

Transforming a 'Sea of Grass': Urbanization, Nomadic Pastoralism, and Agricultural Colonization on the Sino-Mongolian Frontier, 1550-1930

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Part I: Contexts: Historical, Geographical, and Political Ecological

Beyond the Ming Great Wall,¹ 400 km (250 mi) west of Beijing near the great northern loop of the Yellow River and the southern expanses of the Gobi Desert, lies the heart of China's "northern frontier." Here the loess lands of north China give way to the grasslands and gobis (inhabited, grazed gravel "deserts") of the Mongolian plateau. Just south of the plateau lies a large fertile plain, the 15,000 km² (6,000 mi²) Tümed (土默特 Tumote/前套 Qiantao²) Plain (Fig. 1 & Fig. 2). On this plain, bounded on the north by the escarpment of the Great Blue Mountains³ (Daqing Shan 大青山), which marks the southern terminus of the Mongolian plateau and reach as high as 2,337m, on the west by the great northern bend of the Yellow River, and on the south by the hills of loess uplands, Chinese and non-Chinese nomadic herders, farmers, agro-pastoralists, and urban dwellers have competed, co-existed, and traded since at least the 4th century BC. The Mongol-Chinese frontier of the past seven centuries has been but the latest of many frontiers that have encompassed the region.

During the Manchu Qing dynasty (1644-1911) Mongol nomads and their steppe, mountain, and gobi homelands in what today are central Inner Mongolia and Mongolia were drawn into imperial "China" in new ways. The development of the frontier city of Höhhot (呼和浩特 Huhehaote)⁴ facilitated that territorial, social, and economic restructuring of the expanded frontier – as it developed a hinterland which comprised not only the Qing empire's "Inner" and "Outer" Mongolia" but also expansive areas up to 1,930 km (1,200 miles) to the west in what became Qinghai and Xinjiang Provinces. Today Höhhot, now a city of more than 2 million inhabitants, is capital of China's Inner Mongolia Autonomous Region. There are no nomads in the Tümed Plain, relatively few Mongols in comparison to Chinese, and scant grassland south of the mountains. The plain is intensively settled and farmed, and the Great Blue Mountains, which once provided timber for

Höhhot's spectacular monastic complexes, are virtually treeless expanses of grass and shrubs. The once lush Mongol grazing grounds in the intermontane valleys and their northern piedmont/southern Ulaanchab plateau are now Chinese towns and farmland, and Mongol herders on the vast Mongol border steppes and steppe/desert gobis of the Ulaanchab Plateau have been sedentarized and, since 2000, increasingly displaced by state efforts to combat desertification. Except for dramatic post-1949 changes in agricultural colonization and Mongol pastoralism on the Ulaanchab Plateau these changes largely took place during the Qing dynasty and the early years of the Republican era, and agricultural expansion into the Ulaanchab was already then well underway. Höhhot-based institutions, actors, and processes played a significant role in all of these regional economic and environmental changes.

We began this project as an exploration of the environmental impacts of the development of Höhhot on the city's immediate hinterland. But as the research progressed, it became clear that the city's hinterland and its economic and ecological impacts were far more extensive than we had realized and that to understand them required examining economic and environmental change within historically dynamic and geographically variable political, economic, social and cultural contexts. As a result the project has become a study that integrates urban environmental history and political ecology to analyze the role of urbanization on the historical construction of the Sino-Mongolian frontier. Key sources for the project have included (1) two major Chinese projects: the *Suiyuan Tongzhi Gao* 绥远通志稿 (*Draft Annals of Suiyuan*), a handwritten, unpublished, 100-volume gazetteer written between 1931-1937, and *Lümengshang Dashengkui* 旅蒙商大盛魁 (*Itinerant Mongol Trading Firm: 'Big Prosperous Chief'*) an analysis of the trading firm *Da Sheng Kui* based on oral histories collected in the mid-20th century, (2) other Chinese historical gazetteers, (3) Chinese and non-Chinese academic studies, (4) a small number of Mongol sources (mostly on pastoralism), and (5) Western explorers' and travelers' accounts from the 17th through the early 20th century. Of these the work of Owen Lattimore and several Russians (particular Prejevalsky and Pozdneyev) has been particularly useful.

Frontier cities are of interest to geographers because they combine the cultural facets of urban form and urban life with border security, administrative, and entrepot functions that can impact vast hinterlands. In

northern China those hinterlands are of a scale equaled or surpassed only by imperial capitals and major port cities, and encapsulate not only farmlands but also mountain, forest, grassland, and desert lands which were rich in "wildland" natural resources. Moreover frontiers in China, as in most of the rest of the world, are inhabited regions of contact and trans-cultural/ethnic interactions. In the case of Höhhot this zone of cultural, social, political, economic, and environmental interaction came to include Chinese, Manchu, Hui, Mongol and other urban residents, Chinese farmers and traders, Mongol herders and farmers, and the agents of American, British, and Russian companies among others. Frontier cities such as Höhhot are also of particular interest because of the multiple and prominent military, administrative, settlement, and resource extraction roles they play, in Höhhot's case over a particularly extensive hinterland and over the course of five centuries (Lattimore, 1940:249; Gaubatz, 1996:17).

At a time when increasing numbers of core-area Chinese cities were being established for purely economic purposes, frontier cities like Höhhot became key local articulation points of the political, military, and economic organization of the Qing empire and subsequently of efforts to incorporate historically non-Chinese northern, western, and southern lands. Many served as channels for large-scale natural resource extraction to supply the distant core areas of China and became important destinations for migrants from those areas. Both of these functions had major ramifications for land use and environmental change. Cities such as Höhhot accordingly became centers of political, military, and economic authority with an importance beyond what their population size alone might suggest. Decisions made in Höhhot -- whether by a Manchu administrator or a Late Imperial Chinese trade conglomerate -- helped shape the landscapes and livelihoods of places more than 2,000 km distant. Arguably no other city in what is today Chinese territory, other than imperial capitals, shaped such an extensive hinterland during the Late Imperial period (1368-1911).

This paper presents only a few dimensions of this project. It focuses only on the most immediate hinterland of Höhhot and not on its extensive hinterland in Mongolia, Xinjiang, and Qinghai. We also do not examine the economy and ecological changes in that part of Höhhot's hinterland south of the Great Wall, including sources for tea, cotton cloth, and other commodities important to the urban population of Höhhot

itself and vital to the barter trade carried out by Höhhot merchants across its vast northern and western hinterlands. After placing the city in geographical, historical, and analytical contexts in Part I, in Part II we discuss first Höhhot's incorporation of Mongol pastoralism during the pre-1937 era into supplying pastoral products for the city itself and for a vast entrepot trade to eastern China and to the U.S. and Europe and then the concurrent processes by which urban agricultural demand and Höhhot-based administrators catalyzed five hundred years of migration and Chinese agricultural colonization of what had been Mongol grasslands. Our larger work also analyzes Höhhot's historical impacts on montane forests, rivers, and mountain and steppe wildlife.

1. Urban Environmental History, Urban Ecology, and Political Ecology

The development of the field of environmental history owes much to the study of frontiers. Work by environmental historians on “American” frontiers (Worster, 1989; Cronon 1984, Cronon, 1991) along with recent comparative work (McNeill, 1983; Chew, 2001; Richards, 2003) has established a global analytical and comparative context. Although China has not figured prominently in this global perspective, there has been some attention to its north and northwestern frontiers, and additional work has examined some of the same themes (but with little emphasis on frontier urbanism) in central and southwest China (Elvin, 1993, 1998, 2004; Elvin and Liu, 1998; Edmonds, 1994; Perdue, 1987, 2005; Vermeer, 1998; Reardon-Anderson, 2000; Richards, 2003; and the Beijing University collaborative project we are associated with for this project). Two themes are central to these frontier environmental histories: (1) frontiers as regions of agricultural colonization, and (2) frontiers as regions of inter-ethnic conflict, including the incorporation of indigenous peoples and their territories into Chinese and Manchu empires and 20th/21st century Chinese states.

We have chosen to frame our environmental history of one part and era of the northern frontier within the developing fields of urban environmental history and urban political ecology, both of which have long been identified as underdeveloped aspects of environmental history and political ecology (Melosi, 1993; Williams, 1994; Rosen and Tarr, 1994; Platt, 1999; Bryant and Bailey, 1997; Zimmerer and Bassett, 2003)

but which have begun to receive more attention in the past decade, particularly in geography (see, for example, Gandy, 2003; Kaika, 2004; Swyngedouw, 2004; Colten, 2000, 2005, Brechin, 1999; Keil and Desfor, 2004). These remain fledging fields in comparison to the strong rural emphasis in environmental history and political ecology. Very little work attempts to combine the two. William Cronon's work on Chicago and its hinterland (1991) remains a pioneering example which has inspired much discussion but little emulation, although the concept of rural countryside as urban economic hinterland that both contributes to urban development and is shaped by it has been a standard tenet of urban and economic geography since von Thünen (1826). Cronon's *Nature's Metropolis* provides a singularly appropriate basis for cross-cultural comparison with Höhhot because of the similar roles that 19th century Chicago and 16th-20th century Höhhot played in the transformation of temperate grassland hinterlands.

A multi-scale regional political ecology perspective (Blaikie and Brookfield 1987, Zimmerer and Bassett, 2003) has seemed to us to be critical to understanding the environmental history of Höhhot and its hinterland. Höhhot developed in the way that it did, and had the kinds of impacts it did on local economies and ecologies across such a vast (but historically and geographically dynamic) hinterland because of late Ming dynasty Mongol-Chinese international relations, the particular ways in which the Manchu (and later Republican Chinese) incorporated "Inner" Mongolia, Xinjiang, Qinghai, and, prior to 1912, Mongolia -- into their empire and states, how Manchu and Chinese governed Mongols and the activities of Chinese migrants, traders, and administrators and "Western" traders, and how they enabled the frontier territories to be linked economically to the core of China (and beyond) through military, administrative, legal, monetary, communication, and transportation policies and practices. Urbanization and frontier development were very much interwoven with imperialism and contestation; with imperial and national policies of territorialization (Vandergest and Peluso, 1995; Scott 1998); with making legible to state/imperial administration complex, regionally variable, and unfamiliar multi-ethnic institutions and practices (Scott 1998); with core-periphery economic dynamics at imperial/national and global scales; and with the complex political and political economically-influenced and discourse driven political, economic, and conservation decisions and practices

of a multitude of different "actors," institutions/organizations (Bryant and Bailey, 1997) and land users/"land managers" (Blaikie and Brookfield, 1987) within a highly-culturally, socially, economically, and politically diverse and differentiated frontier context.

2. The Northern Frontier in Time and Space

Frontiers in China, as Owen Lattimore maintained, have not been areas of the expansion of Chinese settlement and civilization into wilderness or "wasteland" (荒 *huang*, as Chinese often represent grassland) regions but rather zones of cross-cultural interaction with often long-established resident populations. This has made them political and social frontiers as well as economic ones and the sites of sometimes rapid and considerable environmental change. For more than two millennia the political control of the region has shifted back and forth between Chinese and non-Chinese control. Non-Chinese nomads and agropastoral peoples controlled it for most of that time, and for centuries before it became a part of "China" again during the non-Chinese Yuan (Mongol) and Qing (Manchu) dynasties.

When the Mongol leader Altan Khan (1507-1582), one of the most powerful Mongol chieftains since the fall of the Yuan dynasty (1206-1368), made his mid-16th century decision to build the city he called Khöke-khota, the Blue City (Höhhot), on the northeastern edge of the Tümed Plain, the plain was a vast grassland punctuated by a few scattered, recently-established farming villages. The mountains which rose above the plain to the north were densely forested in a mixed conifer/deciduous broadleaf forest and had rich wildlife, and the steppes to the north of the mountains were vast unbroken grasslands that were home to Mongol nomads who herded sheep, goats, cattle, camels, and horses. Höhhot itself was a grassland city, for virtually all of the Tümed Plain then was grassland, much of it of renowned richness. This was to change dramatically over subsequent centuries. Although Höhhot's city government today proudly portrays Höhhot as a "grassland city," it would be more accurate to portray it as a transformer of grasslands because of the way in which its historical development has so transfigured the ecology of the Tümed Plain and the Ulaanchab steppe.

