

# Diverse Mobility and Communication Methods among herders in Mongolia

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**Abstract**—In the pastoral regions of Mongolia, movements by herders have become increasingly diverse, extending beyond seasonal migrations to include frequent visit to district and provincial centers, the capital city Ulaanbaatar, and even abroad. This study examines the forms of mobility and the selection of communication methods among herders, using Telmen district, Zavhan Province as a case study. Fieldwork based on cultural anthropological methods was conducted 17-30 March 2025. The research focused on the following five items:

1. outings during the past week,
2. trips taken during the past year,
3. methods used to communicate with others,
4. the number of people contacted using each method over the past two days,
5. differences and patterns of use between text messaging, video calls, and face-to-face interactions.

The results revealed that herders relocate their dwellings 5-7 times a year within a 10–20 km range to meet subsistence needs. In addition, their long-distance travel includes attending festivals with family members, leisure trips to resorts with former classmates, visits to beauty salons, and medical consultations. A herder woman drive herself over 1,200 kilometers to Ulaanbaatar to sell homemade dairy products.

While multiple telecom and internet providers operate in the area, their coverage varies, leading herders to switch SIM cards depending on the location of their seasonal camps. Online shopping and even stock trading via the internet were also observed.

**Keywords**—mobility, pastoral nomads, mode of communication, ICT, Mongolia

## I. INTRODUCTION

In the pastoral regions of Mongolia (hereafter “Mongolia” refers to the independent country), in addition to seasonal migrations by herders, frequent movements are observed toward district and provincial centers, the capital Ulaanbaatar, and even abroad. Supporting these movements are telecommunication tools such as telephones, mobile phones, and smartphones. Herders use a wide variety of communication tools depending on the situation—from contacting nearby individuals to sending seasonal greetings to distant relatives and friends.

During the socialist era up to 1990, telephone lines and electricity were installed in all district centers across Mongolia. The national agency responsible for Mongolia’s telecommunications policy has been reorganized six times since 1990. From 2024 onward, the Ministry of Digital Development, Innovation, and Communications has been carrying out the mission of “introducing advanced communications and information technologies into Mongolia’s social and economic sectors, and constructing and developing an electronic state based on knowledge and intelligence” [Цахим хөгжил, инновац, харилцаа холбооны яам 2025].

One of the major programs for Mongolia’s digital development is a digital service platform called “e-Mongolia” [e-Mongolia 2025]. Particularly in rural areas, which form the primary living environment for herders, the rollout of e-governance policies has progressed, and as of May 2025, electronic service kiosks were installed in the district centers across the country [Цахим хөгжил, инновац, харилцаа холбооны яам 2025].

Digitalization aligns well with development in highly mobile societies. Let us now look at how information devices are used in other nomadic pastoral regions around the world. In the case of mobile phone usage among herders, numerous case studies have been accumulated in African pastoral regions. According to a literature review by Parlasca (2021), the following points have been raised regarding herders’ use of mobile phones. First, in terms of material infrastructure, the mobile nature of phones fits well with the mobility-based identity of herders’ livelihoods. Voice communication also suits non-literate societies, and mobile networks are cheaper to install than roads or landline systems. In terms of practical use, benefits include access to livestock price information, increased income through mobile money transfers, herd management through information on feed and water resources, improvements in human health care, societal changes through open access to information, and accumulation of fundamental data for regional development [Parlasca 2021:781–793].

Mongolian herders engage in movements not only related to their livestock’s access to pasture and drinking water but also for purposes such as education and leisure. This study aims to clarify the realities of the highly mobile lifestyles of Mongolian herders and the communication methods and tools that support their movements.

## II. RESEARCH SITE AND METHODOLOGY

The research on which this paper is based was conducted over a 13-day period from March 18 to 30, 2025, in Telmen District of Zavkhan Province. Three primary methods were used: (1) a questionnaire survey with interviews, (2) participant observation from a cultural anthropological perspective, and (3) the collection of statistical and other official documents from the district office.

