone's life. It works to transform a person to a better life while developing their social well-being. Being educated and achieving professional education standards prepares an individual to partake in reputable organizations, companies or institutions.

Through education, ideas are exchanged, developed and transformed into policies, standards and guidelines, leading KL to become a developed and sustainable city.

How can we leave a legacy for our young?

Our biggest legacy in Malaysia is unity among our people. It has been passed down by our ancestors, way before our independence. We have preserved it by practicing mutual respect and have been able to maintain our sovereignty, equality, territorial integrity and national identity irrelevant of our differences of race, religion and creed. Therefore, we should continue to tolerate, accept and celebrate these differences.

In addition to that, we can nurture the legacy of patriotism to the young by preserving the truly Malaysian culture. We have come together, strived and worked together for generations, in line with the "Malaysia Boleh" spirit, for our love towards a better nation. This patriotic spirit must be nurtured at a very young age and understanding the consequences of unpatriotic and disunity.

From another angle, the legacy for a better planet can be achieved by giving absolute care to our environment. Uplifting the standard of awareness of ecological care, enhancing the knowledge of our education systems on the importance of being a guardian to our planet, are examples of how we can leave a legacy of a sustainable world for our young ones. At the same time, our determined and hopeful younger generation today must be supported to ensure the continuous act and execution of protecting and preserving our air, water and land.

Do you think Corporate Social Responsibility can help?

Corporate Social Responsibility or CSR can surely help in leaving a legacy for our young ones by maintaining and sustaining the people, profit and planet.

When corporate companies support and participate in certain programs or national agendas, it is usually very impactful. The masses or public is more familiar to an image or brand of the engaged company, and will naturally look forward to join the program thus creating an impact to community development and its sustainability.

However, these corporate companies, both large and small, have large carbon footprints. And any steps they take to reduce those footprints are considered both good CSR for the company and society as a whole.

Companies also practice CSR by donating or giving financial aid to local and national charities. Whether it involves giving money or time, businesses have resources that can benefit charities and local community programs particularly in KL.

Lastly Datuk, how do you see KL in the future?

I see KL as part of a strong nation that is infused by strong moral and ethical values, and the people living in a society that is democratic, liberal and tolerant, caring, stable in economy, equitable, progressive and prosperous.

KL will foster a mature, democratic society, practicing consensual, community-oriented Malaysian democracy that can be a mold for many developing countries and ensuring an economically just society in which there is a full partnership in economic progress.

What can we learn from other cities? And what can we share with them?

We can surely learn a lot from other cities in the world, such as their education system, traffic and parking management, housing and local development plans, technology related to sustainability and innovation.

However, unity, commitment and efforts are needed from every citizen to make Malaysia a reputable and respected country in line with all developed countries.

In certain situations, we have to be eccentric or orthodox in making decisions for the country, if it brings more benefit to the majority.

On the other hand, we can share with the rest of the world the uniqueness of our people living in true harmony despite their differences in cultural and religious beliefs.

Thank you.

CONNECTIVITY IS KEY

Scott Dunn is vice president of AECOM Malaysia and a designer.

Hi Scott, could you tell us a little about yourself?

I am a vice president for strategy and growth at AECOM in Southeast Asia. My work focuses on promoting collaborative work across regions, involving multidisciplinary teams. For clients I like to advocate sustainable land development and high dense urban environmental design. I've been calling KL home for the past two years although I have gotten familiar with the city much earlier through work.

What is your take on sustainability?

To me the concept of a sustainable city revolves around resilience and resilient planning. This means planning for events could affect the environment, the economy or the population. If, or when they occur, we have to be certain the city's infrastructure can take them and that productivity doesn't stop.

What are the main issues facing us?

In the Klang Valley, we are encouraging population growth. With that comes density. In some cases that's a good thing for the economy as it will drive wealth creation and provide opportunities for individuals to network within a dense urban fabric for beneficial economic outcomes. But on the other hand, if not planned, a large population puts a strain on the city's backbone systems such as power, water and transport. Then you start to have breakdowns and congestion and inefficiency. Daily routines become less productive and satisfying.

