

## Settling the Nomads: Support Structures



Waste Collection Prototype, Rural Urban Framework, Ulaanbaatar, 2015

Ulaanbaatar, Mongolia is a city transitioning from a nomadic to sedentary lifestyle. The country evolved from a period of economic hardship immediately following Soviet withdrawal in 1989, to a democratic electoral system and free-market economy. The discovery of vast reserves of coal, gold, and copper, together with the promise of development projects made the capital city – Ulaanbaatar – the focus of rural migration. The ensuing optimism following predicted GDP growth rates of 17% in 2011, led nomadic herdsman to sell their livestock and move to the city in search of a better life. When they arrive each claims a plot of land, builds a fence around it and erects a traditional felt tent or *ger*. A policy from 2002 that allowed each Mongolian the right to claim a 700m<sup>2</sup> parcel of land expedited this process resulting in the formation of vast settlement areas known as *ger districts*. As a result, the population of the city has doubled since 1989 and the city's territory has expanded from 130km<sup>2</sup> to 4700 km<sup>2</sup>.

The scale and speed of settlers has disrupted and pressurized the limited city resources challenging employment, healthcare, education and other basic urban services. As this population has no prior experience of living amongst others – some state there is no word for “community” in Mongolian - or in situ, in one home on a single plot of land, it's a unique and urgent situation.

## INSIDE-OUT URBANISM

In 2017, the ger districts exist as a sprawling suburbia of traditional felt tents intermingled with detached houses for those who can afford to build them. In each case, each plot lacks basic urban infrastructure such as running water, sewerage and district heating. There are few public resources, and the idea of the civic or communal is not intrinsic to the nomadic culture. In fact, the most public space is what we would assume to be the most private - the ger itself – used to welcome and entertain guests. These temporary structures, designed for mobility are now becoming fixed and permanent. As people become more sedentary they adapt their ger to add thresholds and additional storage and transform their plots to add kitchens, greenhouses and sometimes a house. The houses offer more space but not necessarily improvements to heating or sanitation.

These incremental improvements only occur at the level of the plot, based on the individual desires of each family. The challenge of the studio is to harness this natural process of incremental improvements but channel it towards fundamental improvements to the urban realm through infrastructure, programming and public spaces.

The ambition is to find a way that the vital role of the ger districts as a critical hinge between the rural and urban and as a space of assimilation, adaptation and exchange point between nomadic and settled forms of living, can drive a unique process of urbanization in Ulaanbaatar.

## SUPPORT STRUCTURES



*A support structure is a construction which allows the provision of dwellings which can be built, altered and taken down, independently of the others. ...*

*A support structure is built in the knowledge that we cannot predict what is going to happen to it. The more variety housing can assume in the support structure, the better...*

John Habraken, *Supports: an alternative to mass housing*, Architectural Press London, 1972, Dutch edition. 1961

### Ger Plug-in Prototype, 2016, Rural Urban Framework

Habraken wrote his manifesto against mass housing in the Netherlands in 1961. He argued for housing to be considered as an assembly of independent dwellings within a larger framework; “as a bookcase contains books”. He wanted each inhabitant to have a decisive role in how their dwellings were constructed, allowing the possibility for adaptation as their needs changed. The support structure acted as a structural and infrastructural network providing services and circulation. Rather than being fixed and permanent, the hope was that this too could act to enable and facilitate future variations of communal living. His thesis is intentionally open ended without definitive form.

Over the last 50 years his theories have reverberated through architectural practices as diverse as Archigram, (Plug-in-City), the Metabolists, and more recently with practitioners such as Alejandro Aravena’s half-house project (Elemental) and Gabriel Garcia Abril’s experiments with lightweight structures and his “urban shelf” research (Ensamble Studio). We will use the concept of the Support Structure as a framework to initiate our own design process.

