



The Importance of Urban Parks for Community Health and Its Challenges

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ABSTRACT

Urban parks play a critical role in promoting community health and well-being while facing various challenges. This Focus Group Discussion (FGD) provides a comprehensive review of the importance of urban parks and the obstacles encountered in ensuring their successful implementation. The discussion highlights the positive impacts of urban parks on physical and mental health, as well as their cultural, aesthetic, and social value. Additionally, it examines how urban parks help to mitigate urban heat impact and reduce carbon emissions. The discussion also highlights the challenges that are encountered, including those related to space limitations, maintenance issues, disease vectors, design flaws, technological shortcomings, safety concerns, societal issues, and environmental pollution. These emphasize the need for public involvement, awareness, education, and proper enforcement to overcome these challenges. Furthermore, it also explores opportunities related to economic benefits, technological advancements, innovative design and structures, safety features, and collaboration among authorities and agencies. By addressing these challenges and capitalizing on the opportunities, urban parks can serve as therapeutic spaces, foster community engagements, provide green land in cities, and contribute to a healthier and more sustainable urban environment. This discussion has offers valuable insights and recommendations for policymakers, urban planners, and park management to enhance the effectiveness and impact of urban parks on community health and well-being.

Keywords: urban park, community health, importance, challenges, and opportunities

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INTRODUCTION

Urban parks play a vital role in promoting the health and well-being of their surrounding communities by offering readily

accessible spaces for recreation, relaxation, and social interaction.

There is mounting evidence that parks and other green spaces in urban areas improve people's well-being by reducing stress,

improving the sense of community, and lowering blood pressure. The purpose of this in-depth analysis is to draw attention to the role that urban parks play in improving the health and happiness of local communities, as well as to discuss the obstacles and strategies to overcome them. Urban parks offer health benefits, including reducing chronic diseases, reducing stress, anxiety, and depression, and improving cognitive performance and attention restoration.

Urban parks provide numerous benefits, but ensuring equal access to all community members can be challenging. Inequality in park's accessibility in low-income neighbourhoods hinders their health benefits. Elderly, disabled, and minority groups face unique obstacles in accessing parks. Therefore, age-friendly design, accessible infrastructure, and inclusive programming are essential for these groups. Additionally, certain communities may face barriers like crime, transportation, and cultural obstacles (Rushing et al., 2019) making it difficult for them to fully utilize urban parks.

Identifying and resolving inequalities in park provision requires concerted efforts by government agencies, urban planners, community organizations, and citizens. The gap can be closed using strategies, such as improving infrastructure, increasing financing, and prioritizing underserved areas for inclusive parks.

Urban parks are critical to the health and well-being of their surrounding communities because they offer places for people to exercise, unwind, and connect. However, issues of park distribution, infrastructure, and inclusiveness arise when attempting to ensure that these advantages are available to everybody. Urban parks can become effective instruments for promoting healthier and more vibrant communities by tackling these difficulties via collaborative efforts and inclusive planning.

CHARACTERISTICS OF URBAN PARKS

Urban parks in a region are influenced by factors like culture, climate, and policies. Malaysian parks differ from other countries such as Europe and the Arabic Middle East, which feature distinct seasons and natural facets. In Europe, parks showcase colourful fall foliage, while in Arabic countries, due to the prevalent extreme heat, parks in this region prominently showcase a multitude of water features to aid visitors in staying cool (Pakzad et al., 2018).

There are several requirements for urban parks in Malaysia. First, parks should be easily accessible from major thoroughfares and public buildings like schools and hospitals. This ease of access

helps to integrate parks into daily life and fosters community involvement. Second, urban parks require good air circulation to maintain healthy air quality, promote comfort to park visitors, support plant health, mitigate heat, and contribute to overall sustainability and well-being of the park environment. Parks should be laid out for maximum visibility, increasing security, and creating open, peaceful spaces with unobstructed views of greenery, recreation centres, and gathering areas.

