

# Facing the rapid suburbanizaion in Ulaanbaatar

Strategy for setting up basic infrastructure in the suburb area



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## 1 Introduction

The reasons why I choose this topic

This paper intends to propose strategies for the expanding suburb area in Ulaanbaatar: the capital of Mongolia, by improving their residential environment. In terms of tackling the problems in the area, there are several ways to approach this but in this paper I would like to limit the discussion of methodologies to how to provide basic infrastructure as a urban planner.

There are mainly two reasons for why I chose the suburb of Ulanbaataar as the study area for this paper. Firstly, from the research I have done about flood prevention programs in Dhaka, I have learned that the expansion of suburb area can cause many problems. Secondly, I have started to have particular interest in Ulanbaataar when I visitied it two years ago. In the suburb area, the residential area were spread and many people started to live in their own portable dwellings called “ger” or “yurt”, which is a round tent covered with felt.

## The main problems to focus

The main problem of the suburb area is the lack of infrastructure like the lack of water resources and proper public transportation. According to Oxford Dictionaries, infrastructure is the basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise. In this paper, I would like to mainly focus and limit to the aspects of planning for the improvement of infrastructure in the area as I cannot discuss all the aspects of infrastructure in this paper.

The population of Ulaanbaatar is more than 1 million (City Population, 2015) and more than 60 percent of them live in peri-urban informal settlements, known as ger areas (World Bank, 2010). This trend is different from other big cities in developing countries as in most of those cities, their central area would be crowded with incoming people. Based on this situation, Ulaanbaatar government updated its UB city Master Plan and proposed the “Compact City” concept (World Bank, 2010). The plan aims to make a densely populated downtown area with a well-developed public transportation system and improved accessibility to the ger areas (World Bank, 2010). However, its feasibility is still uncertain as there are obstacles to achieve the plan like the weak financial base and the low ability of implementing their political measures.

## Justification and explanation for the importance of this paper

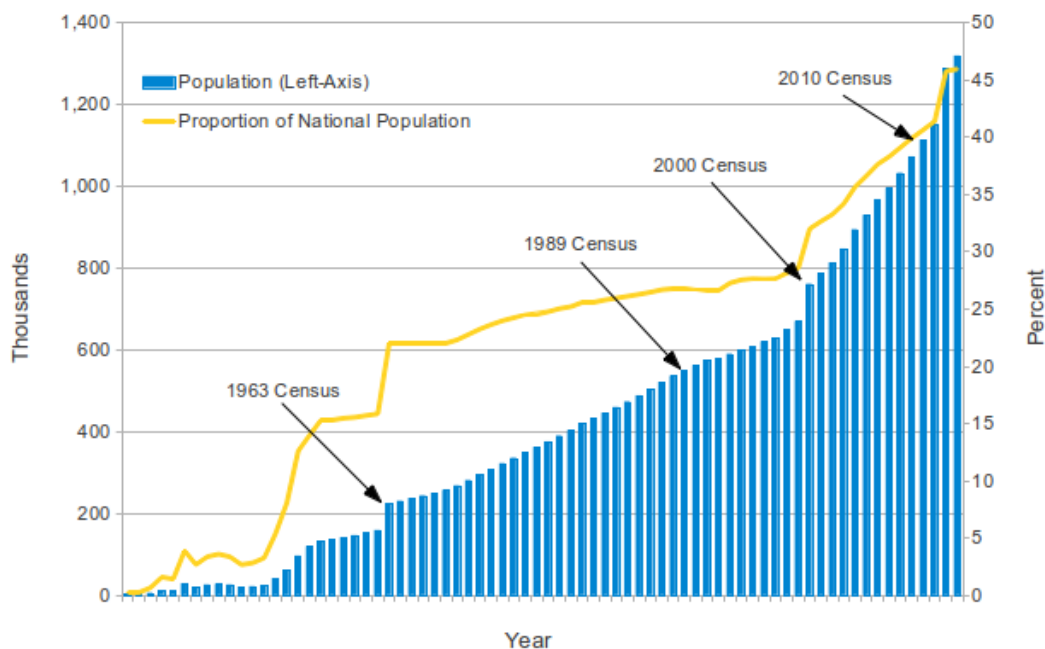
Even though most residents in the area have their own shelter, the issue should be tackled in a proper way as their lifestyles have been having bad effect for the whole city. Up until now, the improvements in urban services have been slow, and the local government’s capacity to respond to these challenges has been still limited (World Bank, 2010). Therefore, it is important to consider how to provide infrastructure to those area.

