



RESEARCH ON PUBLIC OPEN SPACE DEVELOPMENT OF ULAANBAATAR

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ABSTRACT

The study discusses public open space historical development of Ulaanbaatar city. The thesis has main three chapters.

Chapter 1: The first chapter examines the basic research of open space and public open space definition and its role, significance, and diversity in the theoretical framework. The following part includes the origin and historical development of the public open spaces as an example in Western countries.

Chapter 2: The next chapter examines the historical development of Ulaanbaatar; focuses its urbanization process and the spatial growth of the city within five master plans of Ulaanbaatar. Also, its investigate the urban shape and its model and features of the spatial structure.

Chapter 3: The last chapter examines the current situation of squares, streets, and parks of Ulaanbaatar, as public open spaces; and discusses development tendency of the future. Upon the case study framework, the selected old street is the first public open space of the city center.

In the end, the study discusses the urbanization problems related to public open spaces development.

Keywords: open space; public open spaces; open space development; Ulaanbaatar

INTRODUCTION

Research Background:

Today, more than 50 percent of the world's population lives in urban areas. This proportion that is expected to increase 61 percent by 2030. However, in vast Mongolian area, up to half of the population lives in a single city, it is a source of many critical problems of urban, regional and national. Nomads people throughout the many millennia, it has been an evolution last several decades during the migration of people and stable lifestyle. The nomadic hub of Ulaanbaatar has changed the location 27 times during 170 years. Until 1921-1990, the urban expansion and population growth gradually took place, while the 1990's economic turnaround and post-1990 changes base of the migration of rural to Ulaanbaatar. Urban population growth, chaotic construction, ger districts rapid expansion all begun to out of control and to in the city has inception to "spatial aggression." The influences spatial aggression the most affected part is the urban public space. The city's public spatial development and its proper planning are the basis of sustainable urban development. Therefore, this paper studying the public space of Ulaanbaatar in the past, present and future three-hour dimensions and to bring the solution to the sustainable development of the city.

Research Objectives:

The purpose of this study is, focus on the historical process of spatial development of Ulaanbaatar city. The avenues, streets, urban parks, public squares, and that makes up the urban public open space. The purpose of this study is to define their coordination, access, use, planning, legal environment, discovering the unexplored parties, and defining future directions of sustainable development.

Research Targets:

Target of the Research

- ✓ The define of on the specific characteristics of Ulaanbaatar city, and presented at historical and spatial evolution, also the researching of the primarying definition of urban spatial open space.
- ✓ To explore the usage, accessibility, capacity and legal environment of the urban open space, to identify the previously unknown parties,
- ✓ Based on the socio-economic, environmental and legal frameworks covered useful norms, masterplans and international projects and programs, it is possible to define the potential direction for sustainable urban spatial and future development.

Research Significance:

In the past, there was no general and detailed research on public space development in Ulaanbaatar. Although architectural, construction, residential space, playgrounds, and similar research work was found in small quantities, but this type not in public access. During the survey, detailed study materials on green

facilities and urban planning were not available. Only a limited number of specialized and seasonal studies have been found, including botanical studies, plant species and biological structures. Therefore, this research has the advantage of being the first baseline study on urban planning and urban public space development.

Research Methodology:

The methodology of the study has **four** main phases.

Collection of material: A similar research work, Ulaanbaatar and other international and domestic projects, urban planning norms and legal status, including the collection of research materials for Ulaanbaatar city development and development,

Reference study: To study research materials and researches written in foreign languages from urban planning theory, to learn from developed country experiences,

Case Study: General public spatial analysis of Ulaanbaatar, current observations, case studies, field observations, comparisons and gathering information from citizens,

Conclusion: Analyze data and data collected during theoretical and physical surveys, assess the trends in future urban space development trends, identify criticisms and identify sustainable ways for future development,

Structure of Study:

It is a public open space development research of Ulaanbaatar. The first chapter examines the concepts, significance, and diversity of open space and public spaces in the theoretical framework and illustrates the open space planning of Western countries. Besides, our understanding of the concept of urban public space is reflected in our imagination. The next chapter examines the factors affecting historical development, urbanization and spatial changes in Ulaanbaatar to show the peculiarities of urban spatial structures and shapes. Finally, a comprehensive analysis of current and future developments in the public spaces of Ulaanbaatar is intended to bring multidisciplinary study and solutions to problems and explications.

