

Drought and *Zud* but No Famine (Yet) in the Mongolian Herding Economy

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1 Introduction

Nomadic herding remains at the core of Mongolian society and economy, employing a significantly larger proportion of the population than any other economic activity and producing the biggest share of national income. Until the 1921 socialist revolution, herding was organised around monasteries and feudal fiefdoms, with day-to-day productive activities largely carried out through kin-based customary groups. Following the revolution, agricultural production was gradually collectivised, and from the 1960s until 1989, nearly the entire national herd was held in *negdels*, or herding collectives. The organisation of herding within the *negdels* sought to capture economies of scale and encourage task specialisation. The herd assigned by the collective to each *suur*, a production unit composed of a maximum of two or three households, generally consisted of animals of a single species and often a single age group; fixed salaries and bonuses were paid against the achievement of set production targets. Services such as veterinary care, seasonal and emergency fodder provision, supplementary labour, animal transport and marketing, lorry transport for camps on seasonal moves, and livestock insurance were supplied to herders at little or no cost by the *negdels*, while the local districts or *sums* (coterminous with the *negdels*) provided universally available health care, education, and social security services.

A series of liberalising reforms between 1989 and 1992, sparked by the breakdown of the Soviet Union and the termination of subsidies from that country, led to the privatisation of the collectives and the wholesale transfer of livestock and other assets to private ownership, mainly by individual herders. Services formerly provided for free by the *negdels* and *sums* were mostly either discontinued or made available only at a cost. As a result, use of these services contracted or collapsed, as did health standards, literacy, and livestock insurance coverage. The number of herding households more than doubled – from 69,000 in 1989 to 154,000 in 1993 – as newly unemployed city-dwellers sought to take advantage of the privatisation of *negdel* herds while fleeing food and job shortages in urban areas; by 2000, the number of herding households had risen to 192,000 (NSO 1996; 2001). Cash shortages in the countryside led to the reappearance of a barter economy and a sharp decline in the

consumption of purchased foods in favour of self-provisioning (Cooper and Narangerel 1993).

Despite these problems, herding remains a key economic sector, and nomadic livestock producers remain critical to national prosperity. Agriculture – dominated by the livestock sector – accounted for over a third of GDP in 2000. Livestock products such as cashmere accounted for 32 per cent of the recorded value of exports in 2000 and, given extensive unrecorded cashmere exports, the real figure is almost certainly much higher (UNDP 2001).

However, herding is still a risky occupation, closely linked to poverty and environmental stress: 85 per cent of all herder households have fewer than 200 animals, considered to be the primary poverty threshold, and 63 per cent have fewer than 100 animals. The national poverty headcount has remained steady at around 36 per cent since 1995, with a deepening of rural poverty and a widening of differentials between the poor and the poorest (UNDP 2001).

The changing distribution of risk has played an important role in creating and maintaining poverty. As state-provided services and safety nets have been reduced or eliminated, much of the risk inherent in pastoral production in Mongolia's harsh and variable climate has been transferred from the state and the collectives to individual herders. Herders can no longer rely upon the resources and protection of the state against risks such as livestock disease, predation, and natural disasters, and when losses occur they are not covered by mandatory insurance. Uncertainty has also increased as customary patterns of pasture allocation and use are no longer enforced by *negdel* officials, and an influx of inexperienced newcomers, often ignorant of customary grazing rules or even of basic traditional herding techniques, has put additional pressure on grazing lands (Mearns 1995).

In response to greater individual risk burdens, herders have adopted risk-minimising strategies such as household herd species diversification and enlargement: most herders now prefer to own animals of all five 'traditional' species (goats, sheep, cattle including yaks, horses, and camels), and the national herd – nearly stagnant for many years under the collective regime – began to expand rapidly

following liberalisation, growing from 25.9 million in 1990 to 28.6 million in 1995 and 33.6 million in 1999 (NSO 2001). Forms of informal cooperation among herders, common prior to collectivisation but eclipsed during the collective era by state control, have also resurfaced. Of particular importance are encampments, or *khot ails*, of 2–10 households, which cooperate in everyday herding activities, and local neighbourhood communities (*neg nutgiinhan*, 'people of one place') formed of *khot ails*, which use the same pastoral resources for at least part of each year. These communities are now the key institutions for regulating local pasture use and allocation (Swift 1995).

