A Study on Improving the Planning and Management of Urban Parks in Ulaanbaatar, Mongolia

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Abstract. Due to overpopulation and haphazard growth, Ulaanbaatar City, the capital of Mongolia, faces environmental degradation and the shortage of green space. Green space, especially urban park, plays an important role in alleviating the environmental pollution. Today, Ulaanbaatar has only about 6.3 m^2 of green space per person, which is much smaller than that in other major cities in the world, although the City government has attempted to increase green space. The main purpose of this paper is to examine the importance of urban parks' accessibility and their availability in the City. The research is mainly based on a literature review and our questionnaire survey. In order to better understand people's perceptions about urban parks, we conducted the survey among 301 people. The result shows that 78% of them were willing to visit National Garden Park (N.G.P.), which is the largest park in Ulaanbaatar. The most visitors came from the area within a 2km radius. This means that the distance plays some important roles for visitors in deciding to visit parks.

Keywords: urban parks planning, park accessibility and equitable distribution of parks

Introduction

The availability and accessibility of open green space in cities reflect their livability status. Most well-developed cities in the world are known for their urban parks (Healthy Parks Healthy People Central, 2016). It is necessary to consider why parks are important in urban development. This consideration should include why most cities in the world strive to develop and extend their urban parks. Considering these points, this paper examines how urban parks could be further developed in Ulaanbaatar City, Mongolia.

Based on a number of studies on urban parks, the benefits of urban parks can be grouped into six categories: (1) environmental conservation/pollution remediation, (2) stress reduction or other psychological benefits, (3) social integration or cultural promotion (e.g., events), (4) ethical or security benefits (e.g., crime reduction), (5) economic benefits (e.g., tourism, property value enhancement), and (6) amenity and refuge (e.g., evacuation site) (Chiesura, 2004), (Space, 2009), (Tashiro, 2013), (Martens, et al., 2014). Overall, these benefits are connected to the quality of life, livability,[1] and sustainability (Livability Index, 2015).

The democratization of Mongolia in 1990 and subsequent privatization of land have led to rapid urbanization in Ulaanbaatar. A large number of people moved to the capital from countryside to study, work and live, especially in the last two decades. The City government placed priority on making lands available to accommodate them without considering green and open space development. As 46.8% of the Mongolian population now resides in the capital city, many apartments emerged close to the city center largely because the property value was higher there. According to the international standard, a city of more than one million people is

[1]As one of criteria to determine the Livability Index, a project of the AARP Public Policy Institute, the PPI Livable Communities & Long-term Care Team evaluates the number of parks within a half mile for residents in a neighborhood. The Index says that "most people surveyed by AARP value having a park within walking distance" (Livability Index 2015).

recommended to have a green area of 24 m^2 per capita (Chantsalnyam, 2012), but Ulaanbaatar has only one-fourth of that (Chantsalnyam, 2012), (Odontuya, 2012).

One challenge to expanding green space is a lack of sufficient budget. The City budget for green space is about $0.22 million in 2012, $2.4 million in 2013, $3 million in 2014, and $3 million in 2015 (City Administrative Office, 2015). Today, the City has four urban parks. The largest one, which was established in 2012, is National Garden Park (183 ha). This park receives $1.66 million (or 55.3% of City's 2015 budget for green space) for its maintenance every year. The remaining budget is spent for other green spaces and parks in the City. Other challenges the City faces are summarized in the following: (1) lack of political will, (2) a shortage of available land, (3) inadequate park planning standards, (4) a poor accessibility, and (5) a weak public participation and stakeholder collaboration.

After considering these challenges, we found the last three challenges are particularly important as they are connected to residents' behaviors and understanding. Our literature review on good urban park practices in Freiburg and other livable cities found that public participation and stakeholder collaboration greatly influenced urban planning and accessibility (World Habitat Awards, 2013). Therefore, this research aims to investigate residents' perceptions about the availability and accessibility of urban parks in the City. In the following discussion, we explain our methodology and survey results on this objective.

Data and methods

In our research, we conducted two questionnaire surveys at several locations of the City in August 2015. The overall objective of these surveys was to identify which park attracts City residents most, current urban parks' availability and accessibility, and park visitors' age ranges. In understanding accessibility, we asked distances the respondents travelled to reach a park.