The quality of public infrastructure is crucial to the success of Malaysia's urban parks in providing for the demands of their visitors. The accessibility of facilities like restrooms, drinking fountains, and picnic areas improves the comfort of visitors. The park's user experience and security are further improved by well-maintained paths, lighting, and signs (Gupta & Yusuf, 2019). With these essential features in place, urban parks in Malaysia may become welcoming gathering places for people of all backgrounds and interests. These parks become essential parts of the urban fabric, encouraging exercise and social contact while also improving the health and happiness of locals and tourists.

IMPORTANCE OF URBAN PARKS

Urban parks greatly increase community health and well-being by offering benefits for physical, mental, and social health. These parks offer opportunities for exercise, such as walking, running, cycling, and sports, which can boost cardiovascular fitness, muscle building, and weight management. Regular exercise in urban parks reduces the risk of chronic diseases like obesity, diabetes, and cardiovascular disease. Additionally, urban parks have a significant impact on mental health. Spending time in natural environments can help to reduce stress and boost mood. These parks provide an escape from the city's hustle and bustle, facilitating relaxation and stress reduction.

Urban parks enhance daily lives, provide aesthetic, social, and cultural significance, and foster community through events, social interactions, and cultural activities, fostering a sense of belonging as it also offers opportunity for people from all backgrounds to interact. They serve as outdoor classrooms for environmental education and cultural appreciation, helping to preserve and celebrate local heritage.

Prof Madya Dr Azlan Abas has pointed out that urban parks have significant effects on people's physical and mental well-being. As we are living in an ageing society, the community especially elderly people can exercise and relax as it is important for a good

health. Additionally, urban parks have important cultural, aesthetic, and social significance, which raises people's quality of life. Spending time in urban parks might bring back fond memories for people who have relocated from the country to the city. These green havens in the centre of the city provide a tranquil getaway from the hectic metropolitan environment. Dr Fong Chng Saun pointed out:

“Urban parks have the extraordinary capacity to help keep cities cool. It contributes significantly to reduce the negative consequences of urban heat”.

Compared to the surrounding constructed area, the microclimate created by green spaces is cooler and more comfortable because of the abundance of plants and trees. Plants release moisture into the air through a process called transpiration, which raises humidity levels and provides a cooling effect through evaporation in the park. This mechanism lowers the average temperature in each area, which in turn minimizes the amount of heat stress that people are subjected to.

Urban parks provide ecosystem benefits by providing natural shade, reducing direct sunlight exposure, and reducing ground temperature. Trees block the sun, lowering air temperature and preventing precipitation from reaching the ground. The "green land of the city" refers to the incorporation of urban parks and gardens into the built environment, which act as the city's "lungs." The urban parks can clean the air, produce beneficial gases, and promote ecological balance by providing habitat for various species.

Dr. Fong Chng Saun concurs that urban park help in reducing the impact of the urban heat island. Urban parks benefit from shade, reducing heat island impact through thick tree canopy, reducing heat and glare on surfaces. Surface temperatures are lowered, and the amount of heat absorbed by buildings, roads, and other infrastructure is reduced because of the shading effect. Consequently, urban parks help to chill the surroundings.

In addition, urban parks contribute to reduce the impact of heat waves that can bring uncomfortable high temperatures to urban areas. Through the process of evapotranspiration, urban parks function as natural coolants, relieving residents of the stifling effects of high temperatures. The cooling impact of urban parks is due in part to the shadowing effect and the evaporation of moisture from plant leaves. Introducing more green infrastructure as such in

urban parks will help improve the urban environment and promote better outdoor thermal comfort for city dwellers (Fong et al., 2023).

Urban parks can cut down on greenhouse gas emissions in addition to keeping people cool. Through photosynthesis, plants remove carbon dioxide (a greenhouse gas) from the atmosphere and release oxygen. Cities may help reduce carbon emissions, mitigate climate change, and promote environmental sustainability by planting trees in urban parks in large numbers.

In conclusion, city parks are valuable resources for reducing the impact of the urban heat island. They are useful tools for producing more liveable and comfortable urban environments because of their shading properties, capacity to moderate heat waves, and ability to reduce carbon emissions.