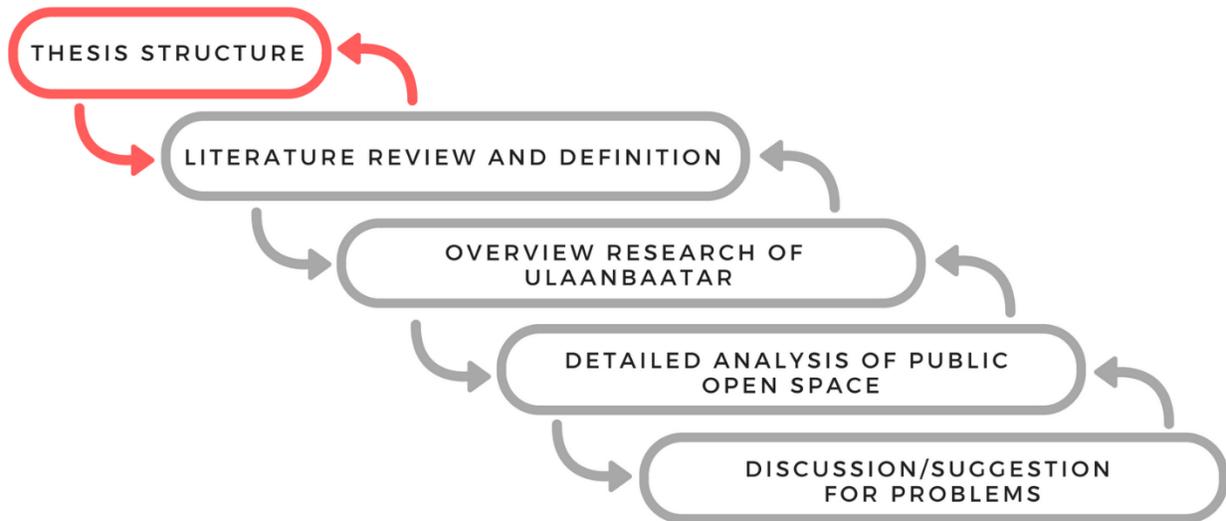


Figure 1: Thesis Structure

LITERATURE REVIEW

In this chapter, aim to define the origin and meaning of urban space and public open space theories, explain the significance of the definition. Examples of public spatial changes in the city are the examples of how modern urban development has led to the development of urban development in developed countries. Cities have always been evolving and evolving. Some city researchers define the origin of the town as a form of settlement where only people meet asylum requirements. This definition only considers the city just concerning its physical structure, while other urban researchers consider the city as *a living organism* with a socially, economically, historically and culturally significant diversity.

Open Space and Public Space:

The definition of the “space” is necessary for the perception and correct identification of the “urban space.” But then the definition of the space is complicated, abstract and concrete.

Before the introduce conceptual discussions of public open space, “open space” and “public space” concepts will be examined in particular. The definition of about the concept of area is as follows. When space classified as urban space, many more positive and perceptible definitions can be made. Generally; urban open spaces can be defined as all the spaces between urban structures.

Public Open Space:

Public open spaces are an essential part of the city. The concept of urban open area coincides with the concept of urban open public space. The concept of “public” in the public sphere of origin derived from

the ancient Romans. The Latin word "populus", which means "public", implies that everyone is open to the public. In the context of this concept, space defined as the space that is open to all citizens, providing the freedom of the city's citizens. While everyone can determine the public areas of the city, everybody can decide on their way, the open spaces of the city are a *shared space* that can found in all sorts of people, which may be assembled by different social groups and that they are part of the community.

Role of Public Open Space:

The look from a distance, the city appears as a silhouette with the shapes of long, sharp constructions standing to the sky. But when we were passing through the town, public open space shows us the most of vital information about the urban environment. The public space extends from the streets to the squares and parks and the surrounding buildings and forms the most critical parts of the cities. For this reason, the public space, especially the streets and squares have a significant role in establishing the identity of a quality city. The open space of the city has a variety of purpose-built and overlapping roles. Being multi-purpose is the main feature of public urban space. Different features, such as fields, streets, gardens in streets, gardens and green zones, wood streets and coastal areas, have different roles. All the spaces in the city do not have to have a variety of functions, but they need to plan for as many requirements as possible. In addition, the open space of a multi-purpose city is more colorful and beautiful. The impression that the city has on us is directly related to the open space. Open space is an important health and comfort for the current and future residents of the city. How friendly are cities? It is possible to summarize the city's open space. Architecture and construction can see the spatial structure of the city, but the open spaces of urban areas reflect the city's appearance, status, social life and quality of life. The city's public spaces are the same as the environment, as it is near nature. It also provides the opportunity to participate in cultural activities by providing social activities, arts and public events, such as physical walks, walks and sporting activities, such as meetings with people, meetings with friends, and sports. In other words, ensuring the freedom of the city's citizens is an open space, and the situation is vital to the sustainable development of the city itself as a living organism.

Importance of Public Open Space:

The increasing population in urban areas has increased the importance of public spaces within the city. Public open space has it has many diversity significances. In the book of "Urban Planning Basis" explains the importance of public areas in the town as follows:

Meeting places: The urban public open space allows you to attend and communicate with your community, groups and residents depending on their openness, dedication, and design.

Commercial areas: The urban public open space has always been a trading place since its inception. Today, it has transformed into multi-purpose and mixed use. Trade and commerce are also directly dependent on legal status.

Rest and walk: Much urban public open space is intended to use for recreation. The urban public open spaces of relaxation include private gardens, playground, and gymnasium areas. Large parks related to the public open space system in some cities are of great importance to people's recreation.

Aesthetics: The urban public open spaces play an essential role in aesthetics and reflects the general appearance. Beautifully landscaped area, parks, public open spaces enhance the quality of buildings surrounding them and increase value.

Ecological balance: For some cities with high population density, public open space is essential for maintaining urban environmental balance. Green areas and urban forests create a pleasant and favorable micro-environment for reducing air pollution and prevent surface overheating.