## 2 Literature Review

### Population trends

There are mainly two reasons for the transition of the population from the rural area to the urban area. First reason is the transition to a market economy and second is a series of severe winters, called “zud”. Those have resulted in the large scale migration of low-income families into the ger areas of Ulaanbaatar. The city represents 40 percent of the nation’s population and generates more than 60% of Mongolia’s gross domestic product (World Bank, 2010). The population of the ger areas has grown from 600000 in 1989 to more than 1 million in 2007 and is expected to reach 1.3 million in 2015 (World Bank, 2010). The transition of the population to Ulaanbaatar has been proceeding also in a long period as the table 1 shows.

Table 1: The Transition of Population in Ulaanbaatar from 1926 to 2013



(Source: Cover Mongolia, 2014)

### Urbanization process

The migration has led to a rapid expansion of the ger area. As for the change in the size of the urban area, the original city center comprises 130 km<sup>2</sup>, but the total administrative area of Ulaanbaatar, including ger areas, is now estimated at about 4,700 km<sup>2</sup> (World Bank, 2010, p10). In this situation, it is difficult for the government to handle all of those areas properly. There is a reason that accerelates

the rapid expansion. The size of each land plot is uniformed at about 470~590 m<sup>2</sup> by a regulation but this means that most of houses would try to secure their plots as large as possible (World Bank, 2010). As the suburb area has expanded, it takes long for people who live in the periphery to commute to the central area so the newly moved people are less satisfied with their living compared to the people who live in near to the centre (World Bank, 2010). Therefore, the satisfaction of people who will move into the peripheral area has been low.

### Infrastructure situation

The quality of infrastructure in the ger areas are generally poor. The quality depends on the distance from the centre but most services in most areas have room for improvement. I would propose a strategy for upgrading the infrastructure as a whole later in this paper.

### Housing situation

One of the reasons people choose not to live in the centre is that the price of the apartment the government proposes to build is too expensive for them. There are still room for improvement for the housing measure such as providing more low-cost housing (World Bank, 2010).

In the city center; Naran and the fringe; Sharhad ger areas, almost one-half of households still live in gers, while in the midtier; Bayankhoshuu ger areas, 70 percent live in detached houses (World Bank, 2010). Also, in terms of preference of apartment developments, most residents would prefer to live in small groups of low-rise apartment buildings rather than high-rise apartment complexes (World Bank, 2010). This aspect makes it difficult for the resettlement plan in addition to the difficulty of governance. As the people will not move into the central area in a short term, I decided to focus on the enhancing of living environment in the ger area in this paper.

As for the living environment in the ger area, basic services are limited because of the shortage of infrastructure. About 85% of ger residents use wood or coal for heating in winter, which has been aggravating the air in the whole city. Because of the lack of public water supply system, they have to buy water at public water kiosks. In addition to these, the quality of service of sewerage, earth road, access

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to the public transport, waste management, electricity supply, education and health care are poor (World Bank, 2010). Even though many of the residents are satisfied with their lives to a certain degree, there are much room for improvement.

