SUSTAINABLE URBAN PARK: A CASE STUDIES OF TAMAN AWAM TELUK LIKAS, KOTA KINABALU, SABAH. MALAYSIA

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Abstract

Urban Park is a manifest of healthy images surrounding the city and indicating policy the local authority implements. The studies purposely to measures the level of satisfaction in visitors toward the current condition of the study area as an urban recreational park. A descriptive research approach was used on 187 respondents in the study area. A Satisfaction Index Analysis (SIA) was imposed to see the level of visitor satisfaction with the environment, facilities and amenities provided. Preliminaries' finding indicates that most respondents were satisfied with the facilities and amenities provided in the study area. Whereby for the SIA analysis from 29 variables, info signage with 0.9401 (excellence) is the highest, and oppositely the lowest is debris collection centre at 0.6086 (fair). The finding demonstrates that the local authority's facilities and amenities are sustained towards visitors to the area.

Keywords: Satisfaction Index Analysis (SIA), Urban Park, Visitors Awareness

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INTRODUCTION

Urban Park's (Hayward, 1989) establishment is vital for decreasing urban heat based on transportation movement, economic activity, and social activity. They have proven worldwide that green or park areas in the city contribute to a healthy environment by reducing noise, improving air quality and as green belts for the city. Significantly enhance the environmental quality of the town, including Malaysia. The government makes various initiatives to ensure a balanced relationship between the population and the environment, from providing recreational areas with multiple facilities to planting trees with high carbon absorption levels, such as monkey pod trees or 'Trimbesi' and Terminalia catappa or 'Ketapang'. Safety is also emphasised to ensure that there are no criminal cases in the area with CCTV and emergency signs to contact the relevant authorities.

RESEARCH BACKGROUND

Urban parks were once thought to be representations of nature that would promote a better society (Young, 1995). A considerable pillar for sustainable cities (Mohamed et al., 2012) and its establishment is required to mitigate the planning, design, and management of public space in urban development and a socially constructed process in shaping cities primarily through capital investment designed to generate economic growth and promote healthy activity (Latip et al., 2016). An Urban Park defines as a park in an urban area that offers respite, rest, recreation, education, exercise, inspiration, or enjoyment to residents of and visitors to that urban area (Law Insider, 2023).

The urban park is also associated with cities' sustainability due to their wide range of ecosystem services, such as carbon capture, reduction of air pollution, biodiversity maintenance, aquifer recharge, and climate regulation (Ayala et al., 2019). However, all the arrangements and planning must consider the needs of visitors who will use and enjoy the facilities provided according to the standards set by the local authorities and any relevant stakeholders. Rosli et al. (2020) indicate that park quality is significantly correlated to the level of physical activity among visitors. Statistical evidence shows that park quality affects visitors' physical activity level (active lifestyle).

Urban Park generally has diverse functions and creates a pleasant municipal environment. Konijnendijk et al. (2013) and Latip & Umar (2022) indicates that urban park has many functions, as shown in Table 1.

Table 1: Urban Park functions

Functions	Statement
Human health and Well-being	Physical and mentally healthy through direct or indirect effects towards leisure and recreation activities.
Social Cohesion and Identity	Urban parks as a connection to strengthen social ties, cohesion and relation.
Tourism	The main attraction for domestic tourism, inbound tourism and outbound tourism. Potentially boosting the economic activity in surrounding areas.
Biodiversity	Contribute to flora and fauna biodiversity through natural experience, vital for ecosystem functioning and services.
Air quality and carbon footprint	Generate positive impact in reducing air pollutant levels and carbon sequestration.
Water management Cooling	Structure control on stormwater/runoff regulation Buffer zone to the urban heat area with trees canopy provided and absorber for the greenhouse effect.

Generally, urban park function offers many positive vibes to the city, ensuring the town is liveable, conducive, pleasant, and attractive for its citizens. However, urban parks must be equipped with sustainable utility and amenities for visitors' usage during their activities in the area. The equilibrium point of understanding and satisfaction towards the facilities and services provider must be accessed accordingly.

Table 2 indicates the list of standard urban park facilities and amenities in the town according to the rules of laws and policies implemented by local and federal authorities via relevant stakeholders.