Noise Reduction: Some urban public open spaces are responsible for isolating noise. Just by planting trees, the noise along the road and railway can't reduce, but green strip can design with a wall separating noise. Space between the buildings, the front of temple or palace and the intersection of the roads as public open areas origin as old as the settlement history.

Typology of Public Open Space:

The streets are usually responsible for linking the movement of the way, so they are used only for transit. However, in the urban gardens and the green areas, relaxing, fun-filled people and athletes meet in free time. Therefore, public open spaces are constantly intermittent because of the social interaction and immediate action. They play the role of the stage and allow the individual and the group to express themselves. It's your choice to choose the position of the public in the urban public open space and whether you will be an actor or act as an observer there. It is possible to decide how close and far-reaching people are to the public open space. Public open space's use and appearance have been a social reflection in the city until today.

Streets:

The most critical function of open urban spaces is to create a social life (texture) between buildings. This social life allows people to communicate and socialize with each other and form a collective identity in a public space. This social texture; playing children, celebrations, speeches, joint actions and passive communication-seeing, hearing. In the formation of this social touch, the streets are the main component of the city's essential outdoor space and urban structure. There are two primary characteristics of the street related to the form: it is both road and area at the same time.

Spiro Kostof describes the street as a "linear element" within the city. Therefore, the streets are an interconnected urban space on one side, and the other is an infrastructure linkage. Street space has a multi-purpose. People on the streets will usually visit temporarily and occasionally as a parade of the festivals or

gatherings. Street-based construction and land use depend on how the road planned. Therefore, Street space has a significant impact on the urban structure, surface partitioning, and land use. In the formation of this social fabric, the streets are the main component of the city's necessary outdoor space and urban structure. There are two essential characteristics of the street related to the form: it is both road and area at the same time.



Figure 2: Example of Street (Sienna, Italy)

"The streets always must be active, controlled by the people who lives and works there." J.Jacobs

The Squares:

The squares are the most crucial position among other public open spaces. It can understand as a model of micro-city. The squares have been providing the needs of society for many generations from the beginning. The term "square" comes from the Latin word *placo* (origin: *platea*). Also, the Italian word "pizza" or French word "place" has the same meaning. If you look at the image of an old square in the middle of a group of buildings, you can understand the origin of the concept of the square. Square is "unpaved and publicly accessible space."



Figure 3: Example of Square (Piazza Navona, Rome)

The squares have been a social expression since ancient times. The square planning based on long-term historical experience, shape, purpose, and significance of the squares. The poorly planned square breaks the image of the city as a sting and a blind eye. But a well-planned square is itself an artwork. To design a wide-ranging square, we must first analyze the modern-day demands of the city's social, political, cultural and economic structures. It is also vital to involve future users in the square planning process.

The Parks and Green Areas:

The open and green space are described similarly by various authors. The concept of open space is one of the essential elements of urban texture and defined as open spaces or vacant spaces outside of architectural structure and transportation areas. In other words, there is no building on the outside space and that perceived as suitable for any recreational use. The concept of green space is defined as surface areas, covered with or combined with plant elements of existing open areas. According to this definition, each green zone is an open area. However, not every open space may be a green space.



Figure 4: Example of Public Green Space (Central Park, New York)

Over the centuries, urban landscape has vast space, and there is no specific green area within the city. Today, unrestricted settlements are linked to the urban landscape, settlement areas, and landscapes. Thus the external space dominated by landscapes has already become an interior space. At the time of our time, the gardens and landscapes of the city have become of new significance. For cities, parks and green spaces are not cities. Anyway, it's not a city that is walking alongside time. Because of no other free space of any city, any area, no wooded streets, and any passage cannot compensate for the green space.

URBANIZATION OF ULAANBAATAR

This chapter examines the historical process of Ulaanbaatar and urbanization about the city's overall plans. It also aims to assess the peculiarity of urban structure and spatial growth and the population to compare with population density.

Historical Development of Mongolia:

The urbanization process began to be late because of traditional pastoralism, and the consciousness of Mongolians living along their nomadic lifestyle contradicted the settled lifestyle. In the 13th century, the foreign intruders attacked by the capital of the former city Khar Khurem, thousands of people killed, and the

city's buildings had destroyed. Because of this, in the aristocracy, there is a caution that building a town and settlement in one place will be a significant loss. Due to these and other circumstances, the city-style agreement with a nomadic, semi-settled settlement was the ideal solution at the time. In 1639, Undur Gegeen Zanabazar /supreme spiritual authority/ was elevated to the throne and built "Urguu" As palace in Shireet Tsagaan Nuur was the foundation of the capital city of Ulaanbaatar. The capital city "Urguu" was originally established as a religious and commercial center and has moved 27 times for 140 years until settled in present-day position Altantevsh. The name of the capital city changed several times during the nomadic period. In 1639 it was named "Urguu," "Nomiin Khuree" in 1651, and "Ikh Khuree" from 1706.