First, an overview of Telmen District is presented. Telmen is a pastoral area located approximately 900 kilometers west of Ulaanbaatar.

According to national statistics, as of December 2024, Telmen District had a population of 2,878 people in 853 households, of which 991 individuals in 565 households were engaged in herding. Data from the Telmen District Office indicates that 1,528 residents are of working age, comprising 53% of the total population. The five types of livestock raised in the district are camels, horses, cattle, sheep, and goats, with a total of 132,914 animals [Zavkhan Province, Telmen District 2024]. The average number of livestock per household can thus be calculated as 195.

In terms of information and communication, mobile phones and smartphones became widespread in this district during the 2010s, and the number of Facebook users increased, particularly among those studying or working in urban areas [KAZATO 2019].

The questionnaire survey with interviews aimed to clarify the actual conditions of herders' mobility and use of communication tools. Questions regarding mobility included: (1) seasonal relocations from January 2024 to March 2025, and (2) movements from home in the past seven days (e.g., for herding, visiting other households, or going to the district center). Responses were obtained from six households engaged in full-time herding. In addition, to investigate the relationship between mobility and communication methods, participant observation was conducted with one household to collect detailed, context-rich case data.

Information on the mobile service providers contracted by residents was obtained from the district office. As of June 2024, there are five telecommunications companies operating in Mongolia. Their respective market shares are as follows: MobiCom (established in 1996, 35.8%), Skytel (1999, 19.7%), G-Mobile (2006, 9.8%), Unitel (2001, 30.0%), and ONDO (2021, 4.7%), with a total of 3.63 million subscribers nationwide [Ministry of Digital Development and Communications 2025]. While MobiCom holds a dominant position in Ulaanbaatar, the most convenient provider varies by district or administrative unit in rural areas.

## III. RESULTS

## 3-1. Mobility of Herders

## (1) Relocations from January 2024 to March 2025

Table 1 presents seasonal migrations of herders, along with the number of livestock owned, household size, and ownership of permanent housing. The six surveyed

	Age of couples	Number of livestock	Number of families		Number of camps	Total number of camps	permanent dwellings
			Same household	Living separately			
bb family	40s	780	4	2	7	5	spring camp, district center
dn family	50s	350	5	2	6	5	district center
sh family	50s	1400	4	2	7	6	winter camp, district center
jg family	40s	1000	4	2	7	6	winter camp, district center
sj family	60s	1000	3	0	5	4	winter camp
ag family	80s	500	2	0	8	7	none

households had camped at 5 to 8 locations during the period. While seasonal camp locations are roughly predetermined, summer and autumn camps may vary from year to year. In contrast, winter and spring camps are usually set up in the same places each year, where some herders have built permanent dwellings. Limiting the period to one year, the number of camp locations ranged from 4 to 7.

According to interviews, each relocation typically spanned 10 to 20 kilometers.

## (2) Movement from Home During the Most Recent Seven Days (for herding, visiting, trips to the district center, etc.)

When asked about movements from their homes in the past seven days, the six herding households reported various types of travel for diverse purposes and distances. These included livestock management, social visits, education, fetching water and laundry, and maintaining permanent homes in the district center. Distances ranged from several kilometers for daily grazing routes to around 70 kilometers for trips to a neighboring district center with a large hospital.

For livestock management, people generally engaged in daily herding of sheep, goats, and cattle. These trips covered about 10 kilometers. Transport methods included private cars (Toyota Prius) and riding horses. The survey was conducted in late March, when temperatures often fell below -30°C. Although riding in such cold weather caused bodily discomfort, it was believed that using vehicles daily for herding would harm livestock health. Therefore, men typically rode horses while women used cars to monitor and direct livestock herds.

Horses and camels, which range more widely than other livestock, acted more autonomously in herds. As a result, human intervention was infrequent—horse herds were visited about twice per week (one visit by one household), and camels even less (one visit by one household). Nevertheless, herders consistently monitored the location and condition of herds by scanning nearby hills and checking with monoculars whether visible herds were their own.