CHALLENGES OF URBAN PARKS

Numerous obstacles threaten to undermine urban parks' potential for growth, upkeep, and community benefit. Space constraints in urban and fast developing areas make it challenging to choose appropriate locations for new parks (Xu et al., 2019). Abandoned places within parks become breeding grounds for disease-carrying vectors like mosquitoes, which poses an additional concern (Nguyen-Tien et al., 2019). While technical limitations hinder effective monitoring and control, poor design and structure can lead to safety issues and a poor user experience (Wang et al., 2021). Low public involvement and knowledge, for example, contribute to the overuse and neglect of park facilities (Cheng et al., 2021).

Inadequate lighting and fallen trees are two examples of safety concerns that can discourage park use. Effective park management is further hampered by issues with enforcement, such as a lack of defined norms and collaboration among authorities (Hausmann et al., 2017). Maintaining urban parks cleanly and sustainably is complicated by environmental contamination brought on by things like garbage and pesticide use. To overcome these obstacles, we need concerted teamwork, which includes things like the creation of thorough guidelines, funding for technical advances, public education and awareness campaigns, routine upkeep and monitoring, and stronger enforcement mechanisms (Wang et al., 2021). Urban parks can survive and continue to benefit their surrounding communities if these issues are addressed head-on.

One of the significant challenges faced in the development of urban parks is the limitation of available space within cities and development areas. This limitation poses obstacles for urban

planners and park developers who strive to create green spaces for the community.

LAr. Khairul Amin highlighted the difficulties encountered in securing suitable areas for urban park development. In some cases, park advocates must contend for land that has not yet been designated as open space, leading to contentious battles. Unfortunately, the outcomes of such endeavours do not always favour the establishment of urban parks. Access to land and obtaining permission to develop urban parks can be complex and time-consuming. Authorities and stakeholders need to navigate the legal processes and acquire the necessary permits to ensure that the land is suitable for park development. Checking the status of land ownership, zoning regulations, and potential conflicts with other development plans are crucial steps that require access and permission.

An alternative approach to address the limitation of available space is by utilizing areas that have not yet been officially designated as open space. One such approach is the concept of "tree banking," where areas are temporarily designated and managed as tree nurseries to support reforestation efforts and the reduction of carbon dioxide emissions (Department of Town and Country Planning Malaysia, 2018). This innovative approach not only helps in addressing the space constraint but also aligns with Malaysia's goal of reducing CO₂ emissions by 45% by 2030.

DISEASE IN URBAN PARKS

Without regular maintenance, abandoned spaces, like those found in the crevices of urban parks, can become a haven for disease-carrying vectors, as brought to light by Ms. Haryati and Ms. Noor Aniza. Particularly dangerous are mosquitoes due to the diseases they spread (WHO, 2021). These include dengue fever, malaria, and other zoonotic illnesses. It is critical to manage the breeding places of mosquitoes in urban parks because of the devastating effects these diseases can have on persons and communities. Rats carry leptospirosis, a disease caused by improperly disposed food scraps by the park goers and can spread the bacterium to people through contact with contaminated water or soil.

Additionally, pockets of stagnant water can form when tree fronds and leaves from various plant species accumulate in urban parks. These plant segments collect water and provide ideal conditions for mosquitoes and other disease-spreading insects to breed. Because disease-causing organisms thrive in stagnant

water, the prevalence of infectious diseases is elevated (Enkhbold & Matsui, 2021)

Ms. Haryati gave a good illustration of how even well-intentioned actions can have unforeseen results. When the COVID-19 pandemic hit, residents of a PPR (Public Housing Project) established a garden in their park. The garden's benefits were undermined, however, when it became a mosquito breeding ground due to a lack of routine upkeep, increasing the danger of mosquito-borne illnesses. Stagnant water and improperly discarded organic waste are two examples of breeding grounds for disease vectors that should be eliminated through routine cleaning and inspections.