Photo 1: A view of gers at the peripheral of Ulaanbaatar



(Source: International Federation of Surveyors, 2010)

### Trends of urbanization and settlement typology

As there are physical differences between the centre and ger area, there are also socioeconomic differences in their lives. As for the size of a household, the average of the ger area is four persons, which is almost one person larger than the one of the central areas (World Bank, 2010). This means that the space for each person in ger areas is much smaller than the one for a person in the centre as a ger is usually smaller than an apartment. As many of the residents in ger areas quit their lifestyle as nomads, they have to find new jobs as non-nomads. However, it is not easy to find jobs after their immigration as there are not so many jobs in ger areas compared to the centre. Speaking of the occupation, residents in ger areas tend to perform significantly more manual labor than residents of the central do. Therefore, there are differences between the incomes of the ger areas and the

centre. The median household income in the ger area is 43 percent less than that of the centre (World Bank, 2010).

So from here, I would like to briefly discuss the differences between the ger area. In the World Bank's Report, "Managing Urban Extension in Mongolia", there are three examples of the ger areas. The first one is 11<sup>th</sup> khoroo: an administrative subdivision of Ulaanbaatar, which is located in immediately north of the city. As this area is closed to the city centre, large-scale development of apartments is expected and the southern part of the area are planned to have permanent apartment buildings according to the current municipal plans. The second one is 8<sup>th</sup> khoroo, which is located in a few kilometres from the main road of the city centre, on the other side of a large hill. This area forms countinuous mass of the large ger areas, surrounded by other khoros filled with gers. One of the characteristics of this area is that the community is entrenched as the residents established their community with their families. Therefore, many of the rich families try to upgrade their environment by themselves but those improvements cannot be seen in large scales. The third is 9<sup>th</sup> khoroo, which is located along the northeast edge of Ulaanbaatar. This area has been expanding with a lower density. Compared to the other relatively central areas, residents in this area are less attached to their land and willing to move to better places.

### Cultural transition from rual to urban

The main reason people migrate from rural area to city area is the gap of income between people in rural area and people in urban area. But as I mentioned, it is not so easy to find a decent jobs. Table 2 shows the employment situation in areas. As the table shows, people in apartment areas have more stable job states compared to people in ger area in general. Also, in city center ger area, the percentage of wage employment is higher and the employment rate is lower compared to midtier ger area and fringe area. These indicate the difficulty for the immigrants to start up the life in suburb areas.

*Table 2: Employment status*

	<b>Wage employee</b>	<b>Temporary of seasonal employee</b>	<b>Self-employed (business owners, etc)</b>	<b>Unemployed</b>
City Center ger	27 (28.0)	0 (0.0)	39 (21.1)	44 (50.9)
Midtier ger	14 (10.5)	6 (5.3)	22 (21.6)	68 (62.6)
Fringe ger	26 (24.3)	3 (1.5)	21 (19.9)	60 (54.3)
Apartment area	43 (39.4)	10 (9.2)	33 (30.3)	23 (21.1)

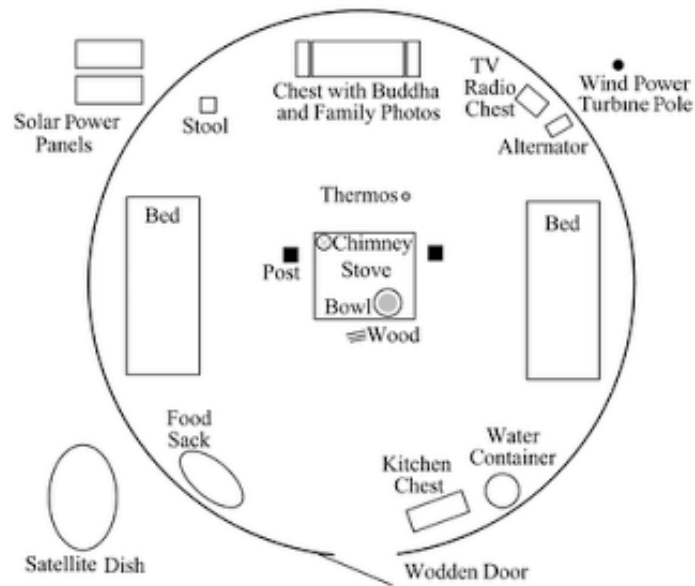
(Source World Bank, 2010)

