Chapter 4
The Heartland of Inner Asia: Mongolia and Steppe Pastoral Nomadism

Myths about Inner Asia and its peoples are numerous. Among them are abstractions like the absolute frontier, the pure nomad, and the fearsome barbarian clamoring at the gates of civilization. These abstractions simplify the historical reality of diverse communities and distinct peoples who were dynamic subjects and who changed over time. Without attention to the details of place and context, such labels become caricatures of the activities, relationships, and transactions they originally signified. In fact, they begin to track a geography of words more so than of people and this is nowhere more apparent than the stereotypical conceptions of pastoral nomadic peoples and their ways of life. Archaeologists in Mongolia are extremely fortunate that the places in which they work almost always are inhabited by nomadic families who continue to exploit local landscapes by herding their animals and moving their campsites seasonally. These families are hospitable and usually show great interest in their ancient predecessors and can form close relationships with the prehistorians working in their midst. They also provide archaeologists with invaluable local knowledge of the landscapes in which they make their homes and methods of caring for herds—information that would otherwise be unknowable to an outsider.

In today's fast-moving world, Mongolia's nomads are experiencing significant changes to their lifeways. They are rapidly adjusting, which is no wonder because historically, nomads on the eastern steppe have always adapted to change within their broader social and political contexts. With pervasive change as a starting point, any ethnographic description of Mongolian herding must itself be an invention of its time. In the prior chapter, I discussed traditional anthropological approaches to pastoral nomads and the tension between cross-cultural generalization and the particulars of historical context. This chapter attempts to capture the latter perspective by emphasizing the great variability of Inner Asian environments and cultural expressions in order to better convey the reality of what is an intricate and sophisticated way of life well suited to a challenging and harsh region of the world.

W. Honeychurch, *Inner Asia and the Spatial Politics of Empire*,
DOI 10.1007/978-1-4939-1815-7_4

To that end, I provide ethnohistorical and ethnographic information that clarifies Mongolian pastoral mobility in terms of its techniques, technologies, and cultural orientation. This information cannot tell us exactly what pastoral nomadism was like two thousand or more years ago, but it greatly assists archaeological efforts to understand past lifeways. I begin with a brief overview of the physical and environmental geography of the Eurasian steppe zone at the continental scale followed by more specific detail on Inner Asia. I introduce the Egiin Gol and Baga Gazaryn Chuluu study areas that together contribute much of the material evidence in support of the present argument. These two local areas and their present-day communities are good examples of the diversity of eastern steppe environments and pastoral nomadic ways of life.

4.1 More than just Grasslands: The Inner Asian Interior of a Macro-Continent

For many Westerners, what first comes to mind about Inner Asia is the phrase, "might as well be in Outer Mongolia!" coined by explorer Roy Chapman Andrews almost a century ago to evoke isolation and remoteness. In reality, Chapman found many similarities between his native Midwest America and the Mongolian steppes. Unless you live in the North American interior, it is easy to forget that the prairies of Great Plains have the same land type and topography as many of the landscapes of Inner Asia. People living in Kansas would probably feel right at home on the opposite side of the earth in the broad open spaces of Kazakhstan or eastern Mongolia, just as Mongolians might well see their northern steppes, forests, and mountains in the landscapes of Wyoming and North Dakota. Although the northern boreal forests and temperate grasslands are fairly continuous across the Old and New World, the way human beings adapted to these conditions was quite different. The Great Plains was home to Native American hunters and farmers, while the Eurasian grasslands supported domesticated animals tended by herders riding Asian horses bred as mounts long ago. It was not until the sixteenth century that horses from the Old World arrived in the Southwest and Great Plains and transformed Native American plains communities. Even with this time gap, Native American horse cultures still had many fascinating parallels to the ancient horse cultures of the Eurasian steppe (Anthony 1986; Hämäläinen 2008).

However, putting horses and grasslands aside for just a moment, it is useful to ask what exactly the label "Eurasia" means in geographical terms. Normally, Eurasia refers to the macro-landmass of Europe and Asia combined, ranging from Iceland in the northwest to East Timor in the southeast. As used in archaeology, Eurasia refers to the middle regions of this landmass and, specifically, to those parts of the former Soviet Union around which Europe and Asia meet, i.e., the Ural mountains. On either side of this arbitrary dividing line are expansive grasslands stretching from Manchuria to the Great Hungarian Plain. The full

extent of this mostly land-locked continental interior has been called by many names including, among others, Inner Eurasia and Central Eurasia (Sinor 1970; Christian 1998: 3–4). It consists of a broad belt of steppe fringed by tracts of coniferous forest to the north and by mountain ranges in the south alternating with arid belts of desert. While these grasslands are tremendous in breadth and scale, they are not at all uniform but instead contain diverse microenvironments punctuated by north–south trending mountains, great lakes and rivers, and massive inland seas. Beyond the southern mountains and deserts of Eurasia are the mostly littoral and riverine regions that gave rise to several of the acknowledged seats of civilization: the Mesopotamian plains, the Mediterranean, the Indus valley, and the Central Plain of China.

A familiar conception of the Eurasian steppe zone is a region comprising a virtual highway of pasture across which nomads migrated immense distances from west to east and, at other times, from east to west (Frachetti 2011). Historical evidence suggests that diasporas did sometimes occur across the steppes, as perhaps evidenced by the broad distribution of Turkic peoples whose putative origins are in western Mongolia. However, there is little doubt that mass migration of nomads as a cultural process has been greatly overemphasized in explanations of Eurasian history and prehistory (Shishlina and Hiebert 1998). Archaeological focus on macro-scale migrations and cultural distributions more often than not has been at the expense of detailed attention to local areas and smaller-scale sequences of cultural change. In either case, local details and macro-regional process should ideally be considered simultaneously using a back-and-forth perspective between large and small scales. This latter technique, in my opinion, is a robust way to explore both the intricacies and general shape of Inner Asian prehistory.

Inner Asia makes up the eastern part of the Eurasian steppe zone, and as I defined it in the first chapter, the modern nation of Mongolia is at its center with parts of Inner Mongolia, Siberia, Manchuria, Xinjiang, and Kazakhstan surrounding the Mongolian core. This area represents a sharply reduced geography from Lattimore's original definition which also includes the entirety of Manchuria as well as Tibet (Lattimore 1940: 3). My definition also differs from others that are even more expansive and include former Soviet Central Asia and all of Kazakhstan. No matter which definition is used, Inner Asia is still a tremendous landmass and one convenient way to begin analyzing its vast geography is to focus on the makeup of climate, vegetation, and land types. I describe these different landscapes in some detail as a way to introduce geographic place names and characterize the diverse kinds of environments that gave context to prehistory. Note that the two maps provided below (Figs. 4.1 and 4.2) should be consulted for major geographical terms, place names, lakes and rivers, and all provinces within Mongolia.

The Mongolian heartland of Inner Asia contains a variety of steppe vegetation, lake and river systems, mountains, and deserts—all distributed across the Mongolian Plateau. The plateau is relatively high in elevation, with a majority of land situated at one to three thousand meters above sea level and topographically composed of mountainous territory in the west and center of the country and

Fig. 4.1 Map of Mongolia showing the surrounding regions that make up Inner Asia

Fig. 4.2 Provinces of Mongolia

rolling plains and hillocks in the east. Five vegetational belts traverse Mongolia from north to south and represent gradual changes in temperature and precipitation according to latitude. These vegetation regimes grade into each other, but in some

places, especially in the west, they form patchy distributions rather than a continuous sequence. Nevertheless, from north to south, Inner Asian environments can be generally classified as taiga coniferous forest, forest steppe, classic or temperate steppe, desert steppe, and arid desert landscapes (Fig. 4.1).

Of these five zones, the southernmost Gobi Desert is probably the best known region within Mongolia and consists of arid desert and desert-steppe environments. The Mongolian Gobi is situated at about 43°–44° north latitude, but these desert lands extend farther south into western Inner Mongolia and Xinjiang province as well. This substantial arid zone creates a natural frontier between the watersheds of Mongolia, which mostly comprise arctic and internal drainages, and those of China which drain into the Pacific Ocean. The Gobi is a scrub and pebble or semi-sand desert that has a mean annual rainfall of less than 100 mm. In many places, especially in the southwest of Bayankhongor and Gobi-Altai provinces (Fig. 4.2), rainfall does not exceed 50 mm. Surface water consists of occasional salt marshes, brackish lakes, and playa basins, though in some parts of the Gobi, springs and accessible water tables make it possible to live and support herd animals and even farm despite the aridity. Gobi herds are mostly made up of goats and Bactrian camels, though in places with reliable subsurface water, sheep and horse herds are also common. These animals require that herding households make frequent camp movements in order to supply them with enough of the sparse, tough pasture characteristic of the region.

