



MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

Public Urban Green Spaces Provision in Kuala Lumpur: Is Each Area Treated Equal?

HSIN-YI **CHAI** & LOO-SEE **BEH**



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“Looking Beyond GDP: Towards Social Well-being and Environmental Sustainability”

25TH-26TH SEPTEMBER 2023



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Table of Contents

01

Background

02

Objectives of Study

03

Methodology

04

Results

05

Discussions & Conclusions

06

Future Research Agenda



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01. Background

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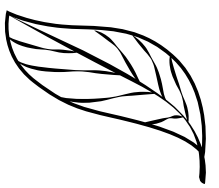
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What is Urban Green Spaces (UGS)?

- According to WHO (2017), urban green space (UGS) is defined as all **urban land covered by vegetation**, including on private and public land, regardless of sizes and functions, including small water bodies such as lake, ponds and streams.
- In Malaysian National Urbanization Policy 2 (2016), green spaces are defined as **areas that are covered with vegetation including open space, recreational space, infrastructure and utility corridor, reserved forest and residential green spaces.**
- **Small urban green spaces (SUGS)** – a scaled down version of larger parks (Fatiah and Zakariya, 2021) is a type of UGS.

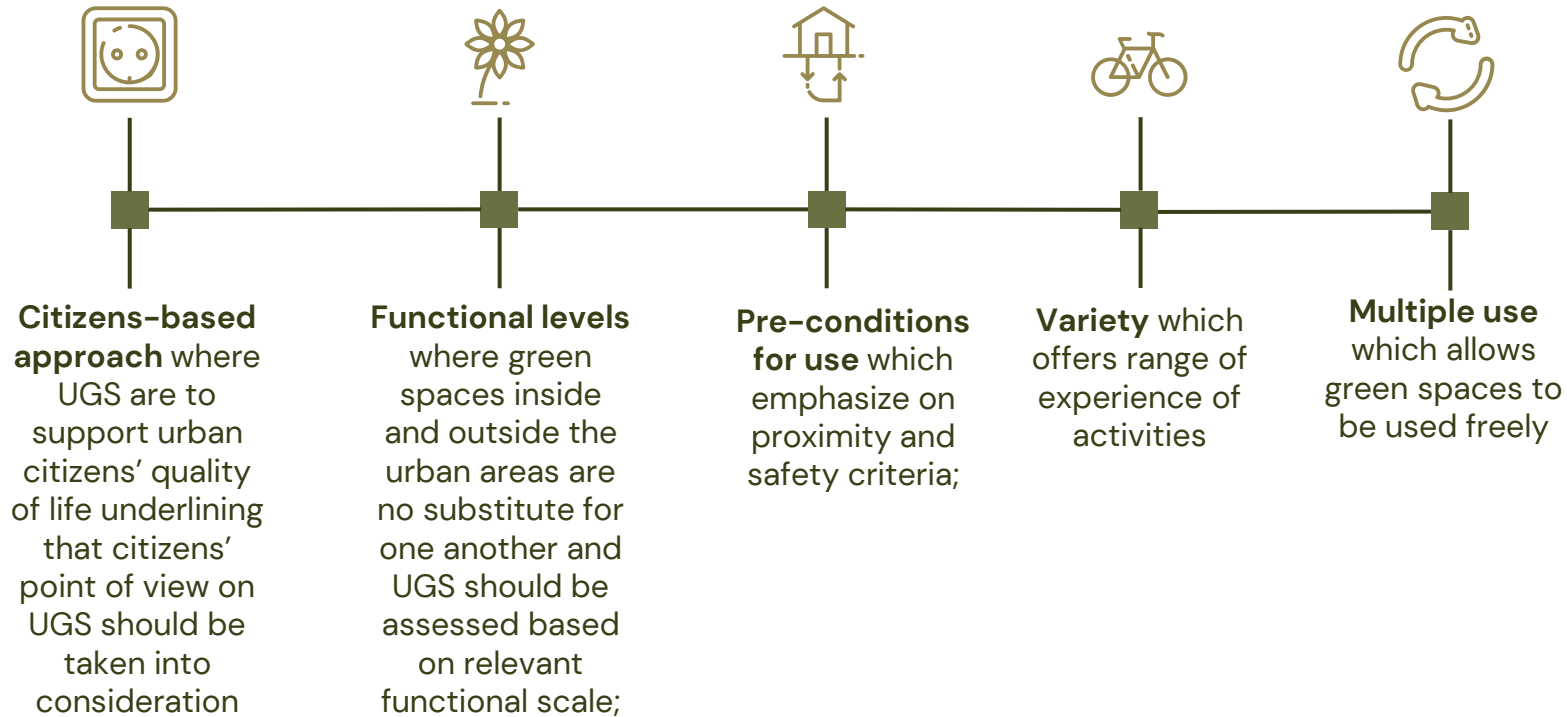


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Five Guiding Principles of UGS Provision

Source: Van Herzele and Wiedemann (2003)'s study of public preference and planning practice of green spaces



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Types of Public Open Spaces

City Parks

City park which is the **highest hierarchy** of parks is to serve Kuala Lumpur and surrounding areas within the Kuala Lumpur conurbation.

Local Parks