The efficiency and usefulness of urban parks greatly depend on their layout and design. Both Ms. Haryati and Ms. Noor Aniza underlined the need for playground equipment that is both sturdy and unlikely to break, as damaged pieces can leave gaps that disease-carrying vectors can use as breeding grounds. This emphasizes the significance of giving due thought to the durability and safety of park facilities when designing them.

DESIGN AND STRUCTURE IN URBAN PARKS

LAr. Khairul Amin was concerned about the lack of tree canopy in urban parks, which he said creates hotspots in the park. For better tree and plant coverage throughout the development, he advocated setting aside at least 10% of the land. This finding highlights the need of designing urban parks with sufficient green spaces and tree canopies.

However, budget constraints frequently prevent the full potential of urban parks from being realized. It can be difficult to establish parks that fully achieve their objectives and potential due to the high expenditures associated with site acquisition, planning, construction, and maintenance.

Additionally, the quality and security of urban parks can be significantly impacted by a lack of upkeep or periodic monitoring by the competent authorities. Poor maintenance methods can lead to aging infrastructure and wasteful spending on personnel and materials. To overcome these obstacles and guarantee the proper operation and safety of urban parks, regular inspections, maintenance operations, and effective management systems are required.

Problems with vandalism in urban parks can also be caused by poorly thought-out designs and inadequate illumination. The park's safety and appeal could be jeopardized if vandals found

places where the lighting was inadequate. With careful and strategic planning, as well as sufficient illumination, parks can be made more inviting and safer for visitors.

Ms. Farhana voiced her disagreement on the utilization of overly mature trees in urban parks. Overcrowding, decreased light levels, and species competition are among problems that can result from plants expanding too quickly. That is why it is crucial to pick and tend to tree species with care to make sure they fit in with the urban park's ecosystem.

Prof Madya Dr Azlan Abas warned about the harm that could come from planting foreign tree and plant species. Changes in ecological dynamics and the interactions between native species might result from the emergence and adaptation of new species. That is why, Ms. Farhana emphasized the selection and introduction of plant species in urban parks should be carefully considered to minimize disruptions and retain the local ecosystem's integrity.

In conclusion, many factors need to be considered when planning the layout and construction of urban parks. By meeting these obstacles and using best practices in park design, urban parks may serve as places that are both safe for visitors and useful for the local community.

TECHNOLOGY IN URBAN PARKS

Dr. Fong Chng Saun's points about the need for constant and precise monitoring of urban parks due to a lack of technology and informatics systems are very valid ones. The ability to collect real-time data on park utilization, environmental conditions, and community health indicators is hampered in the absence of such technical improvements. It is difficult to determine the impact urban parks have on community health without a reliable method of measuring the positive effects they have on people's lives.

In addition, there is not yet a complete forecasting system in Malaysia that is designed for urban parks. Heat waves and other weather conditions that are hazardous to park visitors' health and comfort might be predicted and tracked with such a system. The problem is made worse by the lack of heat wave rules in Malaysia, which could prevent people from making healthy use of urban parks.

The creation and implementation of urban informatics technologies that allow for constant monitoring and evaluation of urban parks is necessary to meet these problems. Sensors, data analytics, and data visualization platforms are all examples of technology that can

be used to monitor and analyse park usage, air quality, temperature, and other pertinent metrics. By combining data from multiple sources, park planners and managers may better understand how urban parks affect residents' health, make more informed decisions, and shape the parks of the future.

The benefits and possible constraints of urban parks could be better understood with the introduction of standardized indicators that link urban parks to community health outcomes. As a result, legislators, urban planners, and health experts would be better equipped to make evidence-based decisions and develop interventions that fully realize urban parks' health benefits.

Maximizing the benefits of urban parks in promoting community well-being requires the integration of technology and informatics systems for continuous monitoring, standardized indicators for assessing the relationship between urban parks and community health, and the development of heat wave guidelines. Malaysia may improve the administration and utilization of urban parks by utilizing technology and data-driven techniques, allowing them to realize their full potential as significant assets for community health and the overall liveability of communities.