To the north of the arid desert is a broad belt of desert steppe composed of grasses well adapted to a semiarid environment. These regions in Mongolia generally receive an average of between 100 and 200 mm of rainfall annually. The desert steppe is capable of supporting a broader range and greater numbers of herd animals as well as a human population that is somewhat denser. Similar to the arid Gobi, land surfaces are comprised of playa basins and salt pans, but the surface water, usually in the form of springs, is more common and widespread. Wells are still a major source of water in desert steppe regions and are usually the traditional hand-constructed variety that tap into relict river beds and other locations having near-surface water tables. In some cases, major rivers, like the Tuin Gol (the Tui River) of Bayankhongor province and the Ongi of the South Gobi (Omnogobi province), flow southward through the desert steppe to end in closed drainages. Within their basins, these rivers maintain higher-quality grasslands and even small plots of farmland. North–south-flowing desert rivers have long acted as transit routes into the desert and jump-off points across the Gobi into to Inner Mongolia and regions farther south. Desert-steppe environments support goat and sheep as well as camels and famed Gobi horse herds. Herders can maintain cattle in pockets of higher precipitation, which are usually characterized by greater topographical relief and more plentiful spring-fed water sources. One benefit of living within the desert-steppe belt is mobile access to moderate temperature winter environments in the Gobi Desert and abundant spring and summer pasture in the temperate steppe immediately to the north.

The temperate steppe belt of Mongolia spans the central portion of much of the country at approximately 46° north latitude. The region supports the five

Fig. 4.3 Horse herders of Arkhangai province in Mongolia

traditional herd animals of sheep, goat, horse, cattle, and camels. In zones of higher humidity and along streams, dry-farmed and irrigated agriculture of vegetable and grain crops can be sustained. Surface water is relatively plentiful in this part of Mongolia with large freshwater lakes and some of the most important waterways of the northlands. These include the Orkhon, Tuul, Kherlen, and Onon rivers, all of which arise as streams in the Khangai or Khentii mountains and eventually make their ways northward to Siberia. Annual precipitation averaging 200–300 mm, lush and diverse pasture, and robust sources of water make the steppe belt an attractive ecology for herding in that it does not necessitate long-distance seasonal movements. However, the variable topography and river valleys that offer different pasture types and facilitate movement make this zone ideal for more intensive and specialized herding. A good example today is the specialized horse herds numbering in the hundreds of animals that are characteristic of the central Mongolian provinces and especially the west-central province of Arkhangai (Fig. 4.3) which has the highest percentage of the nation's horse herd (e.g., NSOM 2005: Appendix 7, 2010: Appendix 14).

The northern vegetational belt in Mongolia is the forest-steppe zone which is transitional to the boreal taiga forests of Siberia. The forest steppe stretches across the northern part of the country at approximately 48° north latitude but alternates in the west with patches of semiarid basins and forested alpine meadow. Land cover consists of steppe grasses, shrubs, and medium-dense forest cover of birch, larch, and pine located mainly on the north-facing slopes of ridges. This is a region of seasonal and perennial streams, numerous freshwater lakes and ponds,

and substantial rivers such as the Selenge which joins the Orkhon and Tuul rivers to feed Lake Baikal in southern Siberia. Mean annual rainfall across the forest-steppe zone exceeds 300 mm and sustains dry farming and irrigated agriculture, making this region the bread basket of Mongolia. Abundant sources of fodder support large animals during the winter and into early spring, and while all of the five major herd animals including camel inhabit this environment, it is especially well suited for cattle. Higher-altitude areas also support yaks and yak–cattle crosses known as *khainag*. Abundant pasture, lower productive risk, and a landscape punctuated by ridges, forests, rivers, and lakes produce a resource landscape in which herding can be practiced over very short distances within the fertile low lands of major river valleys and their tributaries.

A final small part of the Mongolian environment is made up of the taiga biome which consists of the same dense coniferous forests that comprise much of Siberia. These forestlands occur in the northernmost Mongolian province which is also home to Lake Khovsgol, an extremely large freshwater lake that forms a major headwater of the Lake Baikal system. In this mountainous and forest-covered area situated around the shores of the lake, reindeer herding is still practiced by the Dukha-Tsaatan people (Badamkhatan 1996). Their culture and population were originally part of Uriankhai groups in Tuva before the Mongolian-Soviet border was established in 1944. The Dukha-Tsaatan are one of the southernmost expressions of the many reindeer herding cultures inhabiting the boreal forests of Siberia and northern Manchuria (e.g., Evenki, Nenets, Yakut).

These five major land types are further differentiated across the altitudinal zones of Mongolia. From east to west, environmental differences are linked to dramatic changes in topography and elevation across the country. Moving westward from the border between Mongolia and eastern Inner Mongolia, the landscape is a continuous plain of broad rolling grasslands with low relief, many streams, and dotted with lakes. These plains are similar to the prairie grasslands of North America but are intersected in central Mongolia by two major mountain ranges: the Khangai Mountains of west-central Mongolia and the Khentii range of central northeast Mongolia. These two mountainous regions are made up of eroded peaks of moderate elevation with good soil development supporting a variety of steppe grasses. Lush intermontane steppe valleys capture rain runoff and form the headwaters of most of the major rivers in Mongolia. Further to the west beyond the Khangai Mountains, topography drops off to a plain of scrub and arid steppe flatlands with closed drainages, large salt lakes, and the first low foothills of the Altai Mountains. The Altai is an impressive mountain range having the highest peaks in Mongolia, rock-carved river gorges, glaciers, and high mountain passes that provide corridors for movement beyond Mongolia to the west, southwest, and northwest. This mountain range overlaps the borders of four countries linking the westernmost portions of Mongolia to southern Siberia, eastern Kazakhstan, and northern Xinjiang province.

The above description of the physiography and environments of Mongolia demonstrates both the diversity of landscapes and the adaptability of pastoral nomads within these varied regions. In this regard, Mongolia is quite different from the

western Eurasian steppe zone due to its wide range of biomes and the overall richness of its subsistence resources. To broaden this overview of Inner Asia, I move beyond the modern territory of Mongolia and touch on adjacent areas in Russia, China, and Kazakhstan. Moving directly northward across the border of Mongolia into southern Siberia, there are several regions whose archaeology is of particular importance to the forthcoming discussion. These areas include the following: the Siberian side of the Altai Mountains, the upper Yenisei River and Sayan Mountains of Tuva, the Minusinsk Basin, and Cisbaikal to the northwest of Lake Baikal, as well as Transbaikal to the southeast of the lake. Each of these regions is characterized by either mountain steppe, forest steppe, or taiga environments, and each sustains various traditional forms of pastoral and agricultural production.

To the east, Inner Asia includes the plains of eastern Inner Mongolia and the forest zone of Manchuria beyond the Great Khinggan Mountains. Inner Mongolia is another expansive region critical for understanding the early politics of Inner Asia. As already noted, archaeologists working in China refer to the Inner Asian Chinese borderlands as the "Northern Zone." Included in this historical and geographic term are Ningxia and Gansu provinces, all of Inner Mongolia, and Manchuria (currently Heilongjiang, Liaoning, and Jilin provinces), and sometimes adjacent parts of Qinghai and Xinjiang as well. Inner Mongolia makes up the core region within the Northern Zone and can be divided into eastern, southeastern, central, and western sections. Inner Mongolia traces a substantial northeast to southwest arc from the lush grasslands bordering Manchuria and the Russian Far East down to the most arid western extensions of the Gobi Desert. These desert regions of western Inner Mongolia and northern Gansu continue still further to the southwest and eventually merge with the Taklimakan sand desert of the Tarim Basin in Xinjiang province. Xinjiang is well known for several major routes of the ancient Silk Roads including those around and through the Tarim region and those farther north beyond the high Tian Shan Mountains. Between the Tian Shan and the Altai Mountains is the Dzungarian Basin which provides an east–west corridor of travel between the mountain chains and gives access to the grasslands and mountain fringes of eastern Kazakhstan.

4.2 Examples of Inner Asian Pastoral Nomadism from Mongolia

The diverse environments and landscapes of Inner Asia suggest different configurations of subsistence practices, resources, movement regimes, and productive risk. Clearly, a one-size-fits-all approach to pastoralism cannot encompass this variety unless it is founded on the idea that the practice of pastoralism is itself highly flexible and has a *modus operandi* that anticipates change and quickly adapts to it. This raises a problem for any synchronic account of pastoral nomadism since, by default, these communities and their activities promote the potential to assemble and disassemble in numerous ways over space and time. It is

necessary to keep this caveat in mind when reading the vast ethnographic literature of mostly synchronic accounts of pastoral nomadic peoples.