It would be wrong, however, to depict the history of the Tümed Plain as simply a 500-year transformation from a wildlife rich, nomad-inhabited grassland to the site of a sprawling modern city surrounded by one of the foremost agriculture areas in Inner Mongolia. The development of Hōhhot and its rural hinterland is only the latest in a long history of local urban/rural frontier development. People have inhabited this region for perhaps 50,000 years; agriculture has been practiced there for 5,000 years; and there have been cities, Chinese and non-Chinese, on the Tümed Plain for more than two thousand years and on the Ulaanchab steppes beyond the northern mountains for perhaps a millennia. The first "Chinese" city in the plain dates to 300 B.C.E., and subsequent cities were built, rebuilt, and abandoned, some by early Chinese kingdoms, others by peoples who are often (mis)represented solely as nomads (see Table 1 for a summary of population change on the Tümed Plain, and Fig. 3 for an illustration of the changing political boundaries which make such population calculations difficult). Hōhhot was thus established in a historically anomalous context because at the time of its founding it had been nearly three centuries since the previous urban centers (including the 400-year old city of Fengzhou (丰州) and associated rural villages had been abandoned and local grasslands and mountain forests had "recovered." Hōhhot thus can appear to reflect the construction of urban and agricultural "second natures" (Cicero, 1951; Glacken, 1967; Lefebvre, 1991; Smith, 1984) from primordial wilderness "first nature" grasslands and forests, yet these were mature/old secondary forests, grassland regrown on abandoned agricultural fields, and reconstituted wildlife populations which may well have borne at least subtle indications of past urban/rural history.

Beginning in the 1540s Altan Khan encouraged Chinese agricultural migrants to settle on the plain in small fortified towns called *bansheng* (板升).⁵ The largest of these settlements, the "Great Bansheng" (Da Bansheng 大板升) (1565), which may have been the site of Altan Khan's palace (which he rebuilt after Ming forces destroyed it in 1555) seems to have become the nucleus for Hōhhot (Fig. 4) (Shek, 1980: 167; Huang, 1995: 211-213, 285-6, 292)

FOUNDING HÖHHOT -- THE MONGOL CITY: In 1572 Altan Khan began to shape Khökhe-Khota in the style of the 13th century Mongol capital at Beijing (Rong, c.1990, 19). It was planned by one of Altan

Khan's Chinese advisors, built by Chinese laborers, and followed ancient Chinese urban design principles: it was a one-kilometer square walled city, oriented on the cardinal directions and surrounded by a moat (Huang, 1995: 290; Gaubatz, 1996).

This city was, like Lhasa and later Khuriye (Urga; Ulaanbaatar), distinctive for the extraordinary amount of monumental architecture in what was both a capital city and a religious center. Altan Khan ordered the construction of two large monasteries there, the Dazhao (大昭 Great Monastery) and the Xiaozhao (小昭 Lesser Monastery), which were both completed in 1581. Five additional major monastic centers were built soon after his death in 1583 (Rong, c.1990: 18-20).

The development of a new Tümed Mongol capital just north of the Great Wall attracted the attention of the Chinese Ming dynasty (1368-1644), which in 1575 bestowed upon it the Chinese name "Guihua cheng" (归化城): "city returning to civilization", which has connotations of imperial incorporation and assimilation (Fig. 5) (Hyer, 1982; Perdue, 2005; Tighe, 2005). The Ming imperial administration funded construction of an ambassadorial compound (衙门 *yamen*) and a new city wall in 1582 (Wang, 1988: 66; Waldron 1990:186; Ceng and Biao, n.d.: 370). The city remained in Mongol control until 1632, however, when it was largely destroyed by Later Jin (Manchu) troops pursuing Ligdan Khan, a powerful Mongol leader they had displaced from eastern Inner Mongolia. Only the Dazhao monastery and a few temples survived intact. The city's inhabitants fled to safety, some of them returning to China (Wang, 1988: 67; HHSZ, 1999: 118; Ma, 2000: 323).

REBUILDING HÖHHOT: In 1634, the Manchu built a fort at the site of Höhhot, and they rebuilt the city and refurbished the temples in 1644 (Wang, 1988: 67; Ma, 2000: 323). The Manchu gave the city a typically Chinese form and architecture, and its populace was predominately Chinese. The city incorporated a small citadel, or fort, for the use of Manchu administrators and troops, but within a century this walled core area came to be used by Chinese and Mongol troops and was put to other purposes as well, while the Manchu built a great new fortress outside of Guihua.

CREATING THE MANCHU "TWIN" CITY: In many frontier areas around the borders of China the Manchu built distinctive multi-cultural "twin cities". These consisted of a separate walled Manchu fort/city adjacent to an existing walled city inhabited by Chinese and other peoples (Gaubatz, 1996, 2002; Millward, 1998; Elliott, 2001). One of these was at Höhhot, where the Qing built a new walled settlement, called Suiyuan (绥远) (1739), "Pacification of Remote Areas." (Fig. 6). Situated just two km northeast of Guihua, this was the headquarters of one of the key Manchu military garrisons developed along the inner Mongolian frontier (far south of those at Hovd and Uliasutai also developed in the early 18th century) (Elliot 2001; Pozdneyev, 1896/1971) and of the Suiyuan General, who was responsible for defense matters in a region that included all of the Tümed Plain and Ulaanchab. Suiyuan was a substantial 6.5 km square-walled city with 45 foot high brick walls, four massive gates, and a moat. Guihua continued to serve as the region's center of urban population, market center, and civil administrative center. The twin cities of Guihua and Suiyuan were jointly referred to as "Guisui" (归绥). (Rong, c.1990: 13; Ceng and Biao, n.d.: 370; Gaubatz, 1996: 66-67).

During the Qing Qianlong period (1736-1796) there was considerable economic activity at Guisui, some of it associated with the development of Suiyuan as a frontier military center and with Tümed Plain agricultural development to support Manchu (and Mongol troops) there and in Mongolia. Substantial new construction was carried out in Guihua at this period with new markets, shops, granaries and other trade related facilities were established outside of the already highly crowded, walled early citadel/settlement. Settlement sprawled outside the city walls in all directions and came to include a large Muslim (Hui) district.

By the end of the Qing dynasty, Höhhot was a double-walled, twin city with traditional Chinese-style urban form and architecture and a population of about 116,000. (Fig. 7) It retained this form and its status as the primary city of the Tümed Plain through the Republican period and became the headquarters of regional Chinese "warlords" until the Japanese occupation of the city in 1937 brought a new Mongol administration under Japanese oversight to the Tümed Plain and the eastern part of the Ulaanchab Plateau.

In the first third of the 20th century the built area of the city covered 25 km², twenty-five times the area of Altan Khan's city, and was home to more than 250,000 people. It comprised a complex mosaic of cultural,

economic, and political spaces. Guihua by the early 20th century was the site of a mixed settlement of Chinese traders and Mongol monks with a major adjacent settlement of Hui traders. Suiyuan remained a fortress inhabited primarily by Manchu bannermen and bureaucrats and a few Hui shopkeepers, and Mongol bannermen. The surrounding agricultural areas, the closest of which were devoted to vegetable production fertilized with night soil, were predominately farmed by Chinese. There were also territories of two Tümed Mongol banners. Beyond the Tümed Plain, Chinese (and some Mongols) farmed on the northern slopes of the Great Blue Mountains and for a few hundred kilometers onto the northern grasslands. On the Ulaanchab steppes the population was still predominately Mongol and nomadic, but several of Mongol banners had lost some of their best summer grazing grounds to Manchu military grazing areas and to Chinese settlement and grazing.

3. Frontier Politics and Political Ecologies

FROM RAIDING TO TRADING -- POLITICAL AND ECONOMIC RELATIONS ON THE

FRONTIER: In the 16th century Altan Khan, "the most effective Mongol leader since the fall of the Yuan" (Waldron 1990:122) organized the Tümed Mongols into a major military force and carried out damaging raids over many decades against Chinese settlements south of the Great Wall as far as Beijing (whose suburbs he looted in 1550). Unlike other Mongol leaders of that time, he encouraged the migration of Chinese to his territory, repeatedly petitioned the Ming court to open border markets at which Mongols could exchange cattle and horses for grain and beans, and in 1570 became a vassal of the Ming emperor and was made a prince in a maneuver that gained him important status and economic advantages vis-a-vis other Mongol leaders. (This did not, in practice, undermine his absolute authority over extensive territory north of the Great Wall that included the Tümed Plain and the Ulaanchab Plateau). With the establishment of regular border trade markets at the Great Wall in 1571 he succeeded in what Serruys (1967b) has suggested was his long-time goal (see also Jagchid, 1988) of shifting from an economic relationship with China based on raiding to an economic and political one based on tribute exchanges and trade. Serruys (1959, 1967b) argues that Altan Khan's raids on China were primarily a means of obtaining critical grain and other subsistence

resources for the pastoral Tümed Mongols and that the establishment of agriculture in the Tümed Plain was his main motive in encouraging Chinese immigration.

After 1571 Höhhot rapidly developed into a major regional trading center and an exchange site between Mongols and Chinese merchants from south of the Great Wall. Höhhot was ideally situated, offering good pasture, water, and grain for livestock and people, proximity to the early border markets, a ready supply of timber and firewood from the forests of the Great Blue mountains, and the opportunity to closely administer an increasingly dense and productive farming population.

A half-century of relative calm ended in the early 17th century when Höhhot became embroiled in the military struggles that prefaced the establishment of the Qing dynasty by the Manchu. Although the Tümed Mongols had submitted to the Later Jin (who became the Manchu) in 1632, Höhhot was largely destroyed by Later Jin forces while they were chasing a Mongol prince (Ligdan Khan of the Chahar Mongols) who had opposed them. Moreover, only three years later Tümed Mongol society was fundamentally changed when the future Manchu arrested the Tümed leader Emubu, a descendent of Altan Khan, and charged him with planning a revolt. He and all other Tümed aristocrats were permanently divested of noble status and from that point on the Tümed Mongols were governed not by their own princes (as were all other Mongols except Ligdan Khan's Chahars) but rather by the Manchu as "Court Mongols." The Manchu further divided the Tümed into two banners and although initially their appointed leaders were banner Mongols, later outsiders were placed in charge and in 1761 the Tümed banners were placed under the authority of the Guihua [Höhhot] Vice-Commander in Chief, who reported to the Suiyuan Town General (Tighe, 2005: 39). By the early 18th century Tümed territory had been reduced in extent by the requisition of lands for imperial horse grazing, lands rented to Chinese farmers to produce grain and other crops for the garrison, and the transfer of Tümed territory to adjacent banners (Tighe, 2005: 40).⁶

MANCHU, CHINESE, AND "WESTERN" IMPERIALISM ON THE NORTHERN FRONTIER: The Manchu greatly expanded the size of what had been the Ming empire, especially on the northern and northwestern frontiers. Mongol homelands north of the Great Wall had been outside of Ming administration.

But the princes of southern Mongolia, including the descendents of Altan Khan, either pledged fealty or were militarily defeated by the Manchu between 1634 and 1636. The Khalka Mongol princes of northern Mongolia, what the Qing began to call Outer Mongolia, submitted to the Qing emperor in 1691 and westernmost Mongolia was incorporated into the empire by 1777.⁷ Although many Mongol groups were important Manchu allies during the early Qing dynasty, as indicated by their courting by the Manchu with titles, imperial marriages, and other ties, over time both the “Inner” and “Outer” Mongolia Mongols became treated more as subjects more than allies (Mote, 1999).

The Manchu established political control over Mongol territories in a variety of ways (see Table 2). The Mongol territories were divided into banners and ruled by nobles (usually hereditary princes) whose authority was subject to confirmation by the Qing court, which required them to pay tribute once every three years, to collect taxes, and to enforce obligations such as compulsory military service. The Ulaanchab Plateau was divided among five banners (of the 49 created by the Qing in 1674 in Inner Mongolia) which were organized into a single league (*chuulgan*; Chinese 盟 *meng*) one of six in early Qing Inner Mongolia). The two banners of the Tümed Mongols were, as previously discussed, administered directly by the Manchu. Mongol political demarcations of Mongol territory were carried out in 1691, 1741, and 1765, creating more political units and a larger nobility but making it difficult for any one leader to build the kind of power base that Altan Khan had achieved, much less that of Chinggis Khan and his successors. In 1789 the Qing banned all Mongols, even princes, from leaving their banners without special permission – effectively tying Mongol nomad commoners to particular territories and preventing local nobles from building economic and political power through recruiting new subjects.