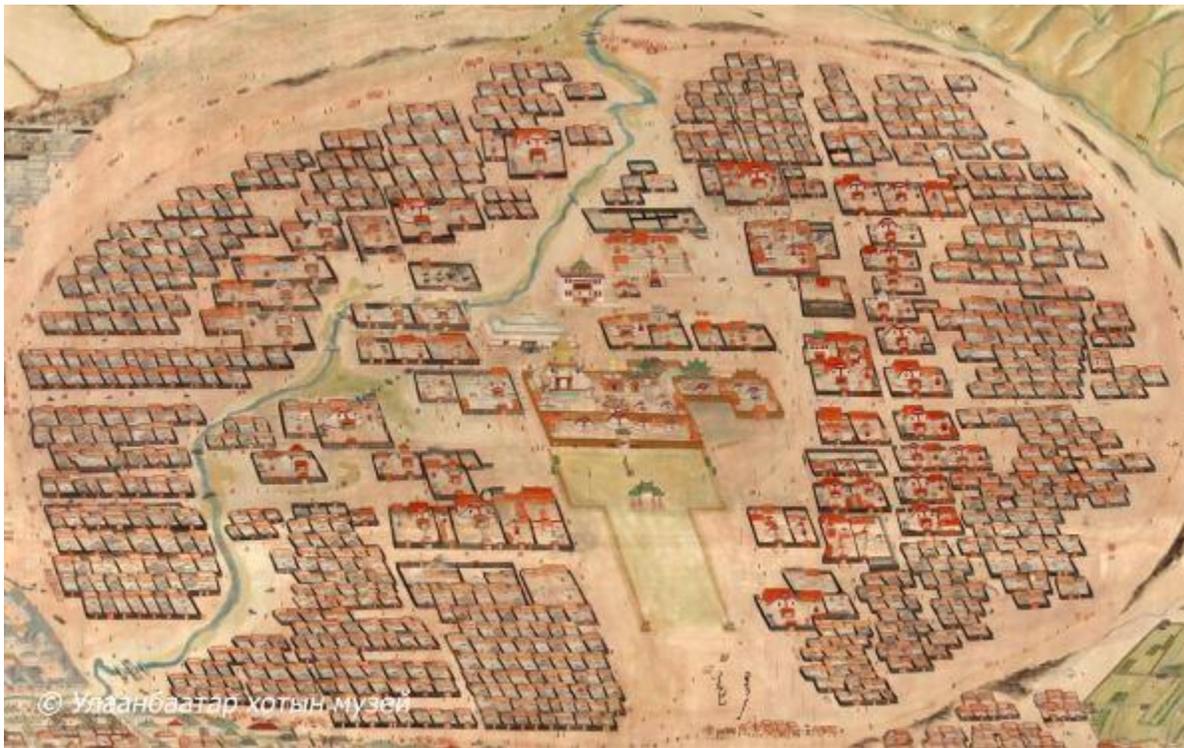


Figure 5: Ikh Khuree

The Ikh Khuree located on the west coast of the Selbe River, with the central design between the Tsetsee Gung and the Chingeltei Khairkhan mountain. The Yellow Zone Palace center is the centerpiece of traditional Mongolian planning. In the north, a massive pavilion was set up, and the south side of the slope widely designated as the design of the ancient Mongol Khan's nomadic heritage. The population of the Ikh Khuree increased to 50,000 in 1910. The Ikh Khuree is called the Ulan Bator city since 1912. In the center of the capital-Zuun Khuree, in the south -Bogd Khan Palace, in the north side of that- Sain Noyon Khan Palace, the capital city is divided into nine main sections: Gandan, West and East Strobes, Committee, Kharchuud, Consuls, and MaiMaiCheng. At that time, the capital city expanded from east to west, including the most adjacent parts, the small space between small Russian armories and the Chinese city of MaiMaiCheng.

Approximately 6-7 miles (9.6 - 11.2 km) and extended to 1.5 miles (2.4 km) from the north to the edge of the market.

In 1924, The interim administration of the capital established and suggested as the capital of the People's Republic of Mongolia, and the center was renamed to Ulaanbaatar. It was not just a name change, and a national movement called the "Red Revolution" defined the direction of social and regulatory development and refused foreign business owners in Khuree. By 1926, there were 2402 fences and 3,500 Gers without the apartments of Gandan, Khuree and Ord temple in Ulaanbaatar.

In the 1940s, they have faced some problems for urban redevelopment, the establishment of land, identification of activities, estimation of city streets and the size of roads, planning of buildings, hospitals, culture, and trade facilities. Also, clarifying forms of construction; also, irrigation of urban areas, environmental and green housing, eco-friendly housing, clean water supply for residents, was needed for proper calculation of sewage and heating systems. At that time, large buildings such as the National University of Mongolia (1943), the Government House (1945), the Opera House Theater (1947) and Eldev-Ochir's Theatrical Theater (1947) were formally constructed to the main square, making them part of the city center.