Perhaps even more critical, ethnographers themselves must be aware of the importance of extended time observations, especially in the case of mobile herders. What might be called "diachronic ethnography" is required to properly contextualize the events, relationships, and arrangements of pastoral nomadic lifeways. In fact, there are many good examples of ethnographers turning to historical texts and oral histories in order to augment their own experience as participant observers (e.g., Tapper 1997; White and Johansen 2005). An even more innovative approach to overcoming the problem of time is the sharing of ethnographic projects between parents and children who have worked together for decades within the same pastoral nomadic communities. A wonderful example of this has been the mother–daughter team of Beck (1986, 1991) and Huang (2009) who have made inter-generational time a significant element of their ethnographic understanding of the nomadic Qashqa'i of Iran.

Ethnographic research has done a good job of documenting the conditions of contemporary pastoral nomads who in many cases have been encapsulated and subordinated as second-class citizens within modern nation states in some parts of the world (e.g., Chatty 2006). However, from a deep diachronic perspective, these events of the past century and their observation by cultural anthropologists are but a small sample of pastoral nomadic organizational and interactive patterns. Ethnographies and histories of nomadic peoples as a whole provide a very particular and somewhat limited set of information on the nomadic past and should not be taken as the definitive accounts of nomadic societies in general (Rosen 2008). Mongolia, in this respect, might present a contrast since its nomadic peoples have indeed been encapsulated within a modern state but one made of and by nomadic peoples themselves—which is a very different situation from many of the marginalized and embattled nomadic groups in the Middle East and Africa (Galvin 2009). This raises the interesting question of the status of Mongolian pastoral nomadism today. Among present-day Mongolian people, this very question of their own identity, their investment in pastoral nomadic lifeways, and their cultural heritage is greatly debated as Mongols attempt to navigate radical economic changes. Given these recent transformations, to what extent can modern Mongolia still be considered a nation of herders?

The nation state of Mongolia is a land-locked country of 1.6 million km^2 with a population approaching three million people. Though the numbers vary over time, average livestock holdings for the nation are currently around 25 million animals or about eight animals for each person. From the late 1950s to the collapse of the Soviet Union in 1989–1991, Mongolian pastoralism was carried out and organized through herding collectives with state ownership of animals, though families maintained small personal herds of about fifty head. These collectives, called *negdel*, had hierarchical arrangements, robust infrastructural investment, technological and scientific support, and a specialized approach to stock keeping. Herders benefitted from the availability of heavy trucks for transport as well as permanent wooden winter shelters, mechanical wells, and veterinary assistance.

Mobility in the negdel system was largely tethered within local administrative districts, though authorities permitted longer-distance movements for obtaining seasonal pasture in times of need.

During the socialist period, the national economy focused primarily on pastoral production with subsidized support for vegetable, fodder, and grain cultivation sectors, as well as mining and light industries. The relatively small population of socialist Mongolia was largely rural, and if not nomadizing and living on the steppe, citizens resided in one of a number of built settlements ranging from small hamlets to provincial centers to the primary urban center of Ulaanbaatar (Schmidt 1995: 81–95). During the 1970s and 1980s, the high level of health, education, and infrastructural services available to rural pastoral nomadic communities set a unique precedent among the world's nations (Fratkin and Mearns 2003: 117). Mongolia still has a major investment in the pastoral economy with almost 50 % of households directly or indirectly involved in pastoral-related activities. This statistic is changing rapidly, however, due to an increase in multinational corporate mining of gold, copper, and coal deposits throughout the steppe nation.

Beginning in the 1990s, Mongolia privatized its state-owned herds by distributing animals among all citizens and disbanding the negdels. At the same time, many of the support systems and services that rural residents relied on were withdrawn. In order to adapt to these changes, herding families have sought to reestablish community-based traditions and institutions that in the past collectively supported the herding economy. The challenge for herders has been to integrate the old with the new, which has meant adapting within the context of a developing market economy, the pressures of globalization, and national priorities for land management and resource use (Templer et al. 1993; Sneath 2001). Despite the new economic and political setting, traditional herding practices remain in use among pastoral households and have been combined with modern mobile technologies that facilitate pastoralism and rural life.

The traditional Mongolian circular felt tent, known as a *ger* in Mongol or yurt in Turkish, provides a superb transportable dwelling that gives shelter from the cold, wind, and dust. Inside the ger, family members might be using mobile phone service or the Internet to connect them with the world outside. Herders regularly use such equipment to monitor regional weather, watch animal and fiber market prices, and make arrangements for cash and supply deliveries from urban areas. To power this twenty-first century production unit, herding families commonly install solar arrays for electricity and even satellite dishes for television, all of which can be easily packed up and moved along with the herds between seasonal camps. Short- and long-distance transport is made possible by an array of vehicles including motorcycles, jeeps, and heavy trucks supplemented by the traditional uses of horses and camels. In short, the stereotypical steppe nomad on horseback in the middle of nowhere is a far cry from today's globalized herder (Fig. 4.4).

As mentioned above, traditional herding depends on sheep, goats, horses, cattle and/or yaks, and camels with limited herding of reindeer in Mongolia's northernmost reaches. Herders exploit these animals for transport, meat, milk, skins, wool, and other fibers. While sheep and goats form basic constituents of most herds,

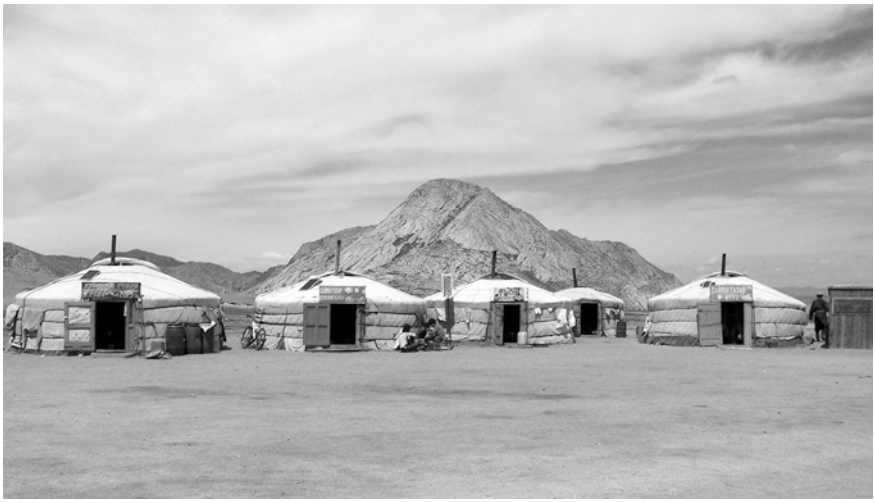

Fig. 4.4 Mongolian gers setup along a road in southern Tov province to sell food to travelers on their way to the Gobi Desert (photograph by the BGC Archaeological Project)

there is a clear north-to-south shift in species emphasis from cattle and sheep in the high-precipitation forest steppe to camels and goats in the arid regions of the Gobi. In general, species composition, timing and number of seasonal movements, distance of movement to new camps, and the number of families in co-residence are all complex variables configured by household decision making and short- and long-term goals. These configurations are subject to wealth, locality and environment, animal holdings, seasonality, and relations with other households.

Animal holdings and herding are not the entire story of subsistence production in Mongolia. Hunting, gathering, fishing, and small-scale agriculture can also supplement pastoralism (Erdenebaatar 2000: 12; Vainshtein 1980: 145–147). These activities were probably more important in the past when local stores did not make available flour, rice, and vegetables. However, the Russian economic pullout in 1990–1991 following the fall of the Soviet Union demonstrated the importance of supplementary production for economic survival during hard times. Mongolia lost one-third of its GDP practically overnight as Russia halted economic support and subsidies including the many food products that Mongols had relied on for decades. As a result, shelves were empty of food supplies in stores across the nation. While the urban population in Ulaanbaatar had ration cards and weekly handouts, rural populations relied primarily on herding and opportunistic horticulture to get by. During the difficult years of 1992 and 1993 in the town of Bayankhongor (central southwest Mongolia), townspeople and herders alike tended large gardens of vegetables using water from the Tui River. The largest garden plot was inside the crumbling mud walls of a 200-year-old Manchu garrison near the river floodplain. Gardeners grew vegetables for their own use and for gifts or payments, but when these products returned to local stores, horticulture diminished.

While today supplementary activities like small-scale horticulture are not a critical part of subsistence for households, their occasional use can still be quite important. The possibility of sudden environmental shifts that can wipe out herds in a matter of weeks always looms large in the minds of pastoralists and, for this reason, additional subsistence skills are not forgotten. Unseasonable snowstorms, epizootic disease, steppe fires, and drought are all risk factors that threaten the livelihood and surplus wealth of herders. Different parts of Mongolia have higher and lower pastoral risk profiles, but in general a serious environmental downturn can be expected every 5–8 years (Fernandez-Gimenez 2000: 1322). While any particular episode is unpredictable, the probability that a hardship event will eventually occur is 100 %, and therefore, the practice of Mongolian pastoralism includes many ways to buffer against productive risk. For the individual family, these strategies include the production of multiple subsistence sources of food and storage techniques for meat and dairy products. Community practices comprise techniques for dispersing herds over space against localized downturn and social storage through reciprocity, obligation, and ritual (Sneath 1993). One of the most important protections against herd loss is still seriously underappreciated, namely intimate knowledge of pasture, climate, and animals and how these three intersect over time. Personal and collective knowledge among herders allows for the flexible adjustment of productive, spatial, and social variables to meet short-term goals and long-term sustainability (Fernandez-Gimenez 2000; Miller and Sheehy 2008).