SAFETY FEATURES OF URBAN PARKS

A major threat to the security of urban parks is vandalism. When vandals destroy park infrastructure, amenities, or other property, they not only waste money but also put others in danger. Vandalism in parks can have harm public health and wellness because it discourages park goers from using the park's amenities.

Another source of risks in urban parks is falling trees. Maintaining the safety of the trees in parks calls for routine checks, trimming, and other forms of maintenance. Falling branches or even the full collapse of a neglected or rotting tree can cause serious injury or death. To reduce the likelihood of injuries occurring in urban parks, timely maintenance and appropriate tree care are essential.

Visitors to urban parks are also at danger of getting attacked by wild animals. Although wild animal attacks are relatively rare, they do occur, particularly in areas where human and wildlife ecosystems coexist. To protect the well-being of park visitors, authorities should take steps to reduce the likelihood of animal-human confrontations, such as posting warnings and employing effective wildlife management techniques.

It is crucial to use suitable design features and management strategies to increase safety in urban parks. Safer and more

comfortable environments can be created by installing well-maintained walkways, sufficient lighting, and security features. To address potential dangers and reduce risks, it is essential to conduct routine inspections, perform necessary maintenance, and respond quickly to safety concerns.

SOCIETY AND LACK OF ENFORCEMENT FROM RELATED AUTHORITY AND AGENCY

To effectively manage and utilize urban parks, societal considerations must be considered. While the potential for community involvement and ethical use of these areas is immense, their realization is hampered by several obstacles. To begin, despite being the principal users, the public is typically disengaged from the maintenance of urban parks. The public has as much of a duty as the government to treat urban parks with respect, as both have a hand in their upkeep (Stenseke et al., 2016). To ensure the long-term survival and prosperity of these parks, the local community must feel a sense of ownership over them and take an active role in maintaining them.

Misuse of urban parks is caused by a lack of awareness, interest, and respect, which come from a misunderstanding of their value and public health benefits (Huang et al., 2022). To inculcate a sense of responsibility and cultivate a positive park culture among all members of society, this underscores the necessity for extensive educational programs and awareness efforts.

One of the biggest problems is that there is not enough enforcement and cooperation between different authorities and institutions. Holistic and successful administration of urban park projects is hindered by siloed departments including forestry, arboriculture, health, R&D, education, landscape, and town planning not working together. Further complicating the planning and execution process is the lack of clear norms and rules for urban park development in Malaysia (Mokhtar et al., 2021).

The difficulties of running an urban park can be compounded by political unrest. As stated by Yang et al. (2020), variations in park building and management techniques might result from a lack of clarity in policies, visions, and missions emphasizing the value of urban parks for community health.

Neglect and deterioration of urban parks can also be exacerbated by a lack of daily inspection, monitoring, and supervision. Problems with upkeep, security, and sanitation that affect the quality of these areas and the satisfaction of its users may go unreported without consistent monitoring.

It is crucial to design a uniform system of management for urban parks that is geared to address these societal concerns. To maintain uniform and efficient park administration, it is necessary to have clear norms, regular inspections, and coordination among relevant authorities (Zhou et al., 2022). Furthermore, accountability may be maintained, and responsible behaviour among park users can be encouraged, through the enforcement of regulations and fines for overuse or noncompliance (Huang et al., 2022).

Vital steps in tackling the obstacles and maximizing the benefits of urban parks for community health and well-being include encouraging public involvement, boosting awareness, improving education, promoting collaboration among authorities, and developing effective management systems.

ENVIRONMENTAL IMPACT OF URBAN PARKS

Environmental pollution poses significant challenges to the maintenance and sustainability of urban parks. One major concern is the generation of waste through maintenance activities or by park users themselves, which can have detrimental impacts on cleanliness and overall environmental quality (Cai et al., 2023). Proper waste management practices, including adequate bins and recycling facilities, regular waste collection, and public education, are essential to mitigate pollution and maintain the cleanliness of urban parks.

Another aspect of environmental pollution in urban parks is the use of pesticides and hazardous chemicals for the growth of plants and trees. While these substances may be necessary for pest control and plant health management, their improper use and disposal can lead to water and soil pollution, negatively affecting the overall ecological balance (Yuan et al., 2019). Implementing integrated pest management strategies and promoting environmentally friendly alternatives can minimize the reliance on harmful chemicals and reduce the environmental impact.