Other movements for livestock management included searching for missing herds (reported by one household twice) and tending to livestock entrusted to other households (reported by one household, multiple times). These specific cases are discussed in detail in Section 3.

As for social activities, there were six reported visits by three households to participate in food-sharing gatherings called “*tsai uuikh*” (literally “tea drinking”). According to the lunar calendar, March 1, 2025, was the first day of the new year, coinciding with the fieldwork period. Each of the three households was camping independently, yet in close proximity—within several kilometers—and maintained close relations. The three families hosted each other’s entire household members to exchange New Year greetings, serve tea and food, and enjoy games like cards together.

For educational purposes, one household reported a mother driving her child from the nomadic camp to the district center to attend the 12-year school. The camps were located 15-20 kilometers from the district center. The mother stayed for two nights in their fixed house in the district center, did laundry using an electric washing machine, and cleaned the house.

Fetching water was also a reason for traveling to the district center (reported by one household, once). Since spring temperatures on the grasslands are low and flowing water is unavailable, water was either obtained by breaking river ice and melting it over a stove (free but labor-intensive) or by driving to an electric pump well in the district center and bringing water back in plastic tanks (involving gasoline and a small water fee but more convenient).

The person who traveled the farthest was a woman aged in her 50s who visited a large hospital in Tosontsengel District, 70 kilometers away, for a medical consultation. During this trip, she visited two households in the district center.

A man in his 80s reported no movements unrelated to livestock management. Though invited by relatives to visit, he declined, preferring to stay home and receive visits from younger people instead.

### 3-2. Herders’ Use of Communication Tools

Before examining how herders use communication tools, let us first look at the use of SIM cards in Telmen District (Table 2). Four telecommunication companies provide services in the district, with G-Mobile being the most widely used, followed by Unitel. Although signal coverage varies across the district—especially for internet signals—G-Mobile offers wide coverage for voice calls, making it particularly useful for herders who move across various locations beyond bags (subdistrict unit) year-round.

	Og bag	Sh bag	N bag	B bag	Ov bag, Sum center	BA bag	total
MobiCom	150	100	3	10	70	10	343
Skytel	50	62	n.d.	7	80	10	209
G-mobile	150	350	60	60	50	20	690
Unitell	200	200	80	10	90	70	650

That said, since signals from other companies may be stronger in certain areas, herder households often ensure access to multiple networks by owning SIM cards from different companies among family members. Specifically, the person with a smartphone that can receive a signal at a given location will enable tethering to emit a Wi-Fi signal. Other

family members connect to the internet using this shared Wi-Fi.

There is little hesitation in borrowing another person’s smartphone when one’s own device is out of coverage or out of battery. To clarify ownership, many users set their lock screen to a photo of themselves, but family members often know each other’s passcodes and freely unlock each other’s phones.

The most commonly used smartphones are Android devices. Herders rarely use the contact/address book to store phone numbers. Although they are literate, they typically do not save names in their contact lists but instead memorize the 8-digit phone numbers of kin and local acquaintances.

While radio signals are invisible and the grassland lacks landmarks, herders are well aware of which company’s signal is available in which locations.

In social networking communication, text messages are the main medium; voice messages were not observed. Some elders over 60 reported they do not use Messenger due to presbyopia or difficulty with typing.

Purposes for internet use among herders include communicating with relatives, friends, and former classmates; sending electronic remittances to children in Ulaanbaatar; contracting business services in the provincial center 120 kilometers away; online shopping; and stock trading.

### 3-3. The Relationship Between Mobility and Communication Tools: A Case Study of the B Household

This section provides a detailed description of one herding household’s seasonal movements over a year, weekly mobility, and how these relate to communication methods. The B household consists of B (male, 40s) and T (female, 40s), a married couple whose primary livelihood is herding, along with their children. They own approximately 700 head of livestock, placing them among the larger herding households in the district.

The couple has four children. The eldest daughter is married and lives separately in Ulaanbaatar for work. The second daughter is a university student in Ulaanbaatar. The third son and fourth daughter attend the 12-year school in Telmen District. Each of the four family members at home owns one smartphone.