Another issue revolves around maintaining peace and harmony for multiple cultures and races who live together. In the Klang Valley you have people who have lived here for a long time and people who moved into the city from other areas. At the same time, as you attract talent, companies and corporations, you also end up with a large group of foreign people who calling the Klang Valley home.

The third issue is the desire to grow quickly. The Economic Transformation Programme (ETP) pushed for change to happen in a fairly short time period. That puts pressure on the economic system in terms of the ability to finance and deliver projects over the long term, during which there will be economic cycles. The ability to weather the downturns will be important to sustain developments in the Klang Valley.

The fourth issue is on transparency. With the drive to be more developed, and with the Klang Valley being key to that growth, Malaysia needs to improve the ethics and transparency across the various sectors. There are steps taken but perhaps it's still not there yet. This needs to be given attention as investors will lose confidence otherwise.

The fifth is on safety. There needs to be a real drive towards creating a safer environment for people to live and this should include road safety, neighborhood security and personal safety. All of these have agencies that are looking at the regulatory side of things but I think public-private partnerships can also ensure that safety is at the forefront of businesses, education and communities.

So, do you think KL is a sustainable city? What is KL doing right? What could be improved? What should we do more of?

Any city is sustainable as it will continue to grow but to me the question is if KL can increase in terms of livability that is, being an attractive place that people want to come to and do business.

We are doing well in our initiatives around tourism and retail, making KL a shopping as a destination. We also have reasonably priced housing, affordable education and affordable healthcare.

The local culture is dynamic, with the cultures of the three core groups of Malays, Chinese, Indians being celebrated, adding to the vibrancy of KL. The ETP and the key areas that have been and are being implemented are starting to improve life in the city.

In terms of improvement, we need to improve integration in any change implemented, that is, to have things integrated across agencies, local governments and boundaries so that implementation is holistic. For example, the government has done a lot to improve buses but there is work needed to improve the routes and the information system.

What we should do more of is to continue with the ETP, focusing on key areas that create a visible difference in KL. The MRT for one, when it starts will be something that people see and experience.

Mobility is a big area to continue improving. It is about offering alternative modes of transport, including bus, rail, bicycles, walking and electric vehicles, things that get the public moving around the Klang Valley easier.

Waste systems are not yet well developed in terms of segregation, disposal, the end process, incineration and generating energy. The Klang Valley generates a lot of waste and it ends up in the ground or back in the environment.

How can innovation help KL's sustainable development?

There is a push on the education sector, with the setting up of a number of foreign universities in KL. Higher learning institutions have a big role in research and development and that will be key for innovative developments. Big corporations, whether it is tech, pharma, healthcare or oil and gas should look at creating R&D facilities here.

Recently I was in Singapore for an R&D congress which brought public agencies and corporations together to exchange best practice and talk about how Singapore can improve. We should have similar platforms here.

For example the congress learned how Boston is creating a tool that lets people see how land is being used and the potential impact. The other subject discussed was electric vehicles and the impact of relying on these transports.

During the World Cities Conference in New York, mayors talked about a few interesting things such as safety and community policing in South America; data centre technology in Bandung; affordable housing in Singapore and the development of ICT jobs for young professionals in Auckland.

In terms of innovation, Klang Valley should start looking at putting more data sensors and data points in the city to help collect data and improve feedback times for maintenance, from fixing traffic lights to replacing manhole covers. Maybe we can create ways to utilise that data and create open source platforms that everybody can use.

Is current policy sufficient to meet our challenges?

The policies in Malaysia are strong and there are many initiatives that Ministries have put forward. The issue is in the implementation. You get to the point where people agree on something but there is a lot of sidetracking when carrying them out. Policies require an old method of documentation approval that can make it challenging for things happen quickly.

