POLICY ALTERNATIVES FOR LIVESTOCK DEVELOPMENT IN MONGOLIA (PALD)

A Research and Training Project

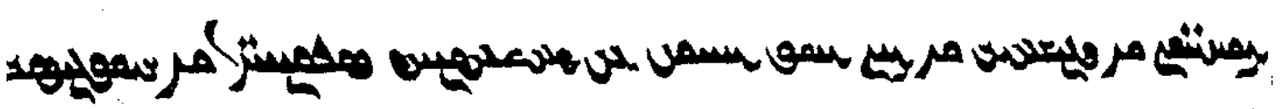
Research Report No. 3

Pastoral Institutions, Land Tenure and Land Policy Reform in Post-Socialist Mongolia

Robin Mearns

Institute of Development Studies
at the University of Sussex

February 1993



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GLOSSARY OF MONGOLIAN TERMS

aimag	province
akh	eldest brother, leader of *khot ail*
albata	state serfs (pre-Revolution), common herders
arat	ordinary herders, 'the people' (socialist period)
bag	smallest administrative unit of contemporary state
bod	cattle-based livestock unit
darga	leader (eg. '*bagiin darga*', leader of *bag*)
deel	national costume, tunic
dzud	freezing snow or ice covering pasture
gaivj	high-ranking lama
ger	nomad's felt tent
goblin ganz emechtee	unmarried women (as household heads) in Gobi
hamba	high-ranking lama
horshoo	voluntary cooperative
khamjilga	serfs of nobles (pre-Revolution)
khashaajuulakh	construction of winter/spring livestock shelters
kheseg	production team (socialist period)
khishig ödör	'lucky day': practice of day-to-day rotation of herding between households in *khot ail*
khojar	salt lick, surface mineral deposit
khoshun	feudal fiefs (pre-1930s), administrative sub-division of *aimag*
khot ail	encampment of several cooperating herding households
khutukht	highest-ranking lamas
idish	'food for the winter': food given to urban relatives of herders in exchange for goods and services
jarsiin ail	'used family': dependency relationship of poor household on another within *khot ail* (pre-collectivisation)
negdel	pastoral collective
neg jalgynhan	'one valley' neighbourhood group of herders
neg nutgiinhan	'people of one place': generic term for neighbourhood group of herders
neg usniihan	'people using same water source' (neighbourhood group)
noyon	feudal lord of *khoshun* (pre-Revolution)
nutag	'family territory': herders' customary pastures
otor	long-distance herding from camp, either in summer for animals to put on weight, or in winter to find available pasture
owoo	ceremonial cairn, usually on a hilltop
örekh	family property, inheritance
sadan	strictly, consanguineal kin within three generations beyond *töröl*; now more generally 'relatives'
sakhaltiin ail	neighbouring camps that exchange suckling lambs
shabi, shabinar	serfs of monasteries (pre-Revolutionary period)
souni tasag	dairying team
sum	rural district
suur	encampment (under pastoral collectives)
taiji	high-ranking nobles
töröl	strictly, patrilineal descent group over a certain number of ascending generations; now more generally a broad kindred group
törsön nutag	inherited (ie. long-established) family territory

1 INTRODUCTION AND OVERVIEW

In Mongolia, as in most other pastoral societies, customary land tenure arrangements have evolved at the local level to regulate herders[1] access to pasture land. These institutional arrangements are secured through neighbourhood-level groups known generically as *neg nutgiinhan* ('people of one place'). There are regional variants, differing in scale and usually bounded by topography or limiting ecological factors, including *neg jalgynhan* ('people of one valley') in the Hangai forest/ mountain steppe zone, or *neg usniihan* ('people using one water source') in the Gobi desert-steppe zone. Group members are often, but not necessarily, consanguineal or affinal relatives. Like the *khot ail* (the basic herding camp of several cooperating households), neighbourhood-level customary institutions appear to be re-emerging in contemporary Mongolia in response to the break-up of the pastoral collectives and other economic reforms. This report analyses the characteristics of a sample of local pastoral institutions in two districts representing contrasting ecological zones (Hangai forest/mountain steppe zone, Gobi desert-steppe zone), in terms of size, age composition, membership, wealth differentiation and patterns of pastoral mobility and land tenure.

The significance of such institutional arrangements has gone largely unnoticed in contemporary Mongolia, yet they may represent one of the greatest sources of development potential in the pastoral economy. The new livestock companies, created out of the former collectives but in most cases retaining essentially the same management structure and style, look set to fail for reasons of history and politics. Decollectivisation is leaving an institutional vacuum in terms of such essential functions as livestock and livestock product marketing, regulation of access to seasonally-specific pastures, and the organisation of transport for making nomadic moves. It is suggested that with appropriate forms of support, customary, neighbourhood-level institutions have the potential to perform some of these functions at local level, for example as marketing cooperatives or grazing associations.

There is evidence, albeit limited to date, of spontaneous collective action in response to such institutional lacunae in contemporary Mongolia. Such responses currently find expression in the new institutional form of the *horshoo* or (voluntary) cooperative which, where they have emerged to date, seem to mirror in scale and membership pre-existing neighbourhood-level institutions. Drawing on theories of collective action, it is hypothesised here that, where it takes place, successful collective action in the provision of services such as transport and livestock product marketing within a given community also strengthens the chances of successfully coordinating the use of local common-property grazing resources by mutually agreed means. Some of these collective action outcomes (eg. in livestock product marketing) may be 'second-best', interim solutions until the necessary marketing infrastructure has become sufficiently developed to allow private responses. Others however - and the function of coordinating local pasture use in particular - are 'first-best' solutions, in which long-run as well as short-run efficiency and equity goals are best met collectively. However, the conditions of 'structural chaos' in contemporary Mongolia in the uncertain transition from one set of economic norms and expectations to another hinders local-level coordination between the users of common pasture resources, since it becomes much more difficult to anticipate the likely actions of other users of the same resource. This is currently being exacerbated by higher incentives to free-ride, or alternatively, fewer incentives not

to free-ride, given factors including net urban-to-rural migration, and the increase in private animal ownership on common land following decollectivisation.

Customary land tenure arrangements operated historically in conjunction with allocative procedures of a more formal nature, under first feudal-theocratic (pre-1930s) then socialist state structures (1930s-1980s). While there appears to have been greater continuity in land tenure arrangements between these periods than is usually acknowledged, it is nevertheless true that various forms of state action at different times have tended to undermine customary land tenure mechanisms at local level, at the cost of land degradation in particular localities. It is suggested here that where they are shown to have the potential effectively to regulate access to pasture land, customary institutions should be supported and strengthened. Experience in other pastoral contexts suggests that development practices that fail to recognise customary resource management regimes may reduce rather than enhance herders[1] control over the security of their own livelihoods. Conversely, building on customary institutions is potentially the most promising way to ensure that Mongolia's extensive grasslands - the primary resource base on which the rural economy (at least) depends - are managed on a sustainable basis. The objectives of productive and sustainable land management are also likely to be met at lower cost to the state by harnessing local institutions rather than by relying exclusively on bureaucratic regulation to enforce compliance with land use legislation.

Mongolian pastoral conditions, like many of those in dry Africa for example, strongly exhibit the characteristics of non-equilibrium grazing systems (Ellis and Swift 1988; Behnke and Scoones 1992). There are large and unpredictable fluctuations in pasture quantity and quality, between seasons, between years, and between places (often on a very local scale). This variability is determined more by abiotic factors - principally rainfall - than by the density-dependent factor of livestock grazing pressure itself, although it is likely that their relative significance varies by region according to ecological conditions. Non-density-dependent factors might be expected to operate relatively more strongly in the drier, riskier Gobi regions, and density-dependent factors relatively more strongly in the more productive steppes (cf.Cincotta, Yanqing et al. 1992).

The high degree of variability means that pastoral livestock production is highly risky. Pastoral livestock production relies on mobility to manage this variability, but also on the flexibility of movement to permit the use of different sets of resources as and when necessary (Mearns 1992a). It is this factor, even in the more productive central steppe areas, that explains why pasture land cannot be 'privatised' at the level of individual herding families or *khot ail* While the same winter and perhaps spring shelters and stockyards are usually used by the same family for years at a time, the actual pastures used in the locality of those shelters may vary from one year to the next. In other seasons, especially in the drier and riskier areas of the Gobi, different pastures may be used from one year to the next and a high degree of mobility within pasture areas is common to make opportunistic use of scarce and patchy plant biomass.

The draft Land Law of Mongolia, together with other recent legislation, provides a useful basis for future land policy. However, further institutional and policy mechanisms are necessary to provide the means to translate the stated land policy into effective land management practice. They include appropriate pricing policies and marketing systems for livestock and livestock

products, production inputs and consumer goods, in concert with the kinds of land tenure options suggested here, to provide positive incentives to livestock producers. These issues are being addressed elsewhere. It is suggested here that an appropriate land tenure structure would support and combine the best aspects of customary arrangements with new, formal land tenure options. The most promising of these, following successful models adopted elsewhere under similar environmental conditions, seems to be the leasing of pasture land to groups of herders based on existing local institutions, issued on a rolling basis with renewal made conditional on satisfying certain legal requirements to maintain land quality and productivity. Evidence from other pastoral economies suggests that such a strategy is likely to make sense both in terms of efforts to increase productivity in the livestock sector, and to help ensure the sustainable management of Mongolia's grasslands in the longer term.

It is vital that the herder groups to whom land is leased are of a scale that is sufficiently large to encompass the entire physical resource unit appropriate for pastoral management given local ecological conditions. The territory must be large enough to allow for the usual level of seasonal mobility between pasture areas, and to provide a margin of flexibility to cope with ecological risk. It may be necessary to move between different resources from one year to the next when ecological hazards dictate (drought, heavy snowfall). The appropriate scale of viable resource unit varies considerably across Mongolia, with larger resource units in the drier, riskier Gobi regions, and smaller units in mountain areas where there are greater possibilities for vertical mobility between seasonal pastures. Original fieldwork reported here suggests that an area in the order of 200 sq. km., or the scale of a single tributary river valley, represents an ecologically viable pastoral resource unit in the Hangai mountains, while in the Gobi region an area of the order of 3,500 sq. km. is likely to be required. The Hangai pastoral system may permit land to be held and managed at the level of the neighbourhood group *(neg nutgiinhan)* while the riskier conditions of the Gobi, demanding greater flexibility in nomadic movement, suggest that a group as large as the *bag* itself is the smallest effective resource-managing institution.

This report is organised as follows. Section 2 explains the methodology used in the fieldwork. Section 3 outlines the evolution of Mongolian pastoral institutions in general, emphasising elements of continuity as well as change between three distinct historical periods. Recent data are included to bring this up to date as far as possible to mid-1992. Section 4 provides an overview of changing pastoral land tenure arrangements over the three historical periods, and their environmental consequences. Sections 5 and 6 respectively detail the results and analysis of data from the two sample sites (Tariat district of Arkhangai *aimag*, representing the Hangai forest/mountain steppe zone; and Erdene district, Dornogobi *aimag*, representing the Gobi desert-steppe zone) on local pastoral institutions and the contrasting patterns of pastoral mobility and flexibility in response to ecological risk that are found to characterise the two regions. Section 7 sets out the various positions held on land policy reform in Mongolia as of mid-1992, outlines guidelines for policy, and suggests appropriate policy options to meet them based on the research findings and in relation to perceived political realities. Section 8 is more speculative, and projects a view of how new institutional forms may build on customary institutions to facilitate collective action in the provision of a range of services, in addition to the regulation of land use, that were until recently assumed by the organisations of the collectivised state. Finally, section 9 summarises the conclusions reached and the policy implications of this work.

2 METHODOLOGY

The field research methods used represent a combination of participatory appraisal (Chambers 1992) and more conventional techniques. Most interviews (whether with individuals or small groups of informants) were of a semi-structured nature, using a checklist of issues to be covered rather than a formal questionnaire, to allow sufficient flexibility to follow up unexpected or otherwise interesting issues as necessary. Traced overlays taken from topographic survey maps at 1:100,000 scale were used in the field for mapping with individual herders their annual nomadic grazing cycle *(nutag);* this subsequently formed a focus for interviews around the issue of pastoral mobility and flexibility'.

A 'nested' sampling frame was adopted, with progressively smaller numbers of households being investigated the greater the depth of the research questions. Two sample *bag* were selected to represent contrasting ecological zones (Hangai forest/mountain steppes, Gobi desert-steppes). Wealth ranking and the first stage of 'social mapping' (see below) were conducted for the whole populations of each *bag.* Human and livestock census data were gathered for as many of the households within each *bag* as were included in the most recent available local records. For the more detailed stages of social mapping, sample local institutions within the *bag* at neighbourhood or individual camp level were investigated, either as a population or as a further nested sample, according to the particular research question.

Wealth ranking was conducted using the now-standard card sorting method (Grandin 1988) to analyse wealth differentiation at the level of the *bag* as a whole. An individual informant takes cards marked with the names of all the household heads in the community under investigation, and an arbitrary reference number for each one, and is asked to sort them into piles according to shared characteristics of wealth and well-being status. Various cross-checks are built into the method, for example to verify locally understood meanings of 'wealth'. Once card sorting has been completed, the informant is asked to distinguish each of the piles from the others, and the criteria given are recorded by the interviewer. By eliciting the general criteria used by the informant to place individual households in particular piles, this procedure gives a detailed insight into local perceptions of differences in household wealth or well-being. A score is given to each household according to the rank order of the pile in which it was placed. Card sorting is repeated with three or four more informants, and a composite ranking compiled using the average informant ranking scores for each household. These are listed in rank order from richest to poorest, and wealth classes are imposed on the ranked data according to natural breaks in the distribution. The method is being used in PALD research both for its direct applications, and indirectly as a powerful vehicle for other, more general training messages (Mearns, Shombodon et al. 1992).

Among the different criteria used by the informants for distinguishing households by wealth status, holdings of private animals are always found to be the most important, though by no means the only criterion used (see table 3, p29; Mearns, Shombodon et al. 1992; cf. Vreeland 1962,

[1] The use of topographic survey maps loaned by the Research Institute of Land Policy is gratefully acknowledged.

pp31-34). The subjective assessments of the informants, represented by the average of their individual ranking scores for each household, were correlated against the objective indicator of private livestock holdings as given in the most recent available district census records. This should be taken as a measure of the extent to which private livestock holdings are indeed the chief criterion in local assessments of wealth status, rather than a reflection of the 'accuracy[1] of the wealth ranking method ranking itself. However, the high correlation coefficients that resulted do indicate the detailed extent of knowledge herders have of each other within interdependent local communities. The data were also correlated against age of household head as an attempt to capture the influence of household age structure on wealth status. For all correlation tests the Spearman rank correlation method was used owing to the nature of the wealth ranking data. Accordingly both livestock holdings and age were ranked, using midpoints when ties emerged. Owing to the large number of ties the Spearman rank test was also adjusted to take account of this feature of the data. Age was ranked from eldest to youngest with the eldest at rank 1, while for both wealth ranking scores and livestock holdings, rank 1 indicated the wealthiest household.

An adaptation of the wealth ranking technique was used to identify the composition of local institutions. This methodological innovation, 'social mapping', is designed to be used with the same cards as used for the wealth ranking method. It may be used in sequence with wealth ranking, although in a community of 100-200 households, this would generally make for an excessively long interview. The method is simply to ask an individual or a small group of informants to divide the pile of cards representing the whole community into progressively smaller piles, according to the different levels of local institution identified by the informant(s). At each stage of subdivision, the household reference numbers marked on the cards are recorded and, if relevant, the geographical locations of the groups can be mapped. At the lowest level, involving the identification of individual *khot ail,* other information was gathered, notably genealogies to identify kinship relations between members of *khot ail* and (where relevant and possible) their neighbours.

Other specific methods included matrix ranking and scoring, most notably for understanding herders' perceptions about the institutions of which they are members and in which they participate. First a general discussion is held around the issue of local institutions, their functions and how they have changed over time (for details of the relevant institutions see the following section). The names of the various institutions identified (say, six) are then written on cards. The cards are offered to the informant for pairwise comparison until all possible combinations have been exhausted. Comparison is invited with the question, Which of these two institutions is the more important to you, and why?' The six or so most frequently mentioned criteria form the columns of a matrix, the rows of which are given by the names of the institutions themselves; The (in this case, *6x6)* matrix is then completed systematically, either by ranking the institutions against each of the criteria in turn, or by awarding a score (e.g. out of five) to each institution on each criterion. Some results of this method are given in section 8.

3 EVOLUTION OF PASTORAL INSTITUTIONS

Table 1 shows the main pastoral institutions at different scale levels during the three periods: pre-collectivisation (pre-1930s), collectivisation (1930s-80s), and contemporary decollectivisation (1990s-). While there has been greater continuity in pastoral organisation at the local level than is often realised, local institutions[2] during these distinct periods have by turns been suppressed, transformed, re-introduced or have re-emerged, as induced or adaptive responses to changing political-administrative structures. The transition to the market economy during the contemporary period is marked by having to adjust to some of the distortions brought about under collectivisation, as well as by a significant re-emergence of customary institutions as a response to the 'rolling back of the state' in the process of decollectivisation. The primary focus here is on local institutions at encampment and neighbourhood levels, although reference must be made to

Table 1 Historical evolution of Mongolian pastoral institutions

Scale level	*Order of magnitude (households)*	*Pre-collectivisation (-1930s)*	*Collectivisation (1930s-1980s)*	*Decollectivisation transition (1990s-)*
Encampment	1 1-2 2 2-12	herding family *sakhaltiin ail* *jarsiin ail* *khot ail*	herding family *suur* *sakhaltiin ail*	herding family *sakhaltiin ail* *khot ail*
Neighbourhood	20-50 50-100 100-250	*neg nutgiinhan* *bag*	team (*kheseg*) brigade	*neg nutgiinhan* cooperative (*horsh* *bag*
Administrative unit	500-1,000 1,000-1,500 10,000	 *khoshun* *aimag*	collective (*negdel*) & district (*sum*) province (*aimag*)	company district (*sum*) province (*aimag*)

[2] Institutions are understood here as 'the humanly devised constraints that shape human interaction' (North 1990, p3), or more precisely 'a complex of norms and behaviours that persists over time by serving some socially valued purpose' (Uphoff 1986, p8). These constraints take various forms ranging from informal norms and customs to formal laws. 'Local institutions' include self-identified groups of people with some common interest(s), normally in a small residential area; neighbourhood-level, relatively self-contained residential units; and sets of neighbourhoods at the level of the locality having social and economic relations (cf. Uphoff 1992). The term 'organisations' (plural) is here used to denote structures imposed by a polity external to local institutions (ie. by the state).

the formal organisations of the state which have conditioned local institutional responses. The level of the administrative unit is of primary relevance to the evolution of land tenure arrangements rather than the evolution of local institutions, and is discussed in section 4.

Pre-collectivisation (-1930s)

For many centuries Mongolian pastoral livestock production has been organised at local level through the following set of customary or informal institutions: the herding household *(ail* (camp) or *ger,* taking its name from the felt tent in which the family lives); the *khot ail;* and the neighbourhood-level group. The changing political and economic structure over the past century - through feudal, collectivised and emerging market-orientated forms - have meant their significance and functions have varied, but at no time have they disappeared altogether.

The Mongolian herding household is normally a conjugal family of a couple with children, although frequently includes elderly relatives who are unable to live independently. This norm should not be overstated however. Households headed by a woman with no permanent male partner were very common in certain regions at least prior to collectivisation. This is especially so in the Gobi where the phenomenon is still widely recognised and named *(gobiin ganz emechtee,* 'single women of the Gobi').

Several possible explanations for this phenomenon have been suggested. Demographic data for Gobi *aimag* prior to collectivisation show a preponderance of women. In addition, the proportion of adult males who prior to collectivisation were Lamaist *shabi,* or monastic herdsmen who 'abstained from adopting formal marital status on account of their para-priestly condition' (Szynkiewicz 1977, p42), is known to have been higher in the Gobi than elsewhere in the country. Writing in the 1930s, Simukov estimated that in Dornogobi, lamas made up 52% of males over the age of 17 years, at a time when the average for Mongolia was 37% (Simukov 1934). In response to the shortage of male partners, men sometimes moved as 'time-partners' between different households, or two sisters may have jointly headed a household[3]. The drastic decline in the number of (male) lamas following the religious persecutions of the late 1920s and 1930s was followed by urban-industrial development during the collectivisation period, most of which took place outside of the Gobi, and led to the progressive outmigration of adult male labour from the Gobi regions. According to one estimate[4], up to 24 per cent of households in the Gobi *aimag* are still woman-headed, although many of these would be elderly widows living nominally alone but dependent on the households of married sons or daughters[5].

The *khot ail* is traditionally the basic, independent social and economic unit of livestock production, or nomadic camp. It comprises a group of 2-12 households who are often but not

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[3] Dr Slawoj Szynkiewicz, Institute of Ethnology, Warsaw, personal communication. The phenomenon of islands of matrilineality in the Gobi in an otherwise patrilineal society has been noted elsewhere (eg. Szynkiewicz 1977, p42).

[4] 'Non-formal education to meet basic learning needs of nomadic women in the Gobi desert, Mongolia', UNESCO project proposal, Ulaanbaatar, June 1991.

[5] For further details of female-headed households in the Gobi and elsewhere see L. Cooper & G. Narangerel (1993) PALD Research Report No.7.

necessarily consanguineal or affinal relatives, and who assist each other in production activities such as day-to-day herding, cutting wool and hair, making felt, nomadic moves and hay-making. Each *khot ail* has an acknowledged leader who is usually the most experienced male herder, or *akh* (literally, 'older brother[1]). Milking is normally carried out by women from each individual household from its own animals. The major benefits of mutual assistance come from combining the family herds, which would normally be made up of several, perhaps even all, of the five species (camels, horses, cattle (including yak in mountain areas), sheep and goats), and taking turns to provide family members to take them to pasture in species-specific herds. This practice is known as *khishig odor* ('lucky day') (Bazargur, Chinbat et al. 1992). The principal economic benefits of cooperation within the *khot ail* are in achieving economies of scale to make the most efficient use of scarce labour. The social and ritual aspects of the *khot ail* community are also important integrative functions (Szynkiewicz 1982).

Over time since the thirteenth century there has been a gradual decline in solidarity around the kinship group as an integrative focus for local pastoral institutions. The *khot* community shifted from one based on a strictly patrilineal line of descent; to a broad kindred or extended family that included consanguineal kin on both sides of the family; and ultimately to a neighbourhood group of collaborating peers who may not be related to one another at all. The shortening of Mongolian kinship terminology over the last two centuries or so reflects this shift. The term *töröl* originally referred to the patrilineal descent group over a number of ascending generations, and later (in practice) to actually traceable patrilineal kin, but has also come to refer to a broader kindred including close relatives in the mother's patrilineage. Equally, the term *sadan,* referring originally to consanguineal kin within three generations beyond the *töröl* (in the strict sense), has also come to be used as a general term for all relatives, affinal as well as consanguineal (Vreeland 1962; Szynkiewicz 1977).

There are also variants on the basic nomadic encampment. One of the most important for sheep management is the *sakhaltiin ail.* Lambs born around February are strong enough by April to graze with their mothers on more distant pastures from the camp, but would deplete the available milk supply if allowed to do so. On the other hand, to continue to keep lambs separate from the ewes during the day would virtually double the labour requirement for herding. Since ewes will only suckle their own lambs, the solution is to form an alliance with a neighbouring camp so that the lambs from each camp are swapped over. The lambs of one camp graze with the ewes of the other camp during the day, and return to their own mothers each night. The two camps are not usually more than 500-1000 metres apart. This *sakhalt* partnership operates only during the milking season between April and July. It is common for *sakhaltiin ail* to be of long standing, but they rarely operate for more than 10 years consecutively, given the need for camps to scatter independently during drought years when pasture growth is poor (Vreeland 1962).

A second variation on the *khot ail* was a form of dependency relationship that could arise between a poor family and a wealthy one. In the absence of public action or other forms of redistribution by a higher-level polity, wealth status under Mongolian climatic conditions is liable to irregular and often considerable fluctuation owing to unpredictable risk factors. A temporary form of dependency relationship was one response to allow an afflicted family to build up its herds to a level where it can become independent again. The poor family, known as *the jarsiin ail* (literally,

'used family[1]), retains its own family property or *örekh*, but voluntarily attaches itself to a wealthier family and offers unspecified services in return for material support. The families may be unrelated or only distantly related (Vreeland 1962, pp89-90). It is not clear to what extent this particular institution has survived collectivisation. It is likely that social welfare provision by the state through the pastoral collectives (eg. direct transfers such as unemployment and disability benefits as well as indirect subsidies through the provision of supplementary livestock feed) replaced the need for a spontaneous social safety net of this kind.

At the next lowest or neighbourhood level, groups of *khot ail* organise themselves informally to coordinate their use of pasture and hay-making land, water, and other natural resources, and to form search parties to look for lost animals (Bazargiir, Chinbat et al. 1992). During hard winters or droughts these *khot ail* would tend to move as a group to a new pasture area. The neighbourhood group varies considerably in size (eg. 4 to 20 *khot ail)* and in the spatial area it covers, depending on water availability, topography, and forage yield and quality in different ecological zones. Known generically as *neg nutgiinhan* ('people of one place[1]), there are regional variants such as *negjalygnhan* ('people of one valley') or *neg usniihan* ('people using the same water source'), depending on local ecological conditions. The member families or their forebears may have lived close by one another for generations, having inherited family territories or *tŏrsdn nutag* in the same general area. Very often there would have been a religious focus - a shamanistic *owoo,* or a Buddhist temple, or both - in the locality, providing a symbolic, ritual and social identity for such a group: Some 700 of these local temples were destroyed during religious persecutions of the late 1920s and 1930s. The neighbourhood group would also have an acknowledged leader, who would play an important role in the settlement of local disputes (eg. over land or water resources).

The term *bag* also originally referred to a customary institution at the neighbourhood level, but was later adopted to refer to an administrative unit under imperialist Manchu Chinese rule during the eighteenth and nineteenth centuries. Each *bag* had a leader, among whose responsibilities it was, for example, to mobilise his members on behalf of the state to organise camel caravans during the spring and autumn to deliver wool, hides and skins to Urga (now Ulaanbaatar) and other centres such as present-day Dornod and Sukhbaatar, and bring back consumer goods such as flour, rice, tea, tobacco and cloth on the return journey. The authority of the *bag* leader to rally people for collective work was unquestioned[6]. The term *'bag* is now commonly used to refer to the former brigade. From 1992 the *bag* is enshrined in the Constitution of the Republic of Mongolia[7] as the lowest level of administration, but it is not a territorial unit. The *bag* may parallel neighbourhood-level groups such as *neg nutgiinhan* in scale, although it is usually larger, incorporating several *neg nutgiinhan.* However, the term *'bag'* may cause confusion if it is used to refer to the customary institution at this level, since it has for so long been understood as a formal administrative unit of the state.

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[6] Interview with Bandi, former *bag* secretary (pre-1958), Tsagaan Hutul *bag*, Erdene *sum*, Dornogobi, 26 August, 1992.

[7] Constitution of Mongolia, effective from 12 February, 1992, Article 57.

Collectivisation (1930s-80s)

Following unsuccessful attempts at forced collectivisation in the 1920s, gradual steps were taken towards voluntary collectivisation from the mid-1930s, gathering momentum by the late 1940s and 1950s (Mearns 1991a). Cooperation between herding households - building on customary, neighbourhood-level institutions - was encouraged by pooling funds, supplemented by state funds, for such activities as boring wells, purchasing haymaking equipment and building winter shelters for animals[8]. In 1955 the decisive measure of introducing a ceiling on private livestock holdings was adopted to further encourage the emerging collectives *(negdel).* Labour shortages were chronic, and wealthier herders found it in their interests to join the collectives and collectivise their herds as they found it increasingly difficult to employ wage labour to look after their private animals. By 1959 virtually all of Mongolia's herding households were members of collectives. The bulk of rural production was carried out in the pastoral collectives which, over the 1950s and 1960s, also tended to increase in scale until most districts contained only a single collective.

Collectives were subdivided into brigades (2-5 per collective); brigades into teams *(kheseg);* and teams into *suur,* the basic herding unit, composed of 1-2 households. Efforts were made to prevent *suur* based on kin relationships from forming on the grounds that this would run counter to the interests of the collective, but these were unsuccessful, and the households of *suur* with more than one household were usually closely related (eg. brothers or parents with married sons). In some respects the *suur,* the lowest-level production unit of the collectivised economy, was a modification of the *khot ail,* although it was usually a smaller group and, more significantly, was not an independent production unit.

The *bag* system was formally abolished in 1959 with the completion of collectivisation, and replaced with the brigade. But whereas the *bag* had been an administrative unit, the brigade was a production unit. Administrative decisions were made as to how many and which herders should be in each brigade. In many cases they were formed as groups that coincided roughly with the former *bag* or *neg nutgiinhan.* In other cases, often in more productive steppe areas, or where topography imposes physical limits on neighbourhood-level groups, 4 or 5 such neighbourhoods *of khot ail* would have been incorporated into a single brigade. Although from time to time there were district boundary changes, mergers between collectives, and attempts at administrative reform to abolish intermediate levels of bureaucracy such as teams, this institutional structure persisted throughout the period of collectivisation, until 1991.

Under collectivisation, the accounting unit and locus of decision-making shifted away from the individual herding household and encampment to the level of the collective itself[9]. This had the effect of undermining the cooperative functions of the *khot ail,* since economies of scale were - at least in theory - achieved at a higher level of organisation. The division of labour, by animal species and to some extent by task, was decided at the level of the collective. Collective members

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[8] A detailed account of early, voluntary collectivisation in Ikh Tamir *sum,* Arkhangai *aimag,* is given by Daniel Rosenberg (Rosenberg 1977, ppl4-35).

[9] Indeed, it could be argued that the effective accounting and decision-making unit was the national economy as a whole. Collectives were themselves bound by production targets derived from the centrally determined five-year plans, while at the same time benefiting from the provision of certain essential services (supplementary livestock feed and labour inputs) subsidised from the central state budget.

were paid a salary for looking after animals on behalf of the collectives or for discharging other allotted tasks. Each *suur*, and sometimes each herding brigade, specialised in a particular species of animal or even a particular age class (Humphrey 1978). Other brigades specialised in construction or vegetable production. The collective provided various inputs and services for livestock production, including transport for making nomadic moves; supplementary feed for winter/spring; organising the building of winter/spring stockyards and shelters; the recruitment of labour to meet contigencies such as clearing snow from pastures; and veterinary services. This substantially greater degree of direct involvement in livestock production on the part of the socialist state under collectivisation, along with investment in health and education services and the provision of consumer goods at subsidised prices through collective-owned shops, led to a general rise in the standard of living for herders. At the same time it substituted for labour cooperation at encampment and neighbourhood levels in activities such as day-to-day herding, clipping hair and wool (an especially labour-intensive task in the case of camels), hay-making, felt-making and organising draught animal transport for moving base camp. As a result of the extension of the state into the direct affairs of herders, such examples of spontaneous, collective action more or less ceased.

Decollectivisation and transition (1990s-)

The dismantling of socialist state formations throughout the former Soviet-influenced world began in the late 1980s, partly in acknowledgement of the costs and inefficiencies of collectivised means of production. Mongolia's own collectives began to be dismantled during summer 1991, as part of a broader programme of privatisation of state enterprises and assets and the start of a transition towards a market-orientated economy (Mearns 1991; Milne, Leimone et al. 1991).

A clause in the Law on Privatisation allowed individual collectives a free hand in deciding how they should privatise, without directives from the National Council of Agricultural Cooperatives (NCAC) or other state bodies[10]. According to recent legislation on privatisation and economic entities, they are being transformed variously into share-holding (joint-stock) or limited liability companies; cooperatives *(horshoo)*; or disbanded altogether so that their members become 'sole proprietors' or fully private herders with full responsibility for obtaining their own inputs and finding markets for their produce[11]. Where companies have been established, their management structure has normally changed very little from the former collective, either as one enterprise, or as two or more based on the former brigades.

As of mid-1992 this process was still continuing. About 57 of the original 255 collectives still existed. In around 40 *sum* they had disbanded altogether so that herders in those *sum were* entirely private; and the remainder had been broken up into about 320 companies. This remained a highly fluid situation however, and was likely to change very rapidly. In June 1991 there were

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[10] Privatisation Law of Mongolia, ratified by the President of Mongolia, 31 May, 1992, Article 21, Clause 1.

[11] MPR Law on Economic Entities, effective from 11 July, 1991, Mongolian People's Republic, Article 2. The central difference between these three types of 'economic entity' is the minimum level of capital stock required for their foundation. A shareholding company requires a minimum stock of 2 million tug; a company with limited liability 500,000 tug; and an entity with less than 500,000 tug must form a *horshoo* (MPR Law on Economic Entities, Articles 24 and 31).

reported to have been just 68 herders in the country with only private animals. By April 1992, according to statistics of the National Privatisation Commission, this number had risen to 14,000, By August 1992, it was reported that Övörhangai aimag alone had 13,000 fully independent herders[12]. Some newly formed companies had already collapsed after only a few months, and more were expected to follow.

There have been very wide regional disparities in the pace and extent of institutional change. The central issue in the pastoral economy has been the transfer into private hands of the herds of the former collectives. Table 2 shows the relative shift in livestock ownership by *aimag* over the calendar year 1991, using the latest data available at the time of writing. The *aimag* are ranked in order of the percentage increase in private animal ownership over the calendar year 1991. However, these data reflect only the earliest stages of the privatisation process between summer 1991 and the end of the year. Figure 1 shows the trends graphically. It has been reported that by the end of 1992 the proportion of animals in private ownership had risen to almost 80%[13]. Other collective assets have also been privatised in the two-stage programme by means of auction and share-issue using privatisation coupons, including vehicles and agricultural machinery, and fixed capital such as winter and spring animal shelters, buildings and, in some places, wells.