Qing territorial administration of the Mongols is often depicted as a Manchu “divide and conquer” strategy. It should be recognized, however, that Qing surveillance and control had limits. Mongol princes retained considerable authority and autonomy in many aspects of banner governance, as was clear when Manchu officials in Höhhot sought the cooperation of Mongol leaders in the Tümed Plain and the Ulaanchab

Plateau in opening Mongol grasslands to increased Chinese agricultural settlement in the early twentieth century (see below).

These aspects of Manchu political territorialization of Mongolia were part of a wider set of discourses, institutions, and practices developed over generations through which the Manchu ultimately created a new northern frontier that differed considerably geographically, politically, and economically from earlier ones and which incorporated northern nomads into China's imperial economy to an unprecedented degree.

One aspect of Manchu imperial rule that increased the complexity of inter-ethnic interactions and greatly affected frontier economy and politics was the way in which the Manchu in effect created a space through which a kind of secondary Chinese imperialism also developed on the northern frontier. This came about through the Manchu's delegation of many administrative and military responsibilities to Chinese officials and by Manchu policies that, while seemingly intended to prevent Chinese settlement in Mongol territories and to tightly restrict Chinese trade and its impacts on Mongol economy and society, in practice created sufficient opportunities for increasing Chinese migration and settlement and for major Chinese intervention in Mongol livelihood practices.

This dual Manchu/Chinese character of frontier imperialism became increasingly evident in the 18th and 19th centuries as Höhhot became a major military base with Manchu, Chinese, and Mongol troops and a Manchu/Chinese administrative center for a large region under the oversight of the Chinese Shanxi Province authorities. An exception was made to the normal Manchu policy of discouraging Chinese immigration into Mongol lands and the Tümed Plain was developed as a granary that could support Qing frontier garrisons, Mongol populations in Ulaanchab and beyond, and the city itself. As a result Chinese came to outnumber Mongols in the Tümed Plain well before 1900 and even in the last decades of the 18th century were settling within and north of the Great Blue Mountains, mostly via "informal" ("illegal") arrangements with Tümed Mongols whom the Qing had issued household lands and with the banner princes who north of the mountains exercised decision-making authority over collective banner lands. Besides permanent settlers, the majority of whom came from highly-populated and impoverished Shanxi, tens of thousands of seasonal Chinese

migrants came to Tümed each spring from Shanxi to cultivate second crops on leased land. Chinese merchants began to operate, moreover, throughout Mongol territories, constrained by (but also circumventing) Manchu regulations designed to limit their impacts on Mongol society. Merchant companies based in Höhhot sent out mobile trading camps throughout Mongolia and also established trading posts at monasteries. They offered consumer goods that became necessities of life for Mongol nobility and commoners alike, from tea, tobacco, grain, and alcohol to cloth, saddles, boots, and other manufactured goods (many of them produced specifically for the Mongol market by Chinese firms in Höhhot, which also dyed cotton cloth from eastern China and the U.S. to meet Mongol tastes). In exchange they took livestock, pastoral products, furs and other wildland resources on a scale made more massive by creative business practices that included 36% annual interest rates, and in the process integrating a vast hinterland economically into the Manchu empire and the Chinese national economy to an unprecedented degree.

After 1860 another aspect of colonialism arrived on the frontier with the designation of Tianjin as a treaty-port and increased activities by foreign traders and their Chinese agents in northern China and Mongolia. Foreign firms from the U.S., U.K, and Russia set up offices in Höhhot and began exporting traditional wildland products (especially furs), pastoral products, and "new" products (wool and camel hair especially) to Tianjin, most of them bound for an American market. After 1911 Manchu imperialism ended but what could be interpreted as Chinese "internal colonialism" continued, as did the ramifications of integration into the "treaty port" economy (including the impacts of the Great Depression).

4. Imperialism, Difference, and Differentiation

Since Edward Said's *Orientalism* (1978) it has become common in post-colonial studies and post-colonially-informed political ecology to consider colonialism in part in terms of discourses grounded in and perpetuating the weighted asymmetries of inter-ethnic (and inter-regional) relationships and "Western" ethnocentric constructions of "other(s)." Less emphasis has been placed on other imperialisms and discourses of "orientalism," including Asian ones although a few scholars such as Millward (1998) and Hostetler (2001) have assessed the Qing dynasty as a colonial state and depicted "internal colonialism" in

post-1949 China (eg Horvath, 1972; Oakes, 1995). From this perspective it would seem obvious and critically necessary to examine the relations of imperial Manchu (and Han Chinese) with subaltern “others” – particularly the peoples of the northern and southern frontiers – and ethnic undertones in imperial and national integration and development discourses. On closer inspection this proves to be a rather complicated undertaking (see Bulag, 2002). It is certainly possible to identify enduring relationships, discourses, and practices grounded in ethnic interaction on the frontier and to relate these to economic development and environmental change. Yet the level of complexity in inter-ethnic relationships belies simply generalizations. To understand links between social/imperial and economic/environmental structures and change it is necessary to go beyond the simple dichotomies of “raw” and “cooked,” “barbarian and civilized,” “animal-hearted” and “human-hearted,” nomad and farmer, north of the Great Wall and south of the Great Wall – dichotomies that have been naturalized over two millennia since the Han historian Sima Qian (司马迁) immortalized them in his representation of the struggles of the Zhao and the Han against the Xiong-Nu or as they have been constructed and reconstructed in different eras by different narratives of marriages between Chinese and nomads such as Höhhot's Wang Zhao Jun episode (Bulag, 2002). Simply inserting Mongols in place of Xiong-Nu in the barbarian slot is not sufficient to illuminate Qing and Republican era politics, economies, and political ecologies.

One reason for this is that Manchu-Mongol elite relationships don't fit easily into the conquerer/subaltern mode. Another is that while examples of 19th and early 20th Chinese discourses can certainly be found that seem to “orientalize” the Mongols, and to do so in weighted racial terms, relationships on the ground did not necessarily fit these terms. Examples can certainly be found of official Chinese discourses that stereotype Mongols and suggest a kind of “manifest destiny” on the northern frontiers by which Chinese will make the steppe fruitful as the Mongols have not, converting wasteland to farmland and cities. And reverse ethnocentrism can be seen in some Mongol attitudes towards Chinese (referred to by some in the pejorative “black Chinese” *khara-kitad* (Jagchid and Symons, 1989:243), Chinese colonists who were despised for tilling the soil and for mining, and resentment of merchants (who were primarily Chinese)

may be indicated by the use of a term, *khudaldugha* (“one who sells or buys”) the root of which has “the connotations of cheating or lying” (Jagchid and Hyer, 1979:304). Yet at the same time many members of the Mongol elite co-operated with that frontier pacification, subjugation, and settlement process. They accepted Manchu (and later Chinese) titles and subsidies as means of bolstering their social power and wealth within their own society. They made land deals. They traded and became partners with Chinese companies in trade ventures and mines (also against Mongol religious beliefs). But other princes violently as well as covertly resisted the opening of Mongol lands to Chinese settlement; Ulaanchab princes were central in the Mongol nationalism movement in what is now Inner Mongolia in the 1930s-1940s. Other Mongols – common herders or small farmers (for many Tümed Mongols farmed by the 19th century) -- became so-called “Mongol bandits” who harassed Chinese trade, settlers, and officials. Manchu-Mongol relations at elite level are often characterized as changing over time, and Manchu-Chinese and Chinese-Chinese relationships were also dynamic in many ways including differentiation among Chinese on the basis of different home regions and between locals and outsiders (who by the early 20th century had begun to regard frontier region Chinese as “backward” and uncultured – see Tighe, 2005). Inter-ethnic relationships in the region were complicated also by considerable social and economic differentiation among and within the many resident peoples (by the end of the Qing including Mongols, Manchu, Han Chinese, Hui, and European, Russian and Americans) (see Table 3.

PART II. Transforming Nomadism and a Mongol Sea of Grass

1. The Grasslands and the Nomads: “Bounding Mongol Nomadism”

Mongol nomadic pastoralism on the northern frontier became increasingly embedded during the Qing and the Republican period in new political, social, and economic institutions and relationships which influenced herding practices -- including herd composition and movements. This reflected not only Manchu military and administrative actions, Chinese administrative, trade, and agricultural colonization practices, and the influences of American, Russian, and European trading enterprises and market demand but also social

differentiation among Mongols which included the ability of the aristocracy to command taxes paid in livestock and corvee labor and the increasing economic and social importance of Buddhist monasteries and lamas during the Qing (30% or more of the male population had taken vows as monks; one third of those lived in monasteries; some monasteries and abbots owned herds of thousands of head of stock and commanded labor services from hundreds or several thousand families -- see Miller 1959).

MONGOL PASTORALISM IN THE LATE IMPERIAL ERA: Pastoralism has been practiced in the Tümed plain for millennia and perhaps since as early as 8,000 BCE (Cao, 1997). The steppes, mountain grasslands, and gobis of Mongolia and Southern or Inner Mongolia were the homeland of Mongol pastoralists throughout the Ming, Qing, and Republican periods. Herd composition, size, and movement patterns varied tremendously geographically and historically reflecting local adaptations to climate, topography, economic, and social conditions – including the development of local stock breeds and local knowledge of the geography and seasonality of herding conditions and the fitness and qualities of livestock in variable circumstances (Lattimore, 1928, 1940; Rossabi, , 2000). Mongols in the Tümed Plain, the Ulaanchab Plateau and the central and northwestern regions of Mongolia (gobi, steppe, and mountain) with which Höhhot administrators and traders included both aristocratic and monastic elites that owned or controlled vast herds and large numbers of commoners – many of them so poor that they seldom slaughtered and ate any of their own stock (although they kept them for dairy products and other contributions to household economy and to pay taxes and debts to Chinese merchants). Mixed herds were typical, with the mix varying regionally but drawn from the “five animals” (sheep, horses, Bactrian camels, cattle – including yaks in some areas, and goats) so-valued by Mongols. All five types of animals were milked and provided hides; sheep, goats and cattle were eaten; and wool, camel’s hair, and goat hair were all collected. Livestock also provided the main source of fuel on the steppe: the dried dung of cattle (argol) was particularly valued but dung from all animals other than horses was collected and burned (Barfield, 1989; Jagchid and Hyer, 1979; Lattimore, 1928).

Sheep were the predominate livestock, particularly in the drier steppes and gobis. Typically they were kept in mixed herds with a smaller proportion of goats (which shepherds relied on to help guide the flocks but were not as valued for meat or other products). Prior to the 1950s Mongol sheep were everywhere various local breeds of the famous Mongol “fat-tailed” sheep which are well-adapted to cold and arid environments, provide excellent meat (and fat, which Mongols value highly) and short wool that makes good felt for *ger* (yurt) construction and can be used in carpet weaving. Sheep were especially important in the Ulaanchab Plateau (and particularly in the drier, western and northern areas of it), while in the piedmont, montane, and Tümed Plain regions cattle and horses became increasingly important as well.

Seasonal herding movements were not the aimless wandering search for good grass and water that Chinese representations of nomadism during the Qing (and since) so often emphasize. Mongol nomads followed deliberate migration and herding patterns. The number of moves (from 2 to 12) and the seasonal use of different ecosystems that varied in location and altitude varied tremendously – in the Ulaanchab during the early twentieth century it was common for herders to make three major moves between separate winter, summer, and spring bases in response to varying grass and water conditions (Lattimore, 1928). This pattern of transhumance would have likely involved a hundred kilometers or less of total movement.

Herding practices were influenced by (1) local/regional and seasonal physical geography of particular tribal, league, and banner territories, (2) local knowledge, household labor availability, personal preferences, and indebtedness (3) market conditions and location relative to them, and (4) how individual families were situated in terms of wealth, social differentiation and accordant tribute, tax, and other obligations to the emperor, the Mongol elite, and Chinese traders. Nomadic herding accordingly was greatly transformed after 1550 by the interplay of complex, geographically and historically dynamic political, social, and economic factors, although by 1937 Mongols had neither adopted new stock breeds (despite some efforts to introduce Merino sheep and other non-local breeds) or begun to sedentarize. And while herding may have been constrained by banner borders, personal and group social and economic circumstances (commoners were

made responsible for nobles' debts), and the advance of Chinese agricultural settlement, the rangelands were not yet fenced.