Parks located within residential areas and locally accessible to a population **catchment of 10,000 people**. The parks provide daily recreational facilities **within bicycling and walking distance** from their catchment areas. In urban or commercial centres, the park can also be identified as urban park.

District Parks

Second highest in size hierarchy. Large parks located within various parts of Kuala Lumpur catering for a **catchment population for 200,000 population**.

Local Play Areas

The lowest hierarchy which includes **urban plaza, pocket parks and linear green space, located in residential area and city center within walking distance from where citizens live and work**.

Neighbourhood Parks

Parks within neighbourhood areas for a **catchment of 50,000 population**. Accommodates facilities for large group activities and organised sports play.

Sports Complex

Areas equipped with **sports facilities**.

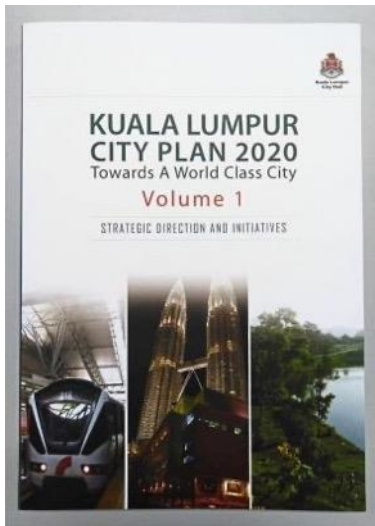


Source: Kuala Lumpur City Plan 2020

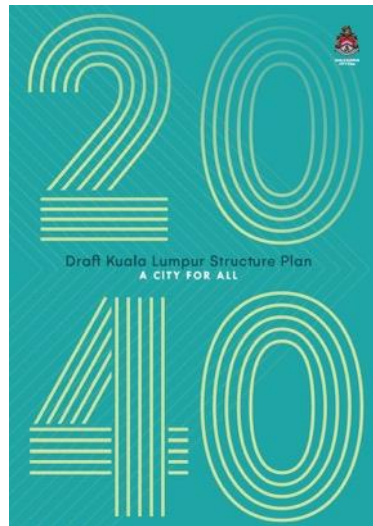


UGS in Kuala Lumpur Context

Kuala Lumpur City Plan 2020 (KLCP2020)



Kuala Lumpur Structure Plan 2040 (KLSP2040)



- Both plans have target implementation to **increase availability of open and green spaces** that is accessible by the public.
- According to KLCP2020 and KLSP2040, the **development of different types of park** guided by established park hierarchy aims to build park to serve different catchment population, which is essentially embracing the second guiding principles of UGS provision by Van Herzele and Wiedemann (2003).

Target: Kuala Lumpur Structure Plan 2040



02. Objectives of Study



- This study aims to **explore availability of public open/ green spaces and park of different hierarchy** in Kuala Lumpur with **comparison between different areas.**
- Areas in Kuala Lumpur which are also designated as zones are Damansara Penchala (DP), Sentul Manjalara (SM), Wangsa Maju Maluri (WMM), City Center (CC), Bukit Jalil Seputeh (BJS), Bandar Tun Razak Sungai Besi (BTRS). These 6 areas are used to compare public open/ green spaces distribution.