Regional variations in the pace and extent of decollectivisation can partly be explained by the degree to which herders' interests were being served by the collectives in respect of risk management. Broadly speaking, privatisation or decollectivisation appears to have proceeded most rapidly in the less risky areas, and much more slowly in regions that face higher risks from unpredictably varying climatic conditions. The break up of the collectives and the privatisation of collective herds began earlier and was initially most rapid in the eastern *aimag* of Hentii, Dornod, and Sukhbaatar, and to a lesser extent the northern *aimag* (eg. Hövsgöl). Hovd, Uvs and Zavhan are reported to have privatised more rapidly soon after the end of 1991, which is not reflected in the most recent available data as used here. In all these *aimag*, herders tended to be more independent of the collectives than elsewhere. With the notable exception of Hovd, these are net fodder surplus areas in which many herders clearly perceived that the costs imposed on them through the collectives more than outweighed the benefits they obtained.

Collectives in the central *aimag* (Töv, Zavhan, Bulgan) formed the second wave of rapid privatisation. From March 1992, the Hangai mountain *aimag* (Arkhangai, Övörkhangai) began to privatise rapidly, with the southern *aimag* of Ömnögobi, Dornogobi and Dundgobi following behind. Gov'altai and Bayan-Olgii lagged behind other *aimag*. In these areas, which are more remote, drier and suffer an animal feed deficit during the winter/spring period, the break up of the collectives and privatisation of collective animals has been much slower. It is likely that their members continue to perceive the benefits of subsidised fodder provision by the collective, and some level of livestock product purchasing in often very remote areas, to be worth more to them than the dubious freedom of going it alone under often very risky production conditions. For the time being, until the provision of inputs and services is moved onto a full cost-recovery basis, the

[12] Mr Gankhuyag, Association of Private Herders, personal communication, 14 August, 1992.
[13] Speech given by Ch. Baatar, Mongolian Ambassador to the UK, at a dinner on the occasion of the 30th anniversary of the establishment of diplomatic relations between Mongolia and the UK, 20 January, 1993.

Table 2 Privatisation of collective herds by aimag

Number of livestock ('000)

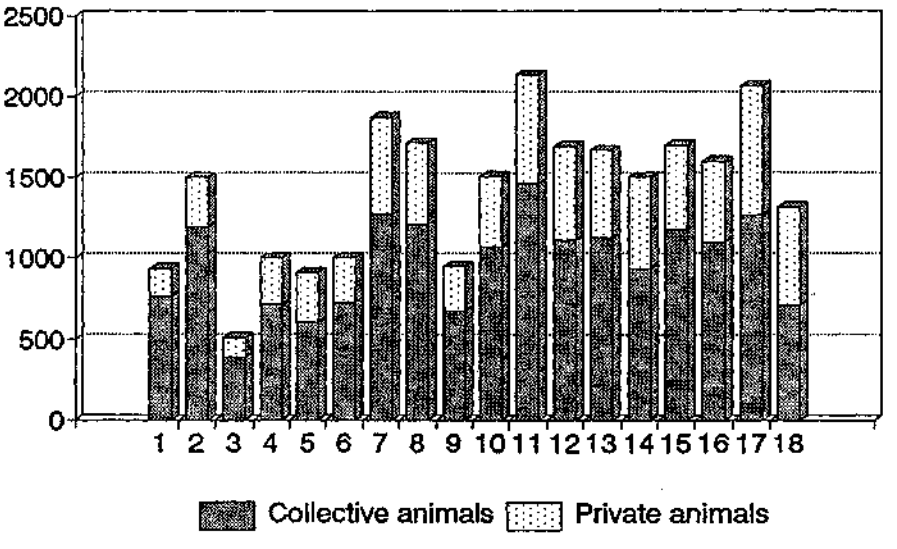
	Aimag/ municipality	December 1990				December 1991			
		Collective	%	Private	%	Collective	%	Private	%
1	Dornod	767.2	82	169.4	18	358.7	40	530.2	60
2	Hentii	1189.8	79	308.8	21	754.1	55	626.3	45
3	Selenge	389.4	76	123.1	24	247.3	49	252.7	51
4	Sukhbaatar	717.9	71	286.8	29	451.6	44	584.2	56
5	Omnogobi	607.1	67	303.8	33	319.2	34	608.7	66
6	Bulgan	724.5	73	273.7	27	501.6	49	519.6	51
7	Hovsgol	1266.1	68	605.8	32	760.0	43	1028.2	57
8	Tov	1199.1	70	512.3	30	790.2	48	863.3	52
9	Dornogobi	673.6	71	269.9	29	446.6	50	444.3	50
10	Dundgobi	1066.9	71	438.6	29	781.8	50	789.9	50
11	Zavhan	1457.0	68	676.4	32	944.5	45	1135.4	55
12	Hovd	1103.7	65	584.0	35	668.1	41	968.5	59
13	Uvs	1116.5	67	550.1	33	705.8	45	879.5	55
14	Arkhangai	930.8	62	565.4	38	576.2	38	927.8	62
15	Govaltai	1167.9	69	525.8	31	841.5	50	855.1	50
16	Bayanhongor	1094.0	68	505.1	32	838.8	50	835.7	50
17	Ovorkhangai	1260.2	61	801.4	39	856.7	42	1165.6	58
18	Bayanolgii	710.8	54	607.6	46	440.8	38	719.1	62
19	Darkhan	71.2	65	38.0	35	68.3	50	69.0	50
20	Erdenet	34.2	64	19.3	36	35.4	49	37.5	51
21	Ulaanbaatar	66.1	46	77.5	54	70.6	34	135.8	66
22	Choir					67.6	72	26.2	28
	Total	17614.0	68	8242.8	32	11525.4	45	13976.4	55

Source: National Council of Agricultural Cooperatives, Mongolia

Figure 1

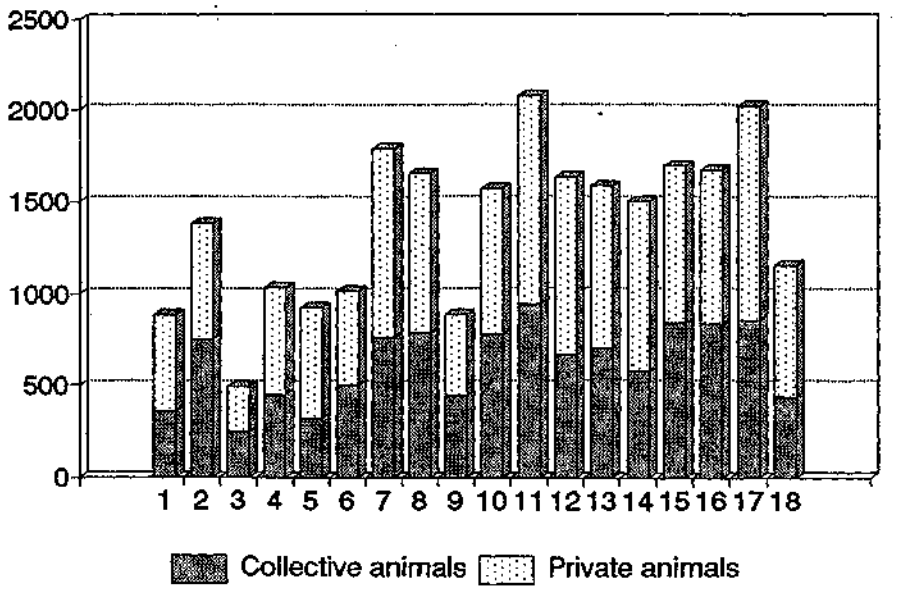
Total livestock by aimag and ownership

December 1990 ('000)



See table 2 for aimag reference numbers

December 1991 ('000)



remaining collectives - or those companies that remain collectives in all but name - do at least guarantee their members some level of income security, however low.

There is a widespread view among policy-makers, including the National Council of Agricultural Collectives (NCAC) themselves, that not to have given stronger overall policy guidance in this process of privatisation was a mistake[14]. Reports are prevalent of the misappropriation of collective property by those formerly holding administrative positions in the collectives, which has become a contentious political issue[15]. Such practices are frequently cited in support of the widespread view that the collectives came to serve the interests of the state and of their direct employees rather than those of their members. By contrast, the new institutional form of the *horshoo* is held up as being capable, at least in principle, of serving the interests of its members (see section 8).

This pattern of reform in the formal organisational structure of the rural economy has had profound consequences for pastoral institutions at local level in the contemporary period of economic transition. Most obviously, the *khot ail* has re-emerged in most parts of the country as a direct response to decollectivisation. Several reasons for this can be elucidated. First, the centrally subsidised provision of goods and services through the collectives has become untenable as a result of economic liberalisation and the loss of something in the order of a third of national income previously obtained through subsidies and credits from the former USSR. Subsidies to agriculture accounted for an average of 30% of the total transfers and subsidies bill over the period 1986-90, of which transport of winter fodder made up an average of 31% over the same period[16].

Quite apart from liberalisation as a matter of economic policy, the harvesting of hay and fodder crops, the delivery of supplementary livestock feed to winter/spring pasture sites, assistance with transport for moving herders' base camps and the delivery of livestock products to urban markets have all become extremely difficult if not practically impossible in some areas as a result of acute fuel shortages. Consequently, through force of necessity, herders have responded by reverting to making hay collectively within *khot ail* and neighbourhood groups using simple hand tools (since horse-drawn machinery has fallen out of use over the last 30 years or so); by retraining draught animals for moving base camps; and by organising themselves to process dairy products for urban markets (see section 8). These represent instances of collective action within self-organised groups of herders to provide goods and services previously supplied through the collectivised state.

The retreat of the state from the direct provision of inputs and services to livestock producers, whether as a result of deliberate policy or of practical economic and logistical difficulty, has meant

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[14] The Ministry of Food and Agriculture proposed an amendment to the Law on Privatisation for consideration by the State Ikh Hural (Parliament) in its autumn 1992 session to overturn the exclusion clause referring to agricultural collectives.

[15] This same process has been identified and analysed in Inner Mongolia Autonomous Region of China, which decollectivised a decade or so earlier (Sneath 1991).

[16] Calculated from World Bank (1991), Table 5.4, based on data from Ministry of Finance, Mongolia, and the World Bank.

the burden of risk in livestock production is once again being borne by individual herding households, as it was prior to collectivisation. The re-emergence of the *khot ail* represents a return to cooperative labour management and risk-sharing within local institutions as a way of managing this increased risk burden. The shift back from species-specific to diverse herds at household level has made it important once again to seek economies of scale in herding labour by pooling herds for day-to-day herding at the level of the *khot ail* (Mearns 1992b). In an unpredictably varying environment, the social distribution of risk is itself unpredictable. Richer and poorer herders alike face similar degrees of risk of livestock mortality through adverse weather conditions. Under these conditions, the spreading of risk through institutions of mutual assistance is a highly rational response, for example by means of the reciprocal exchange of animals in a system of social claims (Swift 1989). The twin factors of risk management and a high degree of dependence on the livestock herd as the primary livelihood source both strengthen the chances of successful cooperation in labour organisation and resource management at local level, as theories of collective action and empirical studies of common-property resource management suggest (Runge 1986; Wade 1987; Ostrom 1990). The extent and significance of livestock exchanges through networks of social claims in contemporary Mongolia is examined elsewhere (Potkanski and Szynkiewicz 1993).

However, the capacity of richer and poorer herders to withstand the consequences of environmental hazards may be unequal. Despite the fact that all herders face similar degrees of environmental risk, this is not the only determinant of wealth distribution which, as a result, is by no means random. It is also associated with age and level of experience and skill in animal husbandry, as wealth ranking exercises confirm (Mearns, Shombodon et al. 1992). The greater the degree of structural inequality in asset (livestock) holdings, the lower the degree of shared or common interests between richer and poorer herders, and the lower the chances of cooperative outcomes in herding activities. Under collectivisation with restrictions on private livestock holdings, and relatively equal levels of salary paid to herders in return for the care of collective animals, inequalities in the distribution of assets and income were relatively small (Swift and Mearns 1991). It is likely that with economic liberalisation, levels of inequality in the distribution of private animals and other assets will tend to increase, given the different abilities of herders and other people to command labour and other resources with which to respond to new economic incentives. This factor is one among several that can be expected to reduce the chances of successful collective action within local institutions, whether in organising labour for livestock product processing and marketing, or in the management and coordination of common pasture use.

4 EVOLUTION OF LAND TENURE ARRANGEMENTS

Changes in administrative units from one historical period to another have had consequences at the local level both for land tenure arrangements and for pasture land management. In other words, the formal and informal institutional structures interact to form new configurations, the practical outcome of which cannot be determined with reference only to the formal administrative structure. This section refers to the bottom row of table 1 (p6), labelled 'administrative unit'.

Pre-collectivisation (pre-1930s)

Numerous Mongol tribes lived in *aimag* prior to their unification under Chinggis Khan in the thirteenth century (Fletcher 1986). Within these separate territories, the members of patrilineal descent groups *(torol)* lived together in customary, neighbourhood groups also referred to as *bag*. Under Chinggis Khan these tribes were united into a territory larger than that of contemporary Mongolia. There may have been 50 or more *aimag* at that time, which were combined to form 10 or so large *aimag*[17]. The customary law of the tribes was consolidated and written down in the Great Yassa or law-code which was formally promulgated in 1229 (Butler 1982, cited in Whytock 1992, p20). This permitted the rotational use of pastures by individual herding families and *khot ail* as and when required, informally coordinated within *bag*, or groups of herders sharing the same broad territory or whose *nutag* overlapped[18].

Under imperialist rule by the Manchu Chinese between the seventeenth and nineteenth centuries, Mongolia was divided into political-administrative fiefs known as *khoshun*. These were of scale between the then existing *aimag* and the *bag*, although some *khoshun* were larger than contemporary *aimag*. The *khoshun* were introduced at different times in different regions between the 1640s and 1750s, and persisted as territorial units until the 1930s[19]. Each *khoshun* was controlled by a *noyon* or hereditary overlord through whom the Manchu dynasty ruled.

Land allocation and distribution within these territories was entirely at discretion of the *khoshun noyon*, and specific areas were designated for grazing, agriculture, military frontier guards, horse relay stations, lamaist monasteries, the use of mineral deposits, and reserves for timber or wild animals (Shirendyb 1976). Some areas were set aside for grazing by the *noyon's* own herds, which others were forbidden to enter. The highest ranking lamas *(khutukht)* enjoyed equal rights with *khoshun noyon* and also 'owned' the land within the jurisdiction of their temple territories. This has been described as a historical precedent for private land ownership in Mongolia[20]. Within the rigid feudal-theocratic hierarchy, in which most social positions were ascribed by birth, high-ranking nobles *(taiji)* or lamas *(hamba* or *gaivj)* could be granted individual use rights over certain areas of land. It is significant that "the best pastures were used primarily by the lord himself and his kinsmen, by the *[khutukht]* and their relatives, or by high-born people *(taiji)*" (Shirendyb 1976, p48). But even the feudal lords, Mongol or Chinese, faced restrictions under

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[17] Interview with Professor C. Dalai, President, Mongolian Association of Historians, 5 August, 1992.

[18] *'Nutag'* translates as 'family territory[1] (Szynkiewicz, 1982, p23), from which the term *'neg nutgiinhan* is derived).

[19] Dalai (op. cit.) and interview with Dr G. Purevtseren, Director, Research Institute of Land Policy, 16 August, 1992.

[20] Purevtseren, op. cit.

Manchu imperial law as to the use to which designated pasture land could be put. The tilling of pasture land for agricultural cropping was expressly forbidden and a punishable offence[21].

Under the high-ranking nobles and lamas were their feudal subjects *(khamjilga* and *shabinar* respectively) who looked after their herds, and who had use rights over particular areas of pasture according to customary law (Mearns 1991a). The remaining, undesignated areas of the *khoshun* were used customarily by common herders *{albata)* as serfs of the state, organised informally into *neg nutgiinhan* and whose freedoms were more closely circumscribed than those *of khamjilga* or *shabinar.* Any decisions that needed to be made to coordinate pasture use or settle disputes within these territories were made at the local level within these groups in the first instance. In the case of territories used for monastery or noble families' herds, only if this first level of dispute settlement failed were such decisions referred to a higher authority. By this time, the *bag* had been transformed into administrative units of the feudal state, and their leaders *{bagiin darga)* were answerable to the feudal lords, nobles or lamas.

Feudal subjects were forbidden, on pain of death, to leave the *khoshun* territory in which they were born (Bawden 1989). However, the large size of the *khoshun* meant that they often straddled several different ecological zones. Figure 2 shows the administrative regions of Mongolia circa 1925, at which time there were in the order of 100 *khoshun.* In principle, herders were able to make large scale nomadic movements from one season to another, usually North-South, for example between Hangai mountain areas and the Gobi desert and desert steppes, and thereby gain access to ample pasture for the animals in their care. Although this freedom of movement was enjoyed by some categories of herder (eg. *shabinar)* more than others (eg. *albata),* the *khoshun* permitted considerable flexibility of movement between different resource patches, from year to year as well as between seasons, and patches of high-quality grazing could be reserved for use during emergencies (eg. drought or heavy snowfall). As Shirendyb notes of the pre-collectivisation period, "[t]o increase the herds it was necessary to have a flexible form of regulation of pastures" (Shirendyb 1976, p49). He adds that while some feudal lords had attempted to "set up of their own accord marks establishing the pastures not only of *[sum]* but also of individual households., these conditions were a rarity in the steppe zones of Mongolia and were never found in the gobi regions., explained by the relatively dense population of the [H]angai" (pp49-50).

Collectivisation (1930s-80s)

When Mongolia gained autonomy from the Manchus in 1911, the highest ranking lama or Bogd Khan became head of state and supreme owner of land. Following the 1921 revolution, the death of the Bogd Khan and the formation of the Mongolian People's Republic in 1924, all land became state property[22]. Under Soviet influence in the 1920s a new administrative unit was introduced: the district or *sum,* within which herders continued to be organised in local groups or *bag.* The *khoshun* co-existed with the *sum* through the 1920s[23], and herders continued to make long-

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21 Law-code of Chinese Ministry of External Affairs, St Petersburg, 1828, section 1, par. 9, no.167, cited in Shirendyb (1976).

22 1961 Constitution of the Mongolian People's Republic, p7, par.10 (Shirendyb 1976).

23 The Mongolian term '*sum*' originally referred to a military rather than an administrative unit. There was necessarily a close connection between pastoral and military organisation during the period of conflict and instability around the thirteenth and fourteenth centuries. The sum had a clearly defined group membership but no territorial definition. The term was not used to refer to a territorial unit until the 1920s (Dalai, op. cit., fn.17).

Figure 2 : Administrative Regions of Mongolia circa 1925

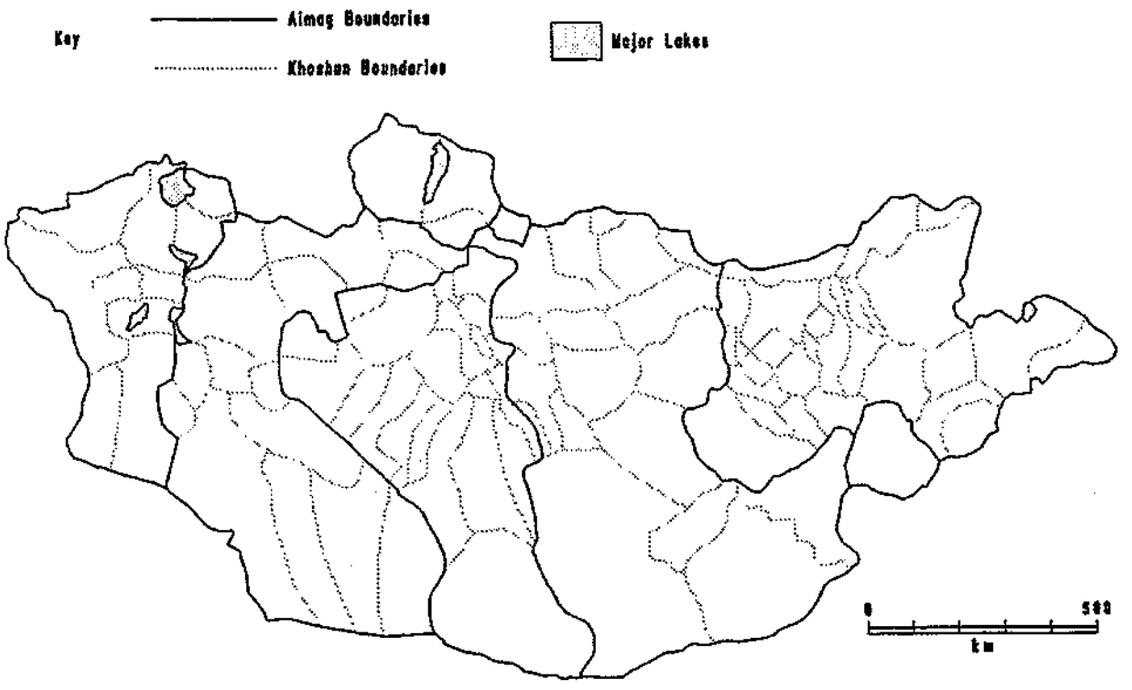
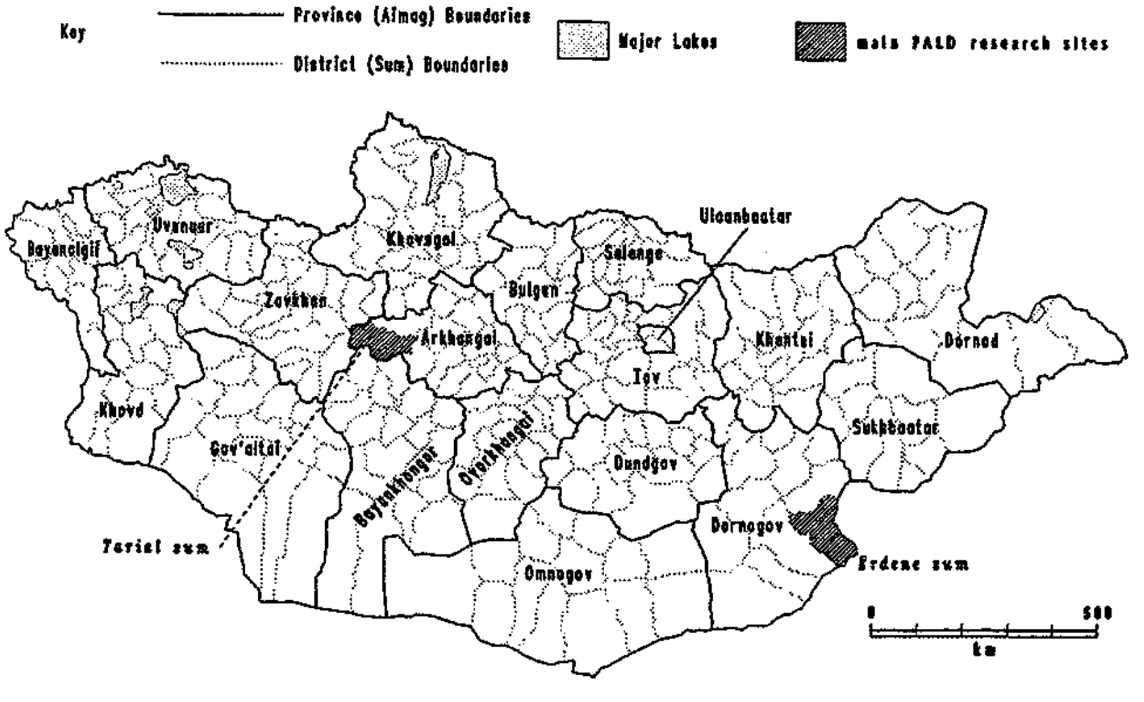


Figure 3 : Contemporary Administrative Regions of Mongolia



distance nomadic movements until the abolition of the *khoshun* during the 1930s. Additional restrictions on land use began to be introduced however. Land for agriculture was allotted for individual use by the local *(sum)* authority. The *khoshun* administration was now forbidden from directing the migrations of herders from one *khoshun* to another, as had previously taken place on occasion, and the rights of *shabinar* to move freely over the pasture in their territory were severely curtailed, effectively reducing their status to that of ordinary herders (now known as *arat)* (Shirendyb 1976).

Under the new territorial-administrative structure, there were significant differences in resource availability and quality between *sum* territories. For example, the territory of Ugiinuur *sum* in Arkhangai was made up of the summer grazing lands of five former *khoshun.* As a result it lacked areas suitable for winter and spring grazing and local herders have had to move out of the district in response to a heavy *dzud* (a heavy frost or snowfall) approximately once every five years (Bazargür, Chinbat et al. 1992).

The possibilities for movement to overcome these disparities and meet animal feed requirements gradually became more restricted and subject to cumbersome bureaucratic regulation, especially by the time collectivisation was completed in 1959. Although land ownership remained vested in the state, the collectives had a perpetual right to occupy the land on which they carried out their activities (Whytock 1992, p21). Each collective normally controlled the territory of a single district, and although herders continued informally to move across *sum* boundaries to a greater extent than was officially acknowledged, the close identity between the territorial-administrative unit *(sum)* and the production unit *(negdel)* undoubtedly led to a decline in mobility between districts. An assessment of the degree to which the *sum* territories of Arkhangai *aimag* vary in terms of availability of open pasture per livestock unit, as a crude measure of the need for flexibility to move outside the *sum* in times of contingency, has been made elsewhere (Mearns 1992a).

Normally and officially, herders used the pastures that lay within their *sum* (and usually their brigade) territory. Winter and (where relevant) spring shelters were allocated by the collective to particular *suur*. Otherwise, the choice and use of specific pasture sites was, and to a large extent still is, made by individual herders according to an identifiable set of decision rules that had evolved within neighbourhood groups well before the collectivisation period. This set of rules or 'coordination norms' over pasture use also rely on a level of mutual expectation of the decisions of other herders using the common pasture (Runge 1986). Although there is undoubtedly a degree of regional variation in this set of decision rules, principly owing to variations in how binding are the ecological constraints, it is possible to outline a set of factors that are mentioned consistently by herders in all regions of Mongolia[24]. The factors considered here relate to the choice of encampment site, determined principally by the condition of pastures in the vicinity: We are not here concerned with the day-to-day use of specific grazing resource patches for different species and age classes of animal at carefully specified distances from the base camp. These considerations of traditional herd management are outlined elsewhere (Purev 1991).

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[24] This has been confirmed in interviews with herders in the Hangai forest-mountain steppes, Gobi desert and semi-desert, eastern and central steppes, and the western Altai mountains.

Before making a move, the herder would make a reconnaissance visit to one or more pasture sites to assess forage quantity and quality and water availability, usually in that order of priority. Water availability is more of an issue in the Gobi desert and desert-steppe and eastern steppe regions than in the central and Hangai forest/mountain steppes where there are more surface water courses. Water availability for both human and animal use needs to be considered; some wells are suitable only for watering animals. Of primary importance everywhere, however, is forage quantity and quality. A less important but still significant consideration is the location of the pasture site in relation to the next expected destination, on an approximate route leading back to the customarily used (or allocated) winter pasture area.

During the collective period, the herder would make a bid for the selected site to the brigade chief, or simply move to the site in agreement with other herders of the area according to customary principles. It is common knowledge which winter/spring pasture sites are customarily owned by whom, and priority is always given to the holder of those customary rights. Under collectivisation this was formalised by the administrative allocation of shelters, although this did not necessarily respect customary tenure rights. If the customary owner or designated user intends to return to the winter shelter the following year, some mark will usually be left at the site to indicate this. The dung pile left at the site is considered the property of the herder who left it. however, if no such mark is left, or if it is known (through word of mouth etc) that the customary user does not intend to return, another herder may use the site on a 'first-comer' basis (Vreeland 1962). A request would normally have to be made to move outside the boundaries of the brigade (which were known at the level of the collective), and ultimately the *sum/* collective chairman would decide on pasture allocation.

In cases of emergency (eg. lack of pasture owing to a summer drought or winter *dzud)* a neighbourhood-level group would request permission from the *sum/* collective chairman to move outside their brigade area, and at times outside the *sum* territory to *inter-sum* reserve pasture land. There is also evidence that some neighbourhood groups moved outside their *sum* territories regularly, in cases where the *sum* has a shortage of pasture suitable for a particular season (Bazargür, Chinbat et al. 1992; Mearns 1992a). Occasionally the entire collective needed to move to *inter-aimag* or state reserve pasture land.

Despite a certain continuity of customary land tenure arrangements at local level under collectivisation, significant changes in pastoral mobility and herding practices have taken place over the decades from the 1930s, and have had adverse consequences for pasture condition in particular localities. First, the *sum* territories were much more restrictive overall than the *khoshun* had been, and provided less opportunity to make longer distance movements to use complementary sets of ecological resources. Figure 3 shows the contemporary administrative map of Mongolia. There have been over 330 *sum* from the 1930s onwards which, compared with the 100 or so *khoshun* that existed prior to collectivisation (see figure 2), implies an average restriction in territory by a factor of at least three.

Second, the increasing provision of services, supplementary livestock feed and other inputs by the collectives tended to lead to a decline in mobility overall, and a tendency to remain closer to the growing *sum* centres. For example, by relying on the collective truck or tractor for moving base

camp, herders had little incentive to make more frequent moves (for rotating pasture use) using their own draught animals. Evidence from Övörkhangai *aimag* gathered in the late 1980s showed that *suur* locations were much closer to roads and tracks than they had been 10-15 years previously[25]. In a recent assessment of pasture land quality carried out by the Research Institute of Land Policy (RILP) in Erdene *sum*, Dornogobi, for example, 5% of the total land area of the district was considered to be degraded through excess grazing pressure, and most of the degraded areas were concentrated around the *sum* centre. Figure 4 shows the extent of degraded pastures in Tsagaan Hutul *bag* territory, Erdene *sum*, based on the RILP assessment.

In the early stages of collectivisation during the 1930s and 1940s, the *khashaajuulakh* campaign to construct winter/spring livestock shelters (Bazargür, Chinbat et al. 1992) had a powerful impact in winning herders over to the nascent collective movement, as the gains in reduced livestock mortality became obvious. This investment in fixed capital increased the tendency for herders to remain more sedentary during the cold months of the year. From interviews conducted with herders in the course of the author's own research in both Hangai and Altai mountain areas, the central and eastern steppes, and the Gobi, it appears that it has become more common in recent years for some herders to remain at their winter camps all year round rather than to rotate pasture use season by season, according to customary principles of pasture management. Many *suur* (and now *khot ail)* construct semi-permanent, wooden kitchen huts at their winter camps. During the decades of collectivised production, a general weakening of technical knowledge around sound pasture management practice took place (Purev 1991; Bazargür, Chinbat et al. 1992). State policy had the effect of relieving herders of the full burden of environmental risk in livestock rearing. As a result, herders' perception of the environment as a threat has been significantly diminished.

Third, the move towards *suur-level* herd specialisation led to a decline in the complementary grazing strategies of different animal species on the same pastures. This has contributed to pasture degradation as a result of a change in forage species composition away from the preferred vegetation community, since heavier grazing pressure was placed on a more limited range of species. In Erdene *sum*, Dornogobi, for example, this is true of associations between Stipa gobica grass and the herb species Artemisia frigida: The latter is an 'increaser' species, which begins to dominate under selective grazing pressure, and to form a mat-like growth that suppresses the growth of more palatable grasses. Some of the most seriously degraded pastures lie in the ecotone between the eastern steppes and the Gobi desert steppe, notably associations of the protein-rich forb Allium polyrrhizum (an onion) with shrubs such as Caragana spp. and Salsola spp. Although nutritious for animals, these vegetation communities are fragile and lacking in resilience. A diet of Allium alone is too rich, and needs to be complemented by browse from the fibrous shrubs. Under heavy grazing pressure however, the shrubs tend to decline. This is frequently exacerbated by wind erosion, leading to 'mounding[1], a condition in which the remaining shrubs stand up some 10-20 cm from the general surface of the ground on pedestals, occasionally exposing their roots.