The author conducted a residential field study with the B household from March 21 to 25. The first two nights were spent at their winter camp, and on the third day, the family packed up their ger and moved to their spring camp, where the remaining two nights were spent. Interviews on mobility and communication were conducted on the night of the move.

#### (1) Annual Migration of the B Household

Between 2024 and March 23, 2025, the B family moved six times, camping at seven locations (five unique ones). The winter and spring camps used in January–March 2024 and 2025 were the same, meaning two of the seven sites were reused. They camped independently at each site, without sharing with other households. However, in winter 2024, B’s parents and his younger brother’s households camped about one kilometer away, and they maintained a cooperative relationship including livestock care.

Their annual seasonal migration and related communication conditions are shown in Table 3.

Table 3 B family's moves in 2024 and 2025

Moving day	Campsite	Telephone and internet signals		
		home	nearby areas	
2024	Jan	winter camp	none	voice call (G-mobile) on a few kilometers away from home on their national highway
	Mar	spring camp	none	voice call (G-mobile) and internet services from all the providers on a nearby mountain
	5-Jun	summer camp	all	all
	8-Aug	autumn camp 1	none	voice call (G-mobile) on a nearby mountain
	20-Oct	autumn camp 2	none	voice call (G-mobile) on a nearby mountain
	10-Nov	winter camp	none	voice call (G-mobile) on a few kilometers away from home on their national highway
2025	23-Mar	spring camp	none	voice call (G-mobile) and internet services from all the providers on a nearby mountain

In January 2024, they set up a ger at their winter camp, over which they had possessory rights and had built livestock shelters. No communication signals reached inside the ger. However, a few kilometers away on the national highway (Asian Highway), voice signals from G-Mobile became available.

Around March, they moved to their spring camp, where they had a permanent dwelling and used the ger as storage. Again, no signal reached the home, but climbing a nearby hill allowed reception of G-Mobile and all major internet providers' signals, making SNS use possible.

On June 5, they began camping at their summer camp, which had excellent signal reception for both voice and internet, even inside the ger. During the summer break, children studying in the capital and in the local district returned home, allowing them to stay connected online with friends even in the countryside.

On August 28, they moved to their first autumn camp, where only G-Mobile voice calls were available after climbing a mountain; there was no internet access. On October 20, they moved to their second autumn camp with similar conditions—voice signal available near the highway, but no nearby internet access.

On November 10, they returned to the same winter camp used the previous year. Signal conditions were unchanged—no home reception; only voice calls possible on the highway.

On March 23, the day of the interview, they moved to the same spring camp as the previous year. Again, they lacked both voice and internet signals at home. Still, at night, the family would drive up a hill with their smartphones to use social media. The person with the strongest signal or highest data allowance would receive internet and share it via tethering with others.

Out of the seven camps, only the summer camp had both voice and internet signal at home, where they stayed for 83 days (22.7% of the year). The next best location was the spring camp, where one could access signals by climbing a nearby hill. In other camps, communication relied on going to the highway or using signals during trips to the district center, where stable signals were more readily available.

## (2) Weekly Mobility of B and T

In the week prior to the interview (March 16–23), the couple engaged in several types of mobility:

On March 16, T drove their two children to the 12-year school in the center of Telmen District using their Prius. She stayed for two nights in the district center, where she did

laundry and cleaned their house as described in 3-1. (2). With full coverage in the area, she also sat on the steps to check smartphone notifications.

After returning, she mostly stayed home to care for newborn lambs. Although the family mainly keeps yaks, they own six Mongolian cattle, which do not adapt well to the yak herd. These were entrusted to B's parents but frequently strayed, so the family kept a close watch.

On March 21, B met his father on the steppe while herding sheep and learned that a cow had just given birth. He went to assist the calf with nursing. T also checked on the cattle during her herding trips in the car.

On March 21, B searched for and recovered some missing cattle. On March 22, he rode to four locations and finally recovered the remaining herd. When livestock went missing, B often contacted nearby herders from signal areas to ask about the animals' whereabouts.