Do you think KL has sufficient resilience to withstand shocks and stresses?

As a city, KL is reasonably well-positioned to deal with environmental issues. Even through flooding, fires and air pollution, the city has been to get back on its feet in a relatively short period.

The resilience of infrastructure however may be at some risk and I think a lot of it has something to do with the way assets are divided between the private and public sectors. The ability to fund new infrastructure needed to meet long term planning needs is also challenging, given political differences between parties involved.

The current system can handle shocks but it could be better. The use of water, for example could be more efficient and the recycling of that water should be improved. Technology could help in monitoring floods, air quality and making that information available in a timely manner.

Do you think we have adequate planning to meet sustainable growth needs?

There is a lot of planning but there doesn't seem to be a consolidated source. In the Klang Valley you have a local state and federal level of government which adds to the complexity of planning holistically.

How can education play a key part in KL's sustainability?

Education is a big part of that and part of KLCSI's role is to provide best practices and show what other cities are doing to deal with similar types of issues. Some cities have innovative ideas that don't cost so much to implement but they have a big impact on the community. For example in Bandung, they implemented the use of smartphones to close out complaints visually. The public is able to see what the council is doing and create personal responsibilities amongst the people involved.

How can we leave a legacy for our young?

We can leave it better condition than it is today! (laughs)

I think the biggest thing is to provide ways for young people to participate in a meaningful way in the economy, to create wealth for themselves, to purchase homes, to start a life in the city rather than having to feel like they have to seek opportunities elsewhere. You have to make KL the place to be.

Are businesses doing enough to contribute to KL's sustainability?

I would say no unfortunately. Government linked companies and public listed firms could contribute more. Many of them have a corporate sustainability department but things are not consistent. If there is consistency and perhaps a form of grading, it would help and this should be published in their annual reports.

How do you see KL in 20 year's time?

A place that has a lot more people, that is a lot better connected, in terms of mobility connections and digital connections through the internet of things. Currently there are a lot of pinchpoints in the system creating congestion. I would like to see a public network where public transit is easy and convenient and people can also move in and out of KL through air or high speed rail.

In the future, it is about creating a dense urban core around KLCC that has adequate infrastructure to support it, with 5-6 decentralised hubs around the Klang Valley. Key to that is making the right decisions about public infrastructure and transportation to these hubs today.

What can we learn from other cities? And what can we share with them?

Singapore has outcomes it wishes to have around social, economic and environmental needs through the provision of integrated planning over the long term.

In Vancouver, under its healthy city for all initiative, they have an integrated department framework where land-use, mobility and environmental management are done through an integrated department.

Melbourne has the human capital push where they talk about creating a knowledge city.

London's carbon solution pushes energy use data to help inventory everything and make people aware of how much energy is used.

Meanwhile, a lot of companies are trying to move to a position of just selling integrated solutions, including companies like GE, BMW and even AECOM.

All of these rely on successful leadership and governance.
From our end the ETP is something we can share with others, as it shows how to rationalize budget spend in key areas to drive growth in critical sectors. Also having a report card programme where people are accountable for how they have done on a yearly basis. KL has gone through a lot of rapid transformation in a very short time and it continues to show positive growth compared to a lot of other places.

Putrajaya is an example of how decentralization can work. All those government offices used to be downtown but today at least 300,000 people are no longer in central KL. And the areas between KL and Putrajaya are starting to grow. It is a good example for other cities who wish to move government services out of the city.

Thank you.

4

REAL-TIME TESTING

'Living laboratories' are a user-centred, real-time testing platforms that often operate in a community context where research and innovation processes work concurrently. They normally operate within a public-private-people partnership.

Living labs are platforms for user-centered products before they are commercially available to be applied at a building or community scale. Often they are partnerships between government agencies, companies and research institutes whereby these organizations can pool their research on built environment and city management, urban mobility, IT and info-communications, public safety, waste and water management and clean energy. As the living laboratory is implemented in a real life setting, members of communities contribute and shape the tested product.