Fourth, the state fodder distribution system under collectivisation encouraged a relative shift in the regional distribution of livestock that was ecologically as well as economically unsustainable,

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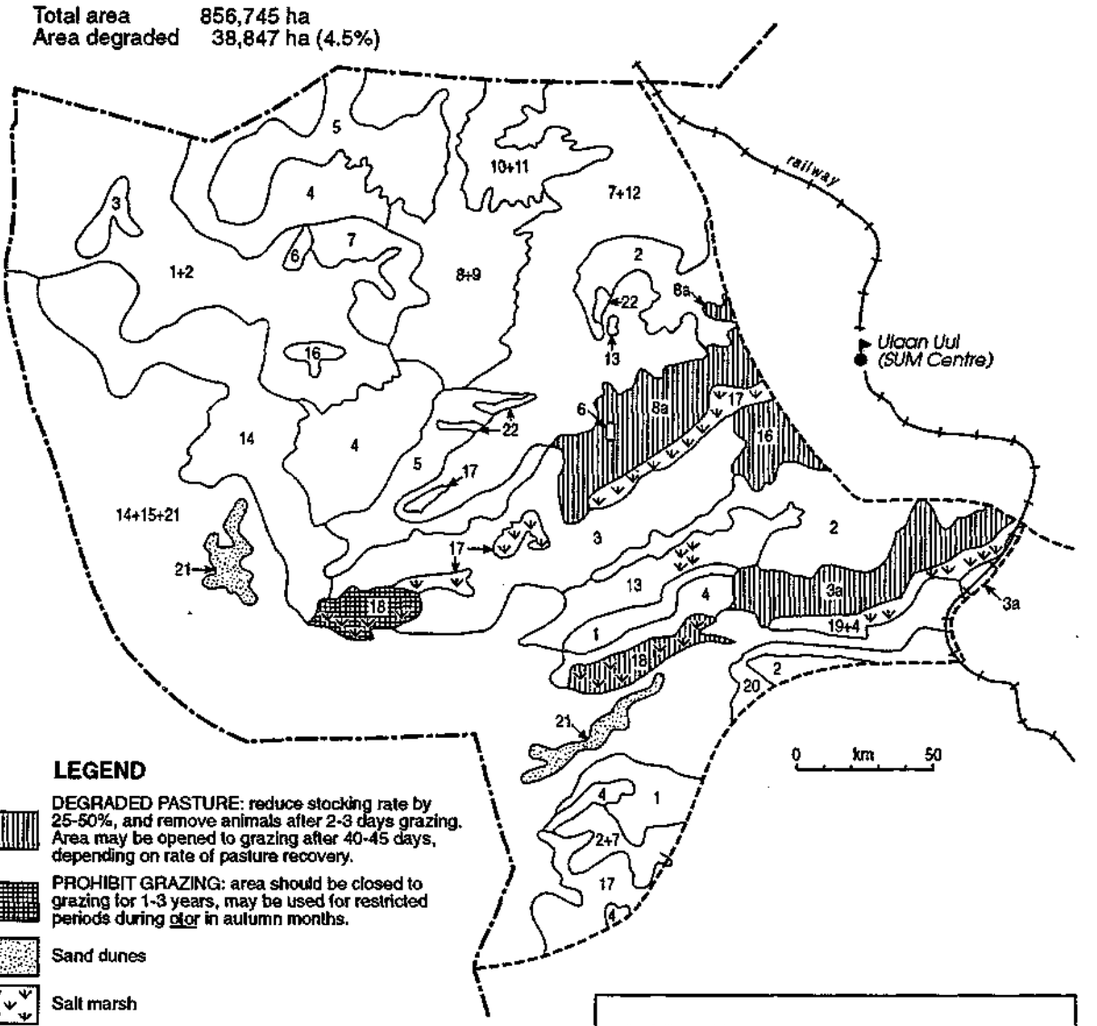
[25] Interview with Mr C Shiirevadja, Institute of Geography and Geocryology, Mongolia, and Mr B Chinbat, Department of Geography, State University of Mongolia, 19 August, 1992.

Figure 4 Assessment of pasture land quality, Tsagaan Hutul

Total area 856,745 ha
Area degraded 38,847 ha (4.5%)



LEGEND

DEGRADED PASTURE: reduce stocking rate by 25-50%, and remove animals after 2-3 days grazing. Area may be opened to grazing after 40-45 days, depending on rate of pasture recovery.

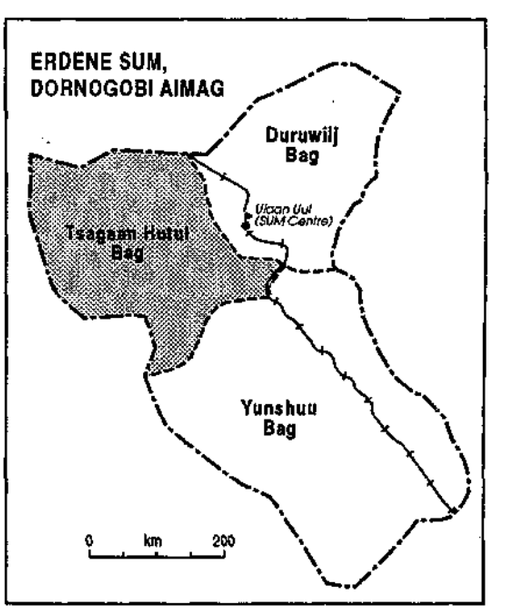
PROHIBIT GRAZING: area should be closed to grazing for 1-3 years, may be used for restricted periods during otor in autumn months.

Sand dunes

Salt marsh

Dominant species

1 Anabasis - Allium polyrrhizum
2 Stipa gobica - Allium polyrrhizum
3 Stipa gobica - Artemisia
3a Stipa gobica - Artemisia (degraded)
4 Achnaterum
5 Anabasis - Stipa gobica
6 Kalidium
7 Stipa gobica
8 Cleistogenes - Stipa gobica
8a Cleistogenes - Stipa gobica (degraded)
9 Salsola collina
10 Stipa gobica - Cleistogenes
11 Stipa gobica - Ceratoides
12 Stipa gobica - Anabasis
13 Salsola Collina - Reaumuria
14 Psammochloea - Artemisia palustris
15 Psammochloea
16 Ajania - Stipa gobica
17 Reaumuria (sparse cover)
18 Haloxylon ammodendron (sparse cover)
19 Salsola - Nitraria
20 Anabasis
21 Sand dunes
22 Rocks



Source: Research Institute of Land Policy, Mongolia.

and which exacerbated these tendencies towards pasture degradation at the local level. State livestock policy was geared towards at least maintaining, and preferably increasing, the size of the national herd. It rested on an equilibrium notion of system carrying capacity, and attempted to overcome the variability of forage production between years in response to variations in rainfall. This involved a substantial increase in the movement of supplementary feed to animals during deficit periods, rather than relying wholly on the nomadic movement of animals to the available forage from natural pasture plus limited local production of hay, as was the case prior to collectivisation. It therefore differed fundamentally from traditional pasture management, which depended more completely on the opportunistic strategy of moving animals to the available forage and therefore allowing for year-to-year fluctuations in livestock numbers consistent with a dynamic conception of system carrying capacity. The level of subsidy in the distribution of winter/spring feed supplements grew considerably during the 1980s as herders began to expect fodder supplements in most years, rather than in times of emergency alone, as the system was originally intended to operate. This is likely to have stabilised aggregate livestock numbers in fodder-deficit regions (the western Altai mountain/Gobi desert ecotone; the Gobi desert and desert-steppe regions of the South) at a level close to the carrying capacity in more productive years, thereby sustaining stocking rates that may have exceeded local carrying capacity in the least productive years (Danagro 1992; Jigjigdsuren 1993).

The fifth change in patterns of mobility and pasture management practices relates to the more general decline in collective action within local institutions under collectivisation. In practice, it is likely that the time-honoured customary principles described above surrounding the coordination and use of pastures were observed most of the time within the neighbourhood-level group throughout the period of collectivisation. However, the official truth, at least in the eyes of those whose interests lay with the collectivised state administration, was that pasture allocation was a matter for bureaucrats and technicians employed by the collectives. This included animal husbandry specialists ('zootechnicians') whose acquired technical knowledge was intended to substitute for herders' own experiential technical knowledge in the drive to modernise the pastoral livestock economy[26]. As a result of the tension between these competing 'truths' as to how decisions in the pastoral sector were actually taken, customary mechanisms for arbitrating disputes were inevitably weakened.

The existence of an alternative system of authority to the customary one provided better-'connected' herders (eg. those with friends or relatives in the brigade or collective administration, or those more articulate herders with relatively greater bargaining power) with an opportunity to 'free-ride' - ie. to ignore mutually agreed customary principles of restraint in pasture use - more or less with impunity. In the case of disputes in which the collective administration was brought in to arbitrate, the decision of the *sum* /collective chairman was final, which may have favoured those herders with more power and influence, or who chose to cultivate good relations with the collective personnel. During fieldwork it has frequently been reported that the incidence of

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[26] There had always been a tension in Mongolia between an attempt to follow the 'party line' in modernising livestock production on the one hand (for example, through selective cross-breeding using non-indigenous livestock breeds to 'upgrade' the gene pool), and a tacit recognition on the other that traditional Mongolian herd management practices and indigenous breeds were in fact most appropriate to Mongolian conditions. This 'pragmatism' on the part of Mongolian technical specialists still prevails to a large extent (cf. FAO 1991).

disputes over land, water and other natural resources increased during the period of collectivisation, which seems to support the hypothesis that customary mechanisms for resource allocation and dispute settlement had been weakened as a result of the increase in bureaucratic involvement. The hypothesis requires further testing in fieldwork, although preliminary findings do seem to vindicate this analysis.

As an extension of this hypothesis, it is suggested that the weakening of incentives for individual herders to cooperate with mutually agreed rules regarding common pasture use during the collective period was yet further undermined by the decline in collective action to achieve economies of scale through mutual assistance in herding and livestock product processing activities. It is likely that the strong incentives for collective action in the organisation of labour in the pre-collective period substantially strengthened the incentives to cooperate at the level of the community or neighbourhood group in the regulation and coordination of pasture use. As common property resource management theory suggests, the decisions of individual resource users within cohesive communities are contingent on those of other users not only for reasons of resource management, but also for the range of other economic, social and ritual activities in which community members participate collectively (Runge 1986). Under such conditions, an individual herder who chose to free-ride on the cooperative decisions of others in pasture management would run the risk of losing more through social ostracism than he or she might gain in access to pasture. The general decline in labour cooperation through local institutions with collectivisation, as well as the rise of a parallel system of authority in the bureaucracy of the collectives, led to a relative decline in the potential costs associated with individual free-riding behaviour in pasture use.

Decollectivisation (1990s-)

The generalised set of 'coordination norms' regarding pasture use and allocation outlined above continue to exert considerable influence over herder decision-making in contemporary Mongolia, in spite of the countervailing trends of the collectivisation period. In the period of economic and political transition following decollectivisation however, two further trends can be identified: one which threatens to undermine further the breakdown of coordination norms around local pasture use, and one which could potentially strengthen them. The likely outcome of this interplay of factors remains highly uncertain, but the fluidity of the situation could also be seen as providing an opportunity for positive action by means of policy instruments to secure sustainable pasture land management (see section 7).

The first of these current trends is the condition of structural chaos or near-anarchy that prevails in contemporary Mongolia. The state of economic, political and social flux that characterises the reform process contrasts markedly with the rigidities and limited individual freedoms of centuries of hierarchical, feudal organisation, followed by seventy years of state-socialist command planning. The feudal state prior to collectivisation interfered relatively little with the day-to-day business of herd management, but provided a stable, ordered social formation within which it could go on. The benefits of collective action among herders in production activities and in land tenure arrangements were realised within this context. Similarly, under collectivisation - despite the existence of parallel structures of authority and legitimation in pastoral livestock production (customary/ traditional, and scientific socialist/ modernist) - the bounds within which herders

operated were clear, known and predictable. It was still possible for neighbouring herders to form mutual expectations of each others' actions regarding the use of common pastures, and to make decisions on the basis of those expectations; which is a necessary condition for developing local coordination norms so as to overcome a 'tragedy of the commons' (Runge 1986; Wade 1987).

Under present conditions of structural chaos however, the necessary degree of institutional stability required for the upholding of group norms regarding land tenure, and for the potential exercise of sanctions within local groups, is absent. This uncertainty makes it difficult for herders to form mutual expectations of each others' actions. It tends to heighten the assurance problem of not knowing to what extent other herders are likely to stint, or voluntarily exercise restraint, in their use of pasture. Other things being equal, individual herders are likely to perceive a lower threat of sanctions against free-riding behaviour and may expect to lose less by attempting to maximise individual gain from the available pasture. While economic and political conditions are changing rapidly, it is difficult to learn from past experience in order to anticipate the behaviour of others, since a particular conjuncture of circumstances influencing one's own and others' decisions may never be repeated[27].

Recent changes in the structure of the rural economy have contributed to this trend favouring individual free-riding behaviour. Decollectivisation has cost many former employees of the collectives their jobs. Technical and support personnel in rural areas such as veterinary officers, animal husbandry specialists, drivers and canteen workers have managed to acquire formerly collective-owned animals in the privatisation programme and, owing to a lack of alternative employment opportunities, have turned to full-time herding for their livelihoods. Some continue to live in rural towns as absentee herders, in which case herding relatives or friends may care for their newly acquired animals, usually in return for a share of the products. Others look after their own animals, but remain close to rural towns, thereby increasing grazing pressure on pastures there.

Apart from former collective employees, there has been a more general net flow of urban to rural migrants in response to the relatively higher degree of economic deprivation in urban centres than in rural areas. Urban inhabitants were always more dependent on the market to meet their food needs than were their rural counterparts with private animals from which they were able to meet domestic demand for meat and dairy products. Purchases of foodstuffs by herding households were restricted to wheat flour, tea, sugar, salt, and luxuries such as bread and biscuits. There were limited non-market channels such as *idish*[28], by which urban dwellers could acquire livestock products from their rural kindred in exchange for consumer goods or, for example, accommodating young relatives studying in urban educational establishments (Danagro 1992; Potkanski and Szynkiewicz 1993). The economic collapse of the transition period, with very high rates of inflation in the price of basic foodstuffs, acute shortages and spiralling prices for

[27] Much attention has been paid to refining theoretical models of such 'multi-person prisoners' dilemmas' (MPD) (eg. Russell Hardin 1982, Runge 1986, Ostrom 1990). In the language of game theory, contemporary conditions in Mongolia more strongly resemble one-shot MPD games than they do the iterated MPD game in which the players learn from past experience and develop coordination norms as a guide to future action. This issue is taken up again in section 8.

[28] Literally, 'food for the winter'.

consumer goods, and a rise in urban employment, has been felt most acutely by the urban poor, and has heightened the importance of non-market exchange mechanisms such *as idish.* Recent data show the considerable extent to which rural households have withdrawn into self-provisioning, and are no longer able to purchase wheat flour and other purchased food products owing to shortages and high prices (Cooper and Narangerel 1993). Against this background, many urban inhabitants who were eligible to receive a share of the former collective herds in their *sum* of origin have left urban areas to take up herding. Many of them may be children of herders but who have never made a living at herding themselves, while others may have some limited experience of herding. It remains to be seen whether such urban-to-rural migrants will remain in rural areas over the long term, or whether their move was merely a temporary, opportunistic response to claim their entitlement to collective assets under privatisation. To the extent that the latter is true, a considerable rise in absentee herd ownership can be expected in the near future.

Such urban-rural migrants, as relative newcomers to herding, pose particular problems within herder community groups. Their eligibility to acquire animals in the privatisation programme has been a contentious issue in itself, particularly among long-standing herders. The newcomers are 'outsiders' to residence-based local groups within which a degree of coordination in pasture use is traditionally achieved. They have frequently become scapegoats for local discontent around the privatisation of collective assets, and are often held responsible for a perceived increase in grazing pressure on local pastures (Mearns 1991b). It is undeniably true that some of the newcomers are less skilled in pasture and herd management than herders of a number of years standing, and have a greater tendency to remain relatively sedentary. Their presence increases the range of interests represented within the community group, which further reduces the chances of collective action to coordinate and regulate the use of pastures. However, the severity of this problem is likely to decline over time, as some newcomers return to urban areas as part-time or absentee herdowners, and others see it in their interests to comply with locally agreed rules for regulating pasture use.

In opposition to this trend favouring individual free-riding behaviour is the re-emergence of local institutions, notably the *khot ail,* within which herders actively cooperate in herd management and livestock product processing. Under collectivisation, the decline of such labour-pooling arrangements, for the reasons enumerated above, was a contributory factor in the decline of customary mechanisms for coordinating and regulating pasture use and the arbitration of land disputes. Conversely, their strong re-emergence in contemporary Mongolia can be expected to increase the incentives for collective action in the management of common pastures. It is this second, positive trend which provides a key opportunity to strengthen pasture land management by building on and strengthening local community institutions as an integral component of land policy reform. We return to this issue in sections 7 and 8. Sections 5 and 6 that now follow set out the results and analysis of fieldwork in the two research sites. These data indicate more precisely the characteristics and real significance of community institutions in contemporary Mongolia.

5 GOBI DESERT-STEPPE ZONE

Dornogobi *aimag* lies in the East of the Gobi desert zone. Topographically it is made up of a series of very wide, flat basins, lying at an altitude of around 600-1000 metres above sea level. The case study district for PALD research in this ecological zone is Erdene *sum* in the south-east of the *aimag,* which borders on China to the South, and covers a total area of 10,700 sq. km (see figure 3). The total human population of the district is 2,550 (1,250 herders; 300 residents in district centre; 1,000 railway workers, military personnel and their families). The mean herding population density (ie. not including town residents and other sedentary people) is therefore as low as 8.6 sq. km. per person, or 0.1 persons per sq. km. Sixty years ago the district population - 1,700 - was around two-thirds of the present-day total (Simukov 1934). It is likely that the herding population was similar in size to the present herding population, and if anything may have been slightly higher. Tsagaan Hutul was chosen as the sample *bag* for detailed investigation, since fieldwork had been carried out in the same area during 1991 (Mearns 1991b).

Administrative structure

The present administrative-territorial unit of Erdene *sum* was introduced in 1927, which at that time co-existed with the *bag* subdivisions. At that time there were relatively few households in each *bag* (around 40). Over time, the *bag* structure was gradually rationalised, from the original number of 9 down to 4 by 1958, immediately before the creation of the collective.

The collective, 'Amdraliin Zarri ('Road of Life'), was founded in 1958. Three brigades were created out of the four existing *bag,* each specialising in different species of animal. Tsagaan Hutul brigade, or First brigade, specialised in camels - and was also referred to as Camel brigade - while Second (Yunshuu) and Third (Duruwilj) brigades specialised in horses and goats, and cattle and sheep, respectively. For a relatively short period during the 1980s, Tsagaan Hutul brigade was divided into two teams, or *kheseg,* called Duruwilj and Tsagaan Hutul, each of which corresponded to a single *bag* immediately prior to collectivisation. The intermediate level of administration (the *kheseg)* was abolished at the start of the economic reform process in the late 1980s (Mearns 1991b), but this administrative structure remained essentially unchanged until decollectivisation began in September 1992[29].

Wealth differentiation and age structure

Wealth ranking was carried out for all households in the *bag* (a total of 106) by four individual informants, each of whom represented a different wealth class. Five wealth classes were imposed on the distribution of average household ranking scores. Data on private livestock holdings for a total of 53 households were gathered from the most recent census available (July 1991) and correlated against the average wealth ranking scores of those households. The result of this test was strongly positive, with a Spearman rank correlation coefficient of 0.97, significant at the 1% level. As discussed in section 2, this can be interpreted in two ways: (i) it indicates the central importance of livestock holdings in local assessments of wealth and well-being status; and (ii) assuming (i), it also reveals the detailed extent of informants' knowledge of the wealth and well-

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[29] For further details of the formal institutions in Erdene *sum,* the process of privatisation in the district and other contextual information, see PALD Research Report No.8 (Shombodon et al. 1993). Details of Yunshuu and Duruwilj *bag* are also given in PALD Research Report No.4 (Potkanski & Szynkiewicz 1993).

being status of other members of the *bag*. A summary of the other criteria used by informants in wealth ranking is given in table 3.

Table 3 Summary of criteria used in wealth ranking

The more strongly a herding household exhibits any of the following characteristics, the more likely other members of the *bag* are to perceived it as richer:

- own many private animals
- security of livelihood from own animals (self-sufficient)
- not dependent on assistance from collective or state
- often among first herding households to go private during decollectivisation
- high level of skill and experience in herd management (eg. move camp regularly, rarely lose animals)
- good supply of family labour (adult or older children living at home)
- good labour management
- family members are in good health
- good budget management (unlikely to get into debt)
- ownership of consumer durables such as motorbike, electric generator, television
- have silver drinking bowls and jewellery, and silver-decorated saddlery and harnesses
- use expensive material for making *deel* costume (eg. Chinese silk)
- articulate in dealings with local administration, well-connected ('have friends in high places')

The data on wealth ranking scores and private livestock holdings are plotted in figure 5, ranked by age of household head. While there is no simple relationship between household age structure and wealth status[30], three general observations can be made about the data shown. First, high wealth status is associated with household heads of middle age (late 30s to 60 years of age). This reflects the 'stepped' relationship commonly observed in pastoral societies between herd size/ composition and the age structure of the household: herd size or species differentiation may increase only up to certain threshold limits before additional units of labour are required. Routine additional labour needs are usually met as children grow to an age where they become economically active. Second, households with younger heads (up to their mid 30s) tend to be poorer, although wealth status may rise rapidly with an ageing household structure. Third, older household heads (usually retired herders of 60 years and above) also tend to be poorer, but with significant outliers of very high wealth standing. This is likely to be related to the timing of inheritance of family property among the sons of the household. The division and/or inheritance of family property (*örekh*) normally takes place before the death of the household head, perhaps on the marriage of the chosen heir (traditionally the youngest son), while any other sons usually receive their shares at the time they marry (Vreeland 1962, pp79-88).

[30] There was no significant correlation between either average wealth ranking score or livestock holdings and age of household head in terms of a simple linear relationship between increasing age and increasing wealth (Spearman rank correlation coefficients of -0.23 and -0.09 respectively, with a sample size of 46 households).

Figure 5 **Wealth score, livestock holding and age, Tsagaan Hutul**

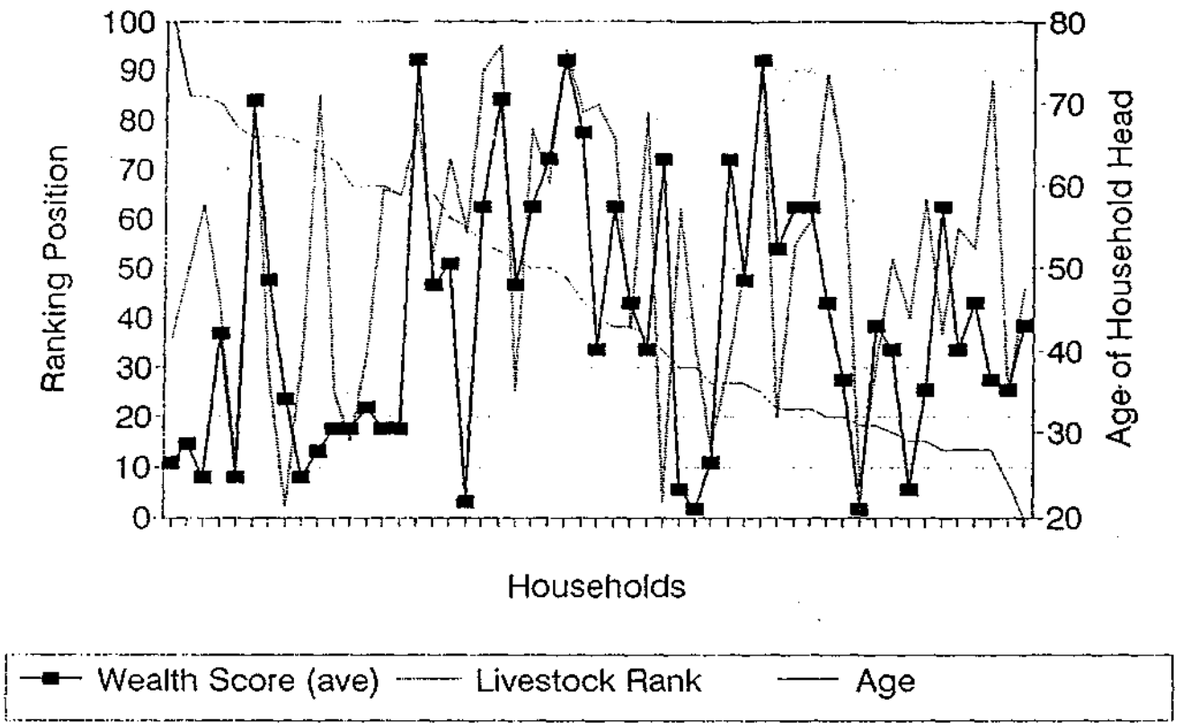
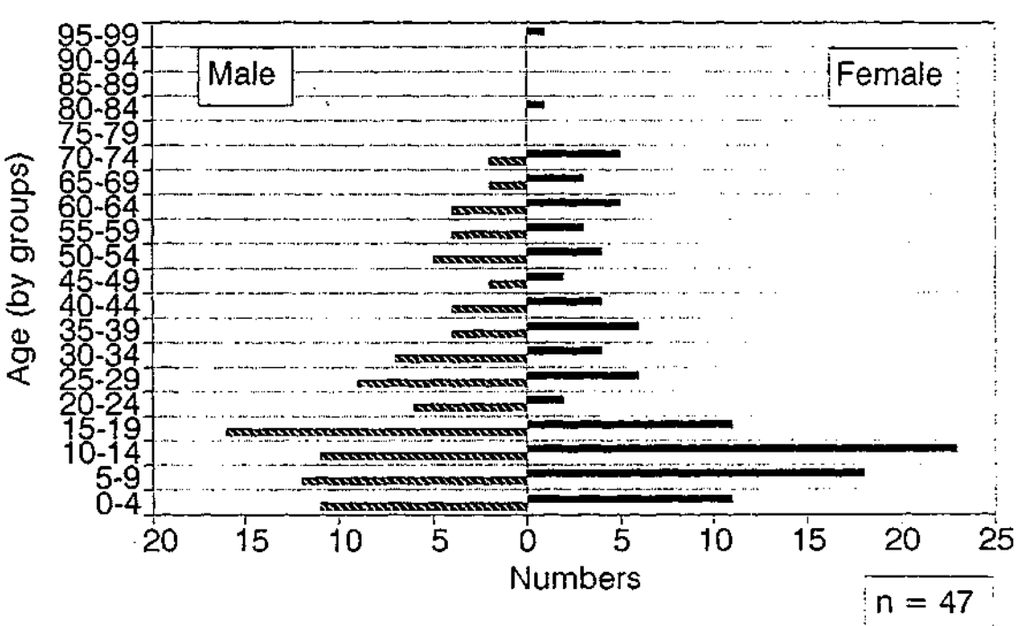


Figure 6 **Age profile of population, Tsagaan Hutul *bag***



An impression of the demographic structure for Tsagaan Hutul *bag* as a whole is shown in figure 6, based on available data included in the most recent district census available at the time of fieldwork (that for July 1991) and including approximately half the total number of households in the *bag*. Mean household size is 3-4 persons, with a range of 1-7. This compares with Simukov's historical data from the early 1930s, when mean household size was found to be 3.8 (Simukov 1934). More detailed observations about wealth differentiation between and within a sample of local institutions are given below.

Local institutions

The social mapping technique was used to identify local institutions in Tsagaan Hutul *bag*. In August, 1992, Tsagaan Hutul *bag* had 106 member households, 30 of which were resident in the district centre and 6 were resident outside the district, either in the provincial centre (Sainshand) or in Ulaanbaatar. Informants first divided the 70 herding households by card sorting into three neighbourhood groups or *neg nutgiinhan*, within which further subdivisions were made into smaller neighbourhood groups known as *neg usniihan*, or 'people using the same wells'[31]. There were 2-3 *neg usniihan* in each *neg nutgiinhan*. Only the lower level neighbourhood groups carried individual names, taken from significant local landscape features, some of which are marked in figure 8. Comparative summary data on wealth differentiation and overall composition of these groups are shown in table 4. Each group of *neg usniihan* is considered to be a single *neg nutgiinhan*.

Table 4 Summary data on neighbourhood group composition and wealth differentiation, Tsagaan Hutul

Names of *neg usniihan*	No. of *khot ail* or separate camps	No. of households	Mean livestock holdings per household (*bod*)	Standard deviation of household livestock holdings	Coefficient of variation in livestock holdings
Dalan Usniihan	n/a	12	37	20	55
Dulaani Gobi/ Tukhuum	5	13	34	29	86
Sukhai Hundi/ Bogiin Gashoo/ Khonkhoryn Us	n/a	14	30	16	51
Nuden/ Tögrög/ '18'	n/a	12	29	10	34

The second, more detailed stage of the social mapping technique was carried out with three informants[32] for one of the *neg nutgiinhan*, made up of two *neg usniihan* known as Dalan

[31] Informants Ukhnaa & his wife Oyun, Bandi, and Zundui.
[32] Demberel, Chuluu and Tuvdendorj.

Usniihan (named after a shallow well for potable water); and Tukhuum/ Dulaani Gobi (the latter named after an area of sand dunes with a grove of saxaul trees, Haloxylon ammodendron). For this group, the household composition of individual *khot ail* or camps were identified and consanguineal and affinal kinship relations traced as far as possible within and between them. This data is shown in figure 7. Table 5 summarises the available data on wealth status, livestock holdings and household structure, for the Dulaani Gobi/ Tukhuum group, taken as a single *neg usniihan.*

There is a strong kinship basis for the formation of this *neg usniihan* neighbourhood group as a whole, including both consanguineal and affinal relations. Although broadly bilateral (ie. including both patrilineal and matrilineal kin), it appears that in this particular case the principal ties within the *neg nutgiinhan* are more patrilineal than they are matrilineal, based on the families of both male and female offspring of two brothers. This is just one example of such a neighbourhood group, however, and should not be construed as typical of the region as a whole. It is nevertheless instructive to examine the interrelationships between the member households of this group, as in other respects it does illustrate principles that appear to be common to many neighbourhood groups in the area. Bandi is the *akh* ('eldest brother', leader) of one *khot ail* with his youngest brother Zundui. The two single-household encampments in the group are consanguineal and affinal relatives of Bandi's wife Dolgorjav. Of the other two encampments within the *neg usniihan,* one is headed by Tuvdendorj, Bandi's patrilineal cousin, and the other comprises three tenuously related households.

The households in this latter *khot ail* are all perceived as among the poorest households in the *bag* (see table 5). They are relative newcomers to the area, are only tenuously related to other members of the *neg nutgiinhan,* and are all older herders, including one who is disabled. At the time of survey, one (Doshdondov) was resident in the district centre, leaving his animals with the others. The members of this *khot ail* themselves stated that they had to form a *khot ail* to benefit from economies of scale in herding and other forms of mutual assistance. None of them would be able to survive independently. This was also confirmed by the perceptions of their neighbours. One of these households is headed by Chuluu, the father-in-law of Zundui. It appears that this recent (1989) marriage was encouraged by Chuluu as a way of strengthening his ties to the *neg usniihan,* since as a poor herder (in some local herders' view a 'lazy' and not particularly skilled herder, although a first-class horseman), Zundui would not otherwise be considered the most eligible of sons-in-law. The other two households in *Ocas khot ail,* headed by Demberel and Doshdondov, are related only by the fact that the senior women of each household both had the same father (but different mothers). Demberel's wife Maam, and Chuluu's late mother Tseren, are reputed to be distant relations. Case histories of Chuluu and Demberel are included as annexes to this report (annexes 1 and 2), and shed further light on the reasons for their settlement in this area. It is important to note that this area is not their *törsd'n nutag;* they are not considered by other members of the neighbourhood group as 'core' members, but are at pains themselves to demonstrate the legitimacy of their ties to the group.

Table 5 Wealth differentiation and household structure, Dulaani Gobi/Tukhuum neighbourhood group

No.	Name of Household head	Average ranking score	Wealth Class	Livestock Census							House-hold head		Adult		Child		
				Camel	Horse	Cattle	Sheep	Goat	Total	Total Value (in cattle)	Sex	Age	M	F	M	F	Total
Khot Ail A.																	
82	D. Zundui	95	5	3	6	3	31	29	72	20.81	M	38	1	1	0	0	2
83	D. Bandi	31	2	9	19	10	82	14	134	55.55	M	66	2	1	0	0	3
142	Navaansamdan	66	4	0	0	0	13	4	17	2.26	M	66	Info. incomplete				
172	Batlkham			0	0	5	0	0	5	5.00							
175	Sukhe	33	2	1	0	1	14	6	22	5.09	No Data		3	2	0	0	
Khot Ail B.																	
74	P. Tuvdendorj	31	2	8	34	23	162	132	359	105.28	M	52	4	1	1	1	7
75	N. Dugersuren	84	5	0	0	6	32	0	38	10.57	F	67	0	1	0	0	1
Khot Ail C.																	
125	Dashdondov	73	4	1	1	8	42	19	71	18.39	M	63	Info. incomplete				
120	R. Demberel	73	4	7	6	12	59	32	116	40.08	M	60	1	1	0	0	2
81	L Chuluu	89	5	5	11	5	54	36	111	34.78	M	55	1	2	1	1	5
Khot Ail D.																	
84	B. Dorjhorloo	21	1	13	29	16	91	28	177	80.20	M	49	2	3	1	1	7
Khot Ail E.																	
122	G. Tudevbazar	79	5	13	18	7	54	39	131	56.02	M	64	2	1	0	1	4

Of the 13 households that represent Dulaani Gobi/Tukhuum *neg usniihan;* four are absentee herd owners, living in the district centre, and leaving their animals in the care of friends or relatives. The wealthier herder Bandi, for example, looks after the animals of Sukhee, Batlkham and Navaansamdan, with assistance from the poorer herder Zundui. In this case the three absentee herd owners are all more or less related to Bandi and Zundui: Navaansamdan is their brother; Sukhee is Bandi's wife's brother-in-law; and Batlkham is Sukhee's son-in-law. The three absentee herd owners have the equivalent of just over 12 cattle between them, recently acquired in the small privatisation, compared with Zundui's 21 and Bandi's own 56. The high coefficient of variation of household livestock holdings within this *neg usniihan* (86%) is explained principally by this high rate of absentee herd ownership (30%), since absentee herd owners in the early stages of privatisation tend to have considerably fewer animals than full-time herders. The lower coefficients of variation of livestock holdings in the other three neighbourhood groups in the *bag* (34%-55%) suggest that the rate of absentee herd ownership within them is likely to be lower than the 30% in Dulaani Gobi/Tukhuum. Data are not available to confirm this, however, and it should be noted that these remarks are based on only a small number of observations.