03. Methodology

Data Collection

- **Secondary data** obtained from the eMap features made available in City Planning System of Kuala Lumpur City Hall is used for this study.
- Attributes: primary usage of land, land use code; park area size in hectares and kilometres square, area the park is located; and description of activity.
- Land use code OS1* which denotes **public open space (Tanah Lapang Awam)** is used as extraction filter.

Data Preparation & Tools

- **Data Processing:** Python version 3.11.3 in Spyder IDE version 5.4.3 using
- Python package BeautifulSoup and Pandas
- Data quality check, result analysis and output table generation: Excel version 16.76.
- **Data quality assessment** indicates that the data quality of extracted list is satisfactory for analysis. A total of 1,849 records is used.

*Defined as of open spaces for recreational, sports and cultural activities which includes playground, pocket park, public park, indoor /outdoor sports facilities, urban plazas and green linear areas (Dewan Bandaraya Kuala Lumpur, 2022)



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04. Results

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1,808.7 hectares



Kuala Lumpur consists of 1,808.7 hectares of public open/ green spaces (out of a total area of 24,232.8 hectares). **Damansara Penchala area has the highest public open/ green spaces while City Center and Wangsa Maju Maluri areas have the lowest.**

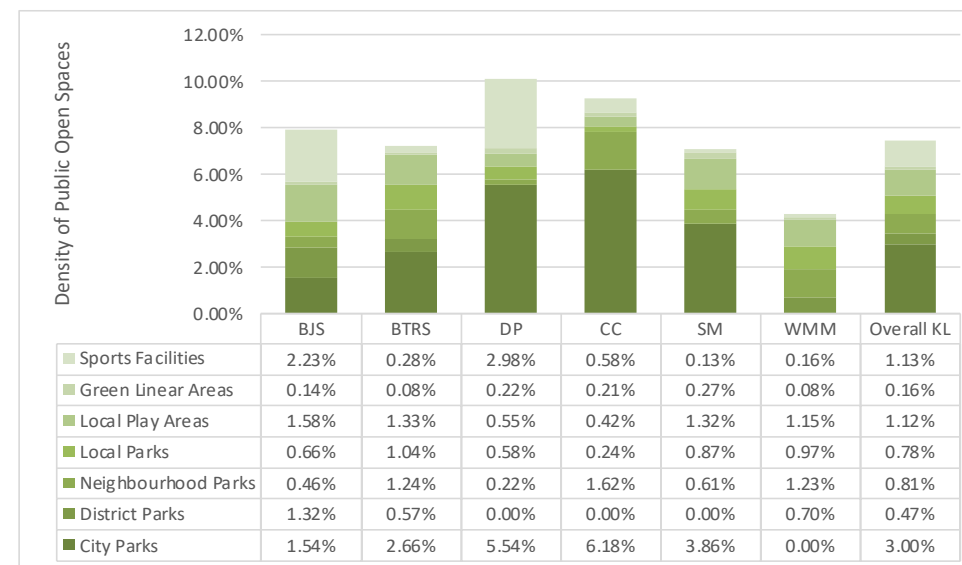
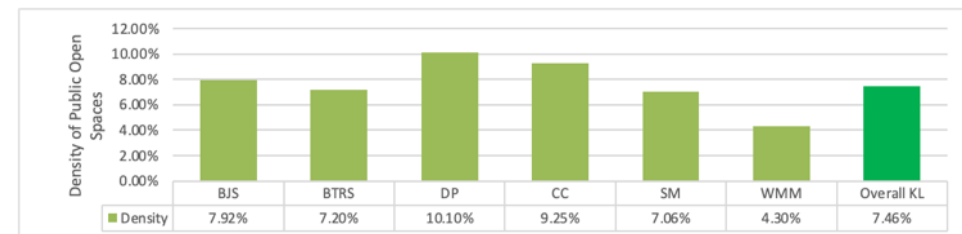
Area	BJS	BTRS	DP	CC	SM	WMM	Overall KL
Total Public Open Space Area (Hectare)	342.5	296.4	479.4	164.5	325.6	200.3	1,808.7
City Parks	66.4	109.7	263.1	110.0	177.8		727.1
District Parks	57.2	23.4				32.7	113.3
Neighbourhood Parks	19.8	51.0	10.6	28.8	28.3	57.3	195.9
Local Parks	28.6	43.0	27.6	4.2	40.2	45.2	188.8
Local Play Areas	68.1	54.6	26.3	7.4	61.0	53.7	271.0
Green Linear Areas	6.1	3.1	10.5	3.7	12.4	3.9	39.7
Sports Facilities	96.2	11.5	141.4	10.4	5.9	7.5	272.9
Total Area (Hectare)	4,322.9	4,116.9	4,745.3	1,779.2	4,610.0	4,658.6	24,232.8