KLCSI has been working on three living laboratory projects.

Eco-Homes for the Aged

The overall project objective of this project is to create an eco-home for the elderly. The home will meet energy and environmental building standards and more, and the added benefit will be an urban garden using rainwater, recycled water and food waste to encourage the residents to participate in activities that will keep them physically and mentally active. This home will also be equipped with state of the art assistive technologies to protect the residents and enable them to be mobile and independent; these will be supported by a package of senior health services to allow them to age gracefully.

Rollability

The goals of eco-rollability are to promote sustainable urban mobility in whatever form, to apply smart technology to enable and facilitate non-motorised vehicle usage, to establish traffic-free routes and zones to connect communities and places and to improve commuting to benefit the people of Kuala Lumpur. Rollability has three parts: the southwest bicycle highway - a test bed for technologies; the Pan KL bicycle path; and last mile cycling routes linking railway stations with populated areas.

An Eco-Cycle in the Heart of the City

This project combines the collection of food waste to create an eco-community project that uses water resources for aquaculture. The food waste will be converted to fish feed using natural means, demonstrating how sustainable living and how closing the loop in waste recycling can become an attainable, sensible and commercially viable venture for the local community.

5

A RIVER THAT TRANSFORMS

The River of Life (ROL) Project is an ambitious scheme to revitalize the Klang River. AECOM, a joint-venture partner of KLCSI is delivering the river master planning and beautification component of the project, and provided a strategic framework for urban and landscape design guidelines, ensuring designs are constructed on a common baseline while promoting cohesive developments in the Klang Valley region. For its role in the project, AECOM has received two awards recognizing innovation, namely the ISOCARP Awards for Excellence 2014 and top award from the Jury Chairman at the 50th International Society of City and Regional Planners (ISOCARP) congress and Professional Category – Landscape Innovation (Merit) from the Institute of Landscape Architecture Malaysia (ILAM). The project, which was divided into three components – river cleaning, river beautification and river development – is expected to be completed in 2017.

The river that touches many lives

The Klang River winds through Malaysia's capital city of Kuala Lumpur and flows through the most densely populated area of the Southeast Asian country. Over the years and in the wake of rapid development in the city, the river became increasingly polluted and experienced intensified flooding during storm seasons. It became the backdoor of development with the back of buildings positioned to face the river, making it a dumping ground and a body of water that is disconnected from people's daily lives.

To rebuild the lost connection between the city, river and the people, Kuala Lumpur City Hall launched the River of Life project in 2012 through an international design competition where AECOM's submission won the company its role of delivery partner.

The River of Life masterplan

The ROL is one of Malaysia government's Economic Transformation Projects, the latter which combines high-impact initiatives to elevate the country to developed nation status. Divided into three main components – river cleaning, river master-planning and beautification – the USD1.3-billion River of Life project covers the confluences of three city rivers, with a total area of 781 hectares and 63 hectares of water bodies.

The project is set to bring the community 'back' to the river through a 100 percent transformation into a vibrant waterfront with high economic and commercial value, rejuvenating the city's river and re-connecting it to the surrounding urban fabric. This will include:

- Adding more than 14,000 new, affordable housing which will provide homes for more than 35,000 new residents
- Adding one million square meters of commercial space, and more than 27,000 new employment opportunities
- Raising the public transportation usage within the master plan area from 15 per cent to 60 per cent by 2020
- Reducing traffic demand by 15 per cent by 2020

A web of connectivity

ROL presents the opportunity to establish a web of connectivity that will serve as the catalyst to transform and connect all of KL and support the city's aim to become a highly liveable urban centre.

A large part of the planning work on the ROL focuses on creating recreation, gathering and resting places for the people. Through contextually-relevant and well-designed landscaping, the community will be able to interact with the river and riverside as much as possible. There will be touch points where the community can physically interact with water, and holding special events only found along the river, especially night-themed activities when the weather is cooler in tropical Malaysia. By investing in the cleanliness and beautification of the river, stakeholders in the community will also be encouraged to take ownership of their river, and this in turn nurtures an environmentally-conscious and caring riverside community. Tree canopies and covered walkways will provide basic protection from the weather.