During the Qing era Mongol herding movements in Ulaanchab, the Great Blue Mountains and the Tümed Plain, were increasingly constrained by the conversion of land to agriculture, the keeping of stock by Chinese farmers (especially north of the mountains), the grazing of thousands of camels each summer on the exceptional steppe pastures near Bato Kalagha Sume (Bailingmiao 百灵庙), the grazing of large numbers of Manchu cavalry mounts on exclusive military pastures in the Tümed Plain and north of the mountains (until the late 19th century), and the movements of camel caravans and of vast numbers of sheep, cattle, horses, and camels bound for sale in Höhhot and beyond which were pastured in Ulaanchab for weeks as part of this process (in some cases on expansive company-owned grazing lands). Manchu colonial policies in particular had enormous impacts on pastoralism through imposing new administrative systems which established greater control over nomad movements, instituted herding regulations, and collected new taxes; facilitating Chinese trade which commodified pastoralism in a new way throughout Inner and Outer Mongolia; encroaching on pastoralists grazing grounds in Inner Mongolia by appropriating them for their own grazing purposes (such as imperial grazing lands and extensive grazing lands set aside for cavalry mounts); and in some areas of Inner Mongolia (including the Tümed Plain and the Ulaanchab Plateau) allowing or promoting Chinese agricultural colonization and conversion of the steppe. Three aspects of these colonial policies were particularly relevant for how Höhhot engaged with an increasingly extensive pastoral hinterland. These were (1) the establishment of imperial grazing lands, (2) authorization of Chinese agricultural migration, and above all (3) the ability of Chinese firms to operate in Mongol-inhabited regions. Höhhot-based companies were particularly involved in this trade both in the import of livestock from the steppes for Höhhot and China markets and in the import of hides and wool using camel caravans whose off-season pasturing was itself a significant regional impact on herding.

2. Nomads, Livestock, and Markets: Höhhot as Catalyst and Entrepot

In 1572, the year that Altan Khan established Khökhe-Khota, some 11,000 head of cattle were traded at Höhhot, and the year before, the first year of the imperial horse market at a nearby Great Wall border town, Altan Khan's Tümeds exchanged more than 7,000 head of livestock, including not only more than a thousand horses but also cattle, sheep, mules, and donkeys (Pokotilov 1947:134; Huang 1995:273-277). By the late 19th century Höhhot merchants drove 1,000,000 sheep and about 200,000 horses, cattle, camels and donkeys annually to Höhhot from Mongolia, most of them bound for Chinese markets, along with large numbers of hides, wool, furs and other mountain and steppe products from Mongolia, Xinjiang, and Qinghai transported in part more than 14,000 Höhhot-owned Bactrian camels (Lu and Liu, 1995: 127; Pozdneyev 1898). Each year 100,000 cases (140 pounds, two to a camel) of Hunan-grown tea and a vast quantity of cotton cloth and other Chinese goods arrived in Höhhot and were either consumed there or sent on by camel caravan to hinterland markets (Pozdneyev 1898:55; Mannerheim 1940). Höhhot trade during the Qing in particular came to closely link the Mongol world with China, and in the late 19th century began to link the northern (and western) frontier also with the U.S. and Europe.

Höhhot was a trade center from its earliest days. Livestock and other markets were an important feature of the place, and its role as a regional trading place was boosted by the renown of its incarnate lamas, temples, and monasteries, as such places often attracted Chinese traders, particularly during pilgrimage times and when those sites were located, as Höhhot was, on "natural avenues of trade" (Lattimore, 1929: 20). Trade took place at every scale from local vegetable markets to the tributary trade paid by the Mongol princes to the Imperial court. It grew in scale in the 17th century, catalyzed in part, historians Minghui Lu and Yankun Liu suggest, by the 1660 arrangement between the Qing Shunzhi court and Mongol princes whereby the princes agreed to send biannual tribute to Beijing. By 1683, about two hundred traders traveled from Beijing to Höhhot every year to participate in the tribute trade. The scale of trade was expanded further during the Qing campaigns against the Zhungar Mongols between 1690-1757, when the need for cavalry horses and pack mounts to supply distant military bases with provisions prompted the Qing to make Höhhot

a source of supplies and stock (Lu and Liu, 1995: 123). The largest and most famous of Höhhot trade firms, the Da Sheng Kui (“Great Prosperous Chief”), had its origin in this military supply trade.

Although the trade relations between the Chinese empires and the peoples of the frontier have often been described, particularly in western literature, as the “tea-and-horse” trade, the northern frontier trade from the outset was much more diversified. It was shaped, in part, by the specific cultural preferences of peoples on both sides of the frontier. For example, whereas the livestock trade through Chicago in late 19th century North America generated a massive meat packing industry, the Chinese and Manchu preference for fresh meat meant that, Höhhot's traders sent the livestock onward on the hoof, and no large-scale meat processing facilities developed. It was also dynamic – there was little demand in China for either wool or camel hair, for example, because Chinese did not weave wool or camel hair and unlike Mongols neither dressed in sheepskins nor made their houses out of felt. Wool and camel hair only became major trade goods after Tianjin-based American and British merchants discovered the quality of Qinghai and Xinjiang products and began the export trade in the 1880s (Mongol sheep produced a shorter wool excellent for making *ger* and carpets but of less value for woven goods) (Millward, 1999; Chang, 1933; Chin, 1937). And the tea trade did not always play the role that it eventually did in Mongolia. Altan Khan imported the beverage in the 1570s in order to serve it to Tibetan lamas, but it did not become a necessity of nomad life until the Qing era.⁸ (Atwood, 2005: 184)

ITINERANT "MONGOL" TRADING COMPANIES: During the 1690's, three peasants from Shanxi became petty traders at the camp of Manchu General Fei Yanggu at a key pass along the Great Wall (杀虎口 Shahukou). When the regiment was transferred to Mongolia, they followed and continued to build their trade network, learning Mongol customs and language along the way. With their Manchu military contacts and patronage from local Mongol princes they established bases in the Manchu bases of Uliastai (Uliyasutai; Chinese 乌理雅苏台 Wuliyasutai) and Hovd in northwest Mongolia and a headquarters in Höhhot. Over time they built a vertically- and horizontally-integrated trading and banking conglomerate which was empowered to issue its own paper currency (promissory notes), owned subsidiaries that produced the tea, silk,

and other goods it sold in Mongolia, employed 7,000 people and several thousand camels, and came to control much of the economy of Mongolia, western Inner Mongolia, and areas of North China from its head office in Höhhot by entrapping Mongol princes, monastery abbots, and commoners in debt which compounded at a rate of 36% a year and which was paid in livestock. (Fig. 8) This company, which enjoyed special Manchu favor, was called Da Sheng Kui (大盛魁) -- Great Prosperous Chief (Avery, 2004; LMSDSK, 1984).

Da Sheng Kui was the largest of a number of Höhhot (and later also Baotou) based trading companies which operated in "Inner" and "Outer" Mongolia during the Qing. These Chinese companies developed distinctive trading operations after the Kangxi emperor introduced a system in the early 18th century which limited trade to licensed Lumengshang (旅蒙商) -- literally "traveling Mongol trading companies." Permits to trade in Mongolia could only be obtained in three border cities, one of which was Höhhot, and regulations limited merchants to a year in Mongolia, forbade them to bring Chinese wives or to marry Mongols, and tried to discourage them from settling by forbidding them from building. Trading companies accordingly operated from tents, sending trading groups across the steppes to sell goods and to accept delivery of livestock. (By the late Qing many companies had circumvented some of these rules, and besides the Chinese trading towns that developed at the major Mongolian towns there were also many trading posts at monasteries and along caravan routes.

Over time Höhhot merchants formed three large-scale companies (of which Da Sheng Kui was by far the largest), and somewhere between forty and fifty smaller companies. The larger companies traded at the greatest distances, following caravan routes known as "the great outer routes" to Uliastai, Howd and Urga (Ulaan Bataar) in Mongolia. These large companies maintained pastures in multiple sites in Mongolia. Da Sheng Kui was able to prosper to an unusual degree because it used its connections and wealth to control and nearly monopolize some aspects of the trade and because it made a great deal of money by offering credit -- particularly through loans to Mongol princes who were able to pass their debts on to the members of their banners through taxes due in livestock. Da Sheng Kui acted as tax collector in many banners on behalf of

their princes, and also became the official agent of the Qing court for the collection of taxes in Mongolia (Avery, 2004: 58-66; LMSDSK, 1984: 77). Owen Lattimore once aptly compared Da Sheng Kui and the other big trading houses to the Hudson's Bay Companies, remarking that "[e]ven individual small traders, who were nominally independent, actually got their goods on credit from these great firms and so in practice were tributary to them" (1940: 92).

ROUTES AND PASTURES: Höhhot traders returned from Mongolia each year in caravans of hundreds, even thousands of camels and each spring and autumn drove immense herds of livestock south (other routes linked Höhhot with the cities of Xinjiang and with Xining and the Koko Nor (Qinghai, Blue, Lake) region of Qinghai but along these routes camel caravans only operated, with no long-distance livestock drives). (Fig. 9) Camel caravans brought Chinese agricultural products and manufactures on the two-month journey that took them to the far reaches of the Mongol grasslands and into the mountains of northwest Mongolia, a journey of 1,300 km (800 mi) from Höhhot to Uliastai and 1,700 km (1,000 miles) to Hovd (Khovd; Kobdo; Chinese: 科布多 Kebuduo) -- Höhhot to Urumqi in Xinjiang, for comparison was a journey of 1,900 km (12,00 mi). Traders returned with camels laden with sheepskins, horsehides, cattle hides, and furs, together with herders who drove upwards of 10,000 horses and 100,000-150,000 sheep for each semi-annual market, driven in 40-70 li stages (13-23 mile) stages across distances the equivalent of driving cattle and sheep to Chicago from Denver (or New Haven) in the case of Uliastay and to Chicago from Santa Fe or San Antonio in the case of Hovd. Enroute to Höhhot they stopped at a series of Ulaanchab pastures including Bato Khalaga Sume (Bailingmiao (百灵庙)), Zhaohe (召河) (Xilamuren Zhao 席喇穆仁召), Wuchuan 五川(Kekeyilibian) and other locations just north of the Daqingshan, where they would be grazed during the trade negotiations with merchants from Beijing and elsewhere (Lu and Liu, 1995: 123).⁹ According to one estimate 70-80% of the livestock traded at Höhhot originated in northwestern Mongolia; most of the rest would have come from the Ulaanchab Plateau and the Great Blue Mountains (LMSDSK, 1984: 136). According to oral historical research conducted with former Da Sheng Kui employees, the height of the livestock trading era was the sixty years between 1861-1911 (LMSDSK, 1984: 100). As the massive herds and caravans passed by, Qing

regulations demanded that local pastoralists keep themselves and their herds well off the routes in order to protect the grass for grazing the trade stock. Moreover, in the desert, where water resources were scant and sometimes itinerant stock were watered from local wells, local people could water their animals only after the trade stock had had their fill (LMSDSK, 1984: 102-5).

Livestock awaiting sale were not brought into Höhhot (where grazing was scarce and expensive) but instead were kept in large pastures owned by the large trading companies in the grasslands north of the Great Blue Mountains at places such as Zhaohe and Batu Khalaga Sume or in smaller pastures and stables operated by villages and individual families both north of the mountains and in the intermontane valleys. Da Sheng Kui alone, in just two of its pastures at Zhaohe, was able to graze 100,000 sheep and 4,000-6,000 horses (LMSDSK, 1984: 135). Trading companies from south of the Great Wall would send livestock inspectors to these grazing areas, and purchases would be arranged either there or back in Höhhot. Some of these deals were made on a quite large scale – each year three Beijing companies alone in the late 19th century reportedly purchased half a million sheep. Höhhot and Tümed Plain residents also constituted a significant market, consuming 200,000 sheep a year and most of the cattle driven south from Mongolia – about 40,000 head a year in the late 19th century (Pozdneyev 1896).