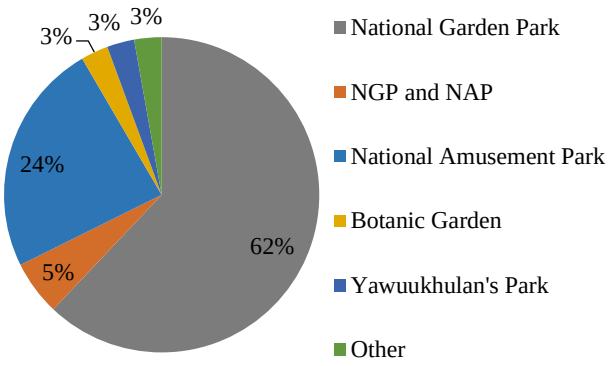
The first survey was conducted at three different bus stops and distributed the questionnaire randomly. We collected answers from 71 persons. The questions mainly focused on identifying their favorite parks. As the result showed that most of them preferred National Garden Park; then, the second questionnaire survey was conducted there among 230 visitors through random sampling. We also collected City government documents that are relevant to urban parks. We interviewed three specialists of the Environment and Green Development Agency to better understand urban park management and planning. According to the interviews, following information was collected: (1) the current park planning system, (2) Law on urban green spaces, (3) the current spatial and non-spatial data of urban parks and green spaces, (4) the plans for having 22 urban parks by 2030, and (5) some park operation reports.

Results

- Questionnaire survey result

a. Questionnaire result #1

The age range of the 71 respondents for this survey was from 14 to 64 years old. We asked them which park they preferred to visit. The result shows that 62% of them preferred to visit National Garden Park (N.G.P.) and 24% National Amusement Park (N.A.P.). In addition, 5% preferred to visit both parks. Overall, the vast majority showed interests in National Garden Park (Figure 1).



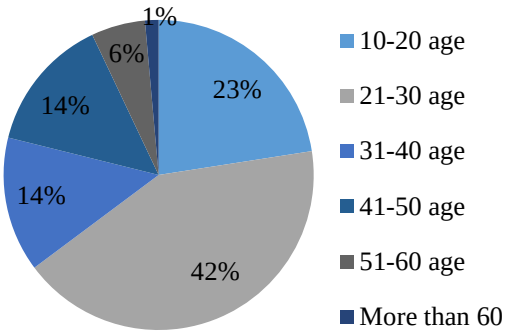


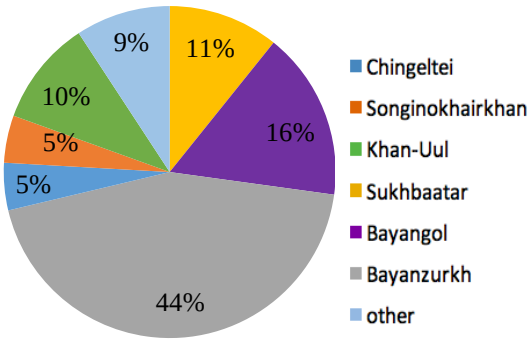
Figure 1. Comparison of visitors to parks **Figure 2. Age range of the respondents**

National Garden Park is located in the southern part of the City. It has attractive facilities such as sport fields, bike roads, playground for children, the largest and beautiful fountain of the City, spacious walking/running trails, an adequate number of benches, and food and other services. Regarding the age range of the respondents who favored this park, 42% of them were aged from 21 to 30 and 23% was aged from 10 to 20 (Figure 2).

It means that most of those who wanted to visit this park are relatively young people. Although our respondents were not equally distributed by age group, we also observed in this park that most visitors were in young age groups.

b. Questionnaire result #2

In response to the results of the first questionnaire and understanding the popularity of N.G.P., the second questionnaire survey was conducted among 230 visitors at this park. One of the questions tried to identify from which district they came so that we could better assess the accessibility of the park. The result shows that 44% of the respondents came from Bayanzurkh District, where the N.G.P is located (Figure 3). Other districts like Bayangol and Sukhbaatar are close to the City center mostly with apartment/condominium buildings. The districts with the Ger area or the northern part of the City are barely represented here.



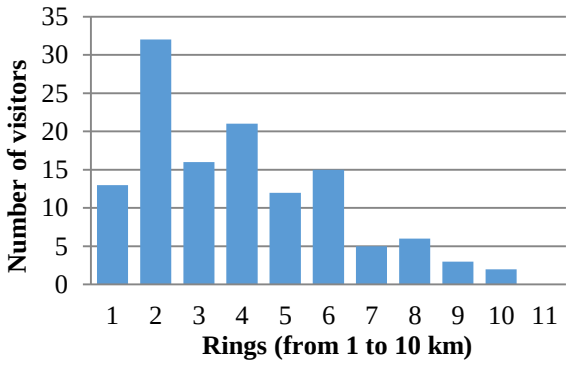


Figure 3. Percentage of visitors from different districts to N.G.P. **Figure 4. The number of visitors by distances**

By using the Google earth image, we located the distribution of respondents' residences within 10km radius to illustrate visitor's access point to the park. A number of visitors from different districts and the distances of their travel to the N.G.P. were counted. We found that

most visitors were from the area within 2km from the N.G.P. (Figure 4). This means that the distance plays some important role for the respondents to visit the park.