Table 2: Urban Park Facilities and Amenities

Item		
<u>Facilities</u>	Fast food Restaurant	<u>Safety and Security</u>
Podium area	Bas stops	Warning signage
Children's play		Emergency Signage
area/equipment	<u>Linkage and</u>	Local authority officer
Exercise Stations	<u>Circulation</u>	Patrol car (police force)
Gazebo	Pedestrian route.	CCTV
Park bench	Circulation	
Dust bin	Accessible to the	<u>Vegetation and Landscaping</u>
Waste bin	handicapped.	Tree
Centre debris collection	Parking spaces	Bush
Signage		Meadow
Pit stop	<u>Views and vista</u>	

Hawker centre	Beach area
Grocery shop	Sea views
	Landscape view

Source: Authors, (2023)

Therefore, field studies to understand the current level of satisfaction towards urban park facilities and amenities provided by the relevant authority. The study area is in the Kota Kinabalu area, namely Taman Awam Teluk Likas.

STUDY AREA

Taman Awam Teluk Likas is next to Jalan Tun Fuad Stephan and faces Teluk Likas beach. It is divided into phases 1, Taman Teluk Likas and 2, Taman Teluk Likas 2. The National Landscape Department funds it under National Development Programme (JLN, 2022) in collaboration with the Landscape Department from Kota Kinabalu City Council (DBKK, 2017).

Figure 1: Taman Awam Teluk Likas
Source: Authors, (2023)

The beach is covered with sand and boulders. Some areas with retaining walls at 1 meter high, acting as a buffer against solid waves, especially in shop areas and food courts (Anjung Selera). It is a complete recreation park in terms of leisure and recreation needs. Furthermore, it improved with good safety features, and the same goes for public facilities, including shop lots for small

businesses. A 3 km walking path (Taman Teluk Likas-Taman Teluk Likas 2 – Muara Likas) is shared with a cycling path with an estimated 9-12 feet path width.

METHODOLOGY

This study is non-parametric and uses a descriptive research approach focusing specifically on frequency, mean and Satisfaction Index Analysis (SIA). Random sampling was used to obtain the study population in the study area. Likert scale 5 with the level of satisfaction, namely Very Satisfied (1), Satisfied (2), Fair (3), Not Satisfied (4) and Very Not Satisfied (5,) used to measure the level of satisfaction towards facilities, soft and hard landscape as well as the activities offered from the park. Survey form with three sections: visitor's profiles, covid19 background and SIA assessment, used as a core instrument during data collection. It took about 15–30-minute time to finish the interview session with 187 respondents.

The modification of the satisfaction index was used to rank the critical variables. This vital index was computed using the formula cited by Latip et al. (2022) and Hanafi et al. (2018):

Equation 1:

$$(1) \qquad Satisfied\ Index\ (SI) = \frac{5(n1) + 4(n2) + 3(n3) + 2(n2) + n5}{5(n1 + n2 + n3 + n4 + n5)}$$

Were.
n1 = number of respondents who answered, 'very satisfied
n2 = number of respondents who answered 'Satisfied'   n3 = number of respondents who answered 'Fair'   n4 = number of respondents who answered, 'not satisfied   n5 = number of respondents who answered, 'very not satisfied

ANALYSIS AND FINDING

Table 3 indicates the frequency analysis for 187 respondents visiting the study area. Most respondents are male at 65.2%, and the rest are female at 34.8%. The age group indicates that 46.5% is the highest group at 31-40 years, followed by the age group at 18-30 years with 30.5% and the rest at 27% from ages group below 18 years and above 41 years. As for education background, 52.9% are undergraduates, followed by secondary school at 29.4%, and the lowest is postgraduates at 2.7%.

Table 3: Visitors Profile

Analysis Frequency (n: 187)

Item	Freq	%	Item	Freq	%
Gender			Purpose visit		
Male	122	65.2	Jogging/running	85	45.5
Female	65	34.8	Zumba	9	4.8
			Callisthenics	3	1.6
Age Group			Cycling	35	18.7
>18	6	3.2	Picnic	15	8.0
18-30	57	30.5	Fishing	6	3.2
31-40	87	46.5	Sightseeing	18	9.6
41-50	26	13.9	Gastronomy	16	8.6
51 and above	11	5.9			
			Companion		
Education			Alone	113	60.4
2nd School	55	29.4	Family	41	21.9
Undergraduate	99	52.9	Friends	33	17.7
Graduate	28	15.0			
Post-graduate	5	2.7	Visitors Origin		
			Local	127	67.9
Occupation			Others District	39	20.9
Self-Employee	34	18.2	Others State	8	4.2
Government Service	12	6.4	International	13	7.0
Private Sectors	99	52.9			
Student	32	17.2			
At home	10	5.3			