Höhhot's northern and western hinterland trade changed significantly in the late 19th century and early twentieth century. On the one hand overseas market demand created new trading possibilities in Xinjiang and Qinghai. On the other hand increased international trade brought new competition, particularly from Russian traders, and from the agents of foreign firms who established their own trade arrangements in Qinghai and rafted goods east on the Yellow River to Batou. Baotou became a major competitor beginning in the late 19th century and its traders not only siphoned off some of the Qinghai and Xinjiang trade but also some of the trade with the Mongols of "Outer Mongolia" and especially the western Ulaanchab. This was exacerbated when the railroad from Beijing reached Batou in 1923 (after being extended to Höhhot in 1921) and this became its terminus until after 1949. Höhhot's trade with the western frontier diminished by 25% or more as a result. Trade was also disrupted with the western frontier by rebellions, bandits, efforts by

Chinese officials to channel trade on certain routes or limit trade in key goods (such as tea) to particular firms. More problematic for Höhhot's economy was the impact of twentieth century political change in Mongolia. Mongolia began independent in 1912 following the collapse of the Qing. At first business continued as usual, but then changed dramatically after the establishment in 1924 of the Mongolian People's Republic. The new government annulled Mongolian debts to Chinese merchant companies, which devastated the fortunes of Da Sheng Kui in particular. It also placed high customs duties were placed on the export of livestock and livestock products from Mongolia into China. Although an important trade continued in tea, livestock export to China virtually ceased and this export shifted instead to the USSR. Höhhot companies even found it difficult to use the caravan trails that led through Mongolia to Xinjiang, and as a result had to develop new desert routes farther south. Chinese firms were expelled altogether from Mongolia in 1928, precipitating the collapse of some companies, including the greatest of the Höhhot merchant houses and forcing others to down-scale to Ulaanchab operations and new long-distance camel caravan trade routes to Xinjiang. It made little difference to Höhhot traders because they had lost their trading access, but during the 1920s and 1930s other changes in Mongolian society greatly affected the way that business could be done. After 1924 the new communist government broke the power of the nobility and the monasteries, and by the early 1930s had seized a vast amount of property was seized from nobles, monasteries, and lamas, dissolved the nobility, and begun a first experiment with collectivizing nomad herding.

3. The Chinese Agricultural Frontier

ALTAN KHAN AND 16TH CENTURY CHINESE SETTLEMENT AND FARMING: Although farming has been practiced in the Tümed Plain for at least five thousand years, following the Yuan dynasty (1206-1368) the region's cities and their associated farming communities declined and were abandoned. Altan Khan re-introduced agriculture to the Tümed plain in the 1540s by welcoming an influx of Chinese migrants. In the mid-sixteenth century, he proposed to "open 10,000 *qing*¹⁰ (66,670 ha) of fields at Fengzhou, and connect a hundred villages" (Rong, c.1990: 19). To achieve this he actively recruited Chinese farmers from the core area (Rong, c.1990: 18) and accepted refugees from religious persecution in China. This was

one of the few southern Mongolian regions that welcomed Chinese migrants during this period, and reportedly 50,000 to 100,000 Chinese settled in the Tümed Plain during this period (Serruys, 1959). Farming was based on non-irrigated cultivation of millets and wheat.

LAND "OPENING" FOR AGRICULTURE DURING THE MANCHU QING DYNASTY (1644-

1911) During the Qing Dynasty considerable areas of the grasslands of the Tümed Plain, the Great Blue Mountains, and the Ulaanchab Plateau were converted to agriculture. This primarily reflected Chinese migration from Shanxi, with important migration also from areas as distant as Shandong, and Tümed Mongols' voluntary settlement in villages and adoption of cultivation as a way of life. The development of this agricultural frontier came to be typically represented as Chinese agricultural colonization of Mongol lands and to be increasingly contested and resisted by Mongols. The conversion of temperate grassland to crop production here took place over a four hundred year period (and continued on an extensive scale after 1949), beginning earlier (and taking longer) than the massive destruction of temperate grasslands in the U.S., Canada, Argentina, the U.S.S.R., and extensive areas elsewhere in China (McNeill, 2000; Richards, 2003).

By 1937 much of the Tümed Plain had been brought into cultivation along with the intermontane valleys within the Great Blue Mountains and the higher rainfall and stream-watered areas of the eastern Ulaanchab Plateau in a zone extending 50-75 miles to the north of the mountains – altogether during the Qing the official opening between 1650 and 1926 of 16,302 km² (6,294 mi²)¹¹ of what had been the richest grassland and the best Mongol pastures together with substantial areas that had still not been “officially” registered (especially but not solely in the banner lands). Of the officially opened and registered lands nearly half were in the Tümed Plain, with the other half divided relatively equally between land with the mountains and beyond it on the Ulaanchab Plateau.

Chinese scholars analyzing the process of agricultural expansion in this region during the Qing have noted the discrepancies between Qing policy in terms of imperial edicts and local transformations (eg Lu, 1990; Si, 1998; Wan, 2004). Officially, land in Inner Mongolia was closed to conversion to agriculture, until 1902, except when and where it had been designated "open" by government decree.¹² In practice, however,

not only were vast tracts of land officially opened in the Tümed Plain, the mountains, and the Ulaanchab Plateau whenever this was expedient for imperial military or political goals, but in some eras there was widespread conversion of lands via private transactions which were illegal but which were nonetheless allowed – a situation which has been described as "forbidden but not refused" ("禁而不絶" *jiner bujue*) (Si, 1998). Secondly, Chinese, Mongol, and “Western” commentators have emphasized the persistent perceptual disjunction between Chinese/Manchu and Mongol attitudes toward agricultural expansion. Where Imperial, and later the Republican authorities saw this as an opportunity to “open” (*kaiken* 开垦) and improve wild “wasteland” (*huang* 荒), a Mongol term for this process, “*gajir gagalagu*” can be translated as “shattering the land” (Williams, 2002: 71). Western commentators from Huc, who traveled through this region in 1844-46 to Lattimore often depicted this as a process of Chinese invasion of Mongol lands and represented the extension of agriculture north of the mountains as economically and ecologically as well as socially ill-advised, and warned of the potential for the failure of agricultural settlement, desertification, and dust storms as well as the impoverishment and suffering of Mongol nomads. This last point has been made also by Chinese historians, one of whom recently noted that while the process of conversion may have provided important sustenance for the Manchu military (and hence enabled Manchu control of the frontier), it caused great pain and hardship for the people of the grasslands (Wan, 2004: 54-61).

The history of Qing land conversion in this region reflects both official actions carried out at different times by different types of administrators on behalf of different institutions at different levels of the Qing government and unofficial agreements between Chinese migrants and local Mongols. In parts of the mountains and across virtually all of the Ulaanchab Plateau the land was owned collectively by Mongol banners, whose princes in some places made informal arrangements with Chinese settlers even in the 18th century to rent land and establish settlements, but who after 1902 in the late Qing and Republican period were strongly pressured to officially open large additional areas to settlement. Some banner lands in these areas (as in the Tümed Plain) were confiscated in the 17th and 18th centuries with imperial authority for establishing extensive, exclusive pastures for the horses that were so vital to Qing military control of the

frontier and other stock (and farming) to support troops here and across Mongolia (Li, 1999).. These areas were later “opened” for cultivation by Qing authorities in Höhhot. In the Tümed Plain the land tenure situation was somewhat different as Tümed Mongols households owned considerable private lands as a result of many families having been granted 5 *qing* (33 ha) parcels early in Qing rule in return for military service. Many families leased some of this land to Chinese settlers – an imperial audit in 1743 found that 4,000 *qing* (26,668 ha) of Tümed banner land was being leased to Chinese settlers. Other land that had belonged to the two Tümed banners was appropriated by the Qing for disbursement to soldiers or for sale to settlers, and Tümed Mongols and Chinese tenants were in some periods encouraged to expand production on “grain lands” which were taxed (due in grain) to provide military provisions.

Between 1650-1859 a total of more than 140,000 *qing* (more than 900,000 ha) of land in the vicinity of Höhhot was converted from pastureland to agricultural land. Most of this land was converted in three large-scale land divisions carried out by the Manchu military government in 1650, 1692, and 1735-1743. In 1796, areas beyond the Daqing mountains were designated to be opened for the first time, although these areas were small scale before 1902. Official land conversions are summarized in Table 4, which indicates how much official conversion went on early in the Qing during the 17th and 18th centuries and how relatively little in the rest of the Qing. Major episodes included:

(1) 1650: The first mass-scale conversion of grasslands and other areas for agriculture came in 1650, when the Qing government, in the course of establishing a garrison at Guihua, granted 5,000 soldiers five *qing* (33.33 ha/ 500mu) of land each¹³, for a total of 25,000 *qing* (166,675 ha) (Huang, 1995: 377). In frontier regions since at least the 2nd century BCE, the Chinese had practiced systems of "*tuntian* (屯田)," in which garrisoned troops were responsible for converting "wasteland" to agricultural land and growing food grain both for themselves and the state. The system aimed to make the frontier outposts self-sufficient while simultaneously taming the non-Chinese inhabited "wastelands" for future Chinese settlement. In practice, soldiers often lacked the time, experience, and local knowledge to farm, the Manchu had a policy of requiring troops to focus on military pursuits. It thus became typical for soldiers to rent their allotments of

farmland, usually to Chinese settlers. These tenants, in addition to their rent, also paid land taxes and in-kind tribute to local officials (Yang, 1999: 96).

(2) 1735 - 1743: In the first half of the 18th century the pace of migration and land conversion increased markedly. In 1707 alone, about 10,000 people from Shandong, Shanxi, Shaanxi and Zhenquan migrated to the area as farmers and traders (Gao, 1995: 113). In 1735, there was another major official opening of agricultural land, comprising 40,000 *qing* (266,680 ha) (Huang, 1995: 379). More than 20,000 *qing* (133,340 ha) of agricultural land were opened in 1737 (Huang, 1995: 378). Just six years later, in 1743, an additional 45,989 *qing* (306,609 ha) were opened, some of which were the first areas in the Daqing Mountains officially opened. The opening of land for cultivation between 1735 -1743 was a response to a major military buildup of Höhhot, to support the Manchu war against the Zunghar Mongols, which included the construction of Suiyuan and the stationing of Eight Banners bannermen there, as well as the strategy of using the Tümed Plain to supply Manchu military outposts in Mongolia. Bannermen, like earlier Shanxi troops stationed in Guisui, were each allocated land. These land allotments, however, were smaller than in the past, and averaged only one *qing* (which was nonetheless a substantial amount by Chinese farm-size standards).-

(3) 1796: In this year the first official conversion of grassland to agriculture began north of the Great Blue Mountains.¹⁴ (Cheng, 1995: 253, 262; Huang, 1995:31). Of 7,393 *qing* opened to agriculture in 1796, 6,955 *qing* (94%) was land beyond the Daqingshan which had previously been used as grazing lands for the Manchu Eight Banners cavalry (Cheng, 1999: 263). Additional conversion of Manchu Banner grazing lands to agriculture took place in the early 19th century (and again at the end of the Qing dynasty). The opening of these grasslands was intended to be a "temporary" response to famines in north China, and was referred to as "borrowing Mongol land to nourish Chinese people" (借地养民 *jiediyangmin*) (Jagchid, 1988:187). But these conversions seem to have become "permanent."

LATE QING (POST 1902) AND REPUBLICAN ERA "LAND RECLAMATION": Despite calls by four successive Shanxi provincial governors for further imperially-sanctioned agricultural colonization

(Tighe, 2005), the Manchu court, presided over by the “Dowager Empress” Cixi (who had lived in Guihua for four teenage years when her father was garrison commander) authorized no further openings of the grasslands until the early 20th century. In 1902, however, Cixi was persuaded to endorse a “new policy” that promoted Chinese agricultural colonization as a means of obtaining revenue to (1) pay indemnities owed the Western “powers” in the aftermath of the 1900 Boxer Rebellion and (2) pay compensation for the death of missionaries and the destruction of monastic properties (including Ulaanchab estates). Yigu, a prominent Manchu official (formerly the Minister of War), was dispatched to Guihua to preside over a new Land Reclamation Office, which soon set up branch offices in various areas of the Tümed Plain and north of the mountains. Tümed and Ulaanchab Mongols stalled any further colonization for several years, but Yigu increased pressure on them once he was elevated to the post of Suiyuan Governor General. Yigu used coercion and financial inducements to persuade Mongol banner leaders to open their lands to Chinese settlers, including what proved to be false promises of the sharing of land purchase income and future tax revenues (or in the case of Mongols who agreed to formalize arrangements through which thousands of Chinese farmers already leased Mongol lands, a promise that imperial administration in Höhhot and Mongol banners or private landowners would equitably divide future rents). Tümed and Ulaanchab Mongols were not attracted by these opportunities, and only reluctantly and belatedly co-operated in opening some areas. Mongol overt and covert, “everyday” resistance (Scott, 1985, 1990) greatly delayed the process and led to relatively little land being converted. Nothing was finalized in the Tümed Plain until 1906 and by the end of the Qing the land opened in the Ulaanchab banners had fallen far short of imperial expectations. The 27,087 qing (180,589 ha) opened during the “new policy” era amounted to more than had been opened in the 19th century, but less than that opened in either the 17th or the 18th century.