T, not skilled in riding, mainly monitored livestock from the car. When within signal range, she took selfies and sent them to friends via Messenger. Since constant driving negatively affected the feeding and walking rhythm of sheep and goats, herding supervision was rotated: B and their tenth-grade son on horseback or on foot, and T by car.

## (3) Use of Communication Tools

B is adept at using smartphones for communication, frequently chatting and video calling with friends and family, and actively engaging with Facebook. In contrast, T focuses more on gathering and trading information such as stock prices and livestock product values.

Specifically, B uses voice calls for daily tasks like asking about livestock locations, and Messenger video calls to communicate with relatives and children. On the days of the interview, B spoke once with his parents via voice call. G-Mobile's broad rural coverage makes it ideal for herders' communication. Messenger video calls, which require internet, are used for entertainment and social bonding when work is light.

However, he believes important matters should be discussed face-to-face. Face-to-face communication was also observed: on March 23, while the family was dismantling the ger to move, B's parents and two grandchildren helped. Five young men, arriving intoxicated by Prius, joined them, requested vodka, sang folk songs, and eventually helped with the move. B and T considered this a stroke of luck and were pleased.

B evaluated communication modes as follows: face-to-face is most trustworthy, video calls allow visible interaction, voice calls are prone to deception ("I'm still home" when on the way), and text is for when other modes are unavailable.

T is more engaged in economic activities such as information gathering and digital transactions, while B is more interested in communication. When asked to show the apps installed on her smartphone, she had a total of 55 apps. In addition to those for communication (Telephone, Facebook, Messenger) and record (camera), the apps covered various functional categories, including: Government services (E-Mongolia), finance and payment (Khan Bank, State Bank, M Bank, ArdKids, HiPay), Investment and trading (AvtaMata, Unet SC, Telegram (used here primarily for investment information)), Online commerce (Taobao), Livestock management: Nuudelchin.

T became interested in stock trading through smartphone use. She gets information via Telegram but has no acquaintances in the district or capital with similar interests, so she studies alone. She has already earned profits from Mongolian domestic stocks and is now interested in foreign stocks like those from Hong Kong and China.

#### IV. CONCLUSION

Mongolian herders not only relocate seasonally with their dwellings as part of an annual migration cycle, but also frequently engage in short- and medium-distance daily movements from their homes for a variety of purposes such as livestock management, education, healthcare, social visits, and procurement of goods. Along with such mobility, herders adapt their communication practices by securing access to telecommunications networks at destinations or route and selecting appropriate communication tools according to the situation.

In rural areas with weak signal coverage, herders are well aware of where better signal reception can be found. They manage SIM cards from multiple telecommunications companies with different coverage areas across family members and share access through tethering when needed, using smartphones accordingly based on location. In this way, even in environments with limited infrastructure, they practice collective use of multiple mobile devices, integrating physical techniques, contextual knowledge, and technical skills to maintain stable communication.

Among various modes of communication—voice calls, video calls, messaging, and face-to-face interaction—each is used selectively depending on the urgency, reliability, and intimacy of the relationship. In particular, face-to-face conversations were considered the "most trustworthy" form, followed in order by video calls, voice calls, and messaging, reflecting a recognized hierarchy of reliability. This suggests that communication technologies are not replacing face-to-face interactions but are instead being used complementarily.

Furthermore, the observation that women actively engaged in information gathering and economic activities such as stock trading and use of financial apps indicates that

the introduction of communication technologies is offering new monetization opportunities beyond traditional herding. This also suggests promising future possibilities for ICT utilization in nomadic societies, especially when combined with the regional expansion of e-government initiatives.

These practices align with prior research in African pastoralist contexts that emphasize the compatibility between high mobility lifestyles and information and communication technologies (ICT), as discussed by Parlasca (2021). However, this study also reveals region-specific practices in Telmen District of Zavkhan Province in March 2025—namely, local knowledge and skills for navigating areas with limited or inconsistent signal coverage, complementary usage of digital and face-to-face communication, and adoption of e-government and digital banking services.

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