Regarding their means of transportation to arrive at N.G.P., 53% of them came by their own cars, and 22% by walk. This means that even though most visitors were within 4km from the Park, the respondents preferred to use cars. Also, it shows that the respondents tend to visit the Park due to its proximity to their houses and vehicle accessibility. Enough parking space is one of factors to visit N.G.P.

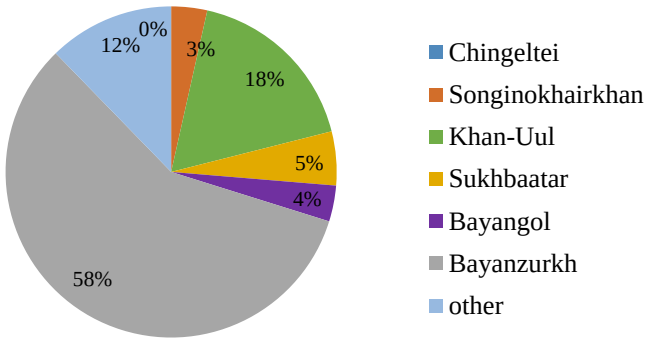


Figure 5. Walkers to the N.G.P. from different district by percentage

As one of international criteria for livable city is to have green space within a walking distance, we wanted to find out how many and from which district these visitors came to the Park. The result shows that 58% of the respondents who walked to the Park came from Khan-Uul District (Figure 5). However, Khan-Uul District borders with the N.G.P. at west side, the density of residents is not so high like Bayanzurkh's. Also, a highway between the Park and Khan-Uul District causes a lack of accessibility for the residents to the Park. This means that within 2km radius, people preferred to walk to the Park.

Discussion

Overall, we can conclude that Ulaanbaatar does not have sufficient green space and urban parks that are accessible. One of urban planning problems in Ulaanbaatar is that, for the majority of Ulaanbaatar residents, N.G.P. is too far away from their houses. About 60% of the Ulaanbaatar residents live in the Ger area, which is located in the northern part of the City. For these Ger area residents, this park is not an accessible option for recreation or refuge.

Most Mongolian residents have not actively campaigned for having green space in their neighborhood. The World Health Organization states that the community participation and multisectoral collaboration (e.g., environment, transport, health, social affairs, police) in planning, designing, and maintaining urban green spaces is significant to meet residents' needs and help green space interventions to be more effective (World Health Organization, 2017). In the experience of creating traffic free zone in the city center of Freiburg, many City residents, especially those who lived in the suburbs, did not want to reduce their dependency on their car. However, there might be some strong resistance coming from people, it can be overcome by having a clear strategy for the development of the livable city and by convincing and inspiring the residents that this is a better choice for the city through engagement in the discussion and decision-making process (World Habitat Awards, 2013).

The question as to how we can promote public participation in Ulaanbaatar was beyond the scope of our survey, but we have come across this question frequently in our field survey. To supplement the survey, we conducted additional research on good practices in other countries. For example, the online information gathering system, which was practiced in the development of Tempelhof Park, Berlin, was very effective to get opinions from residents at

the time of park planning and designing (Burgess, 2014). Then Berlin City planners used local views and comments online and if necessary in-person dialogue could be executed for advance strategy (Burgess, 2014). This approach is implementable in Mongolia, as media and social network greatly influence Mongolian residents.

Our research also found that Ulaanbaatar does not have strong community-based organizations that can relay the needs and interests of residents to politicians or City administrators. We believe that these organizations are necessary to enhance the public participation in City planning. In particular, we found that the Ger area had only a few open spaces for residents though these places are out of use. Building a large park is a challenging task here as land ownership is complicated and removing residents require tough negotiation. However, the Selbe River watershed, which runs through the Ger area from north to south at the eastern region of the City can be set aside for green space. The watershed has been under the control of the national government. Residents can send their request to the Government to establish parks there. As this area has a history of flooding, greening there with more trees can also protect residents nearby. With this type of green area in a walking distance, the secondary schools, for example, can conduct environmental science training for their pupils. The government may encourage children to participate in park maintenance and protect the parks.

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