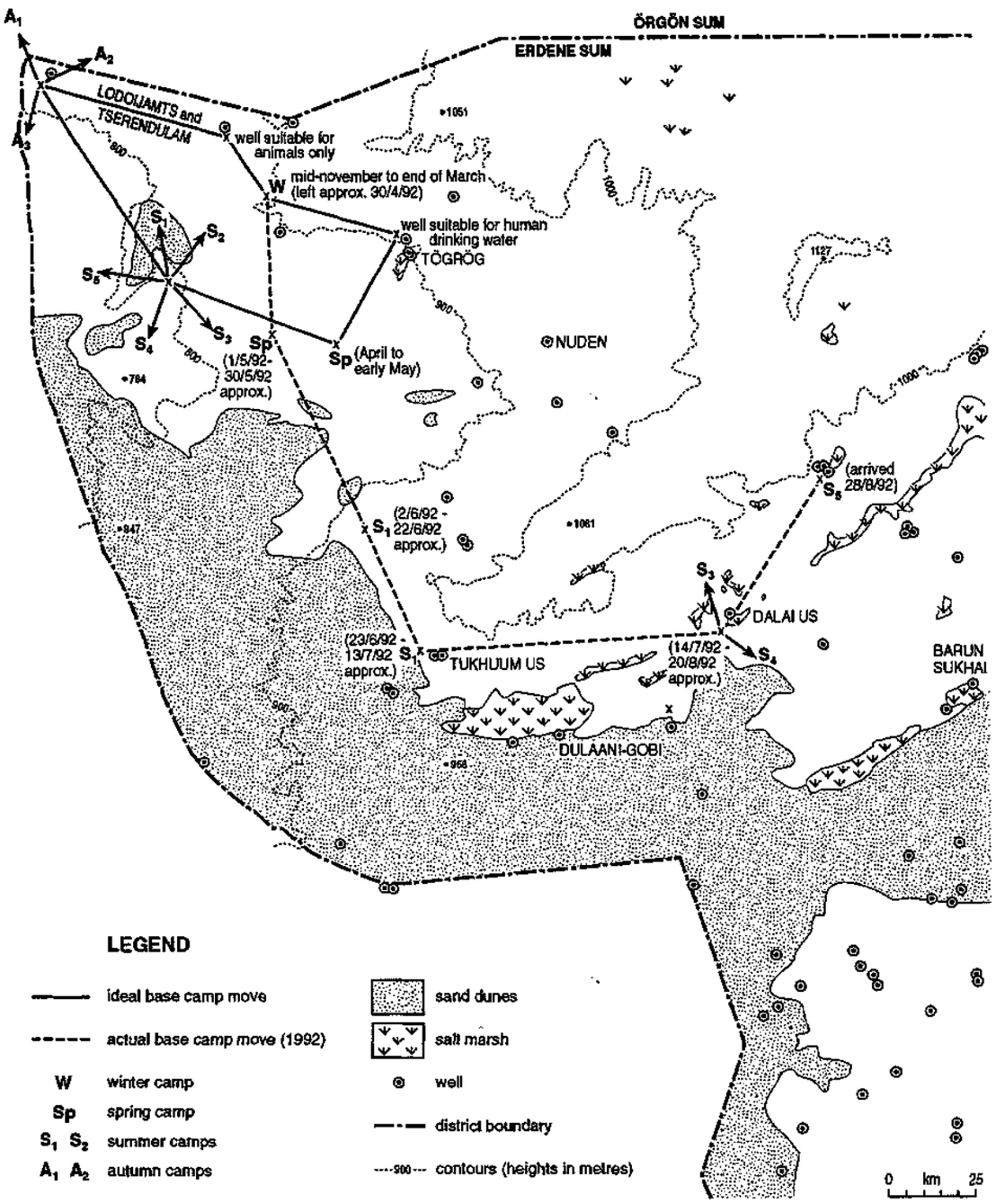
Pastoral mobility and flexibility

Figure 8 shows the 'ideal' annual grazing cycle (or *nutag)* of a single household in Tsagaan Hutul *bag.* This is discussed here for purposes of illustration only. No claim is made that this should be taken as representative of all herding households in the Gobi semi-desert zone[33]. However, it does illustrate certain principles of nomadic movement common to all herders in the zone: the high degree of inter-annual variation in spatial patterns of pasture use; and the divergence of actual movements in any one year from a stated 'ideal' cycle. The household head, Lodoijamts, was born in this area and describes this grazing pattern as that of his forebears, or his *törsdn nutag.* It is drawn here as a cycle of seasonal base camps, with some 3-5 subsidiary moves at each of the summer and autumn locations. In practice, there are frequently secondary moves of the base camp in all seasons of the year. It is not uncommon for a household to move base camp up to 20 times a year. Most moves are made during the summer and autumn months. Moves may be as short as a few kilometres or as long as 50 km, depending on the availability of forage. Mixed species herds are usually split during the summer and autumn, with long distance *otor* moves, especially for large stock, to allow animals to put on weight quickly. The broad set of decision rules governing pasture use and coordination with other users was discussed in section 4 above (pp20-21).

The actual location of the base camp within the selected pasture area is chosen largely with respect to water availability (ie. close to wells), especially in the case of the winter camp which is occupied for four months or so. Winter shelters are constructed in shallow depressions in the landscape wherever possible, to provide some shelter in the lee of a slope from dessicating winds during the spring. During the collectivisation period, particular winter shelters were allocated to herding households, which they would normally use for several years at a time, depending on the type and number of animals allocated to them by the collective. Lodoijamts' preferred winter camp lies equidistant between two wells, one with potable water and the other suitable only for animals. He would normally or ideally stay at the winter shelter from mid-November to the end of March, and at his spring camp during April and early May. During the summer, 4-5 moves, each of not

[33] A larger sample of *nutag* was tracked and mapped by Potkanski and Szynkiewicz in Duruwilj and Yunshuu *bag,* Erdene *sum,* during late summer-early autumn 1992. This data is reported in PALD Research Report No.4.

Figure 8 Ideal and actual seasonal base camp movements, Tsagaan Hutul



less than 5 km, would be made, over a total distance of 20-60 km; 2-3 similar moves would be made during the autumn.

This ideal grazing cycle however is rarely replicated from one year to the next, since ecological conditions in the Gobi zone are so variable. Figure 9 shows annual rainfall totals for 1987-91, measured at the *sum* centre, to give an impression of this variability. Most precipitation falls during the summer growing season when soil temperatures are high enough for plant growth. Under such conditions, given low annual totals, rainfall is the limiting factor for primary biomass production[34]. Annual rainfall totals can be taken as a reasonable first approximation of the degree of inter-annual variability in aggregate forage availability, with the important caveat that the spatial distribution of rainfall is highly variable at the micro-scale where a high proportion of precipitation falls in localised summer storms, as in the Gobi. Whether explained by summer drought or unusually severe winter weather, a household would expect to diverge from its 'ideal' grazing cycle in at least 3 or 4 years out of 10[35]. As an illustration of this, figure 8 also marks with a dashed line the actual movement of Lodoijamts' household between spring and autumn 1992. This clearly bears little relation to the 'ideal' grazing cycle.

Thus far we have considered the case of a single herder. At the scale of the neighbourhood group, the *nutag* of individual herders overlap considerably. In the desert-steppe zone, pastures are not customarily designated for use in particular seasons. An area of pasture used one spring could just as easily be used during the autumn the following year. In that sense, all pastures are more or less suitable for use in all seasons. Given this, it is not possible to aggregate individual *nutag* into a 'group *nutag.* The social boundaries *of the neg nutgiinhan* group remain relatively stable, but the precise areas of pasture used by that group will change from one year to the next; the territorial boundaries of the group are unstable[36]. This contrasts with the case of the Hangai forest/mountain steppe ecological zone discussed in section 6, in which it is broadly possible to identify a specific territory with a particular neighbourhood group. That is, in the Hangai case, unlike that of the Gobi, individual *nutag can* be aggregated into a 'group *nutag* at the level of the neighbourhood group *(neg nutgiinhari),an&* an informal system of deferred grazing by season operates within the group. Access to pasture resources under these less arid ecological conditions is retricted within local institutions by means of spatial as well as social 'boundary defence' (Casimir and Rao 1992).

The suggestion here that more or less any pastures may be used during any season in the Gobi desert-steppe zone does not mean that pasture and other natural resources are uniform in quantity and quality across the landscape. On the contrary: customary land tenure arrangements are highly

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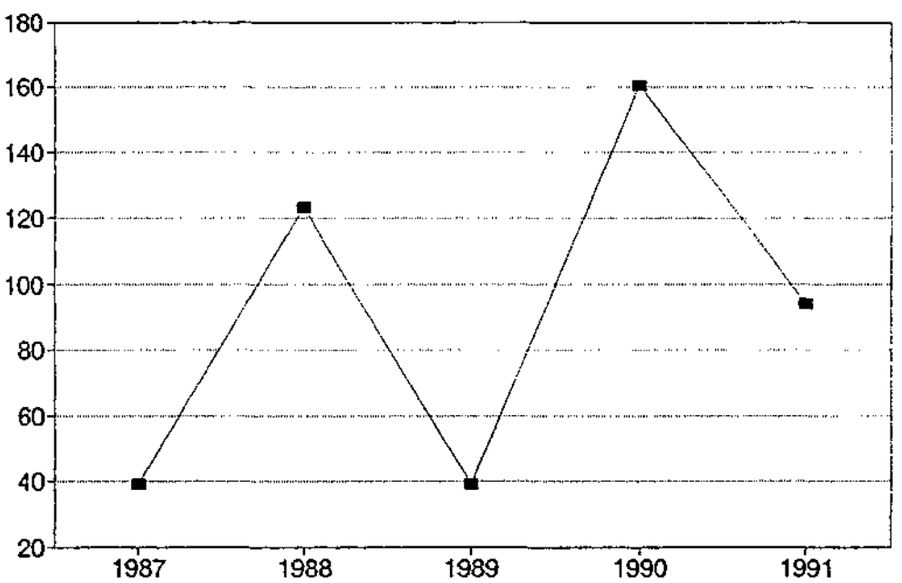
[34] T.Chuluun has generated a simulation model of primary biomass production based on rainfall totals, using data for Tumentsogt State Fodder Farm, Sukhbaatar *aimag* (Chuluun 1992). This represents the steppe grassland ecosystem proper. In the more arid desert steppes of Dornogobi, rainfall can be expected to operate even more strongly as a determinant of primary biomass production.

[35] Based on interviews with 9 separate herders in Erdene *sum*, August 1992.

[36] This observation corresponds with those of others on comparative studies of mobile societies. For example, Dyson-Hudson and Smith (1978) developed a model to explain different types of territorial behaviour among pastoralists under varying ecological conditions. Building on this model, Casimir examined territorial behaviour among a large number of cases of pastoral groups, and found that where natural resources on which pastoralists depend for a livelihood are characterised by low density (ie. scarcity) and high unpredictability, social rather than spatial boundary defence is the more likely strategy for restricting access to localised resources (Casimir 1992).

Figure 9 Annual rainfall totals, 1987-91, Erdene district

(mm)



flexible precisely so as to permit access to different sets of valued, 'key resources' as spatial variation in primary biomass production dictates (Mearns 1991a & 1992a; Scoones 1991). Research in Erdene district during 1991 and 1992 has revealed the importance of particular resource patches for contingency grazing during periods of summer drought or severe winter weather.

For example, during the harsh winter of 1986-87, snow reached a depth of 30-40 cm throughout much of Tsagaan Hutul (then *kheseg)* territory, covering much of the available pasture. A number *ofsuur* or household camps moved to the area known as Dulaani Gobi ('warm place', see figure 8), which is known to have certain advantages during severe winter weather. They included three households from Yunshuu brigade in the South of Erdene district, who were trucked in by the collective administration (see case history of Chuluu, annex 2), as well those normally resident in Tsagaan Hutul. Close by there is a grove of saxaul (Haloxylon ammodendron) trees, valued as browse for camels and as a source of domestic fuel[37]. This lies adjacent to a soda 'lick' *('khojar),* where animals can obtain essential minerals on the ground surface. An area of sand dunes known as Burden Bulag provides relative warmth and shelter, and contains many surface water springs. The following summer was a very dry one (see figure 9) with poor pasture growth. Animals were even weaker than usual after the severe winter, and the collective arranged for the same group of herders to move some 120 km northeastwards to an area known as Argaliin Uul, lying on the border between Erdene and the neighbouring district of Orgon. This higher lying area is known for its taller steppe grass communities rather than the shorter, forb-rich desert-steppe vegetation communities that cover much of Tsagaan Hutul (see figure 4). Both Dulaani Gobi and Argaliin Uul are valued 'key resource' patches, and during the period of collectivised production were tacitly reserved for use during emergency periods (Mearns 1991b).

Scale of resource unit

The high degree of inter-annual variability in forage availability in a given location in the Gobi desert-steppe zone, reflecting highly localised moisture availability, determines the scale of the physical resource unit required for sustainable livestock production in this region. Given this degree of variability, the 'ideal' *nutag* or grazing cycle of an individual household, covering an area in the order of 350 sq. km., is far too restrictive to be considered an ecologically viable pastoral resource unit.

The resource unit cannot be defined at the level of individual households or *khot ail,* since neighbouring camps have overlapping *nutag* and use the same general area. It is also unlikely that the *neg usniihan* would cover a sufficiently large area to represent the social equivalent of an ecologically sustainable resource unit. The particular wells used by the *neg usniihan* may vary at a given time from one year to the next. Only at the level of the *neg nutgiinhan* do the boundaries of the customary social institution begin to coincide with those of a particular territorial unit. While the territory of the *neg nutgiinhan* would probably suffice in 6 or 7 years out of 10, however, it would not provide sufficient flexibility in access to grazing, browse and mineral resources as a hedge against the risk of a more severe winter or intense summer drought, which may occur 3 or 4 years in 10. Moreover, these herder estimates are based on recent experience when the

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[37] It should be noted that the use of saxaul wood rather than dung for fuel is frowned on by experienced herders, except where branches and twigs can be picked up off the ground (Mearns 1991b, p32).

collective provided fodder supplements during the winter/spring season. It is likely that following the decline in state or collective provision of subsidised fodder, even greater flexibility of access to key resources will be necessary.

The appropriate scale of ecologically viable resource unit in the Gobi desert-steppe zone probably corresponds with the territory of the *bag* itself. In the case of Tsagaan Hutul *bag*, this implies an area of approximately 3,500 sq. km. Even then, for the more extreme high magnitude, low frequency weather event (eg. 1 in 10 year snowfall or drought), it will be necessary for herders to gain access to contingency grazing elsewhere in the district, and perhaps even in a neighbouring district. Such reciprocal rights of access were guaranteed during the pre-collective and collectivised periods by means of a higher authority in whose direct economic interest it was to ensure survival of the feudal or collective herds. With decollectivisation and the transition to a market-orientated economy with private herd ownership, it will be necessary to make provision in land policy for such reciprocal rights of access across jurisdictional boundaries in times of emergency.

6 HANGAI FOREST/MOUNTAIN STEPPE ZONE

Arkhangai *aimag* lies on the northern side of the Hangai mountain range. The *sum* territories of the forest/mountain steppe zone in the South and West of the *aimag* are orientated along a number of deep mountain valleys, and have little arable land. The mountains surrounding these valleys rise to over 3000 metres above sea level. During 1991, fieldwork in the Hangai mountain zone was carried out in Fourth Brigade of Ikh Tamir *sum* (Mearns 1991b). At the time of fieldwork in September 1992, this area of Ikh Tamir was under quarantine owing to an outbreak of bubonic plague. An alternative fieldwork site was selected in Tariat *sum* (marked in figure 3) to represent essentially similar conditions of mountain pastoralism, with yak and sheep as economically the most important species of domestic animal. Tariat *sum* covers an area of 4,650 sq. km., and has a human population of 5,400, 1500 of whom live in the district centre. This gives a mean herding population density of 1.2 sq. km. per person, or 0.8 persons per sq. km, which is higher than the mean herding population density of Erdene *sum*, Dornogobi, by a factor of eight[38].

Administrative and demographic structure

Until the early 1960s, Mörön and Tariat were two separate *sum*, each with a collective named Yalalt and Gerelt Zam respectively. They amalgamated in the 1960s to form Tariat *sum* with a single collective called Yalalt. In early September 1992, Tariat *sum* comprised five *bag*, one of which is the *sum* centre. There had been frequent reorganisations of the brigade structure during the collectivisation period, especially in the 1970s and 1980s, but the contemporary *bag* correspond broadly to brigades of the former collective. A sixth, formerly the westernmost brigade of Tsaicher, has been transferred to the neighbouring *sum* of Hangai. Apart from Töv *bag* (the *sum* centre), the *bag* divide the *sum* into strips orientated North to South, and are named (from West to East): Tsagaan Nuur ('White Lake'), Horgo ('Volcano'), Booroljuut, and Mörön.

[38] Background statistics and other additional information on Tariat district and its formal institutions are included in Shombodon et al. (1993).

The *bag* are not strictly territorial units, but approximate physical boundaries are given by the locations of the neighbourhood groups that make up each one (see inset, figure 13)[39].

At the time of survey in September 1992 there was a total of 1300 households in the *sum,* of which 200 lived in the *sum* centre, and 300 were fully private herding families. The total herding population represented an increase of around 20% on the herding population of the previous year. This is accounted for by the migration of former collective employees and others out of the district centre and into herding on the dissolution of the collective and a shedding of labour by the *sum* administration, having acquired small numbers of animals in the first stage of privatisation.

The remaining herders were divided between the two organisations that had replaced the former collective. Those in the two easternmost *bag,* Booroljuut and M6rön, were members of Yalalt *horshoo* (cooperative), which still had a small number of animals in collective ownership. Virtually all members of M6r6n *bag* remained as members of the *horshoo* in September 1992, while 136 households in Booroljuut (57% of the total population of the *bag)* were already private herding families. Those in the *sum* centre and the two western *bag* of Tsagaan Nuur and Horgo belonged to Gerelt Zam company. However, some 200 herders had left Gerelt Zam company since it was formed in March 1992 to become fully private herders, so that the assets of the company had fallen below the minimum level to qualify as a limited company[40]. It was therefore about to change its legal status to that of a *horshoo*[41].

Booroljuut was selected within the district as the sample *bag* for detailed investigation, principally because at the time of survey it contained both private herding families (136 households) and *horshoo* members (101 households). The total human population of the *bag was* 819. Figure 10 shows a population profile of the *bag* using standard demographic age-sex classes for the 203 households for which data were available. Mean household size was 3-4 persons, as in Erdene district, Dornogobi, but with a wider range of 1-10.

Wealth differentiation

Wealth ranking was carried out by three informants for all 237 households in the *bag.* Between the three informants different wealth classes were represented as well as both private and cooperative herders' interests, as one informant was drawn from each of these groups. The third informant was a former brigade official. All three informants represented different *neg jalgynhan* (see below). Five wealth classes were imposed on the distribution of average ranking scores. Data on private livestock holdings for 235 households were obtained from records of the district census dated December 1991. A Spearman rank correlation test was performed on the ranked livestock holdings and average wealth ranking scores, with a positive result of 0.58, significant at the 1% level, indicating that the actual livestock holdings of *bag* members did indeed explain most of the

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39 It is interesting to note that further administrative reforms just after the period of fieldwork in September 1992 led to the creation of two additional *bag*, so that overall the *bag* structure now corresponds even more closely to customary, neighbourhood-level communities (see Potkanski & Szynkiewicz (1993) for further details).

40 See fn.11above, p11.

41 Interview with Tsevegjav, Tariat District Governor, 2 September, 1992.

Figure 10 **Age profile of population, Booroljuut *bag***

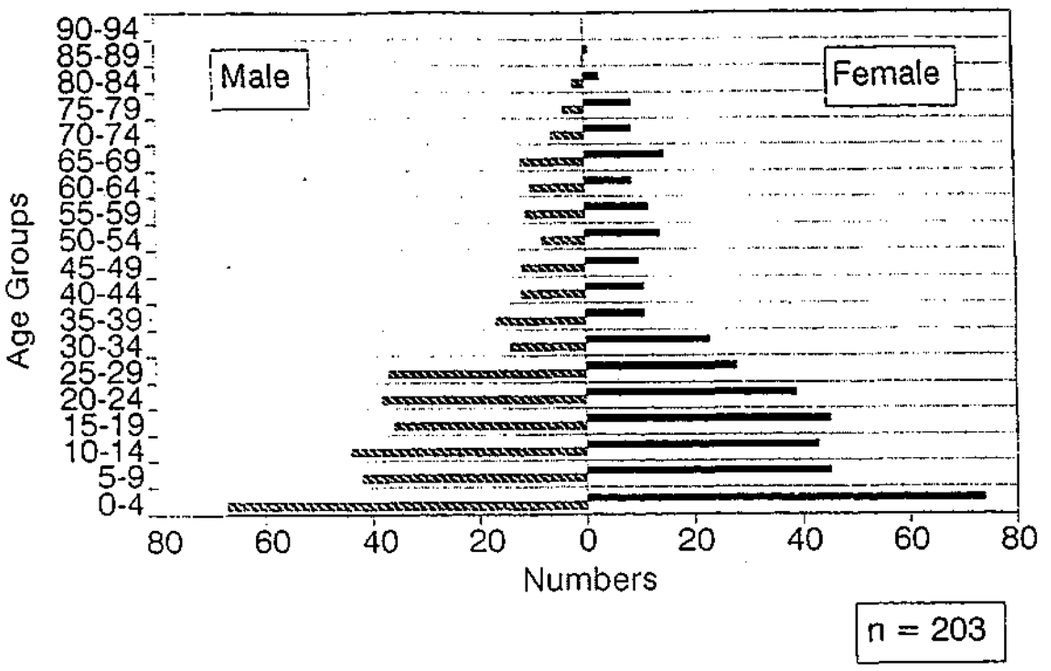
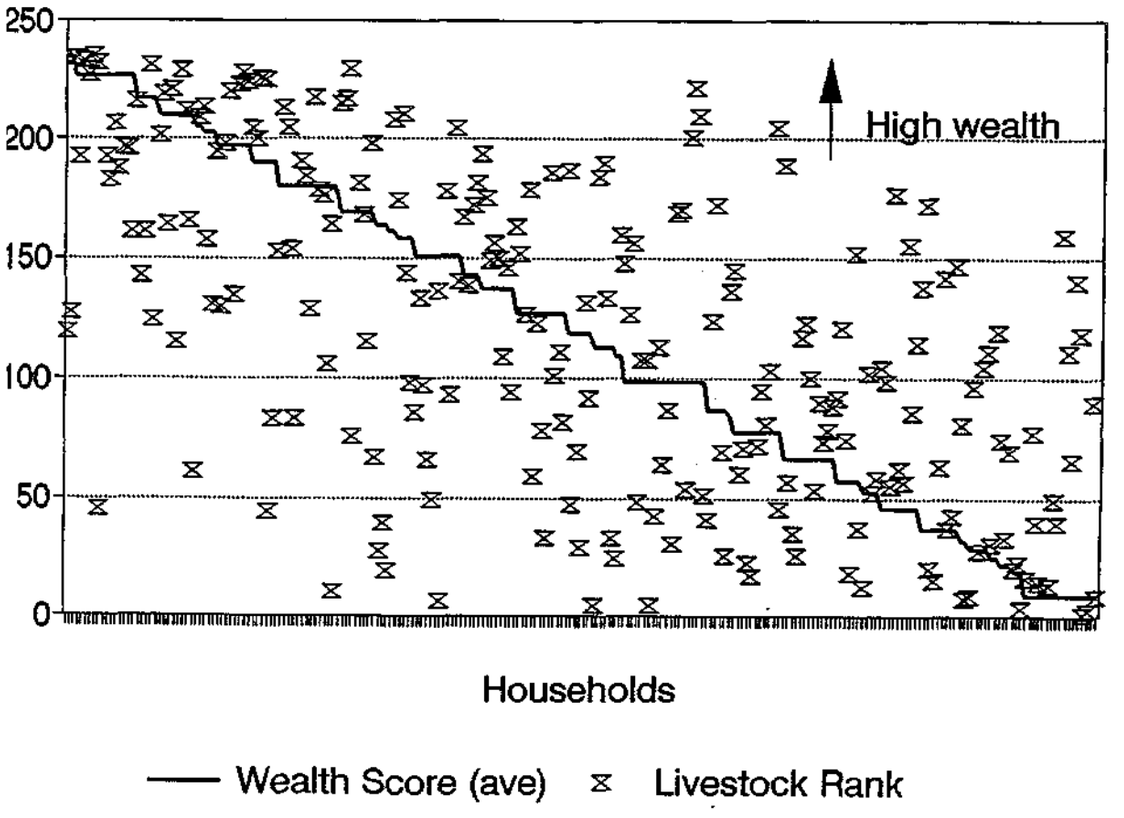


Figure 11 **Wealth score against livestock holdings, Booroljuut**



variation in wealth status shown by the wealth ranking method[42]. The data are shown graphically in figure 11, using average wealth ranking scores. The additional criteria used in the wealth ranking are much the same as reported in table 3.

As in Tsagaan Hutul *bag*, Dornogobi, no significant correlation was found in Booroljuut *bag* between increasing age of household head and increasing wealth (measured by average wealth ranking score or livestock holdings[43]). No clear pattern emerged from sorting the wealth data by age of household head, although a priori one would expect the general observations reported above for Tsagaan Hutul to hold for Booroljuut as well, with high wealth status associated with household heads of middle age.

Local institutions

The social mapping technique was used to identify local institutions within Booroljuut *bag* in the same way as in Tsagaan Hutul, Dornogobi. The approximate territory of the *bag* divides into a series of tributary valleys, orientated roughly North to South, and feeding from the North into the main Suman River. A total of 10 informants[44] from three such valleys identified neighbourhood-level groups known locally as *negjalgynhan* ('people of one valley') on the basis of those families who tend to move their respective camps more or less as a group from one seasonal pasture area to another. The *negjalgynhan* identified took their names from the tributary valleys or other areas in which they customarily camped and pastured their herds. Approximately five such groups were identified at the time of survey for Booroljuut bag as a whole: Upper Booroljuut, Tsagaan Uul/ Tsaluu, Lower Booroljuut, Ikh Jargalant, and Aralt. Some summary statistics on the composition of and wealth differentiation within four of these *negjalgynhan* are shown in table 6.

It is significant that ownership status (private versus *horshoo)* varied between the *negjalgynhan* in Booroljuut. All the herders in a single *negjalgynhan* were either private or members of the *horshoo;* there were no mixed-membership neighbourhood groups. The herders of Lower Booroljuut valley, for example, were all private, while those of Ikh Jargalant valley were all members of the *horshoo.* However, no association was observed between average wealth status, as shown in table 6, and ownership status. There was some evidence that once a significant number of leading herders in one neighbourhood group had decided to form a *horshoo,* for whatever reason, or to leave the existing *horshoo/company,* all the other members of the group would follow suit. This observation seems to confirm the perception that each *negjalgynhan* does

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[42] The usual recommendation for wealth ranking by the card sorting method is not to exceed 100 households (Grandin 1988). The larger the number of households, the less likely it is that an individual informant will know all the households in the community. This is an important requirement of the method, and all households in the community must be included. However, close observation of the informants during wealth ranking in Booroljuut *bag*, and the fact that relatively few households were omitted during card sorting, revealed that the method was successful even with such a large number of households (235). The significant postive correlation result reported here could also be taken as a measure of the relative accuracy of the wealth ranking method itself, even with such a large number of households.

[43] These tests gave Spearman rank correlation coefficients of 0.20 and 0.14 respectively, with a sample size of 185 households.

[44] Interviews with Choijil, Gankhuyag, Oyunchimeg, Chogsomjav, Delgerdalai, Bayardalai, Purevdorj, Adyahorol, Gotov and Purevsuren, 4-8 September, 1992.

indeed function as a cohesive and interdependent community group, an issue to which we return in section 8.

Table 6 Summary data on *neg jalgynhan* composition and wealth differentiation, Booroljuut

Name of *neg jalgynhan*	Number of *khot ail*	No. of house-holds	Mean livestock holdings per household (*bod*)	Standard deviation of household livestock holdings	Coefficient of variation in livestock holdings
Upper Booroljuut	4	27	26	14	53
Lower Booroljuut	12	58	32	14	44
Ikh Jargalant	14	78	32	16	51
Aralt	n.a.	20	33	20	61

The results of the first stage of social mapping (identification of neighbourhood groups) were broadly similar between the 10 informants (working in pairs or individually). As might be expected however, the informants had a deeper knowledge of the groups of which they were themselves members, and weaker knowledge of more distant groups. The data reported here therefore represent a composite 'social map', using information for each *negjalgynhan* as supplied by informants who were themselves members of that group.

The second stage, carried out for the three sample *negjalgynhan* of Upper Booroljuut, Lower Booroljuut and Ikh Jargalant, was to identify the individual *khot ail* within each neighbourhood group. Further analysis was carried out at this stage using data from the wealth ranking and from district census records on livestock holdings, and household age and sex structure. A summary of results is shown in table 7, while the detailed data for a total of 164 individual households are included in annex 3. The summary data shown in table 7 include the name of the household head considered to be the leader *(akh)* of the khot ail; the number of member households at the time of survey[45]; the average number of animals per household given in cattle-based livestock units or *bod;* the range of variation of livestock holdings between member households of each *khot ail* (ie. the difference between the largest and the smallest number of animals, again expressed in *bod);* and the number of households falling in each of the five wealth ranking classes (where T is the richest and '5' is the poorest).

Five characteristic types of *khot ail* can be elucidated from the available data. These are represented diagrammatically in the matrix in figure 12. The first type are small (2-3 households), rich *khot ail,* typified by Choijamts[1] and Chimiddorj's *khot ail* in Lower Booroljuut. They tend to

[45] Note that the actual household composition of each *khot ail* varies by season and (to a lesser extent) from year to year. It is emphasised that the *khot ail* described here are not permanent institutions, although they may well turn out to be relatively stable from year to year. It is too early to tell yet to what extent they will remain stable following decollectivisation; this would need to be monitored over a period of several years.

have many animals, especially sheep and yak, and have a relatively higher proportion of adult members. The households in this type of *khot ail* are commonly headed by people of different generations, for example a father and married son. There are few *khot ail* of type 1 in the sample *negjalgynhan.*

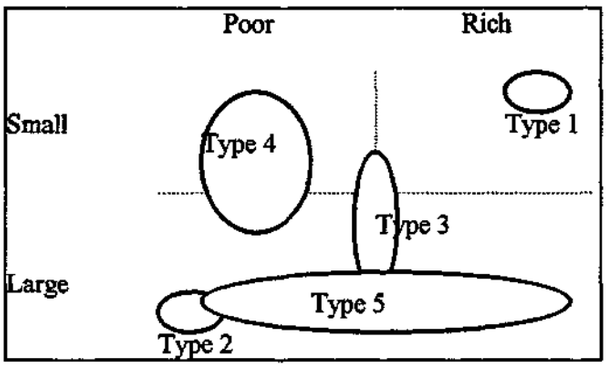


Figure 12 Matrix of *khot ail* types in Booroljuut
(see accompanying text for explanation of types)

Type 2 are large (7-9 households), poor *khot ail,* of which those headed by Baasannyam, Sandallhundev (Upper Booroljuut) and Nambarsaikhan (Lower Booroljuut) are examples. They have very few or no yak, and relatively few horses. Cattle and sheep predominate among their herds. There are no characteristic age structures to these *khot ail.* Again, there are few of this type in the sample *negjalgynhan.*

The third type are medium-sized to large *khot ail* (5-9 households) with households having average livestock holdings (eg. the *khot ail* led by Mavganbavuu and Galbadrakh in Lower Booroljuut). Cattle and sheep predominate among their herds, as they do in this region as a whole, but yak are also well represented in some households, and others have a very diverse species composition with all animals well represented. Most of these *khot ail* are made up of households with a relatively older age structure. Type 3 *khot ail* are quite common in the sample *negjalgynhan* (approximately 7 out of a total of 30 *khot ait).*

Type 4 are small to medium-sized (2-6 households), poor *khot ail.* This is the most common type in the sample (about 12 out of 30 *khot ail),* exemplified by those of Dorj (Upper Booroljuut), Tumur-Ochir (Lower Booroljuut) and Galsandorj (Ikh Jargalant). The family herds of the households in this group are similar to those of type 3 *khot ail* (mainly cattle and sheep, some yak), albeit smaller, while the households have a relatively younger age structure. It is likely that over time type 4 *khot ail* become more like those of type 3, increasing in both size and wealth.

The final type of *khot ail* is typically large (7-10 households) and is chiefly characterised by including households of both high and low wealth status, and with both younger and older age

Table 7 Summary data on khot ail size, composition and wealth differentiation, Booroljuut bag

Khot ail (name of leader)	Number of households	Mean no. animals per household (bod)	Range of variation of livestock holdings within khot ail (bod)	No.households per W.R. class				
				1	2	3	4	5
Upper Booruljuut								
Sandailhundev	8	26	25	0	0	1	2	5
Baasannyam	9	29	69	0	1	3	1	4
Dorj	5	19	16	0	0	2	1	2
Choijil	5	27	19	0	1	0	3	1
Lower Booroljuut								
Mavganbavuu	8	32	42	0	3	2	3	0
Sumyaragchaa	10	38	75	1	3	2	1	3
Damdinbazar	3	21	5	0	0	1	1	1
Choijamts	2	45	2	1	0	1	0	0
Chimiddorj	2	41	9	0	1	1	0	0
Nambarsaikhan	7	25	22	0	0	1	0	6
Janjaahuu	6	30	27	2	0	2	1	1
Tumur-Ochir	3	30	16	0	1	0	1	1
Baatar	5	20	20	0	1	0	2	2
Galbadrakh	6	40	41	0	2	2	2	0
Chogsomjav	4	32	25	0	0	0	3	1
Boldbaatar	2	33	15	0	0	1	1	0
Ikh Jargalant								
Monkhsaikhan	6	39	20	2	0	2	2	0
Adyahorol	8	40	52	3	1	1	1	1
Ravdandorj	8	43	56	0	3	2	1	2
Lhagvaa	5	33	16	2	1	1	1	0
Galsandorj	3	31	17	0	0	0	1	2
Batjantsan	3	22	27	0	0	0	1	2
Batsuur	9	30	43	0	1	3	3	2
Baljirjantsan	3	52	71	1	0	1	0	1
Badamdorj	4	28	31	0	0	1	2	1
Battsingel	4	31	24	0	0	2	1	1
Dangaasuren	7	37	71	1	1	1	1	3
Algaa	10	25	39	1	3	0	1	4
Narbaatar	6	23	54	0	0	0	2	4
Dorj	3	16	5	0	0	1	0	2

Note: see annex 3 for detailed demographic and herd structure data by household

structures. Type 5 *khot ail* generally have many yak as well as a diverse range of other animal species. It is hypothesised that type 5 *khot ail* include pairs of households involved in dependency-type relationships similar to the traditional *jarsiin ail,* although more data are required to test this hypothesis.