Source: Authors, (2023)

For the respondent occupation, most of the respondent work in the private sector, 52.9%, followed by self-employee at 18.2% and the lowest at 5.3%, which is stay-at-home (housewives). Most respondents purposely visited the study area to jog at 45.5%, followed by cycling activity at 18.7%, sightseeing at 9.6%, and gastronomy at 8.6%. The rest is a picnic, Zumba, fishing and calisthenic at up to 17.6%. Respondent companion indicates that most respondents prefer to come alone at 60.4%, followed by a family companion at 21.9% and the rest with friends. Respondents originally came from local at 67.9%, followed by other districts at 20.9% and the rest, others state and international at a total up to 11.2%.

Table 4: SIA Rank.

Topic (10pt)

	Mean	SIA	Rank	Info
Info Signage	1.2995	0.9401	1	Excellence
Emergency signage	1.3690	0.9262	2	Excellence
Warning signage	1.4118	0.9176	3	Excellence
Pit stop (cyclist & runner)	1.4492	0.9102	4	Excellence
Children's play area/equipment	1.5134	0.8973	5	Excellence
Sea views	1.5134	0.8973	6	Excellence
Accessible to the handicapped.	1.7433	0.8513	7	Excellence
Gazebo	1.8770	0.8246	8	Excellence
Exercise Stations	1.9519	0.8096	9	Excellence
CCTV	1.9840	0.8032	10	Excellence
Beach area	2.0107	0.7979	11	Good
Pedestrian route.	2.0267	0.7947	12	Good
Tree	2.0481	0.7904	13	Good
Podium area	2.1283	0.7743	14	Good
Parking spaces	2.1818	0.7636	15	Good
Meadow	2.2139	0.7572	16	Good
Local authority officer	2.2246	0.7551	17	Good
Circulation	2.2299	0.7540	18	Good
Bush	2.2834	0.7433	19	Good
Fast food Restaurant	2.3048	0.7390	20	Good
Hawker center	2.3316	0.7337	21	Good
Landscape view	2.4064	0.7187	22	Good
Bus stop	2.6952	0.6610	23	Acceptable
Park bench	2.7861	0.6428	24	Acceptable
Grocery shop	2.8610	0.6278	25	Acceptable
Patrol car (police force)	2.8824	0.6235	26	Acceptable
Dust bin	2.8877	0.6225	27	Acceptable
Waste bin	2.9358	0.6128	28	Acceptable
Centre debris collection	2.9572	0.6086	29	Acceptable

Note:
Excellence: > 0.8, Good: $0.79 \leq x \geq 0.70$, Acceptable: $0.69 \leq x \geq 0.50$
Poor: $0.49 \leq x \geq 3.0$, Very Poor: ≤ 2.9

Table 4 indicates the Satisfaction Index Analysis (SIA) result in 29 variables from the study area. Generally, out of 29 variables 10 of them fall under excellence performance based on SIA ranks. Followed by good performance with 12 variables and the rest 7 variables are in the acceptable category. Surprisingly none of the variables falls under the poor and very poor categories.

In the excellence category, info signage dictated the highest SIA rank at 0.9401, followed by emergency signage at 0.9262 and warning signage at 0.9176 and the lowest from the category is CCTV at 0.8032. The signage seems very important to the visitors in delivering information concerning the area. As for the good category, the beach area ranks 11 leads with the SIA index at 0.7979, followed by the pedestrian route at 0.7947 and surrounding trees at 0.7904. The lowest for the category is landscape views at 0.7187. The detail for the category can be referred to the Table 4. Acceptable categories indicate that the existing conditions of the bus stop are at the highest point in the 0.6610 SIA index, followed by the park bench at 0.6428 and the grocery shop at 0.6278. The lowest of the categories is the centre debris collection point at 0.6086.

Overall, the reading of the SIA Index indicates that the study area is in compatible mode and meets the visitors' standard in terms of facilities and amenities provided.

CONCLUDING REMARK
Generally, visitors to the study area are satisfied with the current physical conditions of public facilities and amenities provided by local authorities. Furthermore, the place demonstrates the optimal usage of the space area and accommodates recreational activity and small business integration. Significantly, the local authority's approach to providing amenities and facilities to the area considerably sustains and integrates with the satisfaction level of visitors to the Taman Awam Teluk Likas.

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