In addition to the difficulty to find a stable job, there are several factors which make the lives there difficult. Firstly, the basic infrastructure is low standard. Secondly, the social welfare is not working efficiently in those areas. Thirdly, many of the people are suffered from urban poverty. Urban poverty has mainly four dimensions; monetary and capability poverty, access poverty, poverty of social inclusion and networking, and poverty of empowerment. (UN-Habitat, 2010) Even though there are many obstacles to immigrate, there are still many people coming to the suburb areas to get a good education for kids, higher income and other reasons. As these trends have been continuing regardless of the unsecure life in those areas, it will not be easy to control the growth of the areas.

### Housing design

As for a design of a ger, figure 3 gives as example. The average number of people in a ger is around 5 in suburb areas so the number of beds can be more than this figure has. Of course it depends on a family but if a family is rich, they can have a solar panel and cellphone; the diffusion of cellphones in a whole country is 105% (InfoCom Newsletter, 2015 April 26). Therefore, even though their shelters may not be good in suburb area, it is important to look into the living situation detailedly in order to grasp their real life style, not only to see the shelter design.

Figure 3: An example of the interior of a ger



(Source: Erik's choice, 2015)

### 3 Discussion about the settlement of nomads

Population transition from rural area to urban area is a common trend globally but the case in Mongolia is different from the main stream as people try not to go to the central but the periphery. This is mainly because they can set up their new life by themselves as they used to live as nomads. In the first part of this section, I will look into the case of Native Americans and Sami-people in Northern Europe as the examples of other nomadic people's migration. Then, I will talk about the ongoing measures and policies in Ulaanbaatar. Lastly I will sum up this section by suggesting some ideas to improve the situation more.

Archeologists can trace back the history of Native Americans about twelve thousands years (Stephen & Claggett, 1995). Firstly, after arriving at the continent, they relied on hunting for their living. Those first habitants were nomads and kept moving in search for the good food and other resources. They gradually invented tools to make their living easier but they continued to be nomads. The starting point of the settled life was the timing when they began



farming to have a enough food to live on winters (Stephen & Claggett, 1995). As for the Sami people, their living relied on reindeer farming. However, the harsh climate with long, cold winters, short vegetation periods, low productivity ecosystems, and low population pressure have led them to the settled life.

(Josefsson, 2009) Many of them started farming and fishing.

There is a similarity between these two examples and the case of Ulaanbaatar.

It is true that there is a difference that Native Americans and Sami people started farming when they settled but the people in Ulaanbaatar don't settle to start farming; they search for jobs in or around the city. However, all of them started the settled life when their income from the nomadic lifestyle decreased. Therefore, it would be important to look into the income of the nomad people by their region in Mongolia. Also it would be important when we think about other nomad people in other countries.

In 2010, over 20 professional institutions including the Municipality of Ulaanbaatar, Duureg (District) and Khoroo (Sub-District) Councils developed The Citywide Pro-poor Ger-area Upgrading Strategy of Ulaanbaatar City (GUS). GUS focuses on three types of Ger areas. As I argue in the previous chapter, there are different policies in the three devided areas. In this chapter, I will mainly discuss the infrastructure and social services in the miditer area as the GUS set the main strategic component in the Miditer area for improvement of gers. In GUS, there are examination about 13 basic urban services and infrastructure; water supply, sanitation, solid waste management, heating, roads and footpaths, transportation services, street lights, flood protection facilities, emergency services, electricity, health, education and greening (UN-Habitat, 2010). All of those points are important to improve the living environment in the ger areas but I will mainly propose the methodology for upgrading infrastructure in general as the discussion about all the infrastructure improvment would need a lot of argument which would not fit in this paper. Also, it would be difficult for me as a urban planner to argue the specific points as our main focus does not rely on those technical factors.