Land that was officially reclaimed and colonized was first “reported” by Mongols to the Land Reclamation Office, which mapped, measured, and classified it in terms of quality, price, and tax rates, and then sold it. In the mountains and the southern Ulaanchab Plateau these lands were eventually incorporated into new Chinese counties (Wuchuan 武川 and Guyang 固阳) under the overall administration of Guisui

officials, while in the Tümed Plain Mongol lands were incorporated into the several existing counties within Guisui administrative jurisdiction. Mongols resisted by stalling, reporting land that had already been rented to and settled by Chinese, and by attacking settlers and Chinese and Hui caravans. This colonization process was abruptly terminated after only a few years when Mongol complaints to the Guihua Vice-Commander and to the Qing court helped prompt an investigation and the subsequent impeachment and trial of Yigu for embezzling land reclamation revenue.

After the fall of the Qing in 1911 Chinese national administrations took measures to declare the Tümed Plain/Ulaanchab/Ordos region a new (interim) political unit, and it was granted provincial status as Suiyuan Province in 1928. Beginning in 1918, however, Chinese warlords based in Höhhot reactivated agricultural colonization plans, institutions, and practices. This led to some further agricultural expansion by 1927. However this amounted only to a total of 36,000 qing (240,012 ha; 927 mi²), almost all of it in Ulaanchab. Colonization plans were in this era slowed by a combination of factors such as continued Mongol resistance that included the efforts of Mongol nationalists who established a regional government based at Bailingmiao in Ulaanchab in 1933, greatly increased incidences of Mongol and especially Chinese banditry, the Great Famine of 1929 (“the great catastrophe” as the *Draft Gazetteer* calls it) in which a quarter of Suiyuan's Tümed Plain population perished or fled and Mongol nomads (and Chinese agro-pastoralists) north of the mountains weathered the drought but experienced great stock losses, and the loss of life and destruction of settlements and herds which took place during the civil war. Despite much planning no further official opening of agricultural land took place after 1926.

Conclusions: Frontier Cities, Hinterlands, and Environmental Footprints

During the Qing dynasty the development of Höhhot and the expansion of the Qing empire were militarily, administratively, and economically entwined. Höhhot's political and economic role changed as Qing China came to include vast areas beyond the Great Wall that had marked the borders of China under the Ming. From being a Mongol frontier city on the “other side” of the frontier as Altan Khan's Tümed Mongol

capital of Khöke-Khota it became a Manchu/Chinese gateway frontier city – a transformation equivalent to that which Chicago passed through in the 19th century. Like Chicago’s rise as the entrepot of the Great West (Cronon 1991), Höhhot experienced a tremendous extension of its economic reach. In 1571 it was a center for funneling Tümed Mongol livestock south to the Great Wall imperial horse markets in exchange for grain; within two centuries it was a center for conveying livestock, pastoral products, and wildland resources from a nearly 700,000 mi² hinterland (to Chinese markets south of the Great Wall and a century later it was sending mountain and steppe resources to Tianjin and from there across the world. (Fig. 10) The development of Höhhot’s frontier hinterland and its linkage to the imperial economy gave a geographic extent and an economic character to the northern frontier that parallels early modern frontiers that John Richards (2003) has analyzed elsewhere in the 18th and 19th century world (and which are evident for Chicago), but differs from them strikingly in several of the characteristics that Richards identified as important, including the role of the “domestic” imperial economy rather than integration into the global economy, the importance of “old technologies” such as camel caravans rather than technological transport innovations such as canals and railroads, the continuing importance of local crop and livestock breeds rather than the introduction of new ones, the minor impacts in this period role of the diffusion of new diseases, and the degree of Mongol persistence and resistance that contrasts with the degree of decimation, subjugation, and displacement of indigenous populations characteristic of so many other frontiers.

Changes over time in the geography of Höhhot’s hinterland and the nature of its trade also had environmental significance, and played a considerable role in defining its urban environmental footprint in different eras. Urban environmental footprints, as they are typically used today (following Wackernagel and Rees 1996) involve calculations of per capita natural resource use which are then sometimes used to estimate the total land area required per city or resident to supply those resources. Unfortunately this takes no account of social/economic and cultural variations in wealth and resource use, nor does it distinguish the actual consumption of urban residents from resources transported elsewhere with or without processing or use in manufactured products.¹⁵ It also does not map the hinterland source regions of those natural resources or

evaluate the environmental impacts of their harvesting.¹⁶ And ecological footprints are typically calculated only for contemporary cities, without an eye to using them as tools to assess historical change.

Consider Höhhot's ecological footprint between the 1570s and the 1930s. There would have been considerable changes in urban consumption (reflecting urban demographic growth, changes in the social/cultural characteristics of its population – Mongol lifestyles and diets being different from those of the Han, Manchu, or Hui). There would have been even greater changes in the volume of natural and processed resources – livestock, pastoral products, timber, furs, coal among them (some of them traded on a major scale in the 17th century, some not until the end of the 19th) – which flowed through the city from the north and west (along with tea, tobacco, cotton, grain from the south and east) and for which Höhhot was an entrepot facilitating transport to other populations across areas of its hinterland that varied from resource to resource. But in many cases urban consumption was itself a small component of Höhhot's total resource “use” as incorporated into environmental footprint calculations -- in the 19th century, for example, Höhhot merchants organized the driving of a million sheep a year from Mongolia, but only 200,000 of them were needed to feed the city and the associated Tümed Plain farming settlements.

For frontier cities such as Höhhot, where entrepot functions typically far outweigh resource use by urban consumption or “metabolism,” it would be more accurate to calculate – and ideally to map – two different urban environmental footprints for any given era. Figures 8 and 10 – one illustrating the movement of natural resources from the urban hinterland to and for the city and its residents and a second illustrating how natural resources flow through a city and on to other places, sometimes in unaltered form and in other cases (as was increasingly the case in late 19th century and early 20th century Höhhot and much more so in Chicago) after processing or being incorporated into manufactures.

It remains to examine the environmental impacts of that economic footprint. In this paper we have been concerned with the near rural hinterland of the Tümed Plain, the Great Blue Mountains, and the Ulaanchab Plateau, and not with the ecological transformation of the site of the city or with economic or environmental change in the more distant hinterland regions. But what were the environmental impacts during this four

hundred year period of the development of Höhhot and the incorporation of that city and the Mongols and Mongol grasslands of the surrounding region into the Manchu empire and the subsequent Chinese state?

Urban development on an imperial frontier did spark dramatic environmental changes by 1937 in Höhhot's site and immediate surroundings. The Great Blue Mountains were deforested in the 18th century and have not yet recovered. Mountain wildlife such as the spectacular argali "Marco Polo" sheep and elk were nearly extirpated by habitat change, while other animal populations in the mountains and the steppe such as foxes declined under commercial pressure. The hydrology of the Tümed Plain was refashioned not only for irrigation to grow urban food supplies but for urban purposes that ranged from rerouting streams to carry timber to the city and to fill moats around city and fortress walls to diverting a stream underground to enable urban sprawl. But in terms of the sheer area affected the greatest transformation was the conversion of grassland to farmland. The agricultural colonization of at least 16,300 km² of temperate steppe in the Tümed Plain and mountains and desert steppe in the Ulaanchab Plateau between 1571 and 1937 was both a significant and fundamental change in regional ecology and a precursor of things to come; since 1949 a much larger area of grassland has been put to the plow.

One early Western visitor to the Inner Mongolian steppes, Evariste Huc (1928/1927) who passed through Höhhot on his way to Lhasa in 1845), who lyrically described the "delicious prairies" of the "land of grass" beyond the Great Wall, also described a severe steppe dust storm which he attributed to the inappropriate expansion of Chinese agriculture into the Mongol grasslands.¹⁷ Owen Lattimore (1938 in Lattimore 1962) and geographer George Cressey (1934) similarly warned that a "Dust Bowl" might be in the making in the Tümed/Ulaanchab region (and in the Chahar) because of Chinese agricultural conversion of the steppe, a serious warning indeed given the recent coining of that term to describe the environmental catastrophe and massive dislocation of people then underway on the U.S. (and Canadian) Great Plains. Lattimore also reported overgrazing in some areas of the Ulaanchab steppe because of Chinese appropriation of the best Mongol grazing grounds and consequent greater pressure on the drier, less productive grasslands to the north and west of the plateau. He did not suggest, as many Chinese and non-Chinese rangeland

ecologists currently do, that overgrazing was being catalyzed by nomads increasing the size of their herds in response to market opportunities.

Despite these pressures there does not seem to have been extensive grassland degradation, expansion of sand cover, dust storm/sand storm activity, and human displacement in Ulaanchab during the pre-1937 period. Clearly Lattimore and Cressey's Dust Bowl warnings were (at the minimum) premature. By 1937, however, substantial areas of the Tümed Plain had been transformed from lush temperate steppe grassland to grain fields, as had the southern Ulaanchab steppe. Processes had been put into motion that had been slowed by Mongol resistance, weather, and war, but which had had substantial impacts that prefaced the more massive changes in the conversion of grassland and the overgrazing of the Ulaanchab desert/steppe since 1949. Analysis of the political, economic, social dynamics of those processes suggests they were contingent not simply on population pressure and rural poverty in north China but also on the Manchu, Chinese, and Mongol construction of the northern frontier. This may offer useful perspectives on the historical roots of recent reports of "desertification" on the Ulaanchab Plateau and other areas of Inner Mongolia, a "crisis" which is now often being blamed on improvident Mongol pastoralists. The history of this part of the northern frontier suggests that analysis of Chinese state inter-ethnic, development, and "territorialism" discourses and practices might offer important insights into the framing of this new environmental narrative and into current state efforts to reconstruct the ethnic and environmental nature of the frontier by the forcible displacement of 650,000 Mongol pastoralists from the steppes in the name of an "ecological migration" (生态移民 *shengtai yimin*) policy intended to halt desertification and restore the vast grassland areas in a new form¹⁸ of conservation enclosure movement (Atwood, 2005).

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Notes:

¹ The Tümed plain, however, was south of the first "Great Wall" of the Qin dynasty and an earlier wall built by the Duke of Zhao in 300 BCE, both of which run along the southern slopes of the Great Blue Mountains. Ruins of both can still be seen, and one can stand on the Zhao wall of 300 BCE and look south to downtown Höhhot.

² The spellings of Chinese, Manchu, and Mongolian place names vary considerably for this project as a result of both different names for the same place in different languages and at different times, and changes in transliterations of these languages into Roman script. We will make an effort to provide multiple variants of each place name upon first use.

³ The Great Blue Mountains are the eastern extension of the Yin mountains (阴山).

⁴Mongol: Khökhe-Khota - "the Blue Town," or Höhhot.

⁵ According to Henry Serruys, the term “*bansheng*” is derived from the Mongol “*bayising*,” which means house (1967: 11) and always refers to a Chinese-style house, never to a Mongol *ger* (yurt). The term was sometimes used by Mongols refer to any Chinese village. The term “*bayising*” was later used by the Mongols as an alternative name for Hōhhot itself (Serruys, 1959: 88).

⁶ The Tümed Mongols, however, retained some land of their own in the Tümed Plain and within and just beyond the Great Blue Mountains, operated coal mines in the mountains, and considered themselves in the late Qing to enjoy a special, client relationship with the Qing court as “Court Mongols.”

⁷ Western Mongolia, including the Uliastai and Hovd areas had been incorporated into the Inner Asian Dzungar empire by Galden Boshogtu Khan (1678-1697), an Oirat Mongol. In 1688 Galden invaded the Khalkha Mongol lands, and in response Khalkha leaders fled to the Inner Mongolian border and asked for Qing protection. This led to the Kangxi emperor allowing them to enter Inner Mongolia, providing them with grain, and taking military action against Galden. On May 30, 1691 in the steppes north of the Great Wall in eastern Inner Mongolia, 553 Khalkha nobles and religious leaders submitted to the Kangxi emperor.