Pastoral planning must be as dynamic as the variables it seeks to accommodate. For that reason, more predictable variables are enlisted as a framework to organize less predictable ones. Seasonality presents such a framework, and much of the practice of Mongolian pastoralism can be understood in relation to the high-contrast seasons of the Inner Asian continental climate. It is customary to greet people in the countryside by inquiring as to how a particular season has been for them and their animals. These seasonal greetings correspond to the traditional seasonal movements and campsite types used by most Mongolian herders. The four seasonal camps are *zuslan* (summer camp), *ovooljoo* (winter camp), *khavarjaa* (spring quarters), and *namarjaa* (fall quarters). In practice, however, the summer and winter camps represent primary locational differences, while fall and spring camps tend to be optional, flexible, and usually not too far from the summer or winter sites, respectively.

One of the periods of greatest hardship for herd animals is during winter and early spring when prolonged low temperatures, winds, and snowfall cause animals to lose a significant portion of their body weight. Therefore, winter quarters are perhaps the most important of the four seasonal camps and the one site most delimited in terms of viable locations. Winter campsites must provide a setting that gives protection from the weather, adequate storage conditions for fodder, and good nearby pastures that can be held in reserve during other seasons and are accessible despite snow cover. The winter camp is usually occupied by a single household with user rights to that particular spot and its surrounding resources year after year and sometimes over generations. Generally, the cold season is a time of more isolated activities; however, the celebration of the lunar New Year

(*Tsagaan sar*) in late winter offers an occasion for extended family gatherings, ceremonial visits between households, and exchanges of information and planning for spring and summer. It also provides an important occasion for the redistribution of food and monetary resources as needed to support any household in crisis.

In contrast to winter camps, summer sites exhibit much more diversity in terms of geographical location. Relocating in the summer is not predicated on long-term user rights but rather on local community negotiations and respect for precedent and household desires. Very often, the summer season involves one or more movements to multiple locations depending on pasture quality and local weather conditions. Access to adequate water supplies is one of the most important variables during the warmest months. In the northern temperate steppe and forest-steppe regions, families will relocate near valley or grassland streams, while families in the more arid parts of Mongolia select locations that are near wells and springs. Another primary difference in summer habitation patterns is the aggregation of households at one summer camp into *khot ail* groups made up of multiple family ger tents. Khot ail camps can be based on kinship, or mutual benefit, or some mixture of the two that brings together two to thirteen households to share labor, information, and resources (Simukov 2007: 465, 489). An example of a labor-intensive practice that khot ail groups readily accommodate is the dividing up of herds on the basis of species and age to be pastured as subgroups in spatially dispersed, but nutritionally optimal pasture locations. Members of each family will take different age species groups from the combined khot ail herds and disperse them over the landscape for the day's grazing. As such, the warm weather seasons are those of maximal movement and interaction. Summer is also the season of festivals and competitions throughout Mongolia which bring together large spatially dispersed communities for collective sports and ceremonial activities.

Given these seasonal dynamics, it is clear that the way in which a household migrates over the course of a year will be contingent on both social and productive conditions. When selecting a new seasonal campsite, a complicated mix of factors is involved such as what other families will be nearby, access to local townships, the respective distance of travel, distribution and quality of grazing sites and water, the nature of follow-up movement to subsequent camps, and whether adequate transport can be organized. Flexibility and variation are always dominant aspects of how household movement actually unfolds. A move occurs only after herders consider the multiple environmental, productive, social, economic, and technological variables that go into site selection as well as the overall household goals for production and assessments of potential risk. Owen Lattimore sums up the complexity of movement quite well:

> Within the world of the steppe there are many types of migration cycle, governed partly by geography and partly by social specialization in the use of different animals. There are groups that move over considerable distances and others that move only a few miles in the course of a year. Some nomads have a pastoral range which includes both rich and poor grazing, while some never leave the arid steppe or remain entirely in good meadow country. There is an intricate relationship between the kind of pasture that predominates, the frequency of moving camp, the distance travelled from one grazing ground to the next, and the climate and soil (Lattimore 1940: 73).

To clarify how anthropologists have attempted to understand the decisions that make up Mongolian "nomadism," I refer back to an informative research program carried out at the beginning of the twentieth century. During the 1930s, the socialist government of the Mongolian Peoples Republic was searching for effective and sustainable ways to nationalize and collectivize herding. This project had probably more to do with politics, both internal and external, than with genuine economic restructuring or development. The Mongolian government initiative sought to reproduce the agricultural collectivization model set forth by Stalin in the Soviet Union; in addition, it aimed to combat the powerful Buddhist monasteries in the country by appropriating their herd wealth and lands (Bawden 1989). In order to devise a state-sponsored approach, the initiative required extensive ethnographic studies of pastoralism. Russian researcher A.D. Simukov, an acknowledged expert on Mongolian geography and lifeways, participated substantially in this effort. He documented and analyzed the complex relationships between water and vegetation, microclimate, herd composition, range and frequency of seasonal movement, and the makeup of extant administrative systems that embedded these diverse factors. In his reports, Simukov placed primary emphasis on movement practices which were important for managing not just herds of animals but also people. In this respect, what interested government authorities most were methods to create a functional relationship between centralized administration, mobility, and herding that suited the needs of politics as well as pastoral production (Simukov 2007: 605–606).

Simukov's project called for the analysis of distances of annual migrations which, in and of itself, is not an easy task given the substantial variability in movement. To do this, he observed the spatial range that would effectively encompass all campsites of a single household over the course of four seasons as represented within a tightly fitted circle. The annual migration for that household would then be logged as the circle's diameter even though the actual pathway of migration was obviously not circular. After conducting extensive field research and interviews across Mongolia, Simukov proposed six basic patterns of seasonal movement according to geographical location and environmental conditions. His classification is organized according to Mongolian regions and consists of the following configurations of herd mobility: western, Ovorkhangai, eastern, steppe, Khangai, and Gobi types (see Simukov 2007: 443–449). Before describing these patterns further, it is important to point out that this typology compiles hundreds of observations of households moving in real time. As such, it is a heuristic way to work with a great deal of information about varied behaviors. In practice, these simplified "types" cannot adequately describe the complicated frameworks developed by herders as they think about pastoralism or make decisions concerning its many intricacies. Nevertheless, it is useful for revealing major similarities and differences in movement regimes.

That said, Simukov's "western" pattern arises from his observations in the western Altai Mountain region and along the dry closed drainage plains of the lower Altai foothills. Seasonal locations suitable for campsites are located at some distance from one another and at markedly different altitudes. Movement consists of high-, middle-, and low-elevation migrations in the range of up to 100 km annually. Summer quarters are located near high-elevation summer pastures along upper

slopes of the mountains, while autumn camps are in the plains at the lowest elevation. The best areas for winter/spring quarters are those with adequate wind protection, and these tend to be in the middle-elevation foothills where there is moderate slope. One variant of this elevational strategy is the "Ovorkhangai" pattern practiced in the southwestern Khangai Mountains of Mongolia. Here, high mountains border on the arid upper portions of the desert-steppe belt making longer-distance movements between these zones practical. Moving across distances of 150–200 km allows herders to exploit summer streams and meadows in the upper Khangai Range and the warmer winter pastures of the lower-altitude Gobi-Altai region.

The "eastern" pattern is somewhat similar to the "Ovorkhangai" strategy. Simukov made observations related to this form of herding in the eastern grassland plains located between the arid steppe in the southeast of Sukhbaatar province and the southern fringes of the Khentii Mountains and Kherlen River basin in the north. Summer camps are located in the hill regions around the Kherlen River where water is plentiful, while winter camps are in the more arid areas to the south with warmer winter temperatures and low rising hills to offer wind protection. These north–south migration routes in the east constitute up to 100 km of movement annually. In contrast, the "steppe" type of pastoral mobility covers less distance and elevation within the central temperate steppe of Mongolia. This strategy makes use of available surface water within the open grasslands including small streams and lakes which, during the summer season, provide good locations for campsites. Summer camps are often shifted periodically throughout the season as immediate pastures around a khot ail group are gradually consumed by grazing. Winter camps are chosen on the southern side of low hills or ridges or otherwise in gullies to protect herd animals from the prevailing cold winds; otherwise, winter camps are at about the same elevation as summer camps. The distance of seasonal rounds varies according to Simukov, but in most cases between 30 and 50 km is a characteristic annual range for central steppe herders.