## 4 The proposal for the planning in the ger areas

Based on the discussion in the previous chapters, I would like to propose a strategy to set up basic infrastructure in the suburb area as a urban planner. Speaking of the present situation, though the quality of services are different by the distance from the centre in general, the qualities of the service in each district or sub-district are almost equally low though there are some points whose quality is relatively high because of the bus stop and other prepared infrastructures. My proposal is based on a perspective of the Central-place theory by Walter Christaller. According to Encyclopedia Britannica, the primary purpose of a settlement on market town, according to central-place theory, is the provision of goods and services for the surrounding market area. My proposal is to make several central places that have proper infrastructure as basic service providers. There are three steps to proceed the improvement of the ger areas in my proposal.

- I. Upgrading several spots to set up some central places of infrastructure in the ger areas.
- II. Allowing the accesses to basic services for not only the resident in the central places but also for the residents in the surrounding areas.
- III. Establishing new central places in the pre-surrounding areas gradually as the qualities of lives of the residents in the areas would start to be improved.

The proposal is for the Municipalities of Ulaanbaatar so they would be in charge of the processes. However, other NGOs and international agencies like World Bank, UN-Habitat, United Nations Development Program, Asian Development Bank, Japanese International Cooperation Agency and other agencies would help the municipality to implement the plan. As for the first step, they decide the several central spots to set up the infrastructure on. They firstly focus on those areas and establish water stations, bus stops which give people to access to the centre, electricity provider, school, hospital and other basic infrastructure. The area which already have bus stops or water stations would be proposed spots as they have bigger potential to be the service provider to

surrounding areas. Speaking of the second step, sufficiently equipped facility would be able to give its access for the residents around the places. Not all the people would be able to get the access, but the chances to have it would be bigger. Some people would move into the central and the surrounding areas. As this step proceeds, the quality of people's lives would be gradually improved and would lead to the increase of the average income of those people. This point would induce the third step. As for the third step, the municipality would be able to set up new central areas in the pre-surrounding areas by utilizing the advantages of the infrastructure services from the original centre. Those new services would get benefit as they would be more convenient than the services from the original centre for the people in the surrounding areas. As this third step proceed; new central areas would be born in the former surrounding areas, most ger areas would be equipped with the basic services in the end.

There are several advantages for this proposal. First is that it would be easier to extend the service provision from central places than from out of nowhere. For example, they can extend water and sewage service, power supply from the central places, not from the central of Ulaanbaatar. Secondly, it would be more convenient to set up infrastructures in a specific central place. If the infrastructure facility are located dispersed, they would not be able to utilize other infrastructure to set up a new one. Thirdly, it would be helpful to implement its urban plan in the unplanned area and slow the pace of suburbanization. As the places would be more convenient than other places, people would try to live in or near the areas. That would be chance for the Ulaanbaatar municipality to control the area according to their plan.

## 5 The Role of Urban Planners

In this chapter, I would like to reflect on the role of urban planner based on this Ulaanbaatar case. First of all, it is not easy to upgrade the infrastructure in a short term in developing countries. In order to upgrade, the growth of people's income and economic strength of government are important, which takes time to achieve. Therefore, I focused on and proposed a measure that can improve the situation in a term that planners can grasp.

In this paper, I proposed a phased plan to upgrade the infrastructure in the ger areas. Upgrading itself is a process which needs long periods. Therefore it is important for planners to clarify how to start up the process of improvement, how to proceed it and what to do to implement that plan. In this paper, I proposed a gradual equipping plan by getting some ideas from the Central-place theory by Walter Christaller. This plan could be applicable in other suburb areas in other cities in developing countries. It would be a good idea to establish some central places in a suburban areas. For example, building big apartment in suburban areas as central places would provide better shelter than shelters in crowded slum areas. In addition to housing, those residential aggregations would make it easier for municipalities or other organizations to provide other basic services. However, we should be careful when we apply or use the planning ideas from other countries as all the cities and areas are different. Especially the case in Ulaanbaatar is different from other suburbanizations in other cities as the whole immigrant process has been induced from the change of the lifestyle. Therefore I cannot conclude that the phased equipping is simply applicable to other cities but can be referred some points when we think about unequipped suburb area where many people have moved in.

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