A sustainable form of urban design

Another of the project's landscape aims is to restore and maintain the natural richness of the River's ecology. Use of Water Sensitive Urban Design (WSUD) is integral in creating new habitats for native flora and fauna. The master plan will nurture the forest back into the urban fabric of the city, enhance green corridors perpendicular to the rivers and create riparian vegetative buffers along the riverside.

New buildings within ROL will incorporate a spectrum of environmental-friendly solutions including energy use, natural lighting, waste product recycling and use of renewable materials.

Local materials have been used in the first stage of built work. One example is engineered timber which uses a sustainable source of rice husk in Perak, one of the states of Peninsular Malaysia, to a create materials for seats, decking and ceilings.

A reforestation program is also included to revive a 100-year-old forest through an interconnected set of urban forests to act as a "green lung" for the city. Nature will provide a buffer from pollution and create an oasis of physical, spiritual and psychological rehabilitation.

The proposals and initiatives will improve flooding conditions and aid in flood mitigation, rather than aggravate the sensitive hydrologic situation in KL.

Smart & Innovative

The masterplan has a water resource management strategy that focuses on creating water touching experiences, raising the water level of the river through inflatable rubber dams and adding storage capacity through flood mitigation ponds, as well as offering ecological recommendations for the creation and restoration of native habitats for local flora and fauna.

An open space network that is multifunctional and fulfills a wide range of recreational, environmental and cultural functions. New river parks provide extensive opportunities for formal and informal recreation activities including new playgrounds built around water and river flow, interpretive flood mitigation ponds with locks, lookouts and floating boardwalks, and riparian habitat corridors, all of which add a variety of textures and experiences to the river corridor while responding to different slope and wall conditions along the banks of the river itself.

Branching out from the river, Eco Valleys are green corridors that connect to key land based destinations to discover the energy and beauty of nature. They are designed and composed to display best practice in sustainable landscape design, which shapes them to provide critical eco system services such as water sensitive urban design, habitat connectivity, biodiversity and bicycle and pedestrian paths.

Throughout the length of the River of Life Education Gardens are working demonstrations where you can see, feel and experience how new habitats are created and grow; how water management and cleansing systems work and benefit us; what habitats are required for a dragonfly, a fish, a frog; and how intact natural systems directly benefit any life which surrounds them.

Guiding Lights are pavilions or lighthouses set out along the river. They are visual markers and reference points, can be seen and recognised from one to another, and have multiple functions including as shelter, food and beverage outlets, bike hire stations, interpretive centres and most importantly act as security bases. The Guiding Lights also mark points along the river to connect to land based destinations such as transit stops, mosques, public buildings, heritage destinations and major public open spaces.