The detailed data in annex 3 on household structure and livestock holdings within individual *khot ail* are accompanied by simple genealogies to demonstrate the extent and strength of kinship relations as an integrative factor. The limited information that was gathered on kinship relations between *khot ail* of the same neighbourhood group *(negjalgynhan)* revealed that kinship relations tend to be closer within *khot ail* than between neighbouring *khot ail.* As might be expected, there is an association between spatial and social proximity: with increasing physical distance between *khot ail,* the strength of kinship relations between them diminishes.

Pastoral mobility and flexibility

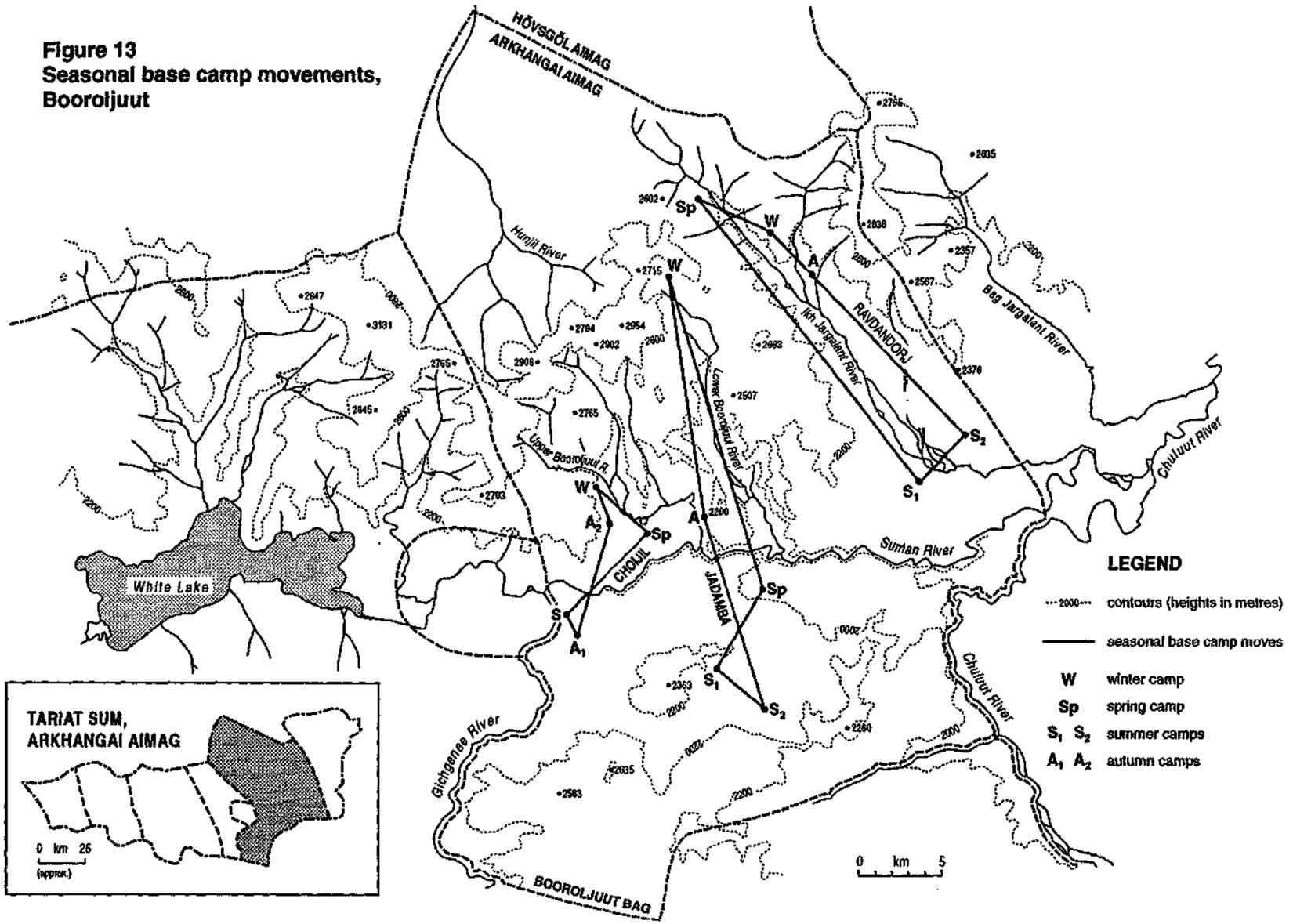
Figure 13 shows the *nutag* of three individual households (Choijil, Jadamba and Ravdandorj) in Booroljuut *bag,* Tariat. As in the case of Tsagaan Hutul *bag,* Dornogobi, discussed in the previous section, these are intended for purposes of illustration only[46]. The households are each members of different *negjalgynhan* or one valley communities. Most households make between four and six moves of camp per year: one in each season, with perhaps two each during the summer and autumn. These moves tend to be confined within the valley in which the household customarily lives (eg. Ravdandorj in Ikh Jargalant valley), but in the case of the smaller valleys with more restricted grazing, summer and perhaps early autumn pastures lie on the southern side of the main Suman River valley on the open plateau known as Aral[47] (eg. Choijil in Upper Booroljuut and Jadamba in Lower Booroljuut).

In the deep, narrow valleys of the Hangai mountains, seasonal movements have a vertical as well as a lateral dimension. The lower lying pastures in the valley floor, close to rivers and streams, are used during the summer and late spring when new forage growth is most vigorous. These pasture areas are too exposed for use during the winter and early spring when biting winds pose a serious threat to vulnerable new-born animals. Areas used for autumn pasture are found further up the tributary valleys, at mid-altitude, at the point where the valley begins to narrow and provide some shelter from adverse weather. By this time, the short grasses in the valley floor are already beginning to dry up, while grass further up-valley remains relatively succulent. The winter shelters and pastures are located in the upper reaches of the tributary valleys where maximum shelter can be obtained from snow storms and wind. Great care is taken to reserve these pastures for use only during the winter; certain slopes are particularly valued where snow does not tend to lie to any

[46] Potkanski & Szynkiewicz have tracked and mapped a further sample of 18 household *nutag* in Booroljuut *bag* (see PALD Research Report No.4). The seasonal pattern described here is confirmed by their findings. Bazargür, Shiirevadja and Chinbat of the Mongolian Institute of Geography and Mongolian State University (Department of Geography) have described six generalised regional models of pastoral mobility, based on extensive fieldwork over the last 15 years (Bazargür et al. 1989). The results of this work are summarised in PALD Research Report No. 1 (Bazargür et al. 1992). The pattern described here for Borooljuut *bag* corresponds to their 'Hangai-Hentii mountain zone' model.

[47] Literally, 'island': the area lying between the deeply incised gorges of the three rivers Suman, Chuluut and Gichgenee.

Figure 13
Seasonal base camp movements, Booroljuut



significant depth, owing to their orientation with respect to prevailing winds. The shelters are constructed on the lee side of steep hillslopes. Pastures used during the early spring may be adjacent to the winter pastures, or may be further down-valley in other sheltered spots with separate spring shelters. Unless they are close to winter shelter sites, pastures used during early spring tend to be slightly lower in altitude than those used in the autumn months. Some moves are as short as 1-2 km, especially between autumn and winter camps, while the longest moves may be up to 20 km. The total distance moved each year varies between about 20 km and 50 km.

Different areas of pasture within the *bag* territory have particular characteristics in addition to the topographic variations described above. The small valley called Usan Zuil, for example, which lies between the valleys of Lower Booroljuut and Ikh Jargalant, is particularly known for its exceptionally low snow cover. It is therefore customarily used as winter pasture. Similarly, Hoorai ('dry place'), immediately adjacent to Usan Zuil, can only be used in winter because it is a dry valley. Without any flowing water course or spring, it can only be used for grazing when there is some lying snow that animals can eat. These small valleys are used for winter pasture by households who normally graze their animals in Lower Booroljuut during the autumn.

Given the much higher herding population density in Booroljuut *bag* compared with that in Tsagaan Hutul, there is an even more pressing need for herders to develop 'coordination norms' with their immediate neighbours over the use of common pastures. The decision rules governing individual pasture use are broadly as described in section 4. Over time, based on interdependent neighbourhood communities living in adjacent valleys *(negjalgynhan),* customary patterns of pasture use by season have evolved into a stable and predictable pattern. The individual *nutag* of separate families aggregate into a 'group *nutag',* so that an effective system of pasture rotation or deferral operates by season[48]. Under collectivised production, the customary pattern of pasture use at the level of the neighbourhood group in Booroljuut was reinforced by the fact that individual *suur* were granted the use of the collective-owned truck or tractor on a specific date each season for moving their base camp. Winter shelters were also designated to particular *suur* according to the number and type of animals they looked after on behalf of the collective.

The orderly system of customary pasture deferral in Booroljuut was already coming under threat in 1992 following the dissolution of the collective. As discussed in section 4, decollectivisation has led to certain trends that favour individual free-riding behaviour. Institutional reforms have changed the formal rules by which herders operate. The uncertain local political and economic environment has heightened the assurance problem faced by all herders of not knowing to what extent their neighbours will continue to exercise voluntary restraint in their use of common pastures. However, the informal institutions regulating access to pasture appeared to remain relatively resilient among already established herders in the face of administrative reforms, since they recognised that at least some degree of structure was necessary if they were to continue producing livestock and livestock products without too much disruption.

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[48] The topographic pattern closely matches that previously identified and mapped for Fourth brigade of Ikh Tamir *sum*, Arkhangai (Mearns 1991b, 1992a).

Figure 14 Congestion of autumn pastures, Lower Booroljuut valley

In 1992, Jadamba and his wife Oyunchimeg moved as usual to the spring and summer pastures in the area known as Aral ('island') on the other side of the Suman River, between the Gichgenee River and the Chuluut River. Animals are known to gain weight quickly on the more open pastures of Aral. The most suitable pastures for autumn, however, are those in the narrower Lower Booroljuut valley north of the Suman River. Winter pastures are located in the higher, more sheltered valley of Usan Zuil, or further up Lower Booroljuut valley. Jadamba's *nutag* is shown in figure 13. He normally coordinates his use of pastures with the other households of the *negjalgynhan.* This customary, seasonal rotation has long been practised and closely observed, reinforced by the use of the collective tractor or truck, assigned to particular *suur* on specified dates for moving camp.

In 1992, however, there had been a prolonged concentration of *khot ail* and herds in Lower Booroljuut throughout much of the year so that the pastures were already grazed out by the beginning of the autumn season. Jadamba and Oyunchimeg, together with Sumyaragchaa and his wife Doljinsuren with whom they made a *khot ail,* therefore decided, reluctantly, to move to the neighbouring small valley of Tsaluu/ M6r6n for the autumn.

What happened during 1992 was this. Following decollectivisation, a large group of households in the *neg jaygynhan* left Aral early in the spring, and moved much earlier than usual to the autumn pastures. Oyunchimeg listed the 22-25 households concerned, including the *khot ail* of Chogsomjav (4 households); Nambarsaikhan (6-7 households); Galbadrach (3-4 households); Janjaahuu (2-3 households); Lhavagsuren (4 households) and Damdinbazar (3 households). Some of these households included highly experienced, national champion herders. Others, however, were newcomers, having just acquired animals under privatisation. They arrived at the autumn pastures during the spring, claiming at the time that they had moved in order simply to build new shelters and stockyards following privatisation. However, they remained at those pastures all summer and were still there by the autumn.

The group had moved against the advice of the *bag* chief, Tumur-Ochir. The group told him that if he wanted to move them back to Aral he would have to provide transport and fuel. Since they knew it was no longer within his power to provide these, they remained in Lower Booroljuut. By the time Jadamba moved to Lower Booroljuut himself around the beginning of Setember, he had missed good grazing. In future, if the others moved early again, Jadamba and Oyunchimeg would also go with them. However, if they decided collectively to defer grazing on the autumn pastures as they had done customarily, Jadamba and Oyunchimeg would also go along with this. They thought this latter outcome was a strong possibility: "This year no-one thought about the future. They acted only for the present. Many of them now regret this because they know they are storing up problems for themselves in future. I don't expect them to act in the same way next year." (Oyunchimeg, 5 September, 1992)

This uncertainty in the production environment was exacerbated by the recent influx of urban-to-rural migrants following decollectivisation. Most of these were former employees of the collective (eg. drivers, watchmen, administrators), who had been residents of the district centre, and who by autumn 1992 represented an estimated 20% of the total number of herders in Tariat. These relative newcomers to herding have less incentive to observe local coordination norms regarding pasture use, for at least three possible reasons. First, and perhaps least likely, they may be unaware of them. Second, they are less integrated into local neighbourhood communities and therefore stand to lose less as a result of free-riding. Only with time will they begin to benefit from participation in social networks for mutual assistance in labour-intensive tasks, or for local exchange of other goods and services. Third, they are disadvantaged as late-comers. They are likely to have been less successful in acquiring winter and spring shelters under privatisation than

already established local herders, and therefore more inclined to move early to autumn and winter pastures in anticipation of the potential difficulties they may face in gaining access to grazing once other herders have moved. In Lower Booroljuut valley, this had already become a serious problem during 1992, as described above in figure 14. Again, it is not clear whether these newcomers are likely to be permanent or temporary; the outcome is likely to depend on how far they are able to integrate into the local neighbourhood group, and the relative availability of economic opportunities in urban versus rural areas as economic liberalisation proceeds.

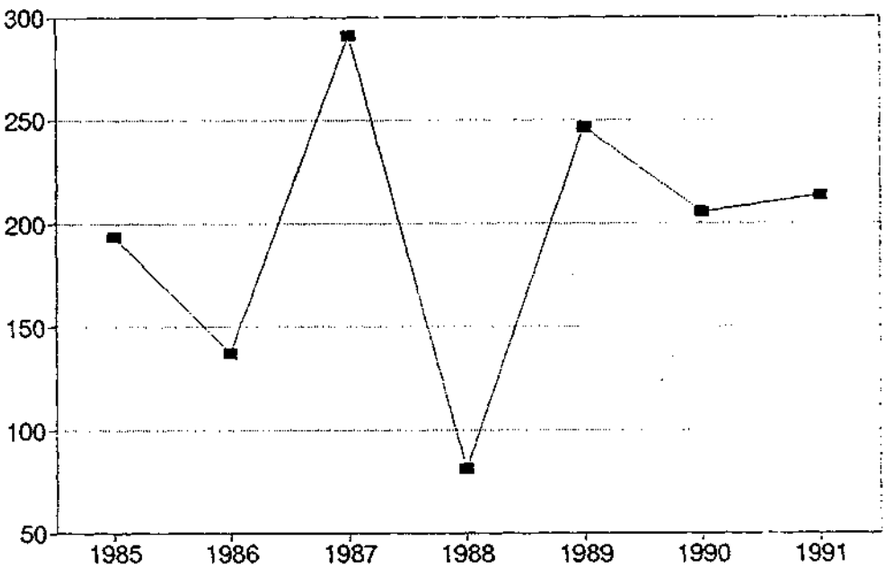
In terms of the generalised model of pastoral territoriality identified by Casimir, the territorial behaviour of herders in Booroljuut, given less scarce and less variable primary biomass production, is characterised by both spatial and social boundary defence. That is, the social unit of the *negjalgynhan* broadly corresponds to a locally recognised territorial unit. This pattern contrasts with that of Tsagaan Hutul in the desert-steppe zone, which is characterised by social but not spatial boundary defence, under conditions of scarcer and highly variable ecological production (Casimir 1992). Figure 15 shows annual rainfall totals for Tariat, recorded at the district centre, over the period 1985-91. These data are not noticeably less variable than annual rainfall totals for Erdene, Dornogobi, shown in figure 9. However, with a mean annual rainfall total of around 200mm, rainfall in the Hangai forest/mountain steppe zone is a less strictly limiting factor on ecological production than in the Gobi desert-steppe zone, where mean annual rainfall is less than 100mm. Compared with pastures in the desert-steppe zone, pasture quality in the wetter and more productive forest/mountain steppe zone is more likely to be influenced by the density-dependent factor of grazing pressure than by the abiotic factor of precipitation, as borne out by the perceptions of Lower Booroljuut herders described in figure 14.

In the Hangai forest/mountain steppe zone, it is quite rare for households to be forced to vary their usual *nutag* as a result of poor pasture conditions. The most common reason for an emergency move is a winter *dzud,* when heavy snowfall makes pasture inaccessible to grazing animals, or when a sudden freeze following a thaw forms a sheet of ice on the ground surface. From an informal survey of 18 herders, it is estimated that an emergency move owing to adverse weather would be necessary approximately once in 10 years. In such cases, under collectivised production, emergency moves were made over considerable distances, and usually across jurisdictional boundaries into adjacent districts.

Take Ravdandorj, for example, whose *nutag* is shown in figure 13. Ravdandorj last made long distance moves in the two consecutive winters of 1979 and 1980. In 1979, the collective moved all those households who were in Hunjil to Erdenemandal *sum,* another district in Arkhangai. They left in October, stayed through the winter and returned to their own *nutag* in April ready for the summer. In 1980, over 100 households were moved from Tariat to Ikh Tamir *sum,* close to Hanuy River. In 1977, Ravdandorj remembers that about 10 households (including his own) were moved by helicopter, since the mountain pass between their winter and spring pastures was impassable owing to heavy snowfall. The animals could still be trekked over, but *the ger* and other household property were airlifted. They were also dropped some bales of hay for the animals to eat while they were being trekked. Two helicopters were brought in, and each one made three trips.

Figure 15 Annual rainfall totals, 1985-91, Tariat district

(mm)



Scale of resource unit

The pattern of pastoral mobility described above indicates the approximate scale of ecologically viable resource unit required for sustainable livestock production in the Hangai forest/mountain steppe zone. Each individual *nutag* ranges over a core area of around 50-150 sq. km. However, other households in the neighbourhood group also range over the same area. It is therefore not possible to identify a physical area over which an individual household, or even a single *khot ail*, has exclusive use rights. It is only at the level of the one valley community or *negjalgynhan* that the boundaries of a social institution coincide with those of an ecologically viable resource unit. This does not imply that the ecologically viable resource unit is always a single tributary river valley; in some cases, a *negjalgynhan* will include two or three smaller valleys.

While a territory of this scale (say, up to 200 sq. km.) will probably suffice in 9 out of 10 years, it should be recognised that coordination norms regarding pasture use by herders in neighbouring *negjalgynhan* are flexible enough to allow reciprocal rights of access in times of need. In addition, as in the case of Tsagaan Hutul *bag* in the Gobi desert-steppe zone, it will still be necessary to make provision in land policy for reciprocal rights of access to pasture in neighbouring districts in case of emergencies caused by inclement weather (eg. the 1 in 10 year *dzud*).

7 LAND POLICY REFORM

A favourable institutional environment for productive and sustainable pasture land management is shaped by a whole constellation of institutional arrangements, including customary property rights, laws, public regulations and market-based incentives. So far we have examined the historical evolution of Mongolian pastoral institutions, formal and informal land tenure arrangements, up to the contemporary period of decollectivisation and economic transition (sections 3 and 4). Local institutions and patterns of pastoral land use and regulation have been described for two localities representing contrasting ecological zones (sections 5 and 6). It is argued that informal arrangements for regulating and managing common pasture land cannot be considered in isolation from local institutions that also perform other collective action roles. Elements of continuity have been emphasised, especially in the informal norms and customs surrounding land management, as well as those of discontinuity in formal institutions. This section examines what these trends mean for the formulation of appropriate land legislation and policy in contemporary Mongolia.

Objectives and comparative performance criteria

The Mongolian economy is critically dependent on livestock production, for domestic food security and employment, to provide raw materials for industry, and as an important source of foreign exchange (Mearns 1991a; Swift and Mearns 1991; Mearns 1992a). In the post-socialist context of reduced dependence on credits, loans and subsidies from the former CMEA, the importance of the livestock sector for economic transition is heightened yet further. Livestock production in turn depends on the productive and sustainable management of Mongolia's land and land-based natural resources. This central objective can only be achieved if attention is paid simultaneously to economic efficiency, social equity and environmental sustainability. These three parameters may be understood as criteria against which to test the performance of alternative configurations of institutions. They are often held to be in conflict with one another. However, they are not just potentially complementary; each is a necessary but insufficient condition on its own for productive and sustainable pasture land management, which requires that all three criteria be met together.

Conditions of environmental risk and uncertainty account in part for the evolution of redistributive customary institutions that spread and share the burden of risk throughout herding communities (section 3). Community-level regulation of access to valued grazing and other natural resources is a prime example (sections 4, 5 and 6). Under these conditions, economic efficiency cannot be considered separately from social equity. Collective action of various kinds represents a hedge against individual failure (the risk of which all herders face more or less equally), and therefore some degree of equity is an integral aspect of economic efficiency at the level of the group as a whole. This is yet further strengthened with the addition of the criterion of environmental sustainability. Sustainability adds a time dimension to economic efficiency; efficiency in future depends on sustainable land management practices now. The equity criterion also influences this time horizon, in the sense that the higher the degree of inequality within local institutions, the less likely it is that coordination norms around pasture use will be observed, and the more likely that they will be undermined by free-riding behaviour. This is because the interests of potential cooperators and potential defectors are likely to diverge with increasing inequality, thereby stretching the capacity of those institutions to enforce internal sanctions against defectors (section 4).

A favourable institutional environment for land management is likely to involve a mix of legal and market-based incentives, and public regulations. The incentive structure - particularly producer prices for livestock and livestock products, and prices for inputs of goods and services such as fodder, transport and veterinary services - should be such that sustainable resource management is a matter of self-interest in the first instance, as an intrinsic dimension of economic efficiency. The economic incentives for sustainable livestock production are not the concern of this report, but are being considered elsewhere[49]. Other incentives to sustainable resource management arise from constitutional and legislative provisions that guarantee security of use rights in land and natural resources as well as other forms of property. As discussed below, this need not imply individual freehold tenure; secure rights to land may be upheld in the form of leasehold tenure by groups of herders.

In order to meet the sustainability criterion however, secure use rights in land need to be made conditional on complying with certain legal obligations as set out in land and environmental protection legislation, including making any payments associated with resource use as specified in land policy. This assumes an institutional structure on the part of the state for resource assessment and monitoring, and the implementation of land and taxation policy. This institutional structure is necessary regardless of whether economic efficiency objectives are sought primarily by market-based means or public action. It is important to recognise that the legislative and resource assessment and monitoring functions of the state represent unavoidable transaction costs of any system for allocating and enforcing property rights over land and land-based natural resources; they cannot be left to the market.

Even assuming a structure of economic incentives that make sustainable land and resource management a matter of rational self-interest, this regulatory framework is very costly for the state to administer, especially where it needs to be created practically from scratch as is the case in contemporary Mongolia. The greater the degree of accountability and responsibility for routine tasks (eg. local regulation of access to pasture land, enforcing sanctions for minor land use offences) that can be devolved to local institutions, the lower will be the burden of these transaction costs on the state. Where it can be demonstrated that informal institutions, in concert with formal legislation and policy, have the potential to meet the required performance criteria of efficiency, equity and sustainability in land management, then even on the grounds of cost-effectiveness, alone, this provides a powerful a priori case for actively supporting those informal institutions. It is in this sense that the continuity of informal, local institutions around pasture land management in Mongolia, and their strong re-emergence in the contemporary transitional period, should be seen as an important window of opportunity for development.

Legislative and land policy reform in contemporary Mongolia

Since 1990 there have been moves to reform Mongolia's land legislation in directions more appropriate to a market-orientated economy. The relevant legislation is set out in the 1992 Constitution of the Republic of Mongolia (see summary of relevant provisions, annex 5); the Land Law of Mongolia, which at the time of writing awaits ratification by the State Ikh Hural (Sffl) or Parliament (see summary of main provisions regarding pasture land, annex 4); the Civil Code, as revised on 1 January, 1992; and other legislation with provisions concerning land (eg. Foreign Investment Law)[50].

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[49] See for example, Shombodon et al. (1993), PALD Research Report No.8; and Danagro (1992).

[50] Note that the Constitution takes precedent in the legal hierarchy so that, in the case of a conflict between the Constitution and other legislation (Land Law, Civil Code, etc.), the Constitution would prevail. It is also

The new Constitution makes it possible for the state to transfer plots of land to Mongolian citizens for private ownership (eg. arable land, urban and peri-urban building plots, etc.) but specifically excludes pasture land from this provision (article 6, para. 3; see annex 5)[51]. The question of 'privatising' pasture land has been the subject of considerable public debate, however, largely owing to confûsion as to the relative extent and nature of user rights and obligations under alternative forms of tenure. The term 'ownership', as used in Mongolian legislation, is understood here to mean freehold tenure; while 'possession' is understood to mean other forms of tenure providing for rights of access, use and compensation, the most relevant of which for present purposes is leasehold tenure. While the Land Law and environmental protection legislation place certain restrictions on the type and intensity of use to which land of all categories of tenure may be put, the essential difference between freehold and leasehold tenure is in the degree of control the owner/ possessor is able to exercise over the transfer of their rights.

A poll was conducted through full-page advertisements in Mongolian national newspapers during early summer, 1992, to guage public opinion on the issue of privatisation[52]. Very few respondents were opposed to the privatisation of pasture land; indeed, all herders who responded were reported to have been in favour. However, there is as yet little conception of the wide range of land tenure options that are possible in designing a resource rights system appropriate to the needs of a market-orientated pastoral economy. The results of this opinion poll must be interpreted with considerable caution, since 'privatisation' in Mongolia is frequently understood to mean 'reduction of state interference in one's affairs' and production decisions, without an appreciation of the countervailing legal, fiscal and other responsibilities of citizens in a market economy. Herders who responded to the opinion poll appear to have understood privatisation of pasture land to mean that they would be free to use land in whatever way they pleased. There is little conception of the obligations they must bear under the revised land legislation as the temporary custodians of a resource to be maintained in at least the same condition as when it was acquired. The term 'privatisation' needs to be used with extreme caution with reference to land, since what is normally under discussion are the precise contract terms and conditions (leasehold versus freehold, individual versus group rights, length of lease, size and definition of group, etc.), all of which may be compatible with some notion of 'privatisation'.

The Land Law is a carefully worked-out document[53] which provides a sound basis for strengthening the rights of land users, and for ensuring that conservative, non-degrading land

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assumed that the 'later-in-time' rule is followed whereby, if other legislation should conflict with the Land Law, the more recent legislation would prevail (Whytock 1992, fn.106, p23).

[51] Whytock points out that 'neither the Constitution nor the land law draft prohibit private ownership of pasture land; they simply do not provide a mechanism for privatization of pasture land. Theoretically, a law authorizing privatization of pasture land would not be unconstitutional.' (Whytock 1992, fn.203, p47). He goes further to suggest that under the existing Law on Land Use (reprinted in Butler, 1982), 'land may be transferred from one category to another. Thus, pasture land apparently could be recategorized as land for crop production, for example, and then privatized.' (Whytock, op. cit.) To avoid this, the procedure for land resource assessment and monitoring will have to include a clear statement on the permitted uses of particular types of land so as to preclude the re-categorisation of common pasture land.

[52] Dr G. Purevtseren, Director, Research Institute of Land Policy, personal communication.

[53] The land law was redrafted twice after the final text of the new Constitution was made available, including detailed technical assistance from Georgetown University Law School (USA) in preparing the third draft, financed by USAID under the Institutional Reform in the Informal Sector (IRIS) Project, University of

management practices are followed. Indeed, it requires not only that land quality is maintained, but that leaseholders ('possessors' of state-owned land) take measures to carry out land improvements. As argued above, however, this legislation needs to be supplemented by public policies to realise these objectives in ways that are administratively feasible and cost-effective and to ensure that, as far as possible, sustainable land management becomes a matter of self-interest on the part of land users. The weakest areas of the draft Land Law are the protection of land users' rights; the section on penalties, which includes insufficient safeguards against the abuse of authority by the administrative employees charged with the task of administering penalties; and the lack of precision regarding the actual state authorities responsible for administering general land policy, land management and resource assessment and monitoring procedures[54].

Allocating resource rights: strengths and weaknesses of existing legislation and policy
Drawing on Young (1992), nine specific criteria can be identified to guide appropriate institutional responses to the allocation of resource rights so as to 'promote efficient resource use and investment, ensure equity and retain environmental integrity' (Young 1992, p98). This sub-section examines the extent to which each of these criteria is currently met in the Mongolian legislative and policy framework, and suggests possible ways of closing the existing gaps. It would be very unusual for all these criteria to be met in practice. They are used here simply as guidelines against which to assess the strengths and weaknesses of existing legislation and policy regarding pastoral land ownership, possession, use and protection in Mongolia.

1. Efficient resource use requires the full specification of rights and obligations. State sovereignty over 'the land, its subsoil, forests, water, fauna and other natural resources and game' is constitutionally protected in Mongolia (see annex 5). Rights of ownership, possession and use in land are therefore transferred to specific groups and individuals only conditionally. In order to meet equity and sustainability as well as efficiency objectives, rights need to be coupled with carefully specified obligations. The Land Law asserts that land possessors (lease-holders) have rights to obtain from the owner a description of the land's characteristics, to possess and use the land according to its designated purpose, to recover from a guilty party losses due to violations of possession rights and reductions in fertility owing to degradation, and to compensation for investments made in the event of termination of possession rights. They are obliged to protect the land as specified in land and environmental protection legislation, take measures to improve it, and follow recommendations of the appropriate state authority on land use. For example, the provisions on land protection state that, if it is ascertained that land is becoming degraded, or in the case of land that is naturally sensitive to a change in its characteristics owing to human activity, the local governor shall determine a limit on the density of grazing animals.

The Land Law does specify clearly the rights and obligations of land possessors and owners, although their obligations, particularly those concerning land and environmental protection, are

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Maryland (Georges Korsun, IRIS Project Director-Mongolia, personal communication). See also Whytock (1992).

[54] Since the latest Government re-shuffle of September 1992, it appears most likely that the Ministry of Environment (MoE) (formerly the State Committee on Environmental Control (SCEC)), and the various professional bodies answerable to the MoE (eg. the Research Institute of Land Policy), will have primary responsibility in this area, although the Ministry of Food and Agriculture and associated professional bodies (eg. the Institute of Agricultural Economics) also have an important role to play.

more clearly specified than their rights. This reflects the heightened awareness of environmental concerns among the drafters of the Land Law, mostly drawn from the former State Committee for Environmental Control, the body which was concurrently preparing the Mongolia National Report for the 1992 United Nations Conference on Environment and Development (Government of MPR 1991). It is less clear, however, what actually constitutes the 'land possessor' as the holder of these rights and obligations. The Land Law allows that the state may transfer land for possession to 'economic entities and citizens'. This implies that pasture land may be leased to individuals, or to the three types of economic entity specified in the law on economic entities: shareholding and limited companies, and cooperatives *(horshoo).* It is a matter of priority that existing policy is supplemented by a clear statement as to the definition of'land possessor' for certain types of pasture land. It is suggested here, on the basis of the findings reported in sections 5 and 6, that individual tenure of pasture land is very rarely appropriate, or even possible, in any season and in any ecological zone of Mongolia.

During 1992, two broad positions were identified in the debate among policy-makers in Mongolia on forms of land tenure appropriate for pasture land[55]: (a) that it is not possible to define areas of pasture for the exclusive use and control of individual herders or even individual *khot ail,* given the need to maintain flexibility of access to different pasture resources in the face of climatic variability and other risks. This view was held by those who were initially opposed to the transfer into private hands of land of any kind, including the conservative faction of the Mongolian People's Revolutionary Party (the former communist party). More recently however, the hardliners themselves have been equally divided on the issue; and (b) that all land may be either privately owned by or leased to individuals. Land leases to groups of herders would also be acceptable for pasture land, in this view; it is not thought to be desirable or possible to extend individual tenure over all pasture land. Several tenure options were being proposed by the 'pro-privatisation' camp that could co-exist:

(i) only winter (and possibly spring) shelters and the immediate grazing area or 'homestead' would be subject to individual ownership or possession, with further areas of winter pasture subject to individual possession by lease, inheritable but not transferable by sale;

(ii) in the more productive areas where movements are relatively restricted, individual *khot ail* could lease summer and autumn grazing land;

(iii) in less productive areas where access to a larger resource unit is necessary to ensure sufficient flexibility for risk management, leases over grazing land should be held by a larger group, certainly in the case of summer and autumn pastures, and possibly for winter and spring use as well. In some cases the limit of the resource unit and lease-holding group would be determined by available water supply *(neg usniihari);* in other cases by topography *(negjalgynhan* or one valley groups). Pasture allocation to individual *khot ail* could be coordinated at the level of the larger group, according to customary decision rules and norms (section 4). Only in the case of serious disputes that could not be settled at that level would a higher authority (eg. *bag, sum)* become involved in the manner set out in the draft Land Law;

(iv) inter-swm, *'mtev-aimag* and state reserve land for emergency purposes will remain in state ownership, as specified in the draft Land Law.