Furthermore, the issue of air quality maintenance arises due to high levels of development in certain areas surrounding urban parks. The increased urbanization and industrial activities can contribute to air pollution, leading to the occurrence of haze and rising temperatures, particularly in regions where air circulation is restricted (Wang et al., 2020). Air pollution may have a negative impact on human health and the park's ecosystems. Implementing effective air pollution control measures, such as reducing industrial emissions, promoting green transportation, and implementing tree

planting initiatives, can help mitigate these challenges and improve air quality within and around urban parks.

OPPORTUNITIES FOR URBAN PARKS

Urban parks offer economic benefits, including small businesses, local economy, entrepreneurship, and job creation. They attract tourists, increase property values, and promote investment in residential and commercial districts (Huang et al., 2018).

Landscapers, arborists, environmentalists, and park management may all generate income by creating and maintaining urban parks. These professionals plan, design, and construct urban parks so that the public can enjoy well-designed, sustainable green spaces (Kemperman et al., 2016).

Technology aids in managing and monitoring urban parks through informatics sensors, data gathering systems, and analytics platforms (Van den Bosch et al., 2018). In Sarawak, carbon dioxide from urban parks can be used as electricity to minimize air pollution (Tan et al., 2020). Technology readiness and advanced monitoring systems help park management and evidence-based decision-making (Heritage et al., 2020).

To be effective, the city's parks must have a strong foundation. Consider the local climate while introducing new urban tree and plant species (Kowarik et al., 2017). Stricter plant and tree selection criteria help maintain ecosystem equilibrium and prevent disruptions. Natural repellents can solve environmental problems without chemicals (Hernández-Montoya et al., 2017). Durable park infrastructure materials save maintenance and repair expenses, prolonging the park's facilities (Schäffler et al., 2020). Authorities and agencies evaluate park amenities regularly to identify repair requirements and assure safety and functionality (Mandal et al., 2018).

Improve user experience with safety-focused CCTV systems to curb vandalism and criminal activity (Smaniotto Costa et al., 2017). Avoiding excessive tree growth protects park users (Oliveira et al., 2021). Solar-powered lighting systems illuminate parks during the day and night, meeting the demands of varied park users (Castro et al., 2020).

Park development pre-assessment, including environmental impact studies, mitigates environmental and social consequences (Ng et al., 2019). Park development standards and guidelines ensure uniformity and quality in planning and implementation (Rogers et al., 2015). Diverse viewpoints and expertise from

agencies and stakeholders improve decision-making and management (Robinson et al., 2017). Early education curricula also instil a sense of responsibility and appreciation for urban parks (Mehrotra et al., 2019).

CONCLUSION

In conclusion, urban parks play a vital role in promoting the mental, physical, and social well-being of the surrounding community. These green spaces serve as therapeutic environments, offering respite from the stresses of urban life and providing opportunities for relaxation, exercise, and social interaction.

Proper planning, design, and maintenance of trees within urban parks are essential for providing a healthy and sustainable green space that offers numerous benefits to the community, including improved air quality, biodiversity support, and temperature regulation.

Urban parks serve as important therapy for the surrounding community, providing mental, physical, and social benefits. Proper planning, design, and tree maintenance are crucial for creating beneficial green spaces. Lastly, promoting awareness and responsible park usage among visitors ensures urban parks' upkeep and preservation for future generations' enjoyment.

CONTRIBUTION STATEMENT

The MAEH Urban Health Forum was held at National Institute of Health Setia Alam from 19-20 June 2023. HS, NHS, WNAWR, WRWR and FAS conceived the forum, applied for and obtained the funding from Malaysian Association of Environmental Health and Universiti Teknologi MARA and also drafted the first version of the article. FCS, AA, KAMH, FY, HI, and NAI analysed the issue. All participants at the forum contributed to the focus group discussion that produced the article and all approved the final version.

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