The last two types of mobility, i.e., the "Khangai" and "Gobi" types, are pertinent for the two archaeological study areas of Egiin Gol and Baga Gazaryn Chuluu, respectively. Egiin Gol is located in the forest-steppe zone along a major river way in Bulgan province of northern Mongolia. Herding families living along the river valley organize production in ways similar to Simukov's "Khangai" configuration. Khangai mobility is well suited to areas with high-precipitation and high-productivity pasture so that only two to four seasonal movements are made by a household annually over a relatively limited distance of up to 8 km and sometimes slightly more depending on topography. Winter sites are located in the lee of hills or ridges that offer northern-side protection from wind chill, and these locations tend to be in higher-elevation areas often in the upper reaches of tributary river valleys, small side valleys, and ravines. Summer sites are at lower elevations within broad meadow pastures along the river and stream courses of major valleys.

"Gobi"-type mobility is practical for environments having lower-productivity pasture such as that documented at Baga Gazaryn Chuluu in the desert-steppe province of Dundgobi. Simukov argues that arid grasses are not very diverse and re-occur in similar patterns across the Gobi Desert. As a result, longer-distance migration does

not secure a qualitatively different environment; therefore, the best strategy is multiple small-scale movements by single households which are relatively dispersed from one another. On the other hand, herders in the northern Gobi not too distant from the temperate steppe zone can benefit from farther movements into the more humid grasslands. Reliable water sources act as a tether on household distributions during the hot summer season, and in winter, families move to campsites sheltered at the base of low ridges or hills. Simukov points out that gobi mobility can include very long-distance movements of up to 250 or more kilometers, but such migrations usually occur in reaction to drought or unseasonal cold snaps and are emergency measures taken to obtain much needed pasture and water. He also notes that Gobi herders focusing specifically on camel herding sometimes practice a different strategy in which they remain on the open desert plains all winter to secure the graze best suited for their animals. Alternatively, Gobi households with mixed herds can split up in winter to give camels open pasture while providing goats, sheep, and horses with the much needed protection of low hills and mountains elsewhere.

Over the course of his ethnographic research, Simukov documented a full range of movement from no movement at all to up to 200 km annually. Overall, most households moved between a sequence of campsites that encompassed an annual round of between 10 and 100 km (Simukov 2007: 601). If not brought on by emergency conditions, the significantly longer-distance ranges tended to be specialized forms of herding that maximize nutrition for horses or camels by accessing the highest quality graze despite its spatial dispersion. Even though Simukov recorded this information more than 80 years ago, much of the pastoral organization he observed and reported was in some way incorporated in the creation of herding collectives and is still evident in practices today. That Simukov's classification is still pertinent for understanding pastoral nomadism in Mongolia is testament to the deep insight of his work. To follow up, I provide more detail on the Egiin Gol and Baga Gazaryn Chuluu regions not only to describe their respective environments and local communities but also to give context for the archaeological fieldwork at both sites. These two areas were purposefully selected for archaeological study precisely because they are so different from each other in terms of environment and geographical position within Inner Asia. As such, they provide a broader perspective on the diversity of Mongolian landscapes and lifeways.

4.3 Egiin Gol: A Northern Mongolian River Valley

The Egiin Gol[1] River is a major tributary of the Selenge river system which feeds into Lake Baikal in southern Siberia. The river takes its headwaters from the southern spill point of Lake Khovsgol and winds its way through southeastern

[1] Another transliteration of this place name has been published as "Egyin Gol." The transliteration I use here draws on the Cyrillic spelling as it appears in the 1:100,000 Mongolian national map series.

Khovsgol province and into Bulgan province where it joins the Selenge. Along the final section of the Egiin Gol immediately above the Selenge confluence is a broad valley rich in archaeological sites representing a history of human occupation dating back at least 30,000 years. The lower Egiin Gol River flows in an east to southeast direction and meanders along a valley bottom made up of a wide and active floodplain and a series of old terrace remnants at elevations between 840 and 900 m above sea level. Surrounding the river are steep eroded mountains rising up dramatically to 1,300 m above sea level. On the southern bank, the lower river basin is bounded by a high east–west ridge system that divides the Egiin Gol from the larger Selenge river further to the south. On the northern bank, the Egiin Gol basin is intersected by a number of north–south-trending ridges that alternate with flat-floored valleys formed by perennial and seasonal tributaries to the Egiin Gol River (Fig. 4.5).

Intrusive magmatic events, metamorphic processes, and later volcanic activity formed the geology of this region. Local parent materials consist of coarse-grained gabbros, granites, grano-diorites, and pyroclastic rocks. The region has sources of copper, clays, garnets, and rich colluvial and alluvial soils atop of earlier loess deposits from the end of the last glaciation (Asian Development Bank 1992). Current morphology in the valley is the result of long-term processes of weathering and erosion, occasional volcanic activity, and tectonic movements. Land cover at Egiin Gol is classic Inner Asian forest steppe and consists of vegetation

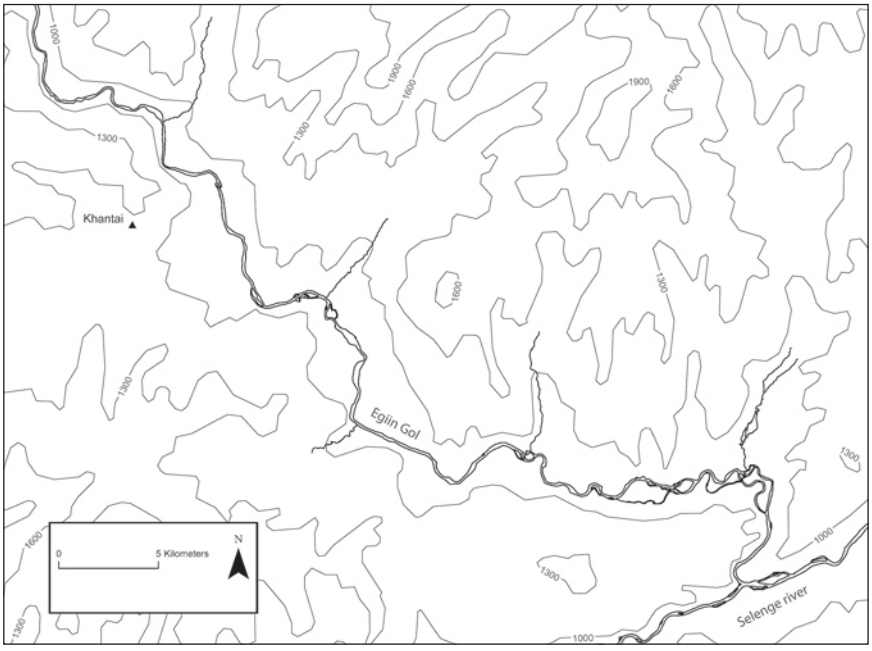

Fig. 4.5 Topography of the lower Egiin Gol valley

dominated by varieties of feather grass (*Stipa sp.*), shrubs (*Rhododendron sp.*), and medium-dense stands of birch, pine, larch, and dwarf elm (*Ulmus pumila*) growing along seasonal waterways. The forest–grassland interface is patchy and distinct with tree cover mainly situated along higher-elevation ridges and strongly favoring north-facing slopes.

Grasslands make up most of the valley bottoms and provide high-quality pasture for use by the local herding community. Average temperatures in January and July are −20.5 and +15.9 °C, respectively.[2] Mean annual precipitation in the area is between 360 and 440 mm with rainfall mostly during the warm season months, though winter snowfall also makes a significant contribution. Water is plentiful in the area and is available from the Egiin Gol River, from spring snow melt, and from seven tributary streams feeding into the main river. Of these, six are seasonal and begin to flow in July depending on the amount and timing of summer rain, while one is a perennial stream. Older individuals in the valley say that they can remember when a number of the now seasonal streams were perennial water sources. Soil quality and rainfall is sufficient at present to support extensive dry-farmed agriculture. During most of the nineteenth and early twentieth centuries, local Buddhist monasteries maintained a system of intensive agriculture using canal irrigation.

In 1999 and 2000, about 20 herding households made their summer camps along the lower Egiin Gol River, and many more were located in and around the small township of Khantai along the upper northwest bank of the river. During this time, Diimaajav Erdenebaatar, the lead Mongolian archaeologist working in the valley, completed a detailed ethnographic study of local herding practices (Erdenebaatar 2000). His research provides a good idea of the lifeways of modern Egiin Gol herding families. With its high annual precipitation and pasture diversity, Egiin Gol is generally recognized as a resource-rich area in comparison with many other parts of Mongolia. Herding households in this region make relatively short seasonal movements in order to maintain herds of sheep, goats, cattle, and horses, with sheep and cattle as the primary herd animals. Productive mobility in the valley is based on a system of three to four seasonal camp movements with some families opting to maintain their summer site well into autumn, while others establish new fall campsites at the family's discretion. Seasonal camp size varies from between one and two families in winter to three to four khot ail households in summer. The total extent of a family's movements at Egiin Gol is usually not more than 8–15 km.