Figure 6: Ulaanbaatar (1950s)

In 1952, a 20-year long-term development plan for Ulaanbaatar implemented by the Soviet Union's

Moscow "Institute of Foreign Affairs" and was approved by the Council of Ministers in 1954. That was the first general plan for Ulaanbaatar. The planning has been designed to preserve the historical structure of the city, to develop housing, industrial and recreational zones, to build clean, dirty water, energy, communication, transportation, gardening and other engineering facilities. Like a city street, the Sukhbaatar square has become the center of the city, in the middle of establishing a government palace, from left to the right "Ikh Tenger" mansion, to south-west factory combinations, as well as the "Buyant-Ukhaa" airport to the streets and roads. Forty thousand square meters of residential 3-4 story buildings, with the help of the People's Republic of China, the residential buildings of 50,000 square meters have been a built-in composite structure on the Peace Street with kindergarten, nursery, and school in the middle of space. The population of Ulaanbaatar was 145.8 thousand in 1960 and six times the 1940 population growth. These include:

1. Conducted infrastructure policy in Ulaanbaatar.
2. National high schools, specialized schools, and universities concentrated in the city.
3. The intensification of collectivization in rural areas and the raising of livestock into collectivities has resulted in considerable herdsmen migrating to Ulaanbaatar.

According to the first general plan of the city, many buildings were built for housing, culture, and services with the engineering network until the early 1960s. However, there was a need for amendments to the general plan, due to the weak economic capacity of the country, the limited investment, the expansion of the population and the economic growth, and the amendments to the Master Plan. Also, 1961 to the Second General Plan of 1963, and the revised planning and modifications in 1974. The highlight of the city's general plan of development in 1961 is that urban areas are classified as apartments and industries, and three industrial districts in the west, east and south, and three large residential areas.

In 1960-1970, XII, XV, XIX, and 120-thousand apartment districts were built with schools, kindergartens, and retail trade offices, which had been the significant development and housing stock increased to 530 thousand square meters. These settlements provide 5-story brick and 9-story large composite buildings with a unique combination of land features and spatial designs and constructing the necessary service buildings, which give an example of a neighboring country. At this stage, large public buildings such as The Central Post Office (1960), the Exhibition Hall (1961), the Bayangol Hotel (1964), the Peace Palace (1971), the National History Museum (1971) were built using new forms, techniques, and technologies. As well as the building's appearance, partition, frequency, and elements of the structure, which are the main components of the socialist era. In the Second Plan of 1963, the population of the city was estimated to be 250 thousand. In 1975, the third general plan was estimated at 600,000. A third of the general plan 1978-1984 in 240 thousand square meters of urban infrastructure, has made the expansion of civil engineering structures on 50 thousand families have housing built, cultural and service buildings with areas III and IV, Y. These placements to push forward part of the fitting or service on the 1st floor by the road

district planning 9 and 12-story tower-shaped apartment buildings and housing to direct pedestrian and auto traffic and a peaceful environment among the residential space surrounding the closure of noise pollution residential buildings, opportunity. By the time of the fourth general plan in 1986, the total area of the city was 9864 hectares. It has been estimated to reach 850 thousand of the population. Ulaanbaatar, the capital framework so was the peak widened and expanded, punched spatial planning, city center to determine the country of Mongolian and bloom.



Figure 7: Ulaanbaatar (2000)

Since 2000, the construction industry, but foreign and domestic investors significantly increased investment and spatial planning policy have reached the dislocation structure was weak. Private investment has increased, rather than building the town to construct new-style apartment buildings. The areas where the city's empty fields were completed and the building was built on loose interiors, which began to diminish the comforts of the residents, reduced opportunities, and cut open space. That is because of the absence of detailed land use plans, arbitrary land, no general plans, and increased living conditions due to the growing demand for housing and the violation of laws and regulations.

Public Open Space of UB:

The open space of Ulaanbaatar has been developing according to the five Master plans of the city. According to the Master plan, the urban open space is administratively divided into three level by size and function:

- Urban level green
- District level
- Neighborhood level.

In Ulaanbaatar has 975 playgrounds as open space for children playing. /Орон зай ба хүүхэд/ The most of these spaces belong to neighborhood level open spaces. This survey focuses mainly on public spaces in the urban and district level open areas. Because the majority of the spatial space within the apartment area is a space that is partially and privately owned for residents of the neighborhood. According to the current study, the green area was 202,34 ha. The National Park is 34.1 hectares and is expected to be 31 hectares by

2020. According to the general plan, by 2020, the green area of Ulaanbaatar is expected to decline further than urban growth. The current size of green area per capita does not reach the standard level, and the overall plan does not make any changes to the district's green area.

The table shows that the green area has not increased since 1990. According to the green area survey in Ulaanbaatar, the green area of the city is classified as parks, gardens, micro-gardens, specials and so on. Currently, 36% of urban green areas are parks, 37% are in the garden streets, and 27% are in special and other green areas.

Current situation of Ulaanbaatar green areas:

	Green Areas		
1	Urban Level areas	47,4 ha	23%
2	District level areas	26,08 ha	13%
3	Avenue, streets	69,16 ha	37%
4	Special Use	45 ha	22%
5	Other	14,7 ha	5%
Total		202,34 ha	100%

According to the report of "Update of the General Plan of 2020 and development trends of urban development up to 2030", there are two urban parks in Ulaanbaatar.

The Streets:

Street network connecting urban function zones is essential for planning structure. It provides the boundaries of the respective regions and provides them with links and relationships. Capital cities around the world are dominated by service types and are a major trading center. Street space and road are the first urban development factors. How to plan roads and streets will depend on land use and spatial development.