Density of Public Open/ Green Spaces

Damansara Penchala and City Center have higher density

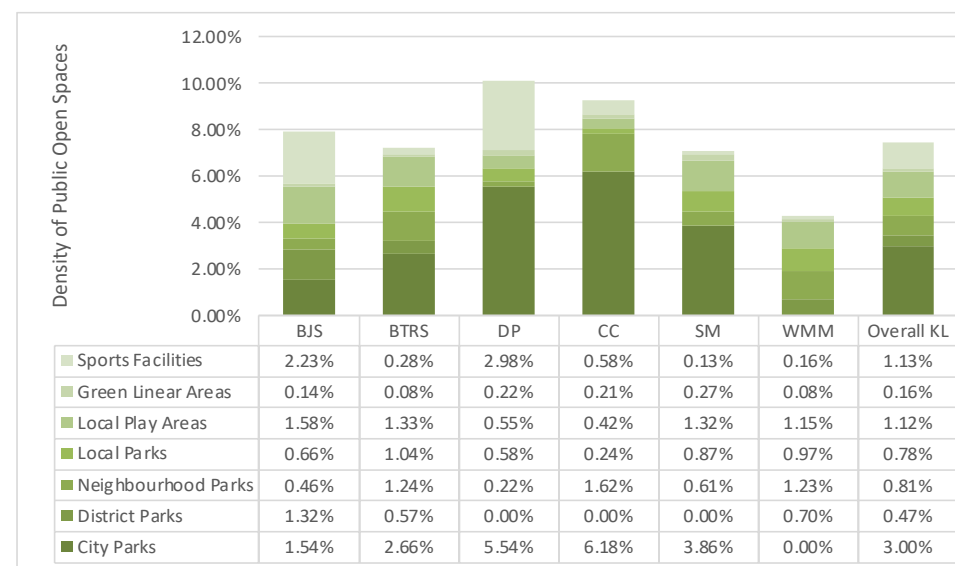
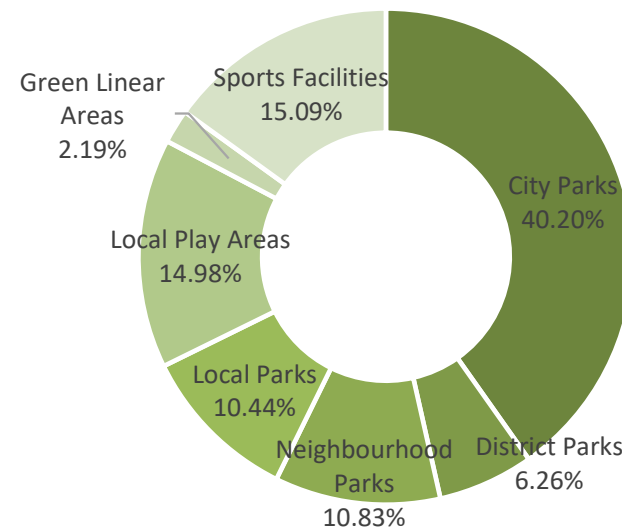
- Density of public open/ green spaces is calculated as the ratio of public open/ green spaces area size and total area size.
- In earlier observation of City Center and Wangsa Maju Maluri having low availability of open/green spaces, factoring in total areas, City Center appears to have a relatively high density of public open/ green spaces while observation of **Wangsa Maju Maluri with low percentage** of open/ green spaces holds using the density indicator (4.3%).