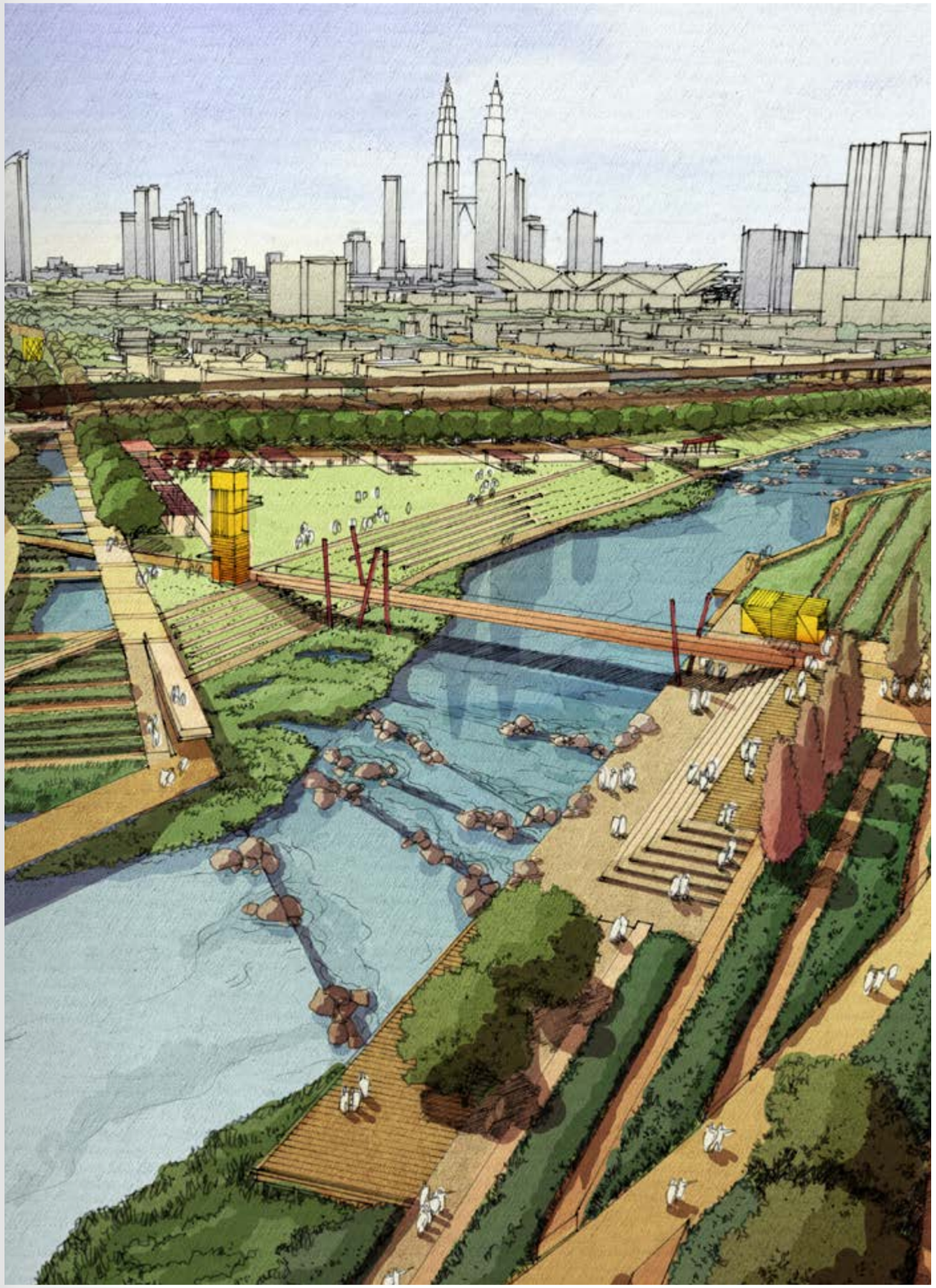
The wayfinding strategies incorporated into the masterplan establish an experience that taps into the history of Kuala Lumpur. This involves heritage trails, gateway signs, artworks designed by local artists and various other physical markers to reflect the heritage of the city and of the modern culture and future legacy of Malaysia.