Herding families establish winter camps in the middle to upper reaches of tributary valleys away from the main Egiin Gol basin and at slightly higher elevations. They locate their summer camps mostly along the Egiin Gol River or at the mouth of the major side valleys. Herders describe their priorities for choosing winter sites as finding a location that is protected from wind, has accessible areas of graze reserved for the winter months, and has proximity to early spring pastures.

[2] Measured in the nearby Bulgan provincial center from 1961 to 1990.

To better protect their animals, herders often build partially sheltered corrals from local timber. Herd sizes and the number of herding households in the valley are subject to the carrying capacity of the least productive seasonal pasture. In the case of Egiin Gol, the availability and productivity of pastures from late winter through early spring represent the critical resource period. Harvesting and storing winter fodder during the fall helps many households stabilize their animals into spring during the lambing season when the herds must be in good health. Snow melt in late March and April is important for encouraging initial pasture growth for early grazing, but it is not until rains come in mid-June that grasses become abundant within the valley. When pastures are robust, the choice of summer camp locations is governed by other concerns like proximity to streams, adequate breeze, scarcity of insects, and distance from or proximity to other families, stores, and services (Fig. 4.6). By late June and early July, the Egiin Gol herds are stabilized and progressing toward their maximal body weight which will be maintained throughout autumn and into the next winter.

For local families, herd animals are both a form of wealth and the main source of food. Herders choose older or infirm animals and cull redundant younger males to provide meat for their families. In late autumn when the animals are still robust and temperatures drop sharply, Egiin Gol families slaughter several sheep and goats or a cow; these animals are then frozen, stored, and eaten throughout the winter. Strips of meat are also hung out to naturally freeze dry through the winter months and are ready in spring for use in soups and tea or are stored for up to a year. A major food source during the warm weather period is a vast array of

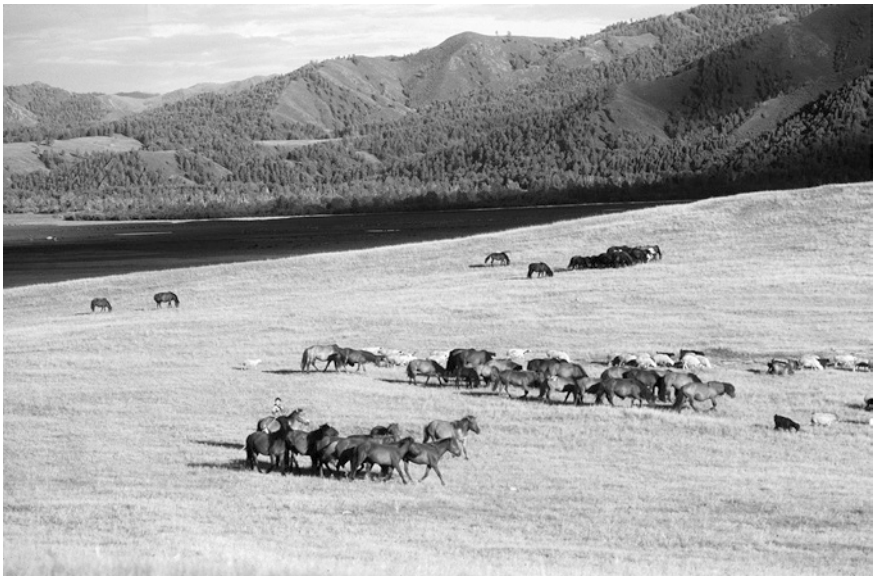

Fig. 4.6 The summer landscape of the Egiin Gol valley basin (photograph by A. Russell Nelson)

dairy products that are made from the milk of sheep, goat, cow, and horse. These include wet and dried forms of cheese, curds, and yoghurt as well as milk tea and *airag*, the famous fermented horse's milk. Since the township of Khantai and other towns in the area have well-stocked stores, families in the valley purchase rice, flour, cooking oil, tea, root vegetables, and sugar to complement a largely meat- and dairy-based diet.

In addition to herd production and store purchases, local households also rely on hunting and gathering to add variety and improve diets through summer. Hunting supplements herd products with game meat from deer, elk, and wild boar, while wolves are hunted for their pelts. Marmots (*Marmota sibirica*) were once numerous at Egiin Gol, but today, they are all but gone since their meat is a much sought after delicacy. Fish are plentiful in the Egiin Gol River, and some families will catch and eat them, but others heed a traditional Buddhist prohibition against disturbing animals of the water. Gathering within the valley provides fruits, berries, leafy plants like rhubarb, and various tubers and roots. Seasonal fruits and vegetables gathered from the surrounding areas are used as seasonings in cooking, in teas, made into jams, and eaten fresh directly off the bush or collected in bowls for the table. These products sometimes supplement small dry-farmed or hand-watered vegetable gardens near summer campsites. Herders consider hunting and gathering an opportunity to participate in traditional activities that family members clearly enjoy but that are not necessarily required for basic subsistence. However, these traditions support the idea that a multi-resource subsistence economy of agro-pastoralism, hunting, gathering, and fishing is plausible for the Egiin Gol region.

Despite the presence of stores nearby and state assistance in times of emergency, extreme drought or cold are persistent hazards for modern pastoralists. Herd losses directly affect household wealth, and severe environmental downturns can directly impact the number of families that are above and below the poverty line. Moreover, shifts in pastoral viability due to animal losses can significantly re-arrange the social and political landscape of local communities (Okayasu et al. 2010). In this regard, Egiin Gol provides the distinct benefit of being one of the lowest risk regions of Mongolia. In terms of inter-annual variability in climate, Bulgan has one of the more predictable regimes in Inner Asia (Humphrey and Sneath 1999: 272). In addition to wildfires, the single greatest danger in this region comes from what Mongols call *zud* or unseasonable snow storms and cold snaps that ice or bury critical pasture needed by animals in order to maintain their strength (Farkas and Kempf 2002). A sudden heavy snowfall that deprives weakened animals of graze for a few days can rapidly decimate an entire herd. Such events can and do regularly occur in most parts of Mongolia. For example, from 2000 to 2002, a particularly bad and widespread series of cold events killed off approximately ten million herd animals across the country (e.g., NSOM 2005: Fig. 10). Interestingly, compared to areas in the steppe and desert steppe zones which in 2001 were littered with animal carcasses, Egiin Gol experienced a much milder version of these events. Such contemporary experience suggests that this part of the forest steppe is generally quite robust for sustaining pastoral lifeways.

Today, the lower Egiin Gol valley is a region of great activity, especially around Khantai township and the former agricultural collective at Inget Tolgoi down river from the Egiin Gol-Selenge confluence. Both these areas have large agricultural fields planted with wheat and fodder crops that are left unattended through the summer and harvested by combine teams in early fall. In seasons when rivers can be easily crossed at fords or on frozen surfaces, the lower Egiin Gol is a convenient thoroughfare toward the upper reaches of the Selenge River where fording and travel is much easier. Prior to bridge construction at several points along the Selenge, this portion of the Egiin Gol valley was one of the preferred routes for moving up river along the Selenge basin. As such, Egiin Gol was an important corridor for reaching west-central parts of Mongolia from the north and for traveling back northward from the south. For this reason and also because of its agricultural productivity, the greater Egiin Gol area constituted a center for Buddhist monastery administration during the eighteenth to early twentieth centuries (Honeychurch and Amartuvshin 2007).

4.4 Baga Gazaryn Chuluu (BGC): Granite Peaks of the Gobi

Moving southward from Egiin Gol, across the central steppe and toward the southern Gobi, travelers pass by a series of prominent peaks known as Baga Gazaryn Chuluu.[3] Here in the northern Gobi desert of Dundgobi province, the Baga Gazaryn Chuluu granite ridge system rises dramatically 300 m from above the surrounding plain of arid grasslands, playa basins, and salt marshes. The landscape in and around the ridges is composed of brown coarse granites that have weathered along natural lattices and fissures to make each impressive ridge seem as if it was built up from modules of geometrically shaped rock. As a result, local people often refer to their home using the name “Chuluuny Uul” or Stone Mountain (Gerelbadrakh 2010). An outsider wandering into the rocks is quickly caught up in a labyrinth of finger ridges, box canyons, and towering spires of upright stone. This complex geological formation begins out in the surrounding flatlands at about 1,450 m above sea level and shoots up to 1,768 m in maximum elevation, making it a visually striking part of the landscape (Fig. 4.6). BGC has been a reliable hunting ground, a seasonal pasture range, and a major central place for different groups over several millennia. The earliest dated habitation was in use more than 14,000 years ago (Janz et al. 2009: 1984), even though human occupation likely dates back much earlier (Fig. 4.7).