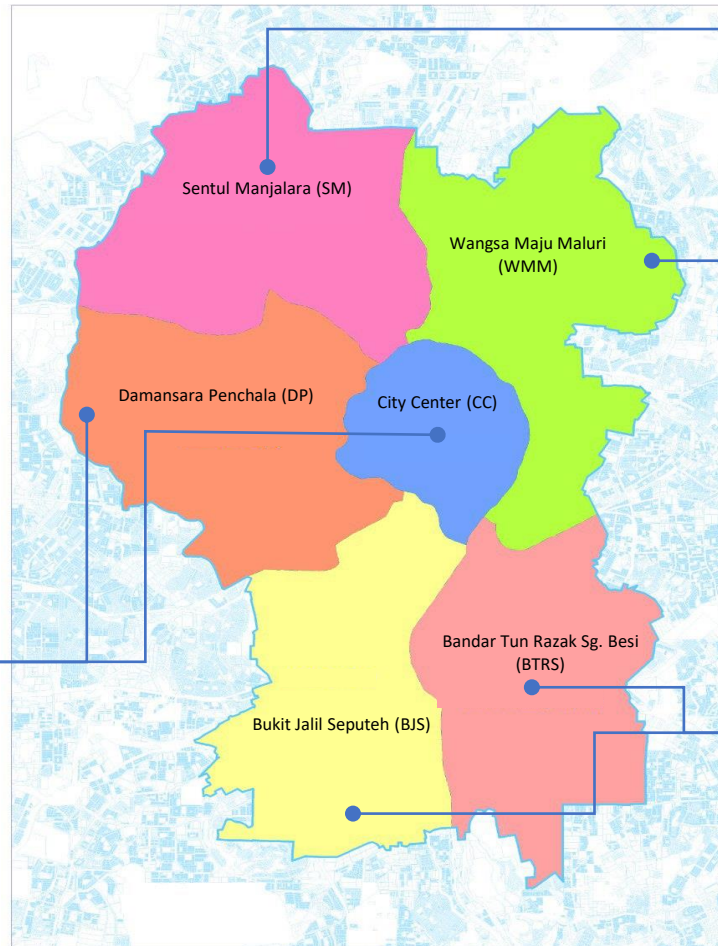
Types of Public Open/ Green Spaces

Observations:

- City parks are not available in Wangsa Maju Maluri area
- District parks are not in Damansara Penchala, City Center and Sentul Manjalara area.
- Sports facilities are predominantly located in Bukit Jalil Seputeh and Damansara Penchala areas.



Distribution of Types of Public/ Open Green Spaces



City Center and Damansara Penchala areas have a **significant coverage of city parks (more than 50%)** but contrarily with a **small coverage of other lower level hierarchy park** especially district park which is non-existent.

Sentul Manjalara area has a similar pattern with **high availability of city parks but without district parks**. However, provision of lower level parks such as neighbourhood, local and local play areas is rather balanced.

Wangsa Maju Maluri area has a **well distributed district park, neighbourhood park, local park and local play areas, but not equipped with city parks**.

Bukit Jalil Seputeh and Bandar Tun Razak Sungai Besi areas have **relatively balanced distribution of types of public open/ green spaces compared to other areas**.
Bukit Jalil Seputeh area has a much higher percentage of **sports facilities**.



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Distribution of Types of Public/ Open Green Spaces (continued)

Area	BJS	BTRS	DP	CC	SM	WMM	Overall KL
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
City Parks	19.4%	37.0%	54.9%	66.9%	54.6%	0.0%	40.2%
District Parks	16.7%	7.9%	0.0%	0.0%	0.0%	16.3%	6.3%
Neighbourhood Parks	5.8%	17.2%	2.2%	17.5%	8.7%	28.6%	10.8%
Local Parks	8.4%	14.5%	5.8%	2.6%	12.3%	22.6%	10.4%
Local Play Areas	19.9%	18.4%	5.5%	4.5%	18.7%	26.8%	15.0%
Green Linear Areas	1.8%	1.0%	2.2%	2.2%	3.8%	1.9%	2.2%
Sports Facilities	28.1%	3.9%	29.5%	6.3%	1.8%	3.7%	15.1%



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05. Discussions & Conclusions



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7.46%

Kuala Lumpur has public open/ green spaces provision of 7.46% (1,808.7 hectares) of its total area (24,232.8 hectares).

40.2%

Kuala Lumpur public open/ green spaces are covered largely (40.2%) by city parks notably, Taman Tasik Perdana and Taman Lembah Kiara.