## BRIEF



The recent uncertainty and reduction of commodity prices has left Mongolia in a negative and vulnerable economic position. Although large infrastructural projects and development plans had been proposed, such top-down planning is simply ineffective as the government itself is near bankruptcy. Developer driven investments are also stagnant due to the lack of potential return given the current economic decline.

The position of the studio is to start with the basic unit of habitation itself – the ger – as it itself has been the basic unit of the urbanization process. We will navigate across three critical scales between the ger, the cluster and the district. Each strategy will demonstrate how it can evolve incrementally over time and instigate a

The studio will be organised in 3 phases:

### **PHASE 1: GER-PLUG IN / SUPPORT STRUCTURE**

- Design a support structure for the Ger plot
- How does it improve the living conditions?
- How does it address the climate and infrastructural issues of water and heat?
- How does it evolve and adapt over time
- How is it constructed or prefabricated?

### **PHASE 2: GER-CLUSTER: FIELD TESTING (group)**

We will conduct intensive fieldwork on site to gain more expertise on residents' lives, construction limitations and undertake a workshop with local residents to test our design ideas. We will use this knowledge to develop an incremental strategy describing how a cluster of ger plots can change over time. This will be presented using film and physical model animations

### **PHASE 3: GER- DISTRICT ARTICULATION**

The final phase will involve the articulation of the incremental strategy at all three scales following the logic of the existing fabric. This will be articulated through a video animation made using physical models.

## OUTPUT

- 3 drawings at 3 scales
- 3 models at 3 scales
- Video animation (1-2 mins)

## PARTNERS/ FIELDTRIP

The studio will visit Ulaanbaatar in March, in double-digit, negative temperatures. We will partner with *Ger Hub* a local NGO run by Badruun Gardi and work with the Institute of Engineering and Technology (IET). We will conduct fieldwork and also undertake a workshop with local residents to test our design ideas and gain more in-depth knowledge of their everyday challenges. Our site will be Chingeltei 16, one of the *khoroos*'s (districts) that is facing the most rapid growth of new migrants and where the issues are most pronounced.

## REFERENCES

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## SCHEDULE

<b>WK 1</b>	<b>18 January</b>	Studio presentations
	<b>19 January</b>	studio: Joshua Bolchover
<b>WK 2</b>	<b>23 -26 January</b>	studio: Joshua Bolchover
<b>WK 3</b>	<b>30 January</b>	studio: Joshua Bolchover
	<b>2 February</b>	<b>REVIEW 1:</b> Phase 1: Concept
<b>WK4</b>	<b>6-9 February</b>	studio: John Lin
<b>WK5</b>	<b>13-16 February</b>	studio skype: John Lin + Joshua Bolchover
<b>WK6</b>	<b>20-23 February</b>	<b>MID-REVIEW:</b> John Lin + (JB, TBC)
<b>WK7</b>	<b>27 Feb-2 March</b>	studio skype: John Lin + Joshua Bolchover
<b>WK 8</b>	<b>3-11 March</b>	<b>Fieldtrip to Ulaanbaatar, Mongolia:</b> Phase 2 <i>Research fieldwork</i> <i>Engagement with residents</i>
<b>WK9</b>	<b>13-17 March</b>	Spring break
<b>WK10</b>	<b>20-23 March</b>	studio: John Lin <b>REVIEW 2:</b> Phase 2: presentation of fieldwork + design development
<b>WK11</b>	<b>27-30 March</b>	studio skype: John Lin + Joshua Bolchover
<b>WK12</b>	<b>3-6 April</b>	studio: John Lin
<b>WK13</b>	<b>10-13 April</b>	studio: Joshua Bolchover <b>REVIEW 3:</b> Phase 3: Support Structure, urban strategy
<b>WK14</b>	<b>17-20 April</b>	studio: Joshua Bolchover
<b>WK15</b>	<b>24-27 April</b>	studio: Joshua Bolchover
<b>WK16</b>	<b>1-3 May</b>	<b>FINAL REVIEW WEEK:</b> Joshua Bolchover + John Lin