According to Badarch et al. (2002), BGC is an elevated, semi-elliptical granitic pluton covering about 120 km^2 and belonging to the Middle Gobi volcano–plutonic

[3] Other published transliterations of this place name are “Baga Gazryn Chuluu” and “Baga Gazriin Chuluu.” As mentioned above, the transliteration used here draws on the Cyrillic spelling as it appears in the 1:100,000 Mongolian national map series.

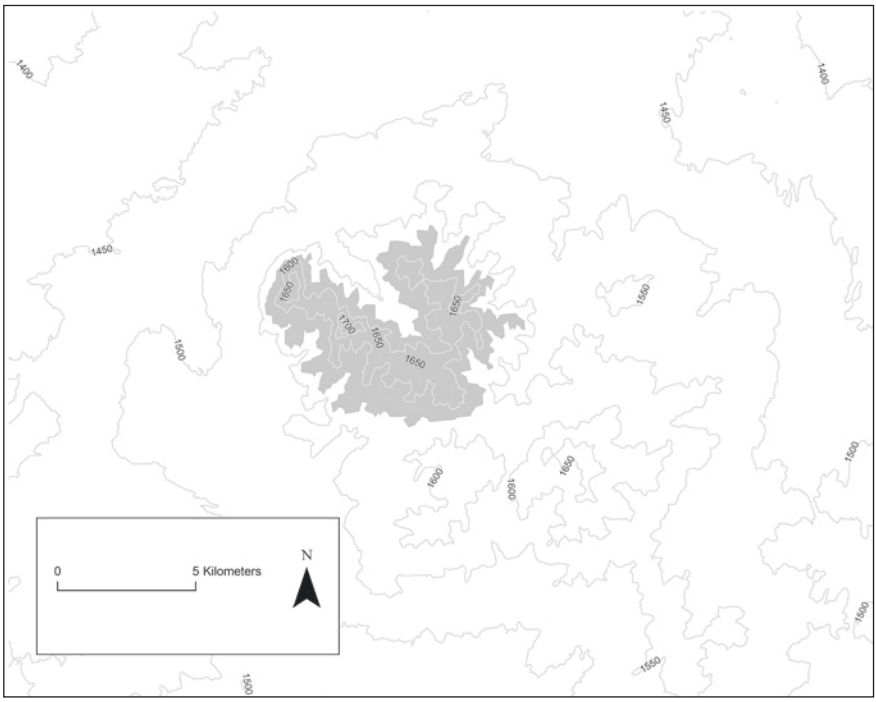

Fig. 4.7 Topographical landscape of the Baga Gazaryn Chuluu granite peaks (shaded in *gray*) and the surrounding plains

belt. The granites represent a Late Triassic intrusion into a rolling topography of valcano-sedimentary layers that were formed during the Permian (Machowiak and Stawikowski 2012). BGC is one of several granitic plutons; another is the nearby site of Ikh Gazaryn Chuluu located 110 km to the east. These and other formations may have resulted from hot spot activity associated with the gradual closure of the Mongol-Okhtosk Ocean that converged 200–140 million years ago. Over time, weathering of the granites has carved long valleys through the BGC ridges, the broadest of which extends from the center of the formation outward to the northwest in one direction, and from the center to the northeast in another. A second major valley trends in a roughly north–south direction along the eastern flank of the rocky outcrops. BGC marks an ecotonal boundary between steppe grasslands and the Gobi; however, rainfall in the area is at the upper end of the range for desert-steppe environments. Annual precipitation is 160–200 mm with most rain falling in July and August, while winters are cold with modest snow accumulation. Average temperatures in January and July are −17.5 and +18.7 °C, respectively.[4]

[4] Measured in the Dundgobi provincial center from 1961 to 1990.

One of the remarkable features of the BGC granites is the complex structure of micro-fissures and crevices that absorb and retain rainwater in a manner quite different from the outlying environment. This water percolates down and collects in the main basins, and as a result, the small and large valleys within the ridge system maintain a relatively high water table. Freshwater springs are numerous, and water can be easily accessed by shallow wells in valley bottoms or along the outer periphery of the rock formation. Surface water is present in outlying areas in the form of marshes and a few springs, some with potable water. These water sources attract numerous wild animals and migratory birds and support a range of vegetation types that are composed primarily of drought-resistant chenopods, grasses and forbs, and woody shrubs. Graze plants that make up the local pasture include *Allium odorum*, *Festuca siberica*, and *Poa sp*. (Makarewicz 2010; Makarewicz and Tuross 2006). Buddhist leaders are credited with once having planted the few stands of aspen (*Populus tremula*) growing within BGC's protected side valleys nearby reliable spring sources. These few areas with trees were tended by Buddhist adherents during the early twentieth century and today are regarded with ceremonial reverence.

BGC is currently home to about twenty-five herding families who make annual movements in and around the ridge system or strike out from the ridges to reside on the desert-steppe plains and then return at a later season. With two small towns within its territory and a major unpaved road system nearby, BGC is not considered to be an isolated area. The township of Adaatsag is 30 km to the northwest, and Delgertsogt township is 29 km to the southeast. In both places, stores, post offices, clinics, Buddhist temples, schools, and other services are available. At BGC, an extended ethnographic and ethnohistorical project was carried out by Jamsranjav Gerelbadrakh, a prominent Mongolian historian who grew up in the local area and is widely known among the communities there. Information reported here is largely comprised of that research (e.g., Gerelbadrakh 2010; Makarewicz and Gerelbadrakh forthcoming).

BGC households usually have from four to six individuals living in a single ger. These numbers change seasonally as children go to town for school or other family members move from place to place within their extended family, often between urban and rural sectors. BGC herders keep goats over sheep by a ratio of about two to one and keep horses and camels over cattle. Goats are more resilient in arid environments and cattle require a great deal of readily available and reliable water. Those few families that maintain cattle seek out areas with surface water by moving their herds seasonally into the temperate steppe zone about 80–100 km to the north. The landscape at BGC offers good pasture and campsites for all seasons, and some families choose to spend the entire year within the ridge system, while others use BGC as either a warm or cold season site and spend complementary seasons elsewhere. Even when a household chooses BGC as its primary site, family members are likely to disperse seasonally in order to take a subgroup of their herds to optimal graze in another location. These patterns of presence/absence at BGC shift over time, but movements within and outside of BGC territory depend largely on the immediate weather and pasture conditions.

Mobility, herd composition, and possession of transport animals or vehicles are all factors correlated with household wealth. As mentioned above, those with fewer animals find it more efficient to make short movements as needed, while families with large herds need to be more mobile. Wealthy families also tend to have more horses and camels to assist in their herding and can better target optimal graze at farther distances. A family considered to be wealthy in local terms keeps herds in excess of 500 head, while poorer families have fewer than 50 head. Herding is done on horseback or on foot, and animals graze over the course of a whole day, usually with only minimal supervision. Sheep and goats graze areas that are between 1 and 3 km from a campsite, but depending on the quality and condition of graze and the number of animals, orbits of up to 8 km and a maximum of 15 km are possible. In order not to deplete the graze in the immediate vicinity of a camp, herders separate out camel and horses and take them farther away leaving female animals giving milk nearby the family ger. It is a common sight to see herds of camels and horses roaming mostly unattended among the ridges. While herding is done primarily for meat and dairy products, BGC households also engage actively in the regional cash economy. Meat, dairy, skins, wool, cashmere, and Gobi-bred horses are all income generators for these households, as is participation in the local tourism industry.

At BGC, the summer khot ail group structure is unlike that of communities in the steppe and forest-steppe regions. Whereas at Egiin Gol many gers join together for the summer, at BGC summer camps tend to consist of only two gers or just a single household that remains alone throughout the year. This reflects the difference in abundance and concentration of summer pasture between the semiarid and high-precipitation regions of Mongolia. Summer camps at BGC are selected based on pasture quality and water availability, and sites are usually within the broadest valleys of the ridge system, along the perimeter of the granites, or out in the desert-steppe flatlands (Fig. 4.8). Movements between these different locations are frequent and can occur from two to four times during the summer months and generally range in distance from between 3 to 40 km.