17.2%

Local play areas and green linear spaces



Figure on the left: Total Areas by Park Hierarchy (values in hectares)



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Point 1: Kuala Lumpur public open/ green spaces are largely made up of city park, with increased importance of local play areas and green linear



Increased Importance of Local Play Areas and Green Linear Spaces

- These spaces which are designed using **smaller plot of land** are gaining traction in the recent years due to limited amount of spaces available to build bigger park.
- Standard provision of local play areas of 0.5 hectares as compared to 2 hectares for local parks (KLCP2020) has provided congruent motivation to develop smaller open spaces as seen in various initiatives in KLCP2020 and continuity in KLSP2040.
- Using spaces between buildings, alleys, area underneath MRT rail structure as **pocket park and urban plaza; integrating areas/ parks by developing green linear spaces** as a form of **park connector** (KLSP2040); and redevelopment sites are required to provide urban parks with minimum facilities such as plazas, seating areas and landscape areas (KLCP 2020).



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Pocket park and urban plaza; integrating areas/ parks by developing green linear spaces as a form of park connector (Source: KLSP 2040)



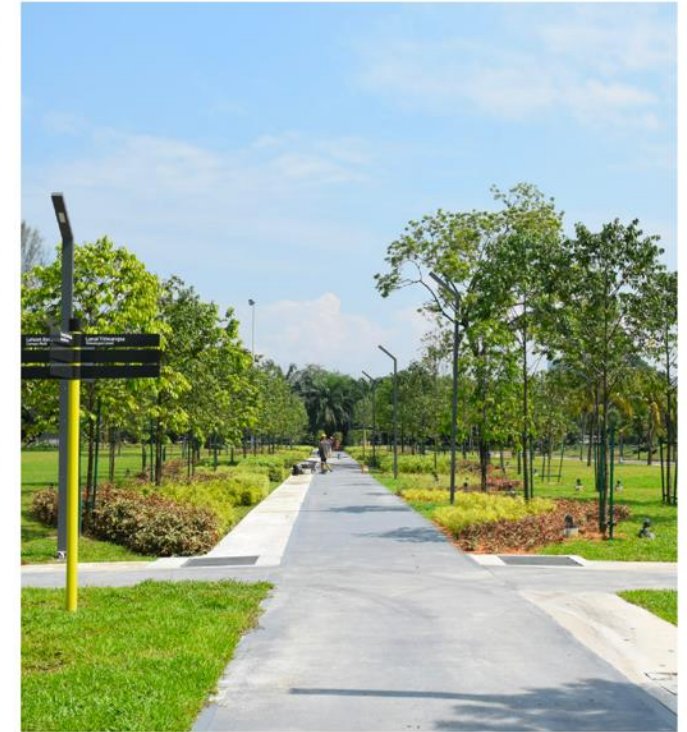
TAMAN POKET DI JALAN AMPANG/JALAN P. RAMLEE