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[55] Dr G. Purevtseren, Director, Research Institute of Land Policy, personal communication.

These options together represent the most 'pro-privatisation' of the views being expressed during 1992 among Mongolian policy-makers on land tenure reform. However, it is likely that to move too rapidly towards (i) and (ii) above may threaten all three objectives of efficiency, equity and sustainability. Once a process of land transfer into individual hands has begun, it is likely to set a precedent that would be very difficult to reverse.

It is suggested here that option (iii) above should be the 'default', in the form of land leases to groups of herders based on neighbourhood-level institutions with customary responsibility for regulation and coordination of land use, made conditional on meeting various responsibilities as set out in the Land Law. As demonstrated in sections 5 and 6, this proposal is consistent with the scale of ecologically viable pastoral resource units in more productive forest/mountain steppe areas as well as in the drier, riskier desert-steppe regions. This view has the support of the Research Institute of Land Policy, the professional body chiefly responsible for advising the Government of Mongolia on land policy. The definition of the neighbourhood groups of herders would be relatively unproblematic, as their membership would be self-selecting. They could form corporate bodies as herder associations, perhaps in the name of *horshoo,* so as to qualify as legitimate, corporate land possessors for the purposes of the draft Land Law.

2. Resource rights should be specified in as small a bundle as possible; that is, they need to meet the criterion of separability, so that they may be dealt with and modified separately. There is an important difference between multiple-use systems (rights to control all forms of use are vested in one 'owner') and joint-use systems (separate rights granted to different individuals or groups, with appropriate safeguards and entitlements for compensation when separate uses interfere with one another). Joint-use systems tend to be more economically efficient, since the costs of establishing an additional use tend to be lower, and they do not foreclose other development options. For example, rights of access to and use of natural resources such as surface mineral deposits, saxaul trees for camel browse, or water from borehole wells (in the limited areas where forage availability is not the principal limiting factor, such as the eastern steppes) may be shared with groups of herders other than the group that holds the principal rights to grazing on the surrounding land. Reciprocal rights of access to valued grazing could be guaranteed between neighbouring groups of herders by similar means, as a contingency measure against the risk of inadequate forage availability during a summer drought or winter *dzucP*[6].

3. Where separately specified resource rights and obligations are subject to transferability, 'market mechanisms can be used to reallocate them to more efficient, more equitable and more ecologically appropriate uses' (Young 1992, pl05). The Land Law states that 'state-owned land may be *sold to* the citizens of Mongolia for private ownership' (emphasis added). It is reported that the drafters of the Land Law deliberately avoided the use of the word 'privatisation', which they interpret as referring to the 'giving away' of state and collective assets and property under the Law on Privatisation, a process which is widely perceived to

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[56] There are strong arguments for separately allocating and administering grazing rights and mineral exploration rights on the same parcels of land. The Mongolian Petroleum Law does in fact state that 'all petroleum occurring in the entrails of the earth shall be exclusively the property of the state' (article 3). The Constitution also separates these rights in paras. 2 and 3 of article 6: 'the subsoil with its mineral wealth.. shall be the property of the state.. The state may give for private ownership plots of land except pastures and areas under public and special use, only to the citizens of Mongolia. This provision shall not apply to the subsoil thereof..' (see annex 5).

have 'bred corruption and inequity[1] (Whytock 1992, fh. 120, p27). The free buying and selling of rights is voluntary; those who sell their ownership rights are paid more than the value of the right to them.

However, a set of minimum environmental standards must underpin the transfer of resource rights. In the case of pasture land, a minimum scale of ecologically viable land resource unit must be guaranteed (see sections 5 and 6), without the risk that a group of herders will see their leased pasture land subdivided by the transfer of some part of it by the state to others for ownership and possible alternative uses. The Mongolian land legislation specifically prohibits the transfer of possession rights to others, and possession rights automatically cease on the death of the possessor or dissolution of the possessing entity. Ownership rights may be transferred, but only with the permission of the appropriate state authority (see annex 4). The right to inherit land is ambiguous in existing legislation. The Constitution provides for 'fair., inheritance of moveable or immovable property[1] but it is not clear whether or not this includes land; neither the draft Land Law nor the Civil Code gives a specific statement on the issue of land inheritance. To meet the sustainability criterion, clear policy guidelines should be given regarding the minimum parcels of pasture land (and the size of the corresponding social group) for which possession rights are issued, according to ecological conditions in different regions of Mongolia.

4. Resource rights and obligations need to be specified in such a way as to provide conditions for **investment security.** This criterion has several aspects, including exclusivity, rights to compensation, and political stability. First, resource rights need to be allocated exclusively to individuals or corporate groups, so that others may not utilise the resource in a way that diminishes its value to the right-holder, and so that the right-holders have an exclusive entitlement to profit from any investment they may make. It is not necessary for investment security that tenure rights be granted only to individuals. Indeed, many forms of investment in land are only possible if carried out collectively (eg. protection and upgrading of meadows from which hay is or could be cut). The draft Land Law in fact requires land possessors to take measures to improve land quality, which they will not do if they do not enjoy exclusive rights to benefit from those measures. Provided policy guidelines on the scale of resource unit and definition of resource-managing group are clearly specified, so that investment security may be enjoyed at the level of a neighbourhood-level group of herders, the land legislation could potentially guarantee such rights.

In most parts of the country, the *nutag* (family territory) of individual herders overlap considerably with those of others, thereby precluding exclusive individual entitlement to profit from land investments even if tenure rights were notionally allocated to individuals. Customary law in Mongolia does recognise individual rights in winter pasture sites, although not in all parts of the country, and not as permanent, inalienable rights (see section 4). Of the likely forms of investment in pasture land - eg. winter and spring shelters and corrals, the planting of fodder crops (eg. oats) close to winter shelter sites (making use of accumulated dung), upgrading of hay meadows - most are associated with areas of winter pasture. It is therefore possible to conceive of a system of nested rights whereby the neighbourhood group, as the corporate holder of rights to a specific territory, can provide for investment security within the group to individuals at their winter pasture sites, while other forms of investment (eg. in hay meadows) need to be guaranteed security at the level of the group as a whole.

The Mongolian state constitutionally reserves the right of eminent domain[1] over land. That is, as the sovereign owner, it reserves the right to regain control over land on the grounds of special public need, or in the event that land is being used 'in a manner adverse to the health of the population, the interests of environmental protection and national security' (see annex 5). The interests of investment security can only be met, however, if this carries with it the right to full compensation. The right of land owners to due compensation in this event is protected in the Constitution, but the right of land possessors to compensation is asserted only in the Land Law. Moreover, the langauge of the Constitution is ambiguous in protecting the rights of land users in this respect; it is unclear what constitutes 'due' compensation or 'special public need'. As Whytock points out, '[t]he Constitution gives the State considerable powers to terminate private land rights' (Whytock 1992, p33); the state is not expressly prohibited from expropriating land except in very general terms. Provision is made in the draft Land Law to compensate land owners and land possessors for the full market value of any investments they may have made (in immovable property and structures such as buildings, livestock shelters and wells, or in land management activities such as pasture re-seeding), should their rights of ownership of possession be terminated for whatever reason. However, this provision could potentially be superseded by later legislation.

The conditions of exclusivity and right to compensation for investment security do not require absolute security of tenure (ie. unconditional freehold). Investment security may be perfectly consistent with leasehold tenure, provided the other conditions given below are also met as far as is practically feasible. Most importantly, it is only necessary that the rights to use land extend over a period that is significantly greater than the expected life of the investments associated with it, and that legislation provides for the periodic renewal of rights in an equitable and efficient manner. Mongolian legislation provides for land leases of 15-60 years (the lower limit specified in the Civil Code; the upper limit in the draft Land Law). The planning horizon for most loans can be expected to be in the order of 10-15 years.

Finally, it is important that there is sufficient political stability that users can expect their rights to be upheld over time. Land possessors must perceive that, provided they continue to use the resource sustainably, their heirs and successors will be entitled to use that resource in perpetuity. As discussed in section 4, the situation of structural chaos prevailing in Mongolia during economic transition means that this condition is not being met at present. There are few incentives to make investments in land while it remains unclear who will benefit from them, and while opportunities to free-ride on common grazing with impunity appear to be increasing. Again, the possibility of reinforcing common property rights at the level of the neighbourhood group needs to be clearly stated in land policy, so that groups of herders may be able to make productive investments in hay-making land or in growing fodder crops, in the secure knowledge that they will collectively reap the benefit, or that they can legally defend their corporate rights in the case of violation.

5. In principle, Mongolian land legislation and policy are insistent that measures be taken to protect and improve land quality. The notion of good stewardship over land and the natural environment more generally has a long heritage in Mongolian culture, even though it is widely perceived in Mongolia that it was partially undermined during the period of collectivisation (section 4). Current trends of economic liberalisation, high inflation rates and very poorly developed marketing infrastructure also threaten to shorten time horizons yet further, inducing producers to keep capital 'on the hoof without regard for environmental sustainability.

However, the strong environmental protection provisions in land legislation are of little use if they are unlikely to be enforceable. Additional incentives need to be created to provide pasture land managers with a **sustainability guarantee,** so that land protection and improvement becomes a matter of self-interest. This is only likely to be achieved if (corporate) land possessors are guaranteed the right of first refusal on the renewal of land leases, provided all conditions and obligations have been complied with. At present, land possessors have no automatic right under the draft Land Law to roll over their possession rights, even if they have complied with their statutory obligations and other conditions. Unless the draft Land Law is amended to this effect, the objective of sustainability is in jeopardy, and provisions regarding land protection and improvement are unlikely to be enforceable. A clear statement on land policy, including the detailed terms and conditions of land leases, would go some way towards meeting this criterion, but would give a more ambiguous signal to land managers than would a legislative sustainability guarantee.

6. Even if all the above criteria for designing a land resource-rights system are met, economic, social, technological and even climatic conditions may change. 'This means that few systems, however well designed, can be expected to promote efficient, equitable and ecologically sustainable resource use without periodic modification' (Young 1992, pi 10). An administratively efficient solution is to make tenure rights conditional on the maintenance of **environmental security.** A promising method for achieving this in the case of pasture land is through a continuous (rolling) lease framework, combining many of the criteria outlined above so as to:

- allocate exclusive rights to use a resource to a small, clearly identifiable group of people as a corporate body *{exclusivity);*
- guarantee that leases may be rolled over provided all obligations and conditions are complied with *(sustainability guarantee);*
- ensure that leases are reviewed regularly (say, every 10 years) by the appropriate state authority;
- make the term of the existing lease around three times the length of the review period;
- ensure that, on expiry of the lease or in the event of its termination, **full** compensation is paid for all investments made in physical structures or in land improvements carried out during the lease period.

Of these guidelines, only the last is specifically mentioned in the Mongolian Land Law draft; the first is met at present only for individuals or for ill-defined economic entities. It is suggested here that in the formulation of a general Government policy on the administration of pasture land, clear statements need to be made to provide for: group rights to lease pasture land, based on customary, neighbourhood-level groups at the level of the smallest ecologically viable pastoral resource unit, depending on local conditions; term leases with an in-built review period, and specification of the procedure by which the appropriate state authority will review and renew leases; and automatic roll-over of existing leases to all leaseholding groups who comply with obligations under land and environmental protection legislation. The onus of proof rests with the land using group to demonstrate compliance with obligations and repair damage, since it is in their interest to have the lease rolled forward, which significantly reduces

administrative cost. Figure 16 illustrates the framework that would underlie such a system of conditionally renewable pasture land leases, based on the proven model of South Australia's Pastoral Land Management and Conservation Act (1989), and outlined by Young (Young 1992).

7. On the grounds of **administrative cost and feasibility,** mechanisms should be used that make compliance with obligations under land legislation a matter of self-interest on the part of land users. Innumerable examples can be cited of instances in other developing countries where the state employees charged with the task of administering a resource tenure system can be bribed to turn a 'blind eye' to violations, or in which powers to fine violators are abused in practice to extract general payments from land users.

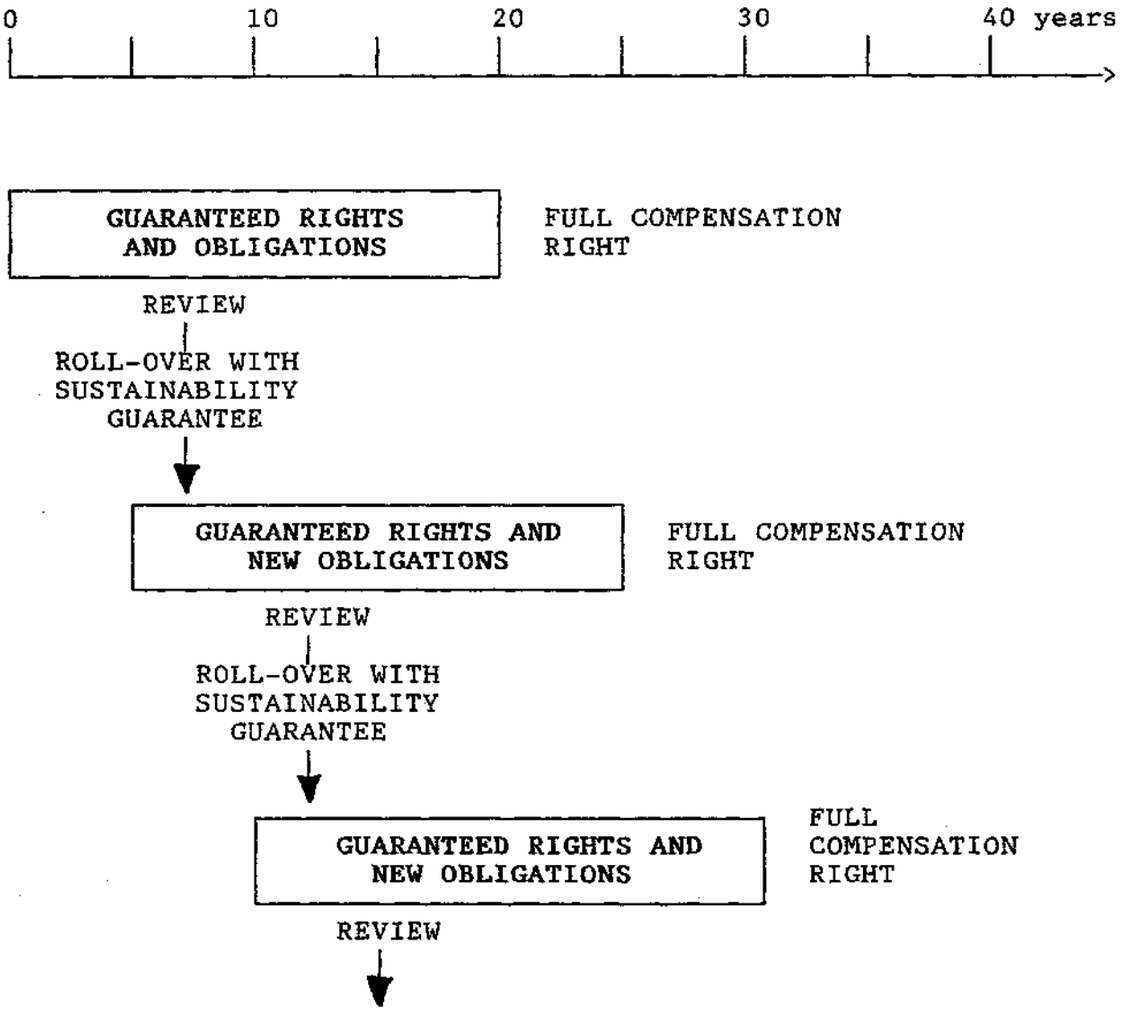
The draft Mongolian Land Law is currently rather weak in its section on penalties for violations. This is for two principal reasons. First, there are insufficient safeguards under the draft Land Law against the abuse of administrative power by state employees. Second, specific sums are mentioned for fines, which are already considerably devalued as penalties by high rates of inflation. It is easy to conceive of relatively small sums being taken into account by land users simply as expected costs of production. If, given prevailing producer prices for meat and other livestock products, the expected net economic return on a violation of land legislation (eg. ignoring recommendations or restrictions on stocking rates of grazing animals) exceeds the cost of the fine incurred for the violation - even assuming that it is administratively feasible to levy the fine - then there is no economic incentive to comply with obligations and conditions under the land legislation.

8. Consideration must be given when designing a land resource-rights system to the criterion of enforceability. Violations of land legislation by individual herders under Mongolian conditions (extremely low population density, isolation, transport constraints) would be very difficult to detect and 'police' by administrative means alone; that is, they carry very high transaction costs. Within relatively small, identifiable communities of herders however, abuses of customary rules governing pasture land access are relatively easy to detect, as the example cited in section 6 showed. When such a common-property resource management system operates effectively, as the examples here show to be possible, it is a matter of direct economic interest to individuals within the group to observe customary rules for exercising voluntary restraint in pasture use. If they do not do so, they may stand to lose a range of other benefits from local cooperation (see section 8).

Some means of sharing the responsibility for ensuring that land users comply with land legislation between local institutions and the local administration is likely to be the most cost-effective and enforceable system. Routine land allocation and simple disputes would then be resolved within the herder group leasing the land, based on customary principles, and only more serious disputes and disputes between neighbouring groups would be referred to the local authority. The herder groups, as the corporate bodies leasing land, would need to be self-selected, but this would mean only that the membership of existing neighbourhood groups would be registered with the local administration, represented at the most local level by the *bag*. The general principle should be to ensure that self-enforcing, market-based mechanisms (eg. the sustainability guarantee and compensation provisions) are used wherever possible.

The 'appropriate state authority' for making recommendations on land use is not specifically defined in the draft Land Law. It states that the Government may devise a general land policy,

Figure 16 **Schematic representation of proposed framework for a continuous, rolling leasing system for pasture land**



Source: Young (1992)

to include the definition of procedures for land valuation and leasing. The professional and administrative requirements for resource assessment, monitoring and taxation are considerable. Fortunately, the baseline resource assessment work has been in progress for some years, with responsibility on the technical side held by the Research Institute of Land Policy, and responsibility for land valuation by the Institute of Agricultural Economics within the Ministry of Food and Agriculture[57].

9. The final guideline concerns restrictions on land transactions to prevent the excessive private concentration of land holdings, so as to address the **equity with efficiency** criterion. It was noted that transferability of certain categories of land and of rights of access to land and land-based natural resources in a joint-use system is important to ensure that alternative uses can emerge in the interests of economic efficiency. However, in the case of a conditionally-renewable resource such as pasture land, both equity and sustainability concerns require that land is not sub-divided into parcels smaller than the minimum ecologically viable scale of resource unit. The draft Land Law makes provision for local authorities to determine the maximum amount of land within their jurisdiction that a citizen may own, taking local ecological factors and types of land use into account. This provision directly addresses the equity criterion. It needs to be supported by clear policy statements, region by region, that specify a minimum size of pastoral resource unit to be held by a corporate group of herders, as well as the maximum size of land-holdings that individuals are permitted to own.

To summarise, what is being proposed for pasture land is as follows: a system of continuous, rolling land leases, extended to the smallest group of herders that can be identified with an ecologically viable territorial unit given local conditions. This would provide a framework for secure rights to use, manage and improve pasture land, while preserving the essential flexibility of resource allocation within the group that is necessary for risk management under unpredictably varying environmental conditions. This is also likely to require reciprocal rights of access to specified resources between neighbouring groups, which could be provided for by additional contracts. Such a system could also build in incentives to conservative land management behaviour, making sustainable practices a matter of self-interest by means of a sustainability guarantee (automatic right to roll-over leases provided obligations are complied with) and the right to full compensation for investments made in the event that land rights are terminated. The terms of the lease would stipulate the obligations of the land-holding group as set out in the Land Law, for example to keep within a recommended stocking rate. The system would require a national-level, integrated structure for land assessment and monitoring[58].

8 INSTITUTIONAL CHANGE AND DEVELOPMENT

Mongolia's transition away from command planning and towards a market-orientated economy, in common with other transitional economies, is being marked by a radical change in the formal institutions of economy and society. However, this process of discontinuous transformation is being accompanied by a striking degree of continuity in the informal institutions that facilitate economic transactions and social relations. Most notable among these

[57] Figure 4 (p23) shows an extract from one of the district-level land resource assessments carried out by the Research Institute of Land Policy, and shows the kind of recommendation made for land use (eg. reductions in stocking rates, recommended period of deferred grazing, etc.).

[58] More detailed proposals for such a system are included in Danagro (1992).

for pastoral livestock production and land management is the resilience and re-emergence of customary forms of collective action within local institutions such as the *khot ail* and neighbourhood communities or *neg nutgiinhan.* Sections 3 and 4 examined how, in the areas of herd/ labour and land management respectively, this contemporary process mirrors that of the earlier transition to socialist command planning. In this earlier historical episode too, the very continuity of customary institutions was what oiled the wheels of everyday social and economic transactions, without which radical political and organisational reforms might have ground to a halt. Unlike that earlier transition however, in which the the continuity of informal institutions was officially regarded as retrogressive, the parallel process in Mongolia's post-socialist transition is viewed by many key policy-makers in a much more positive light.

The principal concern of this report is with the configuration of institutions that facilitate land management for pastoral livestock production. Sections 5 and 6 used field data to demonstrate the extent to which customary institutions are re-emerging in contrasting ecological zones of Mongolia, and their significance for land tenure. Section 7 considered the implications of these trends for the reform of the formal legislative and policy framework for pasture land management, in a way which simultaneously addresses economic efficiency, social and equity and environmental sustainability. This final, more speculative section draws on evidence of the emergence of new forms of collective action in areas other than land management to argue that the different forms of collective action that can be discerned in contemporary Mongolia should be regarded as potentially complementary and mutually supportive. Land management should not be considered in isolation. Taking other forms of collective action into account, however transitory they may prove to be, lends additional weight to the central argument of this report that land legislation and policy in Mongolia should build on and support customary institutions where they are shown to be effective in regulating pastoral land management.

Considerable theoretical support can be found for such proposals. Karl Popper made a powerful case for piecemeal as opposed to Utopian social engineering, on the grounds that incremental changes at the margin lead to more successful socio-economic outcomes (Popper 1971). Others emphasise the critical role played by knowledge and skills in processes of economic and social transformation. They distinguish between communicable, technical knowledge, and practical knowledge, acquired through experience. Both forms of knowledge and skill are necessary to carry out structural transformations successfully, but the latter - experiential knowledge - may be lost if too rapid a change to a new blueprint is attempted[59]. Murrell draws on these notions to argue the case for 'conservative political philosophy' in the context of post-socialist transition in Eastern Europe. He cites the voucher trading schemes used in several Eastern European countries as a mechanism for the mass privatisation of state assets - and from there adopted as the model for Mongolia's privatisation programme - as an example of Utopian rather than piecemeal reform, in which the likelihood of a successful outcome is compromised by the attempt to move too rapidly towards a blueprint (Murrell 1992). The concept of a learning process' approach as opposed to a blueprint approach has also acquired general currency in rural development literature (e.g. Korten 1980).

In another paper, Murrell draws on evolutionary economics (Nelson and Winter 1982) in theoretical support of the same general argument for piecemeal reforms in transitional

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[59] The distinction between two types of knowledge is drawn from the work of Michael Polanyi (eg. Polanyi 1958) and used extensively within the 'new institutional economics' of, for example, Nelson and Winter (1982) and North (1990). The contribution of this literature to development problems is critically reviewed by Toye (1992).

economies (Murrell 1991). In this case, he emphasises innovation as the key to the successful creation of a private sector: as large a pool of institutions as possible should be maintained to maximise society's options for institutional innovation. The persistence of 'second best' institutional forms is regarded as a function of risk and uncertainty, since economic survival may depend on at least some form of institution continuing to operate, however imperfectly.

In a similar vein, North developed his theory of institutions around the central notion of transaction costs. His message, following Coase (Coase 1960), is that 'when it is costly to transact, institutions matter[1] (North 1990, pi2). The radical change in formal institutions that takes place with economic transition raises the level of uncertainty, and hence cost, involved in all forms of transaction. Antecedent informal institutions therefore operate to reduce this uncertainty and make continued transacting possible. For North, this explains the persistence of inefficient configurations of institutions, in spite of their consequences in sub-optimal economic performance[60]. Unlike North, who regards institutions as the 'humanly devised *constraints* that shape human interaction[1] (p3) (emphasis added), customary institutions are regarded here as an important enabling factor and a key opportunity for purposive development (cf. Neale 1993).

Forms of collective action

Two types of collective action in pastoral livestock production and land management need to be distinguished for the purposes of the argument in this report. The first are instances of collective action that, given unpredictably varying and hence risky and uncertain production conditions, are likely to make sense not only now but also over the long run. These are referred to here as 'first best' types of collective action, typified by the voluntary regulation of common pasture use within neighbourhood communities (see section 4 and the examples in section 5 and 6). For the reasons outlined in section 4, this type of common-property resource management is potentially coming under threat in the structural chaos of transitional Mongolia, although it is seen to have been remarkably resilient during earlier historical periods. Other forms of collective resource management that have been facilitated within *neg nutgiinhan* communities in the past have included hay-making. Following the cessation of heavily subsidised state fodder provision with decollectivisation, *neg nutgiinhan* in Dornogobi have once again begun to cut hay from fields collectively set aside and managed for that purpose. This demands a considerable degree of coordination in land management (see section 5).

Other types of first-best collective action referred to in this report include herd and labour management within the *khot ail* (section 3), which has re-emerged as the basic social and economic pastoral production unit in most parts of the country (Bazargiir, Chinbat et al. 1992; Potkanski and Szynkiewicz 1993). This has been perhaps the most striking among the re-emergent customary institutions in contemporary Mongolia, as a direct response to the increased burden of risk faced by individual herders following decollectivisation (Mearns 1992b). Many *khot ail* are made up of households of varying income or wealth status, as the analysis in section 6 showed for Booroljuut *bag,* Arkhangai. Poorer or more vulnerable households benefit in particular from such forms of labour cooperation, which performs the function of a social and economic safety net for them, and at zero cost to the state administration. Ways of extending credit to such groups for the purchase of simple forms of equipment (eg. horse-drawn hay-making equipment, or simple livestock product processing or

[60] David Leonard has extended this notion, using game theory, to construct a general argument to explain why structural reform in a range of contexts, from rural development in Africa to post-socialist economic transition, should rationally be expected to take 'an irrationally long time' (Leonard 1992).

packaging equipment) merit closer consideration in pastoral development policy. The role of the *khot ail* is likely to be highly significant in easing the costs of economic transition for more vulnerable households, but can also be expected to be a durable feature of Mongolia's pastoral economy for the foreseeable future.

The second type of collective action could be termed 'second best[1] solutions. They make sense during the period of economic transition as a means of protecting at least a minimum acceptable level of economic performance, until such a time as the market responds to produce economically more efficient institutional forms. Such transitory, 'second best' forms of collective action include the organisation of transport for moving herders' base camps, and initiatives in livestock product processing and marketing.

Collective action in transport provision is a straightforward means of achieving economies of scale and thereby reducing per capita costs. Cases were reported in fieldwork, especially in Dornogobi, in which small groups of herders were proposing to pool their shares in the privatisation of the former collective's assets in order to purchase a truck or a tractor. Three such groups were interviewed during summer 1992, all of which were based on existing neighbourhood groups of herders, usually in partnership with a driver formerly employed by the collective. The *neg usniihan* neighbourhood group in Tsagaan Hutul *bag* headed by Bandi (see figure 7, p34), known as Tukhuum/ Dulaani Gobi, was one such group. Rules for the use, management and upkeep of the vehicles, and procedures for renting them out for use by others, had not yet been clearly specified.

The most efficient long-run solution for the organisation of rural transport and haulage services would be the private ownership of vehicles by a sufficiently large number of individuals or haulage companies that consumers would benefit from competition between them on price. Given the considerable distances to be covered in rural Mongolia however, and extremely low average population densities, it will some time before rural transport emerges as an attractive investment opportunity. In the meantime vehicle owners are able to command monopoly rents by virtue of the absence of competitors. Even before acquiring their vehicle, several members of the Tukhuum/Dulaani Gobi group mentioned above stated that they would sell their shares in the vehicle to an individual within the group to whom they would relinquish full control and ownership. In some cases then, second-best collective action would amount to little more than a phased means for an individual to acquire a lumpy investment. In other cases however, collective action represents a second-best, transitory solution to the organisation of rural transport services so that members of the group would avoid paying the monopoly rent element for their transport services.

The case of livestock product marketing is considered in fuller detail, as other factors are relevant in addition to that of achieving economies of scale. The transaction cost involved in acquiring information about conditions is among the most important of these.

The delivery of meat and other livestock products to urban markets and processing plants under collectivisation in Mongolia was achieved by means of a compulsory state procurement order to meet planned targets at fixed prices. For all the parties involved, the attributes of what was being exchanged, and the manner in which exchange would take place, were known and predictable. In the contemporary, transitional period, the state procurement order has ceased to operate, all prices have been liberalised, and producers are free to find their own markets. The problem, however, is the extremely high private cost for any individual producer in acquiring

information about market opportunities and prices, measuring the attributes of what is being exchanged, and arranging the logistics of the physical transaction under conditions of a very poorly developed private transport system.

A range of responses has been observed. Customary patterns of exchange such as *idish*, which had persisted through the period of collectivisation, have become even more important to the majority of urban consumers with relatives in rural areas as a means of acquiring meat and dairy products (see section 3). Some livestock producers in Dornogobi *aimag* are fortunate enough to be producing high value, relatively low bulk products (eg. cashmere wool) in locations accessible to urban traders by rail. There are pressures for herders to remain as close as possible to urban centres to take advantage of those limited market opportunities that do exist. More generally, however, given that most producers are far from urban centres of any kind, herding households are choosing to withdraw from the market into self-provisioning, at least as a temporary measure until market conditions improve (see section 3).

For those market transactions that are taking place between producers in remote rural areas and urban centres, collective action makes most sense. It lowers the per capita cost of acquiring market information, or measuring the attributes of what is being exchanged; gives sellers greater bargaining power; and achieves economies of scale in transport. It enables sellers to supply food products in bulk to public institutions such as military barracks and training colleges, which are among the few markets about which it is relatively simple to acquire information. There is as yet no well-developed system of wholesaling from which to supply individual urban retail outlets. This form of collective action in livestock product marketing among private herders in remote parts of the country can be illustrated with reference to a group of herders from one valley community in Booroljuut *bag*, Tariat district, Arkhangai, who organised themselves to produce and market yak butter during summer 1992. The details are given in figure 17, while the accounts of the transaction are presented in annex 6.

Several lessons can be learned from this experience. Although the initiative was spontaneous, in the sense of being voluntary on the part of the participants, it still suffered from uncertainties around leadership and responsibility. The group tacitly carried over as many of the 'learnt rules' as possible from the period of collectivised production and marketing, and relied on Dawaatseren to emulate the directive leadership style of the former collective. This command structure, however, depends for its success on being backed by a functioning infrastructure within a vertically integrated production-processing-marketing chain, to provide the means by which commands could be translated into action. Following decollectivisation, the production-to-retail chain ceased to be vertically integrated; and the existing infrastructure no longer operated successfully owing to shortages of fuel and spare parts for vehicles. With continuing severe economic hardship in Mongolia it will be some considerable time before a sufficiently well-developed transport infrastructure emerges to provide competitive haulage services. Only with time and further experience of marketing transactions of this type will uncertainties around leadership and responsibility more generally be reduced.

As a result of such uncertainties, much time was lost during the short milking season. Milk deliveries were made over a period of 3 weeks rather than 3 months (June-September) as under the former collective, at the cost of a substantial loss in final butter production. Having learnt the hard way in 1992, however, the group felt they would be able to organise collection and delivery of milk much more efficiently the following year. They noted that it was inefficient

to start milking too early in the season (around May-June) owing to the low fat content of the milk then. In 1993 they would begin milk collection and processing on 1 July.

Figure 17: Collective action in dairy product marketing, Arkhangai

During summer 1992, three groups of fully private, predominantly yak-breeders in Booroljuut *bag*, Tariat *sum*, Arkhangai, organised themselves into dairying teams (*souni tasag*) to produce and market yak butter, using the same techniques and equipment as they had used under the former collective. Yak butter is a specialised product which commands a relatively high price in urban markets. An estimated total of around 50 households were involved.

One of these groups was mobilised by Dawaatseren of Lower Booroljuut *neg jalgynhan*, the former deputy chief of the collective. A total of 17 households provided milk over a period of 20 days. Six young men were employed to churn the butter using hand-powered machinery. Dawaatseren negotiated freight haulage to Ulaanbaatar for 450 kg of the butter on a truck returning to the capital after making a delivery of other goods. He exchanged 200 kg of the butter on the way to the food factory in Tsetserleg, the provincial centre of Arkhangai, in return for goods in kind. The factory was unable to pay cash, but the exchange was transacted at the then prevailing state prices for consumer goods which were in extremely short supply except on the black market. The butter was exchanged at 160 tug/kg, in return for bread at 4 tug/loaf and 80 bottles of vodka at 350 tug./bottle. In Ulaanbaatar, 200 kg of butter was sold to a military establishment at 220 tug/kg; and the remaining 50 kg to an individual entrepreneur known to the driver of the truck at 160 tug/kg. Dawaatseren accepted this lower price, as the entrepreneur promised to assist them in arranging transport and finding buyers in future. With the cash proceeds, 420 kg flour was purchased.