⁸ Mongols adopted the practice of making tea in a fashion similar to Tibetans. Like Tibetans they prefer brick tea over loose leaf teas and boil it together with milk (rather than with butter as in Tibet). To this Mongols often add dry roasted millet and butter or raw sheep-tail fat (*kurdiuk*).

⁹ In contrast to the livestock drives of the nineteenth century American west, cattle did not figure prominently in these long-distance livestock drives, as they were believed unable to make the long journey (LMSDSK, 1984: 104).

¹⁰ 1 *qing* (顷)= 6.667ha

¹¹ It is possible that these figures are somewhat inflated because Chinese records do not clearly indicate instances where land might have been “re-opened” or “re-classified” rather than being newly converted from grassland.

¹² The Manchu are renowned for having long endeavored to prevent Chinese migration into Manchu and Mongol lands on the northern frontier.

¹³ At the end of the 17th century, the per capita farmland in north China was just under 10 mu (average farm size of 50 mu; by the 1760's, it was 4 mu (average farm size was 20 mu), and by the mid-19th century, it was only 3 mu (15 mu average farm size) (Isett, 2004: 126). The military land grants were quite large and clearly were intended to generate income for the soldiers as well as to feed them.

¹⁴ This may well not have been the first time that land had been put into cultivation there. Lattimore relates how Chinese settlers north of the mountains in the early twentieth century maintained that “their” ancestors must have farmed this region long before (and hence there was a Chinese moral claim to the land that preceded any Mongol one), pointing to stone agricultural tools found on the steppe. There seems to be no historical documentation of specifically Chinese agriculture north of the mountains in earlier eras, however, and it may be that former agriculture here was carried out by non-Chinese peoples such as the Onggūt (who established a city at Alunsimu to the northeast of Batu Khalaga Sume (Bailingmiao).

¹⁵ It also ignores urban “wastes” and their use (as in the case of Hohhot’s use until 2004 of nightsoil) or accumulation as “pollutants.”

¹⁶ There is also a perhaps important cognitive issue involved in these sorts of representations because of the dualistic divide they assume between urban and “other,” which ignores that city and country (and including “wildlands” as well as rangelands and croplands) are not only typically tightly linked economically but are in effect two aspects of single settlement systems and mutually or co-constructed places, landscapes, and ecologies. From this perspective rural and urban are not only both “second nature(s)” (and so too are the supposedly “First Nature” “wild” lands associated with them) but ones whose constructions are co-developed – cities built and sustained by country resources but the character of those rural regions shaped by city markets, policies, technology, and resources (sometimes quite literally as with the fertilizing of fields with nightsoil).

¹⁷ The dust storm that Huc so vividly described took place on the steppes to the east of the Ulaanchab Plateau.

¹⁸ In this case land is not being nationalized to establish state administered protected areas (conservation areas/territories such as national forests, national parks, wilderness preserves), although it is conceivable that some depopulated areas may be designated protected areas of some sort.

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Figure 1. The location of Hóhhot in the context of China and Mongolia



Figure 2. The Regional Context of the Tümed Plain (area corresponds to box on Figure 1)



Figure 3. Selected units of territorial administration at Hohhot: ca. 1 AD, ca. 150, 1111, 1760, 1820 and 1933

Ca. 1 AD (WESTERN HAN) TUMED PLAIN & SURROUNDING AREA



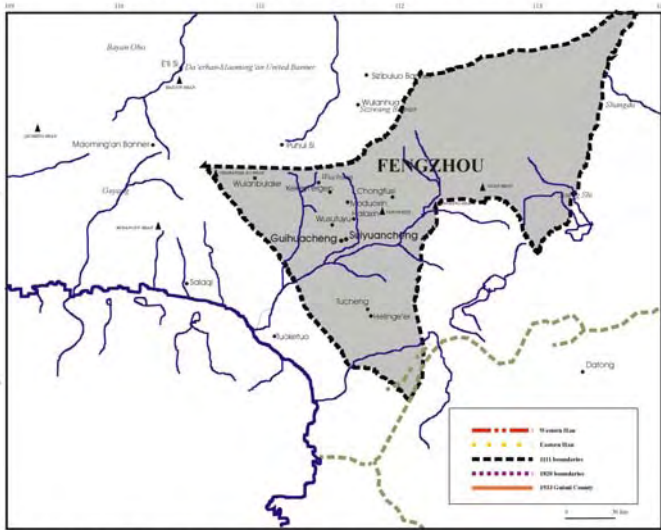
Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

Ca. 150 (EASTERN HAN) TUMED PLAIN & SURROUNDING AREA



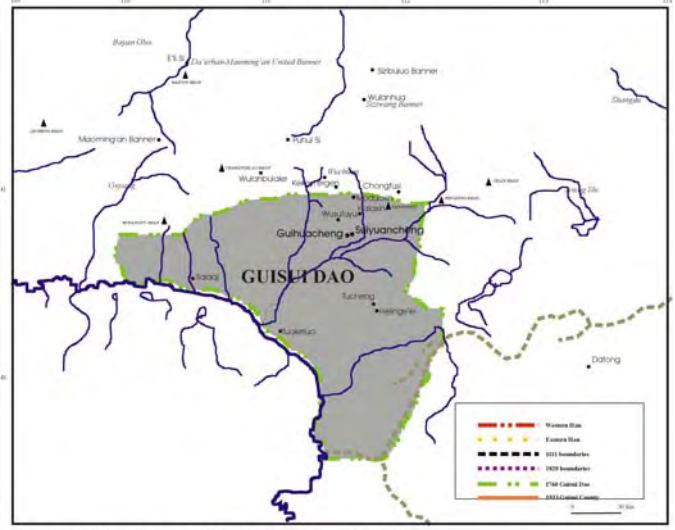
Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

1111 (LIAO) TUMED PLAIN & SURROUNDING AREA



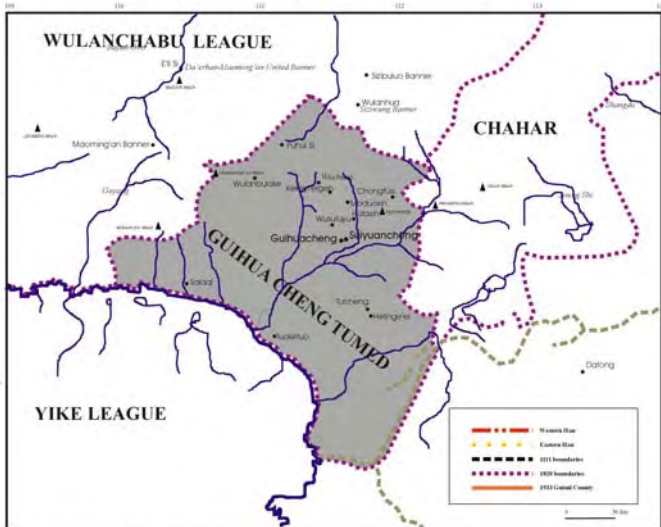
Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

1760 GUIJUI DAO



Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

QING (1820) TUMED PLAIN & SURROUNDING AREA



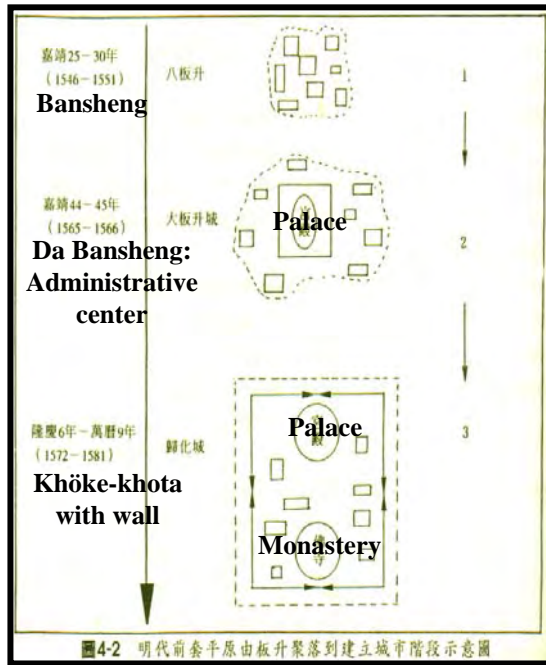
Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

1933 GUIJUI COUNTY



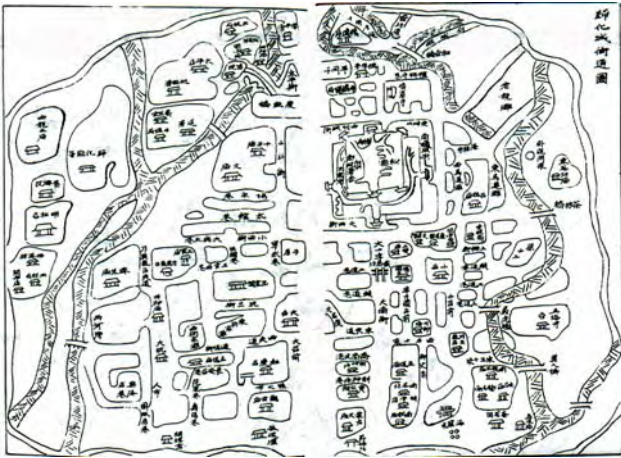
Basemap adapted from: Zhongguo Lishi Dituji (Historical Atlas of China), 1982