Figure 8: Street of Ulaanbaatar

In Ulaanbaatar, road construction and road network have been developing in general plan. The first Road Master Plan was made in 1999. However, the general plan reports say that there is no such data or information on the quality of the road and road traffic records and roads. According to a survey carried out by the Capital Road Authority, there are 132.3 km of major roads in Ulaanbaatar, 216.6 km of assist roads and 280.9 km of region roads in Ulaanbaatar. This figure shows that the path on the assist and the roads in the neighborhood are the same.

There are estimated 1574 public transport services in Ulaanbaatar including bus, trolleybus, microbus and taxis. Considering the structure of demand for commuting traffic:

- ❖ by bus - 33.4%
- ❖ by car - 24.2%
- ❖ On foot - 30.6%
- ❖ by taxi - 9.2%
- ❖ by other vehicles - 2.6% / JICA /

According to this study, the use of private vehicles and public transportation is at the same level. Participation in pedestrians is a small percentage. The vast majority of Ulaanbaatar traffic moves into the center of the city during the morning hours and moves in the opposite direction during the afternoon and evening hours. Depending on the nature of urban planning in Ulaanbaatar, centralization of work and services is central to the city center, resulting in major traffic congestion. The traffic direction is overlapping, the

speed of traffic is decreasing and the passenger traffic time is steadily increasing. In recent years traffic volumes have increased steadily and the traffic volume has increased 2-3 times between 1998 and 2010. The average speed of the trip was 30-40 km / h in central roads in 1998. However, in 2007 it decreased to 20-25 km / h.

The Squares:

Before 1921, the face of the city center of the capital was Bogdo's yellow palace. The former premises were called Bogdo's "avenues" and "lotteries". At that time, there were major ceremonies, rituals, and events associated with religion, such as the Danlins festival, the dance tower, and Bogd Khan's charity. The square of the Bogdo's yellow palace was a "central square" of the day. According to this, earlier the city area was called "avenue," and the term "avenue" meant the free space. The image of the Bogdo's yellow palace and its former area is clearly seen from the "Capital city frame" artist of the royal palace of Jugder. The Bogd Khan lived not on the Yellow Palace, but some of the state's affairs were sent here. The center is now the eastern front of the University Street, Child Design Center. Thus, the first area of space for Ulaanbaatar was created.

Central square of Ulaanbaatar: Sukhbaatar Square:

The 1921 revolutionary did not hold a public meeting in the avenue of front of Bogdo's Yellow palace, which was the center of the current era. On the back of the main ridge, red-brown wooden pods were erected and announced on the podium that the People's Government was proclaimed. So they set up a new central square, which is D.Sukhbaatar square. Thus Bogdo's avenue was lost, and the location of the central area of the city changed with its governance. The Tusheet Khan and the Manchu Amban prefectures were trashing on the ground or on the main ridge prior to the construction of a new central square. In February 1921, Baron Ungern made extensive use of the waste of the Capital City for years to clean and breathe. In 1927, the first national theater, named by the Hungarian citizen Joseph Geldeta, built the "Bumbugur nogoon", the People's Stadium, rising from the old center of the new city center. Mongolian folklore, which was created by the order of the People's Government, was presented to the theater and disseminated to the idea. The National Parliament met in the National Theater and there are many important political initiatives here. The central square of any city have a monument. In 1930, the first statues of the center for D.Sukhbaatar were set up at the "Bumbugur green" theater of the famous Irkutsk painter K.Pomersiniev. At that time, our government organizations were in the A building of Mongolian State University of Education. In 1931, on the occasion of the 10th anniversary of the People's Revolution, the Government House and the Central Committee of the Party took part in the building. As a result of the development of the Second Enhancement of the Second World War, a general picture surrounding the center was created. In 1946, D. Sukhbaatar's statue was erected in the center and the center was named after D. Sukhbaatar. D.Sukhbaatar's horse statue is one of the first modern monuments made by Mongolian craftsmen. Because of the design of the work, the design of the work was made by the order of Kh. Choibalsan, by the hand of the monk S.Choimbol, who was repressed and imprisoned. During the opening ceremony of the Sukhbaatar Square in 1946, the head of the Presidium of the

People's Congress G.Bumtsend announced the center of Sukhbaatar Square.



Figure 9: Sukhbaatar Square of Ulaanbaatar

In 1947, the foundations of the current state of the palace were laid by Japanese captive troops and completed by Mongolian builders. The State Palace was commissioned in 1951. In 1954, a part of the State Palace complex - a stand with a shrine was built. The tombs were laid by D.Sukhbaatar, general marshal Kh.Choibalsan, and the laborers and guests were honored during the holidays and festivals. On July 15, 2013, the Capital City Citizens' Representative's Meeting was renamed Sukhbaatar Square to Chinggis Khaan Square. However, when the government changes, the government changed its name to the Sukhbaatar Square in 2016. Sukhbaatar square is the central square of the city and all state ceremonies are held.