The truck was owned by a private company in Ulaanbaatar, but driven by a driver from Tariat. He was able to charge a premium rate of 10,000 tug. for fuel costs, including his own fee. The butter-churners were paid 1,200 tug. each, based on the rate agreed at a special general meeting of private herders in June 1992. Local transport costs (for transporting the butter-churning equipment to the temporary *tasag* centre; milk to the temporary processing unit once the equipment was set up; and butter to Booroljuut *bag* centre for loading onto the truck) came to a total of 3,200 tug.

The products and the remaining cash were distributed equally among the 17 households that provided the milk, net of transport costs and the salaries of the butter-churners. The accounts are presented in annex 6 using available data. It is claimed that the proceeds of the overall transaction worked out at the equivalent of 8 tug. per litre of milk (converting goods in kind to cash equivalents), although data on quantity of milk delivered were not available to confirm this. If correct, however, this figure compares favourably with the then current purchase prices for yak milk of 3 tug/litre from company owned animals; 5 tug/litre from private animals; and 12 tug/litre on the open market.

Finally, the group felt that they had made a mistake in packaging the butter in 100 kg wooden barrels which prevented the straightforward break of bulk at the final point of sale. If they had packaged the butter in smaller units they could have fetched a higher price on the streets to individual Ulaanbaatar consumers. In future they decided they would use smaller wooden boxes for packaging. However, the additional costs of breaking bulk and organising retail sales in the absence of a wholesale system have to be taken into account in attempting to command higher retail prices. In the case of large bulk sales, especially in the case of commodities that command less of a premium than yak butter, slightly higher prices may not justify the internalisation of these additional costs.

The case history of dairy product marketing reported above was only one among several activities of this particular group of private herders in Booroljuut. More generally, the group decided to organise themselves as a herders' association, in response to the widespread

perception that it would be very difficult for any individual herder to operate independently under the risky production conditions of mountain pastoralism in Arkhangai. By autumn 1992 the group had held several open meetings, and had elected a committee of seven representatives. The most commonly stated reasons for acting collectively were:

- to achieve economies of scale in the acquisition of winter/spring fodder (first-best);
- organising transport for making nomadic moves (second-best);
- dairy processing and marketing (as described above; second-best);
- representation to the district administration (first-best);
- ensuring that as a group they received their due share of the assets of the former collective under the privatisation programme (first-best but transitory). For example, the butter-churning equipment formerly belonged to the collective, but was subsequently transferred to this group of private herders in Booroljuut *bag* under the small privatisation;
- coordination and regulation of pasture use (first-best). It was felt that such decisions could be taken locally by the group itself acting as an informal grazing association, and that sanctions (penalties for inappropriate use) could be implemented at group level.

Table 8 summarises some key points about the way certain institutional functions in the pastoral livestock sector were performed during the period of collectivisation and how they are being or may be expected to be performed following decollectivisation. Some of the latter include self-provisioning at an individual level and other 'market[1] responses, but a substantial proportion of these functions, in areas other than land management, involve collective action. It is important to recognise that these various forms of collective action, whether first- or second-best, are potentially mutually supportive. For example, the potential benefits from second-best collective action in the organisation of transport, and livestock product processing and marketing, were perceived by group members to provide a sufficiently strong incentive to observe coordination norms with respect to pasture use within the group territory of Lower Booroljuut valley.

This situation can usefully be described in the language of game theory. Consider the problem of coordinating pasture use in Lower Booroljuut valley as a multi-person prisoners' dilemma game[61], in which the formal rules had substantially changed following decollectivisation. 1992 was the first production season following decollectivisation, and the first time herders were operating as fully independent producers. A number of other factors - the privatisation of animals and other assets owned by the former collective, and the introduction of new players to the game who were unfamiliar with even the existing rules - contributed to conditions that threatened the effective functioning of customary coordination norms around pasture use (see section 4 and figure 14). The players had no previous experience of operating under the new set of rules, and so could not apply the lessons of past experience to anticipate the likely behaviour of other players. If 1992 were taken as a single-play game, and if pasture land management were considered in isolation, one would be pessimistic as to the possibility of the

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[61] The analysis here draws on the approach to collective action theory of Runge (1986) and Russell Hardin (1982), among others.

players agreeing in future to exercise restraint in their use of common pasture in the absence of external coercion.

Table 8: Institutional functions in the pastoral livestock sector under collectivisation and following decollectivisation

INSTITUTIONAL FUNCTION	COLLECTIVISATION (1930s-1980s)	DECOLLECTIVISATION AND TRANSITION (1990s-)
Livestock and livestock product marketing	• state order via collectives and district-level purchasing organisations • limited informal sale or barter exchange (especially between urban and rural family members, or *idish*)	• private traders or brokers of Agricultural Commodity Exchange • heightened importance of *idish* to urban consumers • collective action in de facto herder marketing cooperatives
Supplementary livestock feed	• central state or collective provision with heavy state subsidy • very costly to transport over long distances to Gobi and western *aimag* • decline of customary forms of provision (eg. hay-making at neighbourhood level)	• increase in self-provisioning likely (especially hay-making) • cooperation at neighbourhood (*neg nutigiinhan*) level likely • serious problems will remain in Gobi and western *aimag*: state assistance to foster local fodder production here?
Transport	• collective truck or tractor • limited use of own draught animals • increasing tendency to stay close to roads and/or *sum* centres under collectivisation	• full cost-recovery on use of vehicles owned by remaining pastoral companies • increased use of own (retrained) draught animals • use of vehicles owned or leased by friends or relatives where possible • tendency to move less and over shorter distances?
Livestock product processing	• at household-level for own consumption • at collective and central state levels for urban markets	• at household level for own consumption (likely to increase at least in short run) • at *khot ail* and *neg nutgiinhan* levels to increase production for the market? Simple innovations (eg. in packaging) likely to improve marketability

Now allow for two changes in the structure of the game. First, add a second collective action problem - how to organise dairy product marketing - which the same group of players faces. Second, allow for successive rounds ('iterations') of the game in which the players have the possibility to develop cooperative strategies for playing the game more successfully each time. The group attempts in the first round (1992) to carry over as many of the rules as it can from earlier rounds of the game, then played under different conditions of collectivisation. Although this is not entirely successful, they learn from experience and formulate a strategy for the second round (1993) in which they have greater confidence, assuming that the rules (marketing conditions) remain more or less the same. The same players have also learned from experience in the first round of the game with respect to coordinating pasture use. The one-off factor of privatisation will not be repeated; some of the new players can be expected to leave the game; and the remaining new players, along with the original players, understand the new rules of the game much better in the second round. Finally, each individual player also takes into account his or her potential gains from participating in the dairy product marketing initiative with the other players[62], when deciding whether or not to play according to the rules and agreed norms for coordinating pasture use. On this basis, one would be much more optimistic as to the possibility of the players regulating collectively their use of pasture land.

Institutional diversity

Mongolia currently faces the daunting task of having to build a private sector, with very little previous experience of institutions of'civil society' lying outside the state itself. Until very recently, private market institutions were regarded with great suspicion and a focus of ideological opposition. From the early 1900s through the so-called autonomous period, following the demise of imperialist Manchu rule in Mongolia (1911-1921), Chinese traders effectively held Mongolia to ransome as a result of the extremely large debts that had been built up by Mongolian *noyon* or feudal lords. In order to service these debts, the *noyon* levied very high taxes on their subjects, forcing a level of off-take of animals that resulted in the cutting back of the total national herd prior to the 1921 Revolution from an estimated 20 million head to 16 million, with severe social consequences[63]. Even today, private traders continue to be regarded with considerable suspicion and are commonly referred to as 'speculators', even when they are not obviously exploiting the many opportunities that undoubtedly exist for extracting monopoly or scarcity rents.

As others have argued, building a private sector will involve considerably more than privatising formerly collective- and state-owned assets (Murrell 1991). This need not imply heavy intervention on the part of the state. As a general principle, a wise course of action is to encourage as wide as possible a pool of institutions to function in Mongolia, to preserve the maximum range of options for institutional innovation. This includes formal and informal institutions. A central argument of this report is that to build on and support informal institutions in pastoral land management has the potential not only to be economically efficient, socially equitable and environmentally sustainable, but also to be cost-effective for public administration. It implies less, not more, government. Such a strategy could begin simply by starting with the legal recognition *oinegnutgiinhan* or neighbourhood groups of herders,

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[62] As well as expected cumulative gains to collective action of other kinds in successive rounds of the game. Other forms of collective action are not allowed for under the restrictive assumptions of the game as described here, but lend further weight to the argument if included.

[63] Dr Slawoj Szynkiewicz, personal communication, PALD Workshop, Ulaanbaatar, 19 August, 1992.

which are self-selecting as membership organisations, as corporate bodies that may lease land, and own and manage other assets (eg. dairying equipment).

By the end of 1992, a wider range of formal organisations existed in the rural economy than at any time in Mongolia's history. They included the administrative units of the *bag* and *sum* (district), and economic entities: the few remaining pastoral collectives; limited and share-holding companies created out of former collectives; and cooperatives or *horshoo.* The latter are of two types. First are *horshoo* that are merely the rump of former collectives or companies. Following privatisation and the loss of members who chose to set up as 'sole proprietors' (private herders), they have too few assets remaining to qualify for the legal status of either type of company.

The second type of *horshoo* are new, voluntary cooperatives. Many of these have been established by newly private herders who have continued to act collectively in the ways described earlier in this section. They tend to be based on informal neighbourhood-level institutions, as shown by the example of the private herders of Lower Booroljuut valley, Tariat district, Arkhangai. At the time of fieldwork in Erdene district, Dornogobi, in which the process of decollectivisation was less advanced than in Tariat, several neighbourhood groups were also holding meetings to decide whether and how to incorporate themselves as *horshoo.* In all these cases, the participants stated as their principal motivation the conviction that no herder can operate independently in the risky production conditions of Mongolia. They perceived a *horshoo* as being the type of formal institution that would best serve their collective interests.

Interviews were carried out with herders in Booroljuut *bag,* Tariat district, in an attempt to gain a deeper understanding of how they perceived the various formal and informal institutions in which they participated. The methodology used - the sequencing of pairwise preference ranking followed by matrix ranking and scoring - is described in section 2 (p5). Unfortunately, too few cases were completed for much confidence to be placed in the findings so far. One completed matrix is shown in table 9 however, which does reveal some interesting features, even if it cannot be generalised.

It is important to note that the choice of the institutions included in the matrix, and the criteria used to distinguish between them, came from the informant himself, on the basis of a semi-structured interview conducted before completing the matrix. The institutions that affected Dangaasuren at the time of survey or in the recent past were: the two customary institutions of the *khot ail* and the *negjalgynhan* or one valley community; the two administrative units of the *bag* and the *sum* or district; the former collective *(negdel,* now disbanded); and the recently established *horshoo,* of which Dangaasuren was a member.

Table 9 Matrix ranking and scoring of institutional preference, Tariat district

	members have strong common interests	communication between members is easy	it is easy to reach a decision collectively	it is possible for members to share the use of a vehicle	there is good contact between leader(s) and members	it is easy to organise collective activities
horshoo	4 (5)	4 (4)	4 (2)	3 (-)	4 (4)	4 (4)
sum	6 (0)	6 (0)	6 (0)	6 (-)	6 (0)	6 (0)
negdel	5 (0)	5 (0)	5 (0)	4 (-)	5 (5)	5 (4)
khot ail	1 (5)	1 (5)	1 (5)	5 (-)	1 (5)	1 (5)
bag	2 (4)	3 (4)	3 (3)	2 (-)	3 (5)	3 (5)
neg jalgynhan	3 (4)	2 (5)	2 (4)	1 (-)	2 (4)	2 (5)

Notes: numbers in cells refer to rank order (ascending); those in parentheses refer to score (0-5),'(-)' indicates score not given. Criteria for ranking (top row) were elicited by means of pairwise preference ranking, prompted by the question, 'which institution is more important to you and why?[1] The six most frequently mentioned criteria for distinguishing between institutions were chosen to form the columns of the matrix for subsequent ranking and scoring.

Informant: Dangaasuren *(horshoo* member), Ikh Jargalant valley, Tariat *sum,* Arkhangai (8 August, 1992)

The most important institution of all to Dangaasuren was the *khot ail,* for collective management of herds and family labour. This was consistently ranked top, except on the criterion of'sharing the use of a vehicle'. On closer questioning, Dangaasuren revealed that 'sharing the use of a vehicle' also implied for him joint ownership of the vehicle. The *khot ail,* he felt, was too small an institution to own such a lumpy asset. The other customary institution, the *neg jalgynhan,* was consistently ranked next highest; it ranked top on the criterion of 'sharing the use of a vehicle'. At the other end of the scale, the district administration ranked bottom on all criteria, and was awarded no score at all; this has to be interpreted as indicating that the district administration was almost completely irrelevant to Dangaasuren.

Of the mid-ranking institutions, it is significant that the *bag* ranked consistently more highly than the *horshoo,* perhaps because the bag leader was a well-respected and personal friend of the informant. In practice, the membership of the *horshoo* overlapped almost entirely with that of the *neg jalgynhan.* The *neg jalgynhan* was considered to be more important to Dangaasuren than the *horshoo,* however, which emphasises the fact that the latter, as a formal institution, is

based on and draws its strength from the qualities of the customary institution, with kinship relations and mutual trust among long-standing neighbours as important integrative factors.

Finally, an anomaly in the scoring is shown for the *negdel* on the last two criteria. In most repects the former collective fared very poorly throughout; it was felt to be too large for its members to share strong common interests, or to be able to comunicate and reach collective decisions easily. On the issues of leadership and organisation of collective activities, however, it received high scores (although was ranked low). Further questioning revealed that Dangaasuren interpreted these criteria in the case of the former collective administration to refer to its 'commandist' leadership style: it was 'easy' to organise collective activities in the sense that people did what they were told.

Similar issues were broached in fieldwork during 1992 in other areas where decollectivisation was less advanced than in Tariat, and in which companies remained significant. Although more detailed information of the kind described above are not available to confirm the observation, the leaders of the companies were commonly perceived by many of their members to be acting out of self-interest, in the knowledge that their term of office is likely to be limited. Early hopes that the collective structure could be smoothly transformed into private companies while maintaining the continuity of services they provide for their livestock-producing members were rapidly being dashed. It now appears likely that a high proportion of the producer collectives and companies will be liquidated before the end of 1993.

As many herders commented, there is a need for new kinds of 'civil society' (ie. non-governmental) institutions to emerge to perform some of the necessary service and marketing functions formerly carried out through the pastoral collectives. The evidence presented in this report suggests that such institutions are likely to emerge on the basis of existing neighbourhod communities of herders. More research needs to be carried out to determine the historical, present and possible future functions and significance of such neighbourhood-level institutions, and to test further the hypotheses and conclusions set out in this report. However, present indications are that they could hold significant developmental potential. Given appropriate forms of support where necessary, they may be able to perform multiple functions, for example, as informal grazing associations and marketing cooperatives. Appropriate forms of assistance to such groups could include:

- legal advice on gaining formal recognition as corporate bodies and on procedures for leasing pasture land, etc.;

- technical advice on and access to seed for fodder crop development;

- access to credit for the purchase of equipment;

- small business advice and information, particularly on aspects such as packaging of products to suit consumer demand and market opportunities.

The media for such information and advice could take various forms, for example: demonstrations at local fairs during the mid-summer festival season *(naadam)*, columns in newspapers, or radio programmes.

It is to be expected that not all herders will want to join *horshoo.* Many wealthier herders, especially those relatively closer to urban markets, already state that they feel confident of remaining independent under the conditions of a market-orientated economy. An Association of Private Herders (APH) was established in June 1991 to represent the interests of fully independent, private herders. It was given an initial grant of 1 million tug. by the Government and 100,000 tug. by the then Ministry of Agriculture, but has faced substantial opposition from the still relatively powerful National Council of Agricultural Cooperatives. The APH has set up a Rural Credit Fund with the aim of assisting groups of private herders to gain access to small-scale processing and packaging equipment, and to support private market brokers and auctions to compete with the Mongolian Agricultural Commodity Exchange (ACE). These developments are as yet on a very small scale and still structurally weak. The stated intention is that groups would apply to the Council of the Rural Credit Fund with a project proposal, and if this is passed, would be assessed for creditworthiness as a group. It is expected that credit funds would be used for the development of small-scale processing and packaging facilities (eg. for increasing the production for the urban market of traditional dairy products), for the purchase of electricity generators or communications equipment, or to encourage local fodder production (eg. for the purchasing of equipment for hay-making). During autumn 1992 the APH was also in the process of establishing a private agricultural commodity exchange to compete with the ACE[64].

At the time of writing, the process of decollectivisation in Mongolia was still not very far advanced. It is too early yet to tell what the eventual configuration of institutions for pastoral livestock production and land management will look like. It is hoped that the issues identified in this report will provide a set of questions to guide further research; indicators with which to monitor unfolding events in the decollectivisation of the Mongolian rural economy; and guidelines for the formulation of appropriate policies for pasture land management.

[64] Mr Gankhuyag, Association of Private Herders, personal communication, 14 August, 1992.

9 CONCLUSIONS AND SUMMARY OF POLICY IMPLICATIONS

Pastoral institutions

1. Pastoral livestock production in Mongolia over the last three centuries has been facilitated through a changing set of formal and informal institutions. At local (community) level, the most important customary institutions have been impermanent groups of several households cooperating in herd and labour management *{khot ail);* and neighbourhood groups of households who coordinate and regulate their use of common pasture *(neg nutgiinhari).*

2. Under collectivised production (1930s-80s), the traditional cooperative functions of customary institutions were increasingly displaced by the provision of services (eg. supplementary winter/spring fodder; transport) to herders through the pastoral collectives and other formal institutions of the state. This process was intensified by a shift in the locus of decision-making away from the household to the level of the collective.

3. The process of decollectivisation (from 1991) has seen the state begin to retreat from direct involvement in the affairs of herders. The proportion of private to collectively owned animals shifted from 32%:68% in December 1990 to 55%:45% in December 1991, and an estimated 80% of animals were in private hands by December 1992. The pastoral collectives were transformed into joint-stock and limited companies, many of which have turned out to be short-lived. The pace and extent of decollectivisation has varied regionally, principally in relation to the level of risk faced by individual herders under different ecological conditions. In some districts by mid-1992, substantial numbers of herders had become fully independent. They faced considerable difficulties, for example, in livestock product marketing and securing fodder supplements for the winter/spring period. In other districts a new institutional form has emerged - the voluntary cooperative *(horshoo)* - which is usually based on one or more existing neighbourhood groups of herders. Virtually everywhere the *khot ail* has re-emerged as the basic herding unit, in response to the increased burden of production risk faced by individual herding households.

Land tenure arrangements

4. Under customary law, codified as early as the 13th century, and under imperial Manchu Chinese rule, land use had always been fairly closely regulated. Coordination norms around common pasture use also evolved within neighbourhood groups of herders, including seasonal pasture deferral and rotation in some regions. An identifiable set of customary decision rules regarding pasture use and allocation includes assessment of forage availability and quality; water availability; presence or likely appearance of other herders.

5. The customary set of decision rules around pasture use and management persisted throughout the period of collectivised production. However, significant changes did take place during this period that increased tendencies towards localised density-dependent grazing pressure and consequent pasture land degradation, especially near district centres. These include a restriction in the total area of pasture to which particular groups of herders officially have access; bureaucratic allocation of winter and spring shelter sites to non-customary owners; the increasing provision of services in or close to district centres, leading to a gradual trend towards sedentarisation at least during winter; and the increasing

provision of winter/spring fodder supplements as an expectation rather than as an emergency measure, leading to a shift in the regional distribution of livestock that was unsustainable on ecological as well as economic grounds.

6. The careful regulation and coordination of pastoral land use was further weakened under collectivisation as an alternative structure of legitimation for land use decisions was instituted. Two parallel systems of authority now co-existed (customary versus formal/allocative), which lowered the potential costs of free-riding behaviour on the part of individual herders. Other forms of collective action had been weakened under the collectives so that the potential benefits of mutual cooperation in herd and labour management were no longer sufficient inducement for herders voluntarily to observe coordination norms around pasture use in the absence of external coercion.

7. Two opposing trends for pasture land management have accompanied decollectivisation. The dismantling of the formal institutions of state socialism, and the hardships and political instability of economic transition, have led to conditions of structural chaos in which it is difficult for all producers to anticipate signals in their production environment. The incentives for individual herders to free-ride in common pasture land use tend increase as the time horizon shortens over which they can expect cumulative gains from cooperation. Newcomers to herding, having acquired animals following the privatisation of collective assets, make up an estimated 20% of the herding communities surveyed, and excerbate these tendencies towards free-riding. On the other hand, the revival of various forms of collective action (eg. labour-pooling arrangements for managing diverse herds) may tend to strengthen the countervailing tendencies towards local-level cooperation in pasture land management.

*Pastoral institutions, mobility **and** land tenure in contrasting ecological zones*

8. Table 10 below summarises some of the key characteristics of the informal institutions and patterns of pastoral mobility and land tenure surveyed in two research sites: Tsagaan Hutul *bag,* Erdene *sum,* Dornogobi; and Booroljuut *bag,* Tariat *sum,* Arkhangai. In neither case can specific pasture areas be identified with individual households, or even cooperating groups of households at *khot ail* level.

Table 10 Summary of field research findings on local institutions, mobility and land tenure

	Gobi desert-steppe zone	*Hangai forest/mountain steppe zone*
Mean herding population density	0.1 persons/km² 8.6 km²/person	0.8 persons/km² 1.2 km²/person
Area of district	Erdene 10,700 km²	Tariat 4,650 km²
Number of *bag*	3	5
No. of households in sample *bag*	Tsagaan Hutul 106	Booroljuut 237
Neighbourhood institutions	4 *neg nutgiinhan,* subdivided into 9-10 *neg usniihan* (approx. 7 households each)	5 *neg jalgynhan* (approx. 20-80 households each)
Size of *khot ail*	up to 3 households	2-10 households

Number of nomadic moves of each herding household per year	up to 20: usually 1 each winter & spring; 4-5 moves summer and autumn	4-6: 1 per season, possibly with a 2nd move in summer and/or autumn
Pasture use	No specific seasonal pastures; key resources include browse trees, surface mineral deposits and springs	Seasonal pasture deferral practised within valley communities
Approx. distance of moves	2-50 km per move	1-20 km per move; total 20-50 km/year
Approx. scale of ecologically viable pastoral resource unit (allowing margin for flexibility)	3,500 km² (area of *bag*)	200 km² (area of valley community)
Nature of herder group boundary definition	Social; spatial boundary is larger to allow flexibility for variability in ecological conditions	Social and spatial boundaries coincide at level of 'one valley community'
Approx. frequency of contingency moves away from customary grazing cycle of each household (*nutag*) in case of ecological variability	4 years in 10	1 year in 10

Implications for land policy reform

9. New forms of legislation and policy are necessary to provide a framework for productive and sustainable land management. Such a framework should aim to enhance economic efficiency and preserve social equity and environmental sustainability, with the minimum amount of disruption to those aspects of land management that already function well. It is likely to involve a mix of legal and market-based incentives, and public regulations. Other kinds of economic incentives to create an enabling environment for sustainable livestock production are also necessary, ranging from appropriate producer and input prices to an efficient transport and marketing infrastructure. State regulation needs to be kept to a minimum, on the grounds of administrative cost and feasibility, local accountability, and ensuring that sustainable land management becomes or remains a matter of self-interest in the part of herders.

10. The land management functions of local pastoral institutions cannot be considered in isolation from their other functions. The multiple economic functions of re-emergent local institutions in areas such as herd and labour management, livestock product processing and marketing, land management, in addition to the range of social integrative functions that they also perform, suggests that they should be built on and supported as a key window of opportunity for pastoral development.

11. Much work has already been done in reforming the legislative structure relevant to land administration, comprising the Constitution, the (draft) Land Law, and amendments to the Civil Code. These go a substantial way towards meeting the following set of desired objectives and guidelines for an appropriate resource rights framework:

- full specification of rights and obligations of land owners and possessors
- separability of rights and obligations
- transferability of rights

- investment security (exclusivity over benefits from investments made; rights to full compensation in the event of termination of rights; political stability)
- environmental security and sustainability guarantee (automatic right to roll-over possession rights if all obligations and conditions have been complied with; full compensation, etc.)
- administrative cost and feasibility
- equity with efficiency

12. Some of the major weaknesses in existing land legislation are as follows:

- failure to specify nature of corporate groups holding rights of possession in pasture land
- insufficient safeguards against the allocation of individual ownership rights over land that could be removed from common access within local herder institutions
- insufficient safeguards to protect land possessors' rights
- the state has excessive powers to terminate land rights on unspecific grounds
- insufficient safeguards against the the abuse of power by administrative employees responsible for implementing penalities for violations of land legislation
- failure to guarantee right to renew possession rights provided all existing obligations and conditions have been complied with

13. It is recommended that the draft Land Law be amended, and that additional policy guidelines be set out, to strengthen these areas of weakness. In particular, a continuous, rolling lease framework for pasture land is proposed as a policy option capable of meeting the suggested objectives and guidelines. It is envisaged that leases would be issued by the relevant local authority (district) to corporate groups of herders based on existing neighbourhood institutions. The new cooperatives *(horshoo)* represent a useful model for such a corporate body. In the first instance, responsibility for meeting obligations under the legislation would lie at the level of the corporate, land-possessing group. Only in the case of more serious violations or disputes between neighbouring corporate groups would the local authority become involved.

14. Reciprocal rights of access to grazing and other natural resources between corporate groups of herders should be ensured by separate contract, to maintain the existing level of flexibility in access to grazing in case of adverse local conditions. Minimum areas of pasture land needs to be specified for corporate possession by such groups, based on local ecological conditions, so as to incorporate viable pastoral resource units.

15. Whatever form of pasture land policy is adopted and implemented, it will require the technical back-up of system within public administration for resource assessment, monitoring and taxation. Much progress has made in this direction already, with the principal involvement and baseline assessment activities of the Ministry of Environment, the Research Institute of Land Policy, the Ministry and Food and Agriculture, and the Institute of Agricultural Economics.

*Institutional change **and** development*

16. The continuity of informal institutions throughout earlier periods of political, economic and social transformation appears to have been a key factor enabling economic production and exchange to continue at least to an acceptable minimum level. The strength of political demand for rapid economic transition should not be underestimated. However, more incremental or piecemeal reforms tend to retain the essentials of antecedent institutions, thereby minimising transaction costs, and preserving options for future institutional innovation. For these and other reasons, a strategy of building on and supporting customary institutions represents an important opportunity for pastoral development.

17. Customary institutions in contemporary Mongolia once again provide for various types of collective action in the pastoral economy. Some forms of collective action persisted throughout the period of collectivisation, while others were displaced by the activities of the socialist state. Herders appear to perceive collective action explicitly as a mechanism for coping with the risks associated with structural reform as well as the risks of livestock production in a harsh environment.

18. Two types of collective action are distinguished here. 'First-best' collective action includes cooperation in land, herd and labour management. These forms of organisation serve to spread risk among individual herders within *khot ail* and neighbourhood institutions, and make sense both now and in the long run. 'Second-best' or transitional forms of collective action includes cooperation in livestock product marketing and rural transport provision. In the long run it is expected that they would give way to market-based mechanisms, although during economic transition they do at least facilitate a limited amount of economic exchange.

19. Given the interdependence of activities within functioning herder communities, second-best forms of collective action may assist in re-establishing and supporting first-best collective action. This is especially important in the case of sustainable land management, which is otherwise potentially threatened by the unstable conditions of economic transition. On this analysis, it is possible to be optimistic about the prospects for successfully coordinating and regulating of pasture land use within corporate groups of herders. This would form the first tier in a cost-effective, integrated system of land management that would meet efficiency, equity and sustainability objectives.

20. Various ways of supporting re-emergent neighbourhood-level pastoral institutions are suggested. These include advice on the incorporation of local institutions as *horshoo,* where these have not already been formed spontaneoously; legal recognition of such groups as corporate land possessors; technical advice on business management, product packaging, marketing etc.; and access to credit with which to purchase equipment, seeds, etc.

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Annex 1 Case history: Demberel, Tsagaan Hutul *bag*

Demberel is about 70 years old, partly deaf and blind in one eye from an accident while bailing wool. He is originally from Hövsgöl, the neighbouring *sum* to Erdene. In 1957, he decided to join a *negdel* principally because the tax on private animals became excessive. He was told of all the potential benefits of the *negdel*: cooperative labour etc. He had 100 animals before joining the *negdel*, and kept 30-40 of these. He and 12 other households became founder members of 'Örgöl' ('summit') *negdel* in the then Ulaanbadrach sum [near what became Tsagaan Hutul brigade of Erdene *sum*] since there was no *negdel* in Hövsgöl at the time. Another *negdel* in Ulaabadrach was formed in 1958, and the two amalgamated in 1959. Demberel had relatives in Ulaanbadrach. He was a brigade *darga* from 1957 to 1967.

Demberel was blinded in 1968 and had to stop herding. He received disability benefits from the *negdel* worth 150 tug/mth, or about half his average salary of 350 tug/mth at the time he stopped herding. His wife Maam took on the main burden of herding *negdel* and private animals, but they were not allocated any fewer animals. In 1968 they had about 70 *negdel* camels, and 50 of their own animals. Life became much more difficult for Maam then, although Demberel still managed to help with some tasks, both domestic and eg. milking.

His only son, born in 1950, joined the army in 1970, having been living in the *sum* centre as an apprentice tractor driver since 1966. He was posted to Dornod in 1970, but Demberel requested he be posted closer to him because of his disability. His son did get a posting to Erdene barracks in 1974, so Demberel and Maam were allowed to move to Erdene *sum* and join the *negdel* there. Maam retired in 1973. When they came to Erdene they were given the job of training *negdel* camels for milking. Their grandchildren now come to stay in the school holidays and help with herding. Their son, still in Erdene *sum* centre, also comes whenever they need assistance with moving camp ie. about 4 times each summer and autumn (8-10 times a year); more when conditions are poor. They still manage to move as much as necessary. They have occupied this *nutag* (Tukhuum) since 1974 when they came here. They only had to leave once owing to poor weather conditions, in 1990, when they and all the other members of the *neg usniihan* moved to Örgön *sum* (Argaliin Uul) for about 20 days during the summer.

Demberel continued to draw a disability allowance from 'Amdraliin Zam' (Shining Path) *negdel* in Erdene, worth 160 tug/mth in 1974. By 1992, the *sum* administration paid him 400 tug/mth in equivalent benefits. Maam's pension is worth 210 tug/mth. In 1973 when she retired she received only 30 tug/mth, owing to a mistake in the benefit calculation based on an underestimation of her length of service. The mistake was never corrected.

This year Demberel and Maam have been living in a *khot ail* with Chuluu and his wife, also called Maam. They have lived in *khot ail* together several times; the last time was 1987. Doshdondov is also considered a member of the *khot ail*, although he is living in the *sum* centre. His animals remain in the *khot ail* with Demberel and Maam. Doshdondov's wife and Maam are daughters of the same father but different mothers. Their father was a 'time-partner' between two (unrelated) women. Both of them were young and lived with their parents at the time, although they married later.

In the past Demberel and Maam have formed *khot ail* or *sakhaltiin ail* with Bandi, Dorjhorloo and others. The decision who to form such a relationship with depends on who happens to be nearby where you want to move to. The advantages they derived from *khot ail* include mutual assistance with herding different types of animal, and in case of sickness etc. In summer 1992, Demberel had 23 camels, 7 horses, 15 cattle and 140 sheep and goats.

[27 August, 1992]

Annex 2 Case history: Chuluu (b.1936), Tsagaan Hutul *bag*

Chuluu's late mother, Tseren, was distantly related to Demberel's wife Maam. Chuluu was also originally from Ulaanbadrach and knows Demberel from there. He left in 1954 to work on the railway, which he did until 1960. He joined Amdraliin Zam *negdel* in 1960, and herded cattle for the *negdel* in Yunshuu brigade until 1987. In the winter of 1987 he and two other households were trucked up to Tukhuum, Tsagaan Hutul, owing to bad weather. Although the others returned to Yunshuu late in the spring, Chuluu decided to stay because of the good pasture, the ready source of fuel from the saxaul grove at Dulaani Gobi, and the fact that Demberel was there and he developed good relations with others in the *neg usniihan* [a term which he used himself]. His daughter married Zundui in 1989. Chuluu retired from the *negdel* in spring 1992.

Other than 1987,1969 was the worst winter he could remember, with a hard *dzud.* The snow came more than halfway up the *ger* walls, almost reaching the top of the side wall. He did now move away that year, nor did he get supplementary feed from the *negdel.* He made his own fodder *(zoodoi),* and did not suffer very high losses.

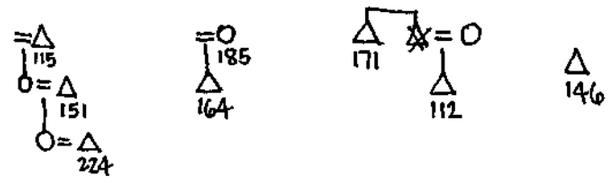
Chuluu started rearing camels for the first time when he came from Yunshuu in 1987. He was used to cattle and small stock, and he found it difficult at first. The hardest thing was that camels move quickly from one place to another and easily get lost. He also found it difficult at first to distinguish his own camels from other people's, even when they were marked with his brand. He learned a lot from Demberel about camel husbandry.