Figure 4. Forms of 16th Century Settlements in the Tümed Plain



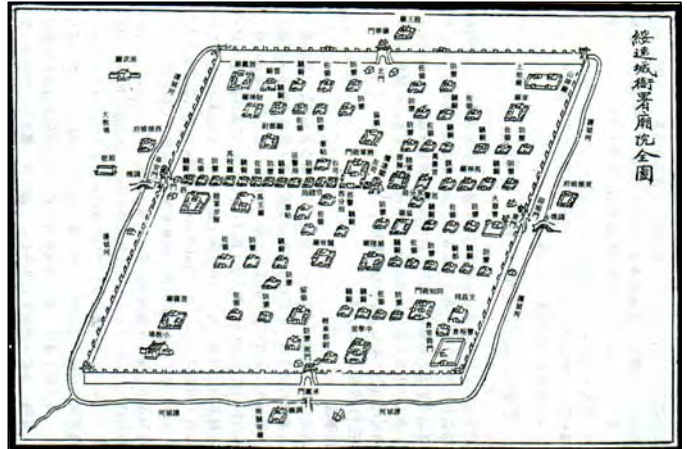
Source: Huang, 1995: 292

Figure 5. Guihua



Source: *Guihua cheng ting zhi*

Figure 6. Suiyuan



Source: *Suiyuan Quanzhi*

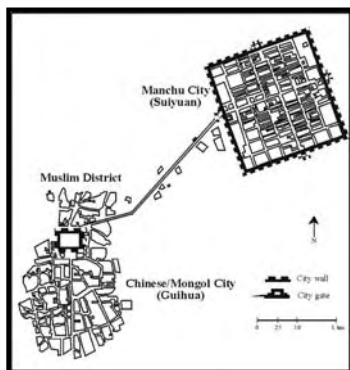


Figure 7.
The “twin cities” of Guihua & Suiyuan

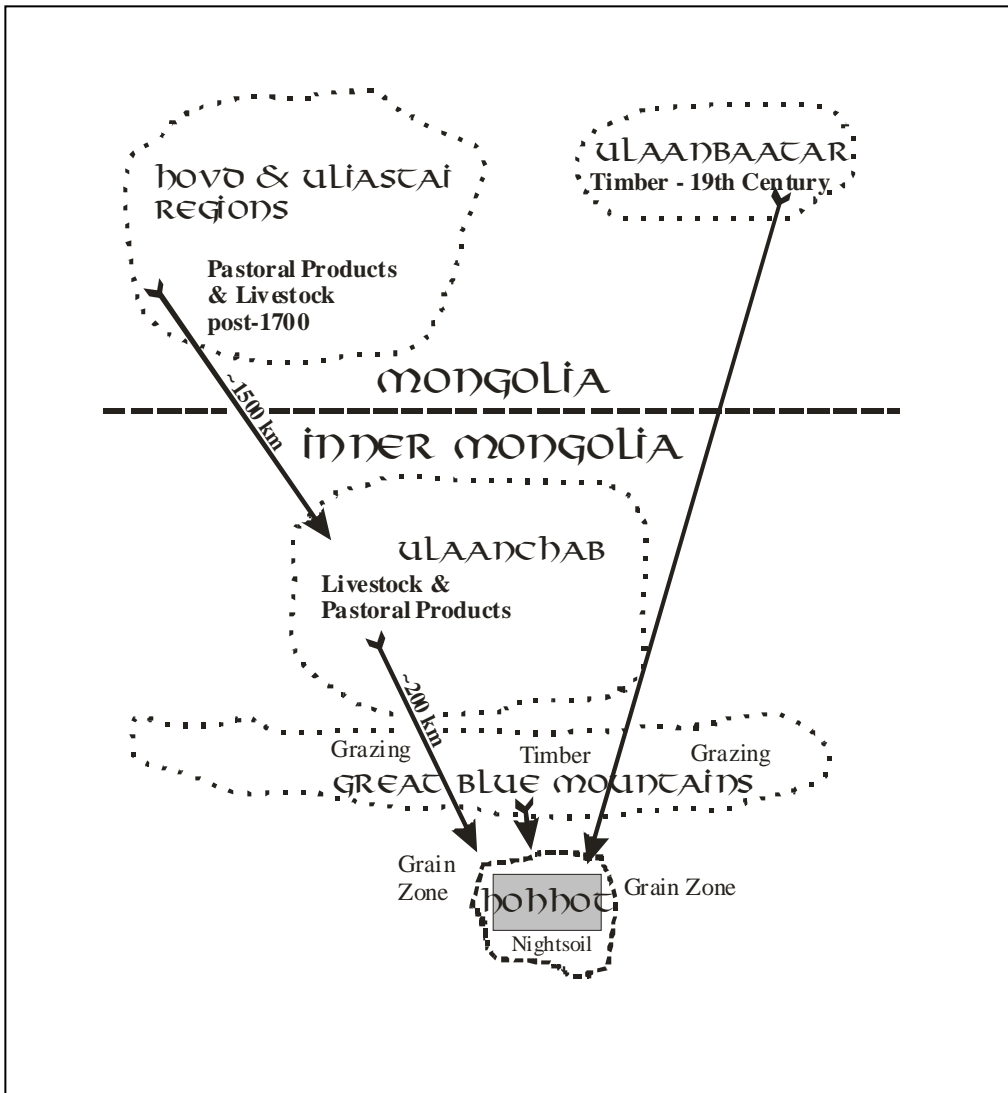


Figure 8. Höhhot's Regional Trade

Figure 9. Hohhot merchants' camel caravan routes (overlain on an 1851 map)



500km
500 mi

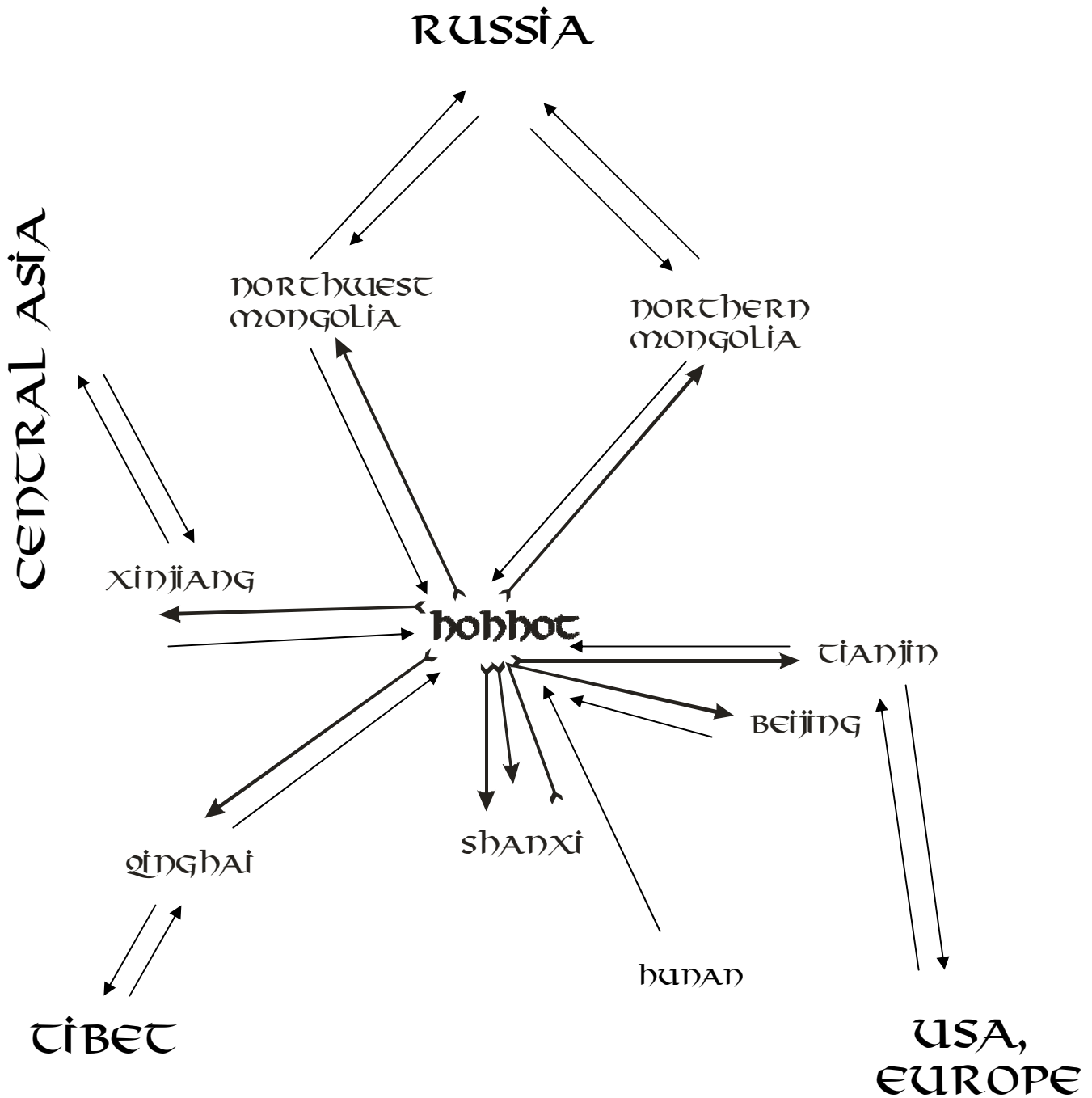


Figure 10. Hohhot's Hinterlands

Table 1. Selected population estimates for the Tümed Plain, ca. 200 BC - 2005. (add Mongols)

Time Period	Approx. Date	Place name or designator	Population Estimate	Source
W. Han	2	Yunzhong Jun 云中郡	173,270	HHSZ, 1999
E. Han	150	Yunzhong Jun 云中郡	26,430	HHGZ, 1990
Xianbi	258	Shengle 盛乐	50,000	HHGZ, 1990
Sui	600	Dingxiang Jun 定襄郡	1,000	HHGZ, 1990
Tang	620	Shengzhou Yulin Jun 胜州榆林君	20,952	Gao, 1995
Liao	1,000	Fengzhou Fumin Xian 丰州富民县	114,000	HHGZ, 1990
Liao	1,207	Fengzhou 丰州	144,264	HHSZ, 1999
Yuan	1,300	Fengzhou 丰州	53,658	HHGZ, 1990
Ming	ca. 1520	Tümed Plain 土默特平原	16,000	Atwood, 2004
Ming	ca. 1550	Tümed Plain 土默特平原	50,000	HHSZ, 1999
Ming	1583	Tümed Plain 土默特平原	100,000	HHSZ, 1999
Qing	1644	Tümed Plain 土默特平原	168,000	HHSZ, 1999
Qing	1760	Guisui Dao 归绥道	*163,000	Cheng, 1999
Qing	1820	Guihuacheng Liu Ting 归化城六厅	*120,776	HHGZ, 1990
Qing	1907	Tümed Plain 土默特平原	252,120	HHSZ, 1999
Republic	1933	Guisui County 归绥县 + Tümed Banners	~300,000	HHGZ, 1990

*does not include Mongol population

Table 2. Manchu Frontier Strategies

1. Pacify the frontier through conquest and submission. Manchu pacification of the frontier was critical to the development of trade which commodified livestock and livestock products to a new degree.
2. Fragment Mongol power and constrain nomads through a new form of territorialization based on establishing small, fixed territorial units that prevented charismatic leaders from consolidating power.
3. Establish and control trade initially in order to obtain horses. Qing attempted to restrict Chinese traders' activities in Mongol territory but Qing trade policies ultimately enabled Chinese merchants to ensnare Mongol nomads, monasteries, and princes in debts compounded by usurious interest and paid in livestock. This led to an unprecedented level of of Mongolian livestock and wildlife products.
4. Ban Chinese immigration into Mongol territories The Tumed Plain was a major exception -- possibly as a strategy to retain Mongols as allies.
5. Incorporate nomads into the imperial tax base. Banner leaders authorized to collect taxes payable in livestock and corvee and military duties were leveed by the empire.
6. Use mapping and ethnographic research to make Mongol institutions and practices legible, enforce new territoriality, and aid in controlling peoples and territories.
7. Promote large-scale Chinese agricultural colonization of Mongol grasslands (post-1902) as a means to raise revenue to pay indemnities and compensation due "Western" powers and missionaries from the 1900 Boxer Rebellion. This also involved registering and taxing land "informally" rented in the past by Mongols to Chinese.

Table 4: Opening of Grasslands to Cultivation*Table compiled from data from the following sources: Suiyuan Tongzhi Gao, 1937; Cheng, 1999; Huang, 1995; Ma, 2000; Ma and Cheng, 1998; Tighe, 2005.

Year	Location	qing 顷	mu 亩	hectares	km ²	mi ²
1650	Tümed Plain	25,000	2,500,000	166,675	1,666.75	643.53
1692	Tümed Plain	22,000	2,200,000	146,674	1,466.74	566.31
1695	Tümed Plain	281	28,100	1,873	18.73	7.23
1697	Tümed Plain	484	48,400	3,227	32.27	12.46
1706	Tümed Plain	240	24,000	1,600	16.00	6.18
1723-36	Tümed Plain	2,398	239,800	15,987	159.87	61.73
1735	Tümed Plain	40,000	4,000,000	266,680	2,666.80	1,029.65
1737	Tümed Plain	20,000	2,000,000	133,340	1,333.40	514.83
1738	Tümed Plain	2,736	273,600	18,240	182.40	70.42
1743	within the Daqingshan	45,989	4,598,900	306,609	3,066.09	1,183.82
1737-89	at Guihua	403	40,300	2,687	26.87	10.37
1751	Tümed Plain	443	44,300	2,593	25.93	10.01
1772	Tümed Plain	1593	159,300	10,620	106.20	41.00
1773	Tümed Plain	193	19,300	1,287	12.87	4.97
1796	Beyond Daqingshan	6,955	695,500	46,368	463.68	179.03
1796	Tümed Plain	438	43,800	2,920	29.20	11.27
1802	Beyond Daqingshan	766	76,600	5,106	51.06	19.71
1809	Beyond Daqingshan	790	79,000	5,267	52.67	20.34
1849	Beyond Daqingshan	592	59,200	3,947	39.47	15.24
1850-59	Beyond Daqingshan	2002	200,200	13,347	133.47	51.53
1850-59	within the Daqingshan	97	9,700	647	6.47	2.50
1850-59	Beyond Daqingshan	302	30,200	2,013	20.13	7.77
1859	Beyond Daqingshan	399	39,900	2,660	26.60	10.27
1902- 1908	Beyond Daqingshan	7,307	730,700	48,715	487.15	188.09
1906- 1908	Tümed Plain	9,000	900,000	60,003	600.03	231.67

1902-1908	Postal station land and military horse pastures in multiple regions	10,780	1,078,000	71,870	718.70	277.49
1918	Tümed Plain	1,000	100,000	6,667	66.67	25.74
1919	Muuminggan banner	25,000	2,500,000	166,675	1,666.75	643.53
1926	Durban Keukhad	10,000	1,000,000	66,670	666.70	257.41

237,188
TOTALS: qing 23,718,800 mu 1,580,967ha 15,809km² 6,104mi²