Other Squares:

In Ulaanbaatar, there is a lack of space and research work on space. Besides the Sukhbaatar square, there are a limited number of public areas such as "Builders Square" and "Independence Square". On July 6, 1921, Mongolian Soldiers, led by D. Sukhbaatar, and the Red army was assembled at the front of the current Chandmani Center and moved to "Sukhbaatar Square". From then on the land was called the "Victory Square". During the 1990's of the Democratic Revolution, the site was also a platform for human rights, freedom, independence, and democratic ideology. In 2010, it changed its name to "Independence Square" as a symbol

of national freedom and independence.

The Green Areas:

Imagining a city building as just a few houses is too naive, and urban development itself is art. Factors that keep the city clean and healthy are green areas. The general scheme of green area of Ulaanbaatar was first implemented in 1990. In the past, the population of Ulaanbaatar has been growing rapidly, but the urban green area has not increased. The general plan for development of Ulaanbaatar city until 2020 is that green area per person is estimated to be 15 m² in 2010 and 20 m² in 2020, but this indicator has not been implemented yet. According to a survey conducted by professional organizations, a total of 202,34 hectares of green areas were counted in Ulaanbaatar and one per capita green area was estimated at 1.89 m². The city's green gardens and horticultural areas do not provide the population with oxygen supply and clean air conditions. Due to the fact that population is breathed air polluted.

Currently, the green area of Ulaanbaatar is mainly in the central part of the city and on the main street. They will be parks, gardens in public areas created during the 1960s and 80s, and these green areas are the foundation of the green capital of today's capital city. Due to the intense construction process in recent years, the city's greenery has started to wane because of the destruction of the green area and rehabilitation of roads and underground engineering lines. The large green area of new city has not been built, but only the old recovery and replenishment has not increased the number of urban green areas. According to the 2020 Amendments and the 2030 Fiscal Framework, the green area of Ulaanbaatar is divided into four general categories: public ownership, limited use, special purpose, and natural appearance.

- ❖ National Amusement Park /1965/
- ❖ National Park /2010/

Urban Level Green Areas			
	Green Areas	2011	2020
1	National Amusement Park	13,3 ha	30 ha
2	National Park	34,1 ha	31 ha
	Total	47,4 ha	61 ha

National Amusement Park:

The National Culture Park was approved by the decision of 1965 and was established in 1966 as "City Cultural Holiday Park". This is a "Children's Park" by the city residents. The Children's Park is located in the center of the city. The construction of the Park lasted until 1969, and about 50% of park facilities were built by young people and the public. When the Park was first opened, the total area was 37 hectares. Since 1991, "Mongolian National Cultural Park" and "National Culture and Recreation Park" since 2005. It was not just a change of name, and the internal management structure was changing. The Children's Park was

originally owned by the State. In 2005, the 35-hectare site was privately owned by private companies and municipalities. Of that, 32 hectares of area are planned for re-planning by Bodi group and 12 hectares of parks are still open to the Children's Park and plans to construct hotels and confined buildings in the rest of the area. The reducing area of the Children's Park has been heavily opposed by citizens.



Figure 10: Amusement Park in Ulaanbaatar

The Children's Park was a public open space from the time it was founded, but it was changed to a private open space that penetrated the ticket. The government is the worst manager. When the National Park of Culture is in charge of the city administration, due to the lack of budget, the environment and security of the environment have not been met. This is one of the reasons why the park is moving into the private sector. In 2005, the park was privatized while the city population was around 993,000. In 2013, the city's population increased by 30% when the park started operating again, and the Park's space was reduced by three times. Until the decision was made to establish a National Park in 2010, there was only one open space in Ulaanbaatar, the national cultural park.

National Park:

In accordance with the 5th General Plan of Ulaanbaatar, in order to create a recreational center in the Tuul River Basin, to increase the drinking water supply of the capital city, to improve the protection of the

capital and to create a recreational center for the world's most developed countries, the National Central Park The design was created. The construction of the park is planned to be completed in accordance with the general plan and completed by 2020. The National Park is planned to be constructed totally 973 hectares and 183 hectares of land has been approved by the Resolution of the Presidium of the Citizens' Representative Khural of Ulaanbaatar in 2011 and approved the detailed map of the first 30 ha area. The feasibility study of the National Park, comprehensive soil survey and detailed environmental impact assessment have been put into operation and 55 hectares of land have been identified as green gardens.

The National Park organizes the "Public Tree Planting Day" in May and October for the purpose of protecting the source of drinking water of the Tuul River in Ulaanbataar, reducing air pollution and creating a healthy ecological environment. Currently, more than 110,000 trees are planted and 28,5 hectares are greened and 183 hectares are green. This represents 23 percent of the city's green area. According to this, national parks represent a significant proportion of the green area of the city. However, this data is different from the current situation of the general plan. According to the 2030 general plan, by 2020, the total area of Ulaanbaatar's green area is 231.52 ha / table.