Chuluu has always made *zoodoi,* and cut hay from *ders* (Achnaterum splendens, a sedge grass). He and the others in the *neg usniihan* (Demberel, Bandi, Dorjhorloo, Zondui and himself) regularly make hay together from *ders,* cutting it with sickles. The ders grows to about shoulder height. They cut it and store it close to Dorjhorloo's winter shelter. Tuvdendorj (and his late mother's sister Dugersuren) do not take part, as they move further away during the winter. They make up to 1.5 tonnes of *ders* hay a year, collectively, which takes them about 6-7 days. They normally make hay early September. When asked to say to what extent their own production of hay meets their supplementary feed requirements for the winter/spring period, on a scale of 1 to 10, Chuluu estimated 5 (50%) in a good year and 4 (40%) in a bad year.

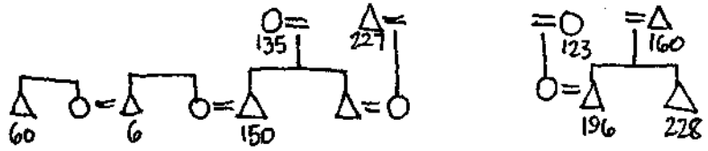
The first time the *negdel* provided supplementary feed was in 1966, on a very small scale. They have received some feed supplements virtually every year since then. Chuluu used to get 2 tonnes of hay each year from the *negdel* when he herded cattle and small stock. Since coming to Tukhuum, he has been given 1.5 tonnes hay and 20 bags of feed concentrate (pelletised) per year, for c. 200 camels.

[28 August, 1992]

No.	Name of hhold head	Wealth Rank Class	Ave. rank score		Private Animals Census: Horses	Cattle	Sheep	Goats	Yak	Total Value in cattle	Total	Head: Sex	Head: Age	Adult: M	Adult: F	Child: M	Child: F	Total
Upper Booroljuut																		
A.																		
115	D.Sandallhundev	3	55	P	1	14	45	0	0	21.4	60	M						0
112	H.Batdorj	4	70	P	9	15	36	3	7	29.4	63	M	20	1	1	1	1	4
146	Ts.Erdenebilig	5	77	P	3	17	27	0	0	23.9	47	M	32	1	1	3	0	5
151	O.Ochirkhuyag	4	70	P	4	27	39	6	0	37.2	76	M	59	1	3	0	1	5
164	T.Erdenebadrakh	5	83	P	6	13	37	11	0	25.4	67	M	22	1	1	0	0	2
171	Ch.Ulziit	5	85	P	6	20	41	2	16	32.1	69	M	30	1	1	0	3	5
185	U.Davaasambuu	5	85	*P	3	6	23	0	0	12.3	32	F		0	1	0	0	1
224	T.Odonkhuu	5	77	P	4	18	46	0	0	28.6	68	M	29	1	1	1	1	4

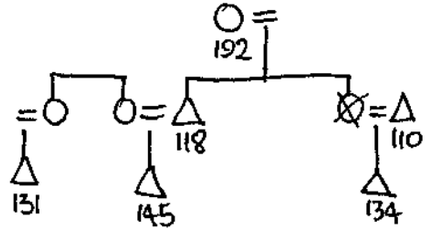


B.																		
150	Sh.Baasannyam	3	62	P	6	23	46	1	0	35.7	76	M	35	1	1	2	3	7
6	G.Namsraihorol	2	30		10	51	93	8	0	75.1	162	M	47	3	2	4	1	10
60	Alagsandar	5	75		5	27	100	0	0	46.3	132	M	36	1	1	0	0	2
123	R.Tsend-Ayush	5	92	*P	4	12	36	6	0	21.7	58	F		0	3	1	3	7
135	D.Doljinjav	3	62	*P	5	6	28	0	0	15.0	39	F		0	1	0	0	1
160	J.Jigjee	5	83	P	3	9	47	7	0	19.4	66	M	60	3	2	0	0	5
196	J.Enkhjargal	5	88	P	1	5	6	7	0	7.6	19	M	28	1	0	1	0	2
227	J.Tuvaan	4	68	P	15	14	50	8	0	36.9	87	M	60	2	1	0	0	3
228	J.Dalantai	3	55		0	6	2	0	0	6.3	8	M	24	1	1	0	0	2



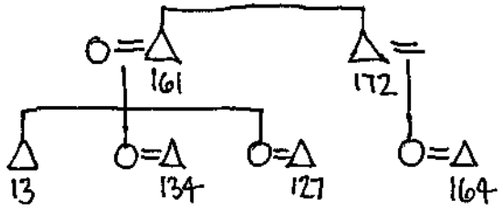
C.

118	A.Dorj	3	45	P	6	12	32	9	0	23.5	59	M	47	1	1	3	1	6
110	Ch.Lhaasuren	5	83	P	5	15	41	3	0	26.2	64	M	57	1	1	2	1	5
131	M.Baatarjav	3	50	P	3	10	20	3	0	16.2	36	M	24	1	1	0	0	2
145	D.Batorshikh	4	62	P	6	10	31	0	0	20.4	47	M	20	1	1	0	0	2
192	G.Ichinhorloo	5	85	*P	2	6	14	0	0	10.0	22	F		0	1	0	0	1



D.

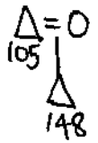
161	B.Choijil	4	60	P	5	23	34	4	0	33.3	66	M	60	1	3	3	0	7
13	Chi. Gankhuyag	4	68		7	14	33	9	14	26.6	63	M	25	1	1	0	1	3
127	M.Batjargal	5	75	P	5	11	41	1	0	22.0	58	M	25	1	1	1	0	3
134	L.Altangerel	4	70	P	2	11	24	1	0	16.5	38	M	24	1	1	2	0	4
172	B.Lhamgombo	2	30	P	9	21	38	2	0	35.6	70	M	57	1	1	1	0	3



Lower Booroljuut

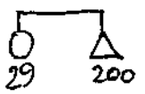
A.

105	D.Mavganbavuu	2	33	P	7	21	115	31	0	47.5	174	M	65	3	2	1	0	6
21	O.Davaadorj	4	62		7	11	36	1	2	23.2	55	M						0
36	S.Chuluunbat	3	47	*	5	26	66	6	14	41.0	103	F		0	2	1	0	3
148	M.Erdene-Ochir	4	68	P	11	15	50	0	15	33.1	76	M	27	1	0	0	0	1
178	G.Oidov	2	32	P	6	23	48	4	14	36.3	81	M	66	1	0	0	0	1
199	J.Gonchig	4	68	P	0	5	7	0	0	6.0	12	M	79	1	0	0	0	1
220	S.Gombosuren	3	47		7	19	54	3	17	34.0	83	M	73	2	1	0	0	3
234	O.Jadambaa	2	38		6	19	65	5	9	34.8	95	M	37	1	1	2	2	6



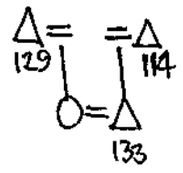
B.

204	G.Sumyaragchaa	1	23	P	17	38	150	14	24	77.8	219	M	38	1	2	2	2	7
29	Sh.Lhamsuren	3	55	*	5	10	25	1	8	18.7	41	F	56	1	0	0	0	1
106	S.Lhavagajav	2	32	P	7	31	129	11	26	57.5	178	M	51	2	1	2	3	8
117	N.Enebishdavaajav	5	75	P	5	23	30	2	17	32.5	60	M	46	2	2	1	1	6
142	L.Onorsaikhan	3	53	P	6	11	50	10	11	25.1	77	M	25	1	0	0	0	1
158	D.Batsaikhan	2	32	P	7	30	56	9	24	45.9	102	M	26	1	1	2	1	5
180	N.Batdorj	5	88	P	6	15	23	4	0	24.7	48	M	27	1	1	0	2	4
200	D.Dovchinhorol	5	100	P	0	2	6	3	2	3.2	11	M	46	1	0	0	0	1
208	N.Tuvdendavga	2	30	P	9	31	80	4	8	51.8	124	M	59	1	2	0	0	3
214	N.Dorjgotov	4	62	P	7	22	68	9	14	39.6	106	M	42	1	2	3	3	9



C.

114	N.Damdinbazar	3	47	P	1	17	31	11	17	23.5	60	M	43	1	2	3	0	6
129	R.Zagd	5	75	P	5	10	35	5	7	20.5	55	M						0
133	D.Sandag	4	68	P	4	12	17	4	12	18.8	37	M	23	1	1	0	1	3

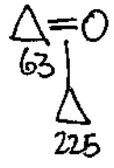


D.

189	D.Choijamts	1	23	P	5	25	92	11	20	44.2	133	M	58	2	2	0	0	4
4	Ch.Lhamragchaa	3	47		6	24	106	12	20	46.3	148	M	27	1	1	1	0	3

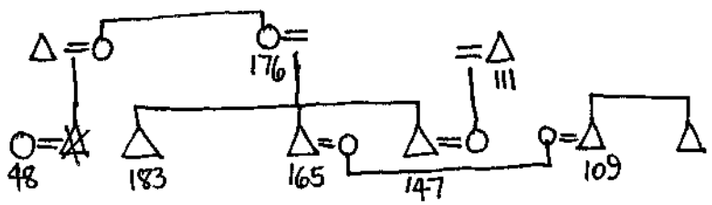
E.

63	D.Chimiddorj	2	40		8	24	82	13	13	45.0	127	M	64	1	2	0	0	3
225	J.Angidaabaatar	3	47		8	20	56	3	13	36.3	87	M	27	1	1	1	1	4



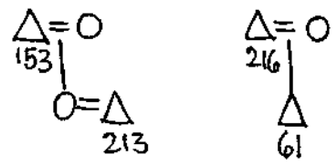
F.

183	E.Nambarsaikhan	5	83	P	3	13	33	1	0	20.8	50	M	37	1	1	3	2	7
48	T.Lhamsuren	3	53	*	4	28	36	2	0	37.3	70	M	65	2	2	0	1	5
109	G.Dolgorsuren	5	85	P	9	19	32	4	0	33.0	64	M	35	1	1	0	1	3
111	R.Tsendjav	5	83	P	2	20	37	4	0	27.7	63	F						0
147	E.Naidansuren	5	92	P	2	8	31	6	0	15.0	47	M	27	1	1	1	0	3
165	E.Namnansuren	5	83	P	6	6	52	3	0	19.7	67	M	33	1	1	3	1	6
176	Z.Jugder	5	100	*P	1	12	40	0	0	18.7	53	F		0	2	2	1	5



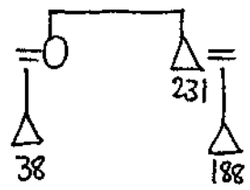
G.

213	D.Janjaahuu	1	23	P	6	23	78	0	0	40.1	107	M	51	1	1	0	0	2
61	A.Zorigtbaatar	5	93		5	5	19	0	0	12.7	29	M	29	1	1	2	2	6
113	Yo.Batbaatar	3	48	P	3	13	43	3	0	22.4	62	M	35	1	1	1	3	6
153	B.Badamsambuu	1	23	P	4	21	74	0	14	35.6	99	M	57	1	1	0	0	2
157	N.Lhavgadondiv	4	67	P	8	17	64	13	12	35.4	102	M	37	1	1	2	3	7
216	N.Avidsuren	3	53	P	6	19	51	2	12	32.5	78	M	64	1	2	2	0	5



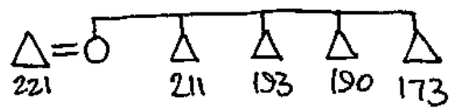
H.

231	Ts.Tumur-Ochir	2	30		6	17	58	10	0	32.3	91	M	68	1	1	0	0	2
38	G.Byambasuren	5	85	*	4	13	24	5	9	20.9	46	F		0	1	0	0	1
188	T.Lhagvasuren	4	58	P	4	19	73	38	0	37.2	134	M	44	2	3	1	0	6



I.

211	G.Baatar	4	65	P	7	10	78	25	0	30.6	120	M						0
173	G.Galbadrakh	2	33	P	5	8	43	15	7	20.6	71	M						0
190	G.Baatarchuluun	5	78	P	3	5	12	7	0	10.4	27	M	24	1	1	0	1	3
193	G.Altangerel	4	65	P	7	7	6	1	7	15.0	21	M	27	1	1	2	0	4
221	T.Galsandorj	5	100	P	3	10	53	19	10	22.5	85	M	65	1	2	0	6	9

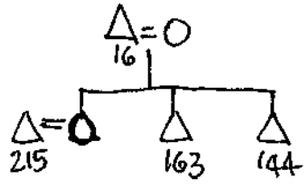


J.

203	L.Galbadrakh	2	40	P	8	26	143	12	3	55.6	189	M	39	2	1	2	1	6
104	(Dechenkhuugyn) Mavgan	3	45	P	14	34	94	4	23	61.8	146	M	45	2	3	2	4	11
120	D.Lombon	4	62	P	4	18	30	7	15	27.0	59	M	67	1	1	0	0	2
145	D.Batorshikh	4	62	P	6	10	31	0	0	20.4	47	M	20	1	1	0	0	2
170	T.Choijoo	2	30	P	3	22	31	3	4	29.7	69	M	50	1	1	0	0	2
186	S.Tserendash	3	47	*P	8	20	100	10	10	43.3	138	F		0	1	0	0	1

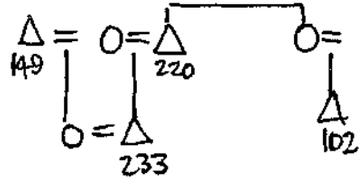
K.

16	L.Chogsomjav	4	60		6	23	31	1	15	33.5	61	M	65	2	1	0	1	4
144	Ch.Batbold	4	68	P	2	15	26	3	15	21.0	46	M	22	1	1	0	0	2
163	Ch.Ganbold	5	78	P	9	14	39	5	14	29.1	67	M	27	1	1	0	2	4
215	M.Zagdaragchaa	4	68	P	9	27	64	6	12	45.7	106	M	35	2	1	3	1	7



L.

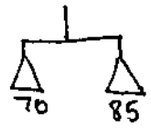
102	D.Boldbaatar	3	55	P	7	12	38	6	9	25.0	63	M	24	1	1	1	0	3
233	G.Batbayar	4	65	P	7	25	51	11	21	40.4	94	M						0



Ikh Jargalant

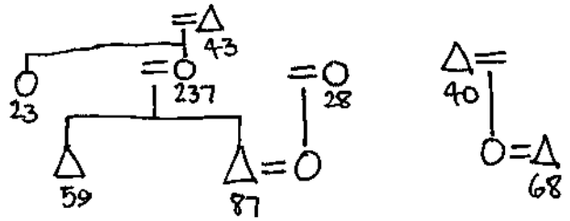
A.

70	I.Monkhsaikhan	1	23		10	22	74	8	14	43.4	114	M	32	1	1	1	1	4
4	Ch.Lhamragchaa	3	47		6	24	106	12	20	46.3	148	M	27	1	1	1	0	3
50	J.Bayarsaikhan	3	55		7	17	38	12	9	30.6	74	M						0
75	J.Onorbayan	4	58		7	22	61	20	11	39.7	110	M		1	1	0	0	2
85	I.Ulziisaikhan	4	60		4	15	42	18	9	26.8	79	M	18	1	0	0	1	2
189	D.Choijamts	1	23	P	5	25	92	11	20	44.2	133	M	58	2	2	0	0	4



B.

59	J.Adyahorol	1	23		6	22	91	14	8	42.4	133	M	37	1	1	0	3	5
23	G.Magsarsuren	5	78		7	6	14	10	2	16.0	37	M						0
28	J.Javzandulam	4	58	*	9	21	47	0	7	36.7	71	F	47	1	1	0	2	4
40	B.Dugerjav	1	23		14	29	25	0	23	46.6	68	M	78	1	1	0	0	2
43	S.Gotov	1	20		7	15	55	0	0	29.9	77	M	75	1	1	0	0	2
68	R.Batsaikhan	2	40		17	43	50	6	35	67.7	116	M	34	1	1	2	1	5
87	J.Adyabat	3	55	*	14	18	44	4	18	38.7	80	M	29	1	1	3	0	5
237	G. Magsarjalam	-			No	Data						No	Data					



C.

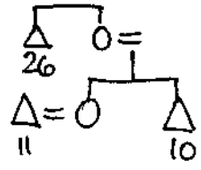
74	B.Ravdandorj	3	48		12	31	61	6	24	52.3	110	M	65	1	1	0	0	2
33	R.Odnemekh	3	48		11	25	58	7	20	45.0	101	M	26	1	1	0	4	6
49	N.Choindon	2	32		6	15	49	0	12	28.0	70	M	66	1	1	0	0	2
53	Ch.Tsogt	5	100		7	15	43	8	15	28.9	73	M	29	3	1	0	0	4
66	Yo.Purevjav	2	32		12	32	75	0	22	54.7	119	M	58	1	0	0	0	1
89	(Choyondorjyn) Gankhuyag	4	65		13	24	36	7	14	42.8	80	M	24	1	1	0	1	3
92	Yo.Baasanjav	2	32		19	34	131	7	21	72.4	191	M	52	2	1	2	2	7
132	R.Badral	5	100	P	3	10	22	1	5	16.2	36	M						0

D.

69	O.Lhagvaa	1	23		6	27	75	8	0	44.5	116	M						0
30	M.Jamtsaa	2	40	*	7	13	70	7	0	30.7	97	F	60	0	1	0	0	1
42	G.Gomboo	3	55		3	23	39	3	9	31.9	68	M	62	1	1	1	0	3
51	Ts.Gongorsuren	4	63		6	18	40	6	17	30.3	70	M	29	1	1	2	3	7
98	D.Enkhtor	1	20		7	12	65	7	3	29.0	91	M	23	1	0	0	0	1

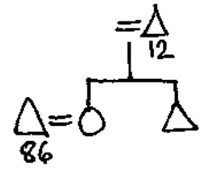
E.

26	N.Galsandorj	5	100	7	11	22	2	12	21.3	40	M	59	1	1	0	0	2
10	U.Badmaadorj	5	83	15	19	27	4	7	38.3	65	M						0
11	Z.Jargalsaikhan	4	68	15	15	26	10	13	34.7	66	M	20	1	1	0	2	4



F.

12	J.Batjantsan	5	83	4	13	44	3	6	23.6	64	M	57	1	2	0	0	3
3	B.Hurlee	5	100	0	5	14	12	0	8.2	31	M						0
86	Ts.Batdelger	4	60	10	18	34	18	0	34.7	80	M	24	1	1	1	1	4



G.

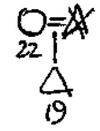
94	R.Batsuur	3	47		6	11	61	7	11	26.4	85	M	39	1	1	1	3	6
14	L.Lhamaa	5	100	*	9	9	36	8	6	23.9	62	F	53	2	2	1	0	5
39	G.Batmonkh	4	68		6	9	24	8	8	19.2	47	M	22	1	1	0	0	2
41	O.Sainbayar	5	78		14	14	37	3	11	33.6	68	M	25	1	1	1	2	5
57	M.Lhavaga	2	40		14	29	97	45	19	61.4	185	M						0
90	Sh.Badamhand	3	55	*	6	9	64	3	0	24.4	82	F	48	2	0	2	1	5
91	T.Batbayar	3	48		7	12	60	4	7	28.0	83	M	28	1	1	3	0	5
95	A.Nadmid	4	58		7	16	52	10	13	31.4	85	M	26	1	1	3	2	7
226	(Toryn) Togtokhbaatar	4	63		3	10	34	2	6	18.1	49	M	22	1	1	0	0	2

H.

8	J.Baljirjantsan	1	23		44	31	80	10	12	87.4	165	M	55	1	2	1	0	4
64	Z.Danaa	5	100		3	12	8	1	12	16.2	24	M						0
73	B.Erdenebayar	3	48		18	24	58	11	5	51.4	111	M	28	1	1	0	2	4

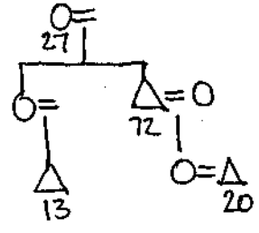
I.

44	A.Badamdorj	4	68		3	16	45	12	12	26.6	76	M	43	3	0	1	0	4
19	Ch.Enkhbayar	4	60		4	15	36	4	10	24.5	59	M	32	1	1	0	4	6
22	N.Norvoo	5	77	*	3	9	25	0	4	15.6	37	F	66	0	1	0	0	1
58	G.Dugerhorol	3	55		8	24	95	7	20	46.3	134	M	37	1	1	1	5	8



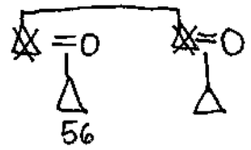
J.

72	G.Battsingel	3	45		7	29	65	10	24	46.3	111	M	38	2	1	2	2	7
13	(Chimiddorjyn) Gankhuyag	4	68		7	14	33	9	14	26.6	63	M	25	1	1	0	1	3
20	G.Batchuluun	5	78		7	10	32	6	7	22.2	55	M	25	1	1	1	1	4
27	Sh.Ichinhorloo	3	47	*	7	16	45	6	11	30.0	74	F	69	2	0	0	0	2



K.

56	B.Dangaasuren	2	38		7	30	86	16	30	50.9	139	M	33	1	1	0	4	6
1	D.Maamaakhuu	5	100		0	7	19	4	7	10.1	30	M	44	1	1	0	1	3
46	H.Bazarragchaa	5	85		8	17	40	4	16	31.1	69	M	43	1	1	2	2	6
52	S.Batjargal	5	78		6	14	27	4	14	24.3	71	M	25	1	0	0	0	1
55	B.Handjav	4	72	*	14	14	20	0	14	30.9	48	F	76	0	1	0	0	1
96	D.Tumurkhuyag	1	23		18	40	143	23	22	80.7	224	M						0
101	G.Banzragch	3	55	*	7	13	76	0	13	30.9	96	F	78	0	1	0	0	1



L.

191	S.Algaa (Alagsandar)	1	23	P	3	14	5	3	0	18.0	24	M						0
2	T.Chimid-Ochir	5	90	*	0	12	12	6	2	14.3	30	F	57	2	2	2	0	6
9	D.Tserendorj	5	75		3	13	46	4	13	23.0	66	M	29	1	1	0	3	5
65	T.Dovchin	2	32		7	29	80	10	26	48.4	126	M	63	1	2	0	0	3
76	R.Baasankhuu	5	100	*	2	6	10	0	0	9.4	18	F	53	0	1	1	0	2
77	B.Purevrinchen	4	67		6	6	6	0	6	12.9	18	M	21	1	1	0	0	2
78	B.Boldsaikhan	5	100		6	18	70	12	0	35.2	106	M	58	1	1	3	1	6
81	I.Zambal	2	40	*	2	20	57	0	0	30.1	79	F	77	0	1	0	0	1
100	(Choibolyn) Burentogtokh	2	32		7	20	64	4	15	36.5	95	M	38	1	1	2	2	6
174	A.Chimidregzen	5	87	*P	3	16	28	0	0	23.0	47	F	75	0	1	0	0	1

M.																	
54	O.Narbaatar	4	62		7	15	23	3	9	25.6	48	M					0
5	O.Mavganbaatar	4	68		12	32	87	18	29	58.2	149	M					0
32	O.Buyanbilig	5	80	*	3	12	27	0	10	18.9	42	F	18	1	0	0	0	1
45	N.Laichanjav	5	92		5	10	41	13	7	22.2	69	M						0
62	L.Monkhbat	5	100		1	4	15	5	4	7.6	25	M	25	1	1	1	1	4
80	G.Badamragchaa	5	100	*	0	3	11	1	3	4.7	15	F	78	0	1	0	0	1
N.																		
138	D.Dorj	3	45	P	1	13	22	4	0	17.5	40	M	49	1	1	0	0	2
34	G.Onorsaikhan	5	75		0	14	25	4	0	18.0	43	M	25	1	1	1	0	3
71	G.Baljinnyam	5	77		0	12	8	0	0	13.1	20	M	56					0

Key to Column 5:

P	indicates a private herder
No P	indicates a Horshoo member
*	indicates an absentee herder

Annex 4 The Land Law of Mongolia: summary of main provisions

Purpose: to regulate the ownership, possession, use and protection of Mongolia's land resources

Categories of land:
- common land
- land for state special needs (protected state reserves, land around state frontier, and land for other uses as determined by State Ikh Hural (SIH))
- land for possession by economic entities and citizens

Land ownership:
- the state and Mongolian citizens may own land
- state authorities shall possess, use and manage state-owned land
- the state may transfer land that is not pasture or other common land, or land for state special needs, to citizens of Mongolia for ownership

Role of state authorities:
- SIH may determine boundaries of land for state special needs; approve and change boundaries of *aimag*, *sum*, the capital and urban districts (ie. local authorities); and determine procedures for possession of land by foreigners
- Government of Mongolia may devise a general land policy, including state control over land possession, use and protection; and will define procedures for land valuation and leasing
- local authorities may possess, use and manage state-owned land within their jurisdiction; and determine the maximum amount of land within their jurisdiction that a citizen may own, taking local ecological factors and types of land use into account
- land may be expropriated by the state for common use and state special needs, subject to full compensation to the former owner for the land and immovable property and improvements at market value; and full compensation to the former possessor for immovable property and improvements at market value. New land for ownership or possession shall be given if desired by the former owner or possessor respectively

State-owned land
- land may be transferred by the state to economic entities and citizens for possession and use based on leases of up to 60 years, subject to certain conditions
- the lease shall stipulate the basis on which land is leased; the use, extent, fertility and characteristics of the land; the length of the lease; the obligations and responsibilities of the contracting parties; and other conditions
- land possessors (lease-holders) have the following rights: to obtain from the owner a description of the land's characteristics; to possess and use the land according to its designated purpose; to recover from a guilty party losses due to violations of possession rights and to reductions in fertility owing to degradation
- land possessors (lease-holders) have the following obligations: to protect the land and take measures to improve it; to abide by legislation on environmental protection, and to follow recommendations of the appropriate state authority on land use
- land possessors may not transfer their leased land for possession by others
- land possession rights may be terminated on the following grounds: expiry of the lease; death of the possessor or bankruptcy and dissolution of the possessing entity; failure of possessor to meet the terms of contract and to make payments on time; land disuse over a period of 18 months without sound reason; other grounds stipulated in legislation and contract
- termination of possession rights is grounds for termination of ownership rights over structures, buildings and other immovable property on the land, subject to full compensation for their market value

Land owned by citizens of Mongolia
- state-owned land may be sold to citizens of Mongolia for private ownership
- land ownership is registered in the state register; a certificate specifying extent, characteristics and fertility and price of the land and value of other real property is held by the land-owner
- land-owners have the same general rights and obligations as land-possessors, but are not restricted in the uses to which the land is put except as specified in land and environmental protection legislation

- citizens of Mongolia may transfer their owned land to others for ownership (subject to contract registered with the appropriate state authority) or possession (subject to permission of the appropriate state authority); they are not allowed to sell, barter or give the land they own to foreigners
- in the event that owners are deemed to have used land improperly - ie. endangering the health of the population, the environment, or national security; or leaving it exposed to erosion or diminished in fertility - the appropriate state authority will give notice requesting that abuses be discontinued within a prescribed period. Following a court decision that the owner has failed to meet these conditions, ownership rights will be terminated and transferred to the state
- in the event of termination of land ownership rights by court decision, the former owner wil be compensated for the market value of the land and other immovable property, less damages paid to the state for failure to treat the land properly in accordance with this law

Land resource management

- land management is a set of economic, legal and scientific measures aimed at implementing state policy for assessing and evaluating the proper use and protection of land and natural resources, for ensuring the implementation of land legislation, and for regulating land relations
- the Government of Mongolia shall define the system of institutions responsible for land management over the whole territory of Mongolia and its administrative units
- the natural conditions of land resources, reserves, their extent, quality, economic potential, price, rental value, utilisation and protection status shall be registered in the Land Resource Register, classified according to the type of ownership and possession, the administrative unit, and the land's uses

Land protection

- land protection activity in Mongolia aims to create natural, social and economic conditions favourable for the attainment of global ecological balance through the proper utilisation of land, the rational treatment of national reserves, and by limiting the burden caused by human and economic activities that can damage land
- land protection activities of land owners and possessors include: utilisation of land with regard to its sustained quality and natural resilience; the prevention of soil degradation, water-logging, salinisation and pollution owing to human activity; the rehabilitation of eroded and otherwise degraded land and restoration of natural resilience
- entities and citizens designing and implementing projects for land utilisation, introducing industrial technology, or applying chemicals and fertilisers shall have an ecological analysis certificate and give advance public notice of their intentions
- if it is ascertained that the soil structure and its vegetative cover are being degraded or becoming scarce due to a natural process or misuse, or in the case of land that is sensitive to change in characteristics owing to economic activity on it, the governor of the appropriate local authority shall determine a limit on the number of animals permitted per unit area
- state monitoring and certification of land characteristics and quality shall be conducted at the time of transfer of land ownership by entities and citizens, periodically during its use, and when ownership rights are terminated

Settling land disputes

- land disputes arising within the territory of a *sum* or urban district shall be settled by the local governor (within 10 days of receipt of a claim)
- land disputes between *sum* and urban districts shall by settled by the *aimag* or capital governor (within 20 days)
- land disputes between *aimag* and the capital shall be settled by the state central administrative body (within 30 days)
- decisions about land disputes may be appealed to the next highest administrative authority, within 30 days of the date of the decision

Penalities borne by violators of the land legislation*

¶ a fine of 10,000 tugriks must be paid in case of: cultivation of virgin land without an ecological certificate; abandoning land after use; causing soil erosion or degradation of its fertility; engaging in activities that conflict with the interests of society

† a fine of 1,000-2,000 tug. must be paid in case of: construction of buildings or installations on land owned or possessed by others or on land for state special needs without appropriate permits; cultivating land, cutting hay, grazing animals, building roads, collecting medicinal herbs or other rare plants, in such a way as to damage natural beauty, unique landscapes, historic and cultural heritage, soil or plants; changing the names of places or waters

¶ a fine of 1,500 tug. must be paid in case of: failure to follow environmental protection legislation, or failure to ensure that procedures for state monitoring and certification of land characteristics and quality are properly carried out

† a fine of 1,000 tug. must be paid in the event that, without sound reason, land is not relinquished after land possession rights have been terminated

¶ a person found guilty of grazing animals or trampling fields and meadows of other people shall be fined 1,000 tug.

¶ a fine of 300-750 tug. must be paid if the procedures for registration of land ownership or possession in the Land Resources Register are not observed; if state legal acts on land relations are destroyed; if boundary markers are destroyed, lost, or if their location is changed

¶ all entities having caused any of the above violations, regardless of their property type, shall be fined an amount up to 20,000 tug. depending on the severity of the violation

† administrative employees responsible for regulating land relations, and enforcing land protection measures, etc, shall be fined 300-500 tug. for failure to fulfill their duties responsibly, for concealing documents or other information necessary for determining the extent of damage caused to the land and its consequences, or for providing false information

- all damages caused to the land resources of Mongolia shall be reimbursed by the violator of the land legislation
- if land owners or possessors are deemed to have exposed their fields and meadows to erosion or excessive use, their utilisation may be stopped for some period of time and they may be forced to carry out rehabilitation activities at their own expense
- guilty entities and individuals shall at their own expense purify and restore the surface and soil of land that was polluted by poisonous chemicals, or industrial or household wastes
- if an entity or citizen causes irreparable damage to land that the entity or citizen owns or possesses, then the right to ownership or possession shall be terminated and the former owner required to pay a fine equal to the value of the land
- if an official responsible for regulating land relations makes a decision that conflicts with the land legislation of Mongolia, or abuses his position, that decision may be cancelled by an official or administration of a higher authority, based on the conclusion of a professional organisation

Source: Land Law of Mongolia (third draft, December 1991), based on translation by IRIS Project, University of Maryland (1992). The provisions summarised here should in no way be interpreted as an official translation of the Land Law of Monglia.

* ¶ indicates fine to be imposed by employee(s) responsible for land issues in the relevant local authority; † indicates fine to be imposed by the judge of the court

Annex 5 Constitution of Mongolia: main provisions relevant to land legislation

Article 5

2. The state recognises all forms of both public and private property and shall protect the rights of the owner by law.

Article 6

1. The land, its subsoil, forests, water, fauna, and flora and other natural resources and game shall be the property of the state.

2. The land, except that in citizens' private ownership, as well as the subsoil with its mineral wealth, forests, water resources and game shall be the property of the state.

3. The state may give for private ownership plots of land except pastures and areas under public and special use, only to the citizens of Mongolia. This provision shall not apply to the ownership of the subsoil thereof...

4. The state shall have the right to hold responsible the landowners in connection with the manner the land is used, to exchange or take it over with compensation on the grounds of special public need, or confiscate the land if it used in a manner adverse to the health of the population, the interests of environmental protection and national security.

Source: extract from the Constitution of the Republic of Mongolia (came into effect 12 February, 1992)

Annex 6 Accounts of yak butter transaction (refer to figure 17 for details)

Item	*Income (tug.)*	*Expenditure (tug.)*
Yak butter sales		
- to Tsetserleg food factory (200 kg @ 160 tug/kg)	32,000	
- to military establishment, Ulaanbaatar (200 kg @ 220 tug/kg)	44,000	
- to individual entrepreneur, Ulaanbaatar (50 kg @ 160 tug/kg)	8,000	
Subtotal sales	**84,000**	
Purchases of consumer goods		
- bread (136 loaves @ 4 tug each)		136
- vodka (80 bottles @ 350 tug each)		28,000
- flour (420 kg @ 2000 tug/ 50 kg)		16,800
Subtotal purchases		**44,936**
Intermediate costs		
Transport haulage costs (fuel, driver's salary)		10,000
Local transport costs (moving butter-churning equipment, milk and butter)		3,200
Salaries of butter-churners (6 workers)		7,200
Subtotal costs		**20,400**
Net proceeds	**18,664**	
Proceeds per milk producing household	**1,098**	