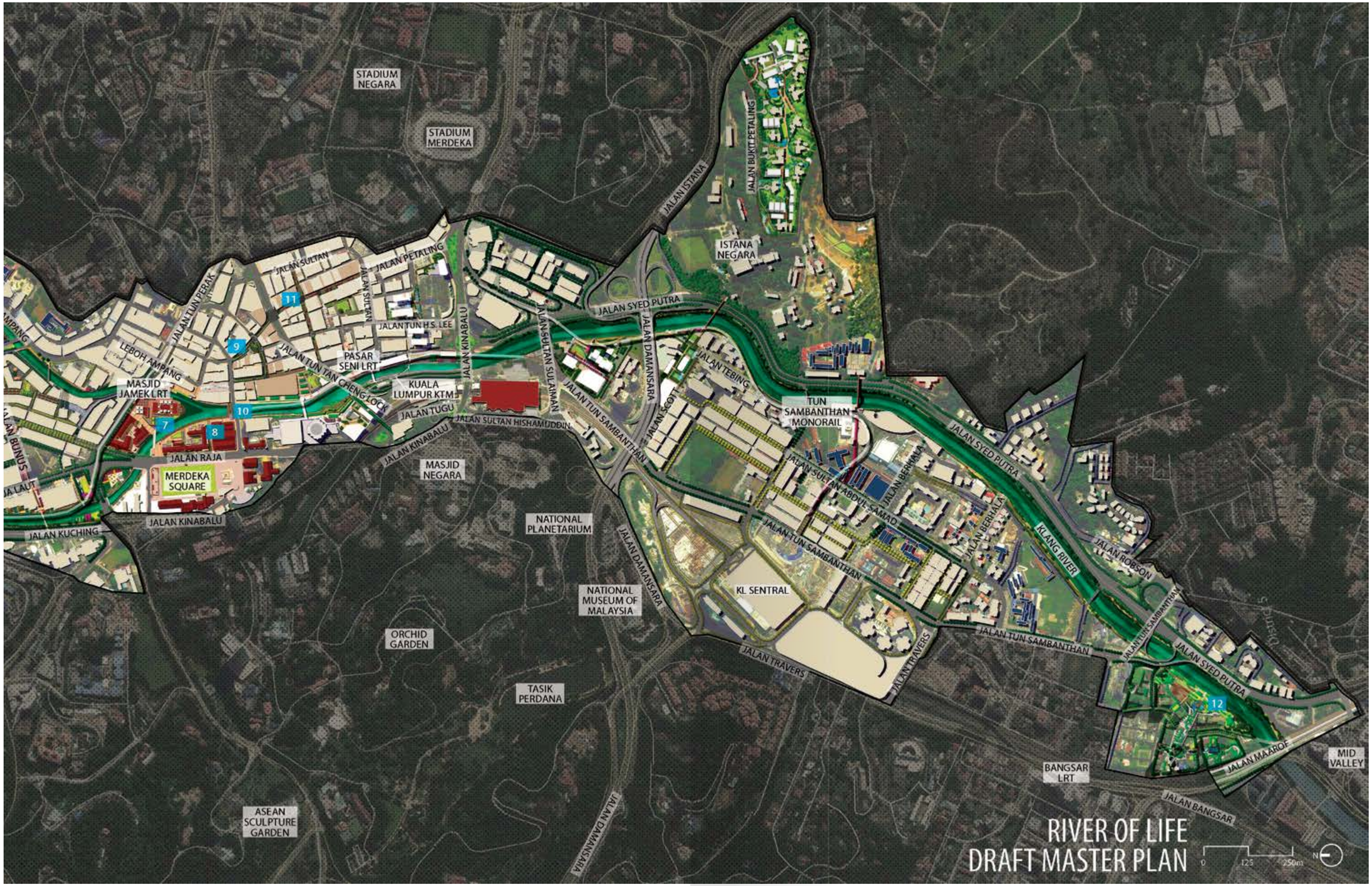
The future

Klang and Gombak Rivers will be given a new injection of life, both ecological and social through the regeneration brought about by ROL. By reinvigorating the city and communities along its banks, the project will bring people together, spurring economic and social growth.

Through investing in the cleanliness and beautification of the river, stakeholders are encouraged to take ownership of their river, creating a gracious and caring riverside community. The river will become an extension of their neighborhoods, inheriting their rich stories and character.

The River of Life is a pivotal project for KL city's development. As the city advances on the path towards modernization, the river serves to remind us of the importance of natural elements like land and water. The successful construction of the different phases of beautification and revitalization will generate many opportunities for sustainability, and it will inspire generations to come.

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