LAMAN STANDARD CHARTERED



TAMAN ANGKAT, DI JALAN PINANG, KUALA LUMPUR

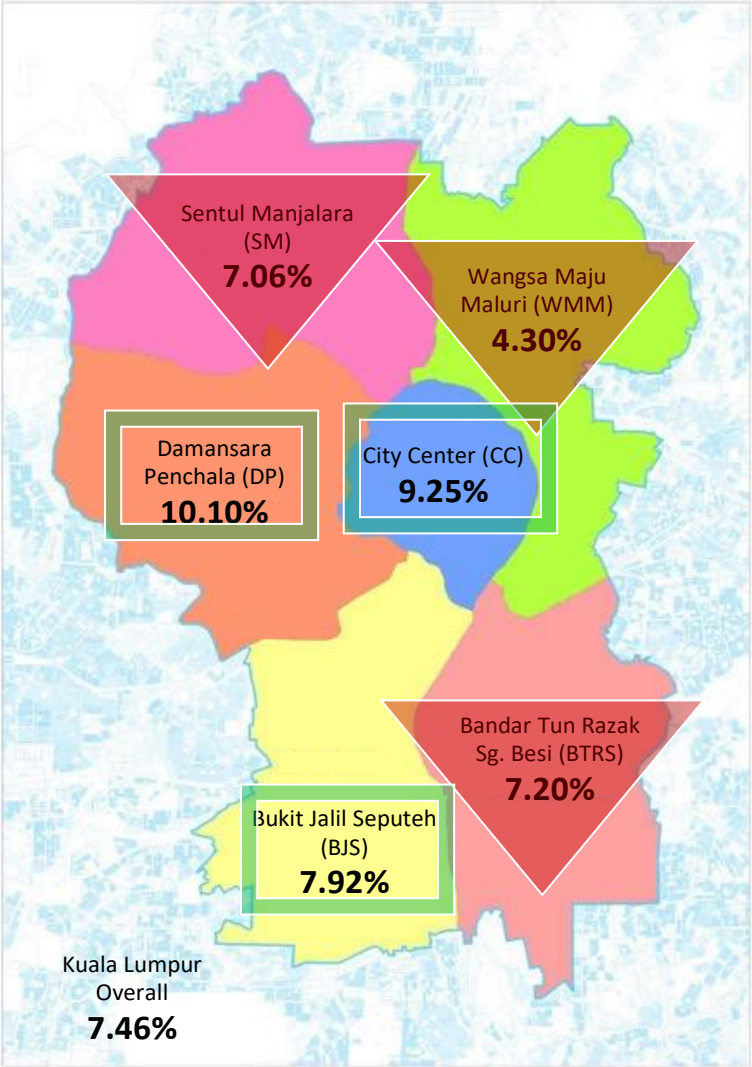


RANGKAIAN PENGHUBUNG TAMAN

Point 2: There is disparity of public open/ green spaces provision between areas

1 In terms of: Density Measurement

- Three areas (Damansara Penchala, City Center and Bukit Jalil Seputeh) have higher public open/ green spaces density compared to the overall average of 7.46% for Kuala Lumpur.
- On the other hand, Sentul Manjalara, Wangsa Maju Maluri and Bandar Tun Razak Sungai Besi areas have lower density of public open/ green spaces compared to Kuala Lumpur overall average.
- Wangsa Maju Maluri area with density of 4.3% is the lowest among these areas, showing a big disparity especially against City Center and Damansara Penchala.



Point 2: There is disparity of public open/ green spaces provision between areas

2 In terms of: Distribution of Types of Parks

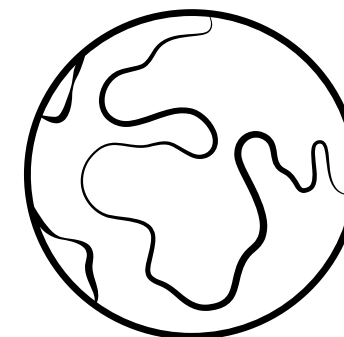
- Local play areas and local parks which provides accessibility within walking distance is important for daily recreational purposes as compared to the higher level parks such as city parks and district parks where citizens can reach using private or public transportation during leisure time.
- Damansara Penchala and City Center have unbalanced distribution of higher and lower level parks where the low availability of lower level parks in these areas highlights potential inaccessibility to recreational areas for daily activities.

The second guiding principles in Van Herzele and Wiedemann (2003) posits that larger areas of forest and city parks in the surrounding are used for weekend recreation and smaller parks closer to citizens' residences and workplace are for local daily life which highlights the importance of open spaces of different functional levels that should not be substituted for one another.

3

In terms of: Distribution of Sports Facilities

- Sport facilities are concentrated in two areas : Bukit Jalil Seputeh and Damansara Penchala, highlighting a big range of 1.8% to 29.5% in terms of sports facilities provision.
- Other than these two areas, sport facilities in other areas are minimal



06. Future Research Agenda

Indicators Enhancements

i) Green space provision per inhabitant related to green spaces within walking distance to residential area (Kabisch et al., 2016; Grunewald et al., 2017; Zepp et al., 2020) and ii) green space provision per inhabitant related to total amount of green space (Grunewald et al., 2017; Zepp et al., 2020). **The enhanced indicator which provides an improved visibility of open/ green spaces provision in a city shall be used for further study.**

Citizens' perspective of public/ green space provision

How citizens view the current state of provision and accessibility to public open/ green areas, which is pointing to the first guiding principles of urban green spaces provision by Van Herzele and Wiedemann (2003).

Inequality in relation to socio economic background

Socio economic background **should not hinder citizens from having equal access** to open spaces and green spaces. As we are embracing inclusivity and equality to live and thrive, future study on how socio-economic factors correlates with inequality of open/ green spaces access will be beneficial to investigate this further.



THANK YOU

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