Figure 11: National Park in Ulaanbaatar

As for urban-fringe ger areas, the common phenomenon of migration into the city expects to continuous; essential infrastructure services should be available for newly arriving groups and should be provided steadily through efficient local services. The government should provide and improve its services related to domestic land registration so that dispute covering land can be anticipated and significantly

diminished. Definite improvements in the secondary access roads from essential passages into the khoroos (including necessary drainage and street lighting) in all three region ger areas would give residents significant benefits, including easier access by public transportation and reduced dust and storm water flow, and crime. Therefore, it makes sense to inaugurate planning for development of access roads within the khoroos. Community-driven initiatives on land redeveloping, if relevant, would also make it simpler to prepare roads and provide access for utilities.

In synthesis, the ger areas lacking in urban infrastructure will not necessarily all demolished for redevelopment, which implies that ger area resident needs to be regarded as cultural assets embedded historically in Mongolia as well as urban settlements in need of redevelopment. The same reasoning could apply to the environmental conservation in Ulaanbaatar ger area, suggesting the need for policy system to the needs of each region.

GENERAL CONCLUSION AND RECOMMENDATIONS

Proper planning the public open spaces of the city is the fundamental of sustainable urban development. Since 1990, public open spaces have been steadily declining for many reasons. The following factors have the enormous impact.

Support the Regional Development:

Massive migrations from the rural areas, make causes of the concentrated population in the urban areas. Ulaanbaatar becomes the only one major city in Mongolia where live up to 50 percent of country's population. Ulaanbaatar becomes the only one major city in Mongolia where live in up to 50 percent of country's population. Therefore, there is a need to support the development of rural areas to reduce the urban population of Ulaanbaatar. Another thing that is inversely influenced by population concentration is the urban spatial problem. How much urban population will grow, and the size of the area per person will decrease. There is a need for multilateral planning and decisions for that situation.

Istanbul is the ancient capital of Turkey. Later, the city of Ankara became the administrative capital, with the beginning of the promotion of sustainable development of the region. One of the reasons for the overpopulation in Ulaanbaatar is that 22 Universities are all located in Ulaanbaatar. The distribution of these schools in the regions will be a solution to the decentralization of the city. Also, as mentioned in the example of Turkey, support the regional development which effects to decrease migration of Ulaanbaatar.

Increase Employment in Countryside:

The very first issue with population density is the housing problems. In recent years, due to population growth, housing prices are rising rapidly. Up to 60 percent of city's population live in ger areas. In every year, the number of people living in ger districts is increasing about 40000, that number is growing

steadily. But the life quality in the ger areas is poor, so challenging to mention about the situation public open space.

The state is responsible for the issue of licensing for ger area residents. A new solution is necessary to the migration of the country. Most of the migrants from rural areas are looking for economic opportunities in the city. Therefore, it is necessary to create conditions for the local people and the workplace.

Increase State Control:

For the past two decades, constructed the many new apartments on housing demand in the city. However, the apartments had constructed by private sectors fund. It is impossible to provide housing for all citizens who migrate from rural areas by the government fund.

These buildings constructed by the private sector have begun to increase housing prices rather than demand. At the same time, the weak of the legal environment for land use policy has a cause of building the unlicensed objects in the public open spaces.

Improve Legal Environment:

Another factor that is directly dependent on population growth is personal vehicles. By the research of 2016, one of every three private vehicles is in UB. And also one of every 2-3 people is using a vehicle. Because the insufficient of the legal policy for make limit for automobile quantity. Excessive private vehicles are the first to threaten the open space of the city. Previously, green areas and communal areas were already transformed into the parking lot. The current situation, city authorities make planning and design decision for vehicles, not for human. With the increase in the number of cars in the city, the human scale lost. City authorities are concerned about how to increase the number of roads and how to increase the number of parking places. At the same time, another major issue in the winter months is air pollution. There are surveys shows the reason for air pollution is that not only ger districts but also cars. Because more than 90 percent of Ulaanbaatar's private vehicles are second or third hand, imported cars. According to the 2016 survey, 33,266 vehicles were counted, with 255631 more than ten years old and 74891 four to nine. Green areas are essential for reducing vehicle emissions and air pollution.

Promote The Citizen Participation:

In recent years, air pollution in Ulaanbaatar is one of the most pressing problems. In winter, residents of ger districts use raw coal are the main factor contributing to air pollution in the city. Last few years, air pollution of Ub, leading the world air pollution rank. It is not only the Mongolian government but also the world's international healthcare organizations are giving the attention. Air pollution of Ger area is making the reason for Increased illness and expands mortality rates due. It is important to reduce air pollution not just depends on government; also, the participation of citizens is essential. Citizens need to

create the healthy environment, spaces, and areas by own.

Increase the Public Open Space:

Stress is an urban disease. Another issue that should be addressed in Ulaanbaatar is the social stress and frustration. According to the 2016 index of happiness in the cities of the world, Ulaanbaatar ranks 101st. The main reason for this is not to create a healthy living environment for the people. Mongolia is one of the lowest density populated countries in the world. Ulaanbaatar is close to being the highest populated city. This situation is directly related to the lack of open spaces in the city. Playgrounds for children, recreation areas for teenagers and parks for elders, are not enough in the urban areas. In other words, public open spaces are lacked in the city.

The missingness of public open space is the underlying cause of many urban problems.

World cities spend a lot of money from the city budget, for the public open spaces which are the importance to the economy, society, and the environment of the city. It is necessarily the basis of sustainable urban space development.

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