In the winter, BGC herders select ger sites that provide protection from wind and ready access to reserved winter pasture and water. Although fodder is collected and stored for the winter, the most important aspect of the winter camp is access to a sufficiently large pasture area that has been set aside and not grazed in summer and fall. Herders understand use rights to such pasture areas as belonging to a particular household, and conflicts are possible especially if unaffiliated households graze those areas prior to the winter season (Makarewicz and Gerelbadrakh forthcoming). Camp locations are within the granite ridges where box canyons and compact ravines provide excellent protection from the elements. At these winter sites, households invest in corrals and sheltered stables made of dry stone walling, wood, metal sheeting, or other available materials. A common feature at these sites is a floor of compressed dung that insulates corrals and other shelter areas. Families also use dried dung and dung blocks to burn in stoves year round rather than wood or coal. Winter camps are not moved during the cold

Fig. 4.8 The Baga Gazaryn Chuluu arid valley landscape seen from a cave at 1,600 m elevation (photograph by the BGC Archaeological Project)

season, though some families report at least one move if pastures are critically depleted. Fall and spring camps are variants of winter and summer seasonal locations, and movements during these seasons are similar to those in summer. When a number of local families were asked the distance of their shortest seasonal moves, the average was 6 km, and when asked about maximum distances of movement, the average was 108 km. This range suggests that for some "local" herders, the pastoral landscape extends far beyond the granite peaks to include an area better thought of as the "greater BGC region."

Life in the Gobi presents substantial challenges to herding households and is considered to be more difficult than life in the high-precipitation zones of the north. The kinds of everyday problems are different from those at Egiin Gol and include the need for more frequent household movements, for reliable access to camels or trucks for transport, and often the need to purchase winter fodder on the open market. However, in ways quite similar to Egiin Gol and also most other parts of Mongolia, it is the unpredictable environmental problems that are most worrisome. Because of its location on the ecotone between desert and steppe, BGC tends to be impacted by both winter and summer maladies. Cold snaps and abrupt heavy snowfalls can decimate herds in late winter and early spring, as was the case during the 2000-to-2002 zud episode and again to a lesser degree in

2004 and 2005. Likewise, the warm weather season can be surprisingly harsh and variable. In 2004 and 2008, BGC was racked by inundating flash floods and hail storms. From 2005 to 2007, Gobi provinces suffered from a prolonged drought during which time winter snow was marginal and the summers brought consistently high temperatures and next to no rainfall. BGC was hot and dusty with arid winds and many of the local wells dried up except for those in the lowest valleys. In 2006, a Gobi emergency unfolded as dozens of herding families from other parts of the desert and desert-steppe region arrived at BGC as a result of moving their herds out from even more draught-stricken regions. The unique hydrology of BGC is well known as having water and pasture resources even when other areas in the Gobi become seasonally unsustainable for herds.

Pastoral meat and dairy products supplemented by store-bought goods are the basic sources of food for families inhabiting BGC. However, much like Egiin Gol households, these families hunt, gather, and practice small-scale local cultivation as part of their subsistence. Hunting was once much more of a mainstay than today since the diverse wildlife living among the granite outcrops is now protected by law and monitored by local wildlife agents. The ridges are home to herds of wild sheep (*Ovis ammon*) and goat (*Capra sibirica*) which thrive atop the high-elevation peaks and in the uppermost valleys. In the desert-steppe flatlands around BGC, gazelle herds (*Gazella subgutterosa* and *Procapra subgutterosa*) are likewise numerous; however, even the local marmots, considered the choicest of game, are a protected and managed species here. Although hunting is no longer permitted locally, gathering is still important and herder families collect local plants like wild rhubarb and onions to use for medicinal purposes, to flavor food, and to enhance the diet.

Somewhat surprisingly, a number of Gobi regions also have traditions of cultivation that usually are found in those desert-steppe locations with reliable spring, well, or surfaces water. A good example of this is the Bayan Bulag site of South Gobi province 400 km south of BGC where, despite local aridity, a series of springs have watered small agricultural fields for at least 2,000 years (Kovalev et al. 2011). Habitation sites at BGC dating to about 1,000 years ago are littered with grinding stones related to grain processing, and terraced field plots of the same period are still detectable along mountainsides. Today, local cultivation is minimal but still practiced. One small gardening project using well water was initiated in 2005 by local households in order to produce potatoes for a new tourist encampment. The largest and most interesting plot is in a southeastern BGC valley where local families farm a small field next to the ruins of a Buddhist monastery of the nineteenth and early twentieth century known as Delgeriin Choir khiid. These families draw water from one of the wells formerly used by the monastery occupants, and although it has not yet been confirmed by archival research, they may even be working a relict field that once belonged to the monastery. Indeed, there are several areas within BGC where relict field outlines and stone clearing piles are clearly visible. According to BGC residents, these are associated with monastery-sponsored cultivation or with later socialist-period experimental agriculture or, possibly, both.

4.5 Archaeology at Egiin Gol and Baga Gazaryn Chuluu

Current lifeways at Egiin Gol and Baga Gazaryn Chuluu are informative, but in some ways, they also are very different from the past. Mongolian herding families today have the benefit of stores, networks of towns, schools, a market economy with cash transactions, vehicles, and satellite communications. At the same time, the methods of supporting household-based pastoralism have become more complex and truly global. A typical family living in a ger in the steppe region likely has children or close relatives in the nearby town, one child studying in Ulaanbaatar, an in-law on the payroll of a mining corporation, and another relative living and working in Chicago, London, or Seoul and sending funds back to the family on a regular basis. Such globalized support is indeed novel, but it is also a logical extension of the flexible networks and diversification strategies that pastoral nomads have engaged in for millennia.

Descriptions of the many and diverse contemporary pastoral practices in the regions covered in this chapter provide useful context and insight for building hypotheses about ancient life in these particular places. For example, knowing that BGC herders might range as far as 100 km around the granite ridges suggests that the spatial scale of a "local" community in this area might be quite distinct from that of the Egiin Gol area. Likewise, the long history of agricultural production at Egiin Gol and at BGC begs the question of how far back such practices can be traced. It is important to note that these ethnographic and ethnohistorical insights are not "analogies" to be projected backward into the past. They are only one source of information among many others that help bring into focus these regions during earlier time periods and to shape ideas about lifeways at Egiin Gol and BGC in the past. These ideas in turn must be evaluated against the archaeological evidence recovered from the two regions.

Archaeological research began in earnest at Egiin Gol in 1990 under the supervision of Mongolian archaeologists Zagd Batsaikhan and Diimaajav Erdenebaatar. The initial Mongolian project was designed to map and sample the major monument and burial sites in the wake of a hydroelectric dam project proposed for the Egiin Gol river. In spring 1994, a Mongolian-American collaborative reconnaissance and excavation project was started in the lower valley that would later become the Egiin Gol Survey (1996–2000). During the summer of 1994, a Mongolian-French bioarchaeology project (1994–1999) joined research efforts in the area to excavate cemeteries and collect samples for DNA analysis of ancient steppe populations. Over a period of 6 years, the Egiin Gol material dataset grew to become one of the most informative archaeological assemblages known from Mongolia. The regional survey examined approximately 310 km^2 of the lower valley and documented more than 500 archaeological sites, while excavation efforts studied several major cemeteries, stone monument complexes, and habitations dating to multiple periods of Mongolian history and prehistory. The kinds of data collected, field methods used, and subsequent material analyses are reported in several recent publications among which Wright et al. (forthcoming), Torbat et al. (2003), Honeychurch et al. (2007), and Giscard et al. (2013) provide good overviews of the Egiin Gol fieldwork and its results.

Archaeological work at BGC began in the 1980s, and the region was quickly recognized as a major center for monument sites and cemeteries and notable for its hundreds of rock art panels. In 1989, a Mongol-Hungarian-Russian collaborative project arrived at BGC under the direction of Damdinsuren Tseveendorj to document the Dund Shand Xiongnu-period cemetery along the northern perimeter of the rock outcrops. Their work informed a 2001 reconnaissance visit from the Egiin Gol Survey group which then selected BGC as a good survey area to address comparative follow-up questions on Inner Asian state formation. We adapted Egiin Gol methods for the Gobi region to make datasets from the two areas comparable, and from 2003 to 2006, we proceeded to carry out the Gobi survey. Our teams intensively covered approximately 140 km^2 including the entire granite ridge system and some outlying areas. The combined survey and other reconnaissance within the greater BGC region brings the survey total up to more than 200 km^2. Survey was followed by a bioarchaeology program (2007–2008) to provide data for comparison to Egiin Gol mortuary and monument research. For methods, data, and initial analyses, see Wright et al. (2007), Nelson et al. (2009, 2011), and Amartuvshin and Honeychurch (2010).

An approach that uses comparative case studies is one way to come to terms with a dispersed and complicated social process like statehood. Baga Gazaryn Chuluu offers a setting entirely distinctive from that of the lower Egiin Gol valley in terms of geography, resources, and social environment. Like Egiin Gol, the people inhabiting these granite ridges more than 2,000 years ago participated in the changes leading up to the Xiongnu state. The BGC area therefore provides an alternative perspective on these same series of sociopolitical transformations as they transpired 400 km away from the Egiin Gol valley. Comparisons between northern and southern conditions, material assemblages, timing, interactions, and continuities and discontinuities promise the kind of multi-local insights needed to understand the making of the first Inner Asian state.

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