The field research on which this article draws was carried out in June 2002 in two districts of Bayankhongor province: Bogd in the southern Gobi desert-steppe region and Zag in the northern mountain-steppe region. In both districts, livestock husbandry is by far the most important source of income, with over 90 per cent of all households owning livestock and nearly 80 per cent deriving their livelihoods primarily from full-time herding (*Report on the Economic and Social Situation of Bayankhongor Province 2001*). Since 1999, however, the number of livestock has declined by 65 per cent in Bogd and by 22 per cent in Zag, as a result of the *zuds* (see below) of 1999/2000 and 2001/2. Over two weeks, 14 herding households, most of whom had suffered heavy livestock losses, were interviewed in each district about coping strategies employed, help received, and recovery prospects after the *zuds*. Additional information was obtained by consulting statistics and interviewing officials and NGO staff at state, provincial, and district levels. In the following text, all information relating to Bogd and Zag, or to Bayankhongor more generally, without other indication of source, comes from project fieldwork.

2 Zud

The Mongolian term *zud* denotes any one of a range of winter conditions which threaten livestock survival, such as unusually abundant snowfall ('white *zud*'), the formation of an impenetrable ice layer over pastures ('ice *zud*'), or a lack of sufficient winter fodder following a summer drought ('black *zud*') or due to soil compaction by grazing animals ('trampling *zud*'). The most significant of the risks faced by herders, severe *zuds* historically occur in

Mongolia with an average frequency of once every eight years (Templer *et al.* 1993). In the past decade however, *zud* winters in 1993 and 1997 were followed by an unprecedented three-year sequence of dry summers and extremely harsh winters between 1999 and 2002. Summer droughts in up to 60 per cent of the national territory resulted in reduced pasture growth in the summer and limited hay and fodder preparation by herders for the winter. Weakened by inadequate summer feeding and lacking sufficient supplementary feed, several million animals died each winter in blizzards and temperatures of up to 50 degrees below zero in some areas. Livestock birth rates declined, and fewer young animals, born in early spring when *zud* conditions are most severe, survived. Overall, the national herd decreased from 33.6 million in 1999 to about 25.1 million in April 2002, less than the number of animals in 1990 (*Dzud in Mongolia*). In some provinces and districts, particularly in the western and central mountains and in the Gobi region in the south (areas which are usually most vulnerable to *zud*), regional herds were reduced by more than half. Over 2,400 households lost their entire herd in 2000, and a further 7,400 households were made destitute in 2001 (UNDP 2001).

Losing a large number of animals affects all aspects of a herder's life and livelihood: consumption, income, asset base and mobility. A substantial portion of food consumption (milk and meat, which together with purchased flour and rice comprise the staple foodstuffs for herders) is obtained from the household's own animals. The sale of livestock or livestock products – wool, hair, skins, milk, and meat, with goat cashmere and camel wool in the Gobi and yak milk in the mountains being especially important – is the main or, in many cases, the only source of income for rural families, as alternative employment opportunities are limited in rural areas (UNDP 2000). Particularly in the arid regions, animal dung is the only readily available heating and cooking fuel, as wood is extremely scarce; and for many households, horses, camels, and oxen provide the sole means of transport. Animals are also the most significant asset of all herding households. In addition, loss of livestock by most of the herders in an area reduces the availability to poorer households of alternative sources of income such as paid herding employment or participation in 'shareherding' arrangements with richer households.

Given the near-total reliance of herders on livestock for their livelihood needs, it could be expected that large-scale losses over three years would have caused serious food insecurity and even famine in the worst-affected areas. However, in spite of declines in food quality and quantity, increased poverty and possibly increased malnutrition in some areas, there has not to date been a famine in Mongolia – no starvation, no excess mortality, no apparent catastrophic disruption of herders' economic and social lives. Why not?

3 Delayed effect of winter livestock losses

The first reason why the catastrophic loss of animals was not reflected in a catastrophic disruption of food consumption is that Mongolian herders are temporally buffered against wintertime shocks by household stores of food and fodder. These stores, consisting principally of frozen meat, flour and rice for the winter, and dried meat for the spring and summer (as well as stocks of natural and purchased hay and fodder), are prepared in the autumn of each year following the slaughter of animals in October: up to a dozen sheep or goats are frozen for winter food and the meat of one or two large animals (horses, camels, or cattle) is dried for consumption in the spring. Much of the cash received from the sale of remaining meat is used to buy flour, rice and other necessities for the winter months.

At the time of fieldwork in June 2002, most households interviewed still had some reserves of dried meat from animals slaughtered the previous autumn, and many hoped to make them last until late summer. Some also had flour stores: one herder in Bogd, for example, had purchased 150 kg of flour in the autumn for his family of three, and anticipated that these stores would last until the end of June. However, the availability of flour for purchase at all times of the year, together with the increased demand for flour for Tsagaan Sar (Mongolian New Year) celebrations in February, mean that flour stores are usually exhausted in early spring. After this, flour can be obtained through borrowing from shops or traders in smaller amounts of 25–50 kg. Such informal credit is very common, and constitutes a second factor delaying the impact of livestock losses on livelihoods. Particularly in the Gobi region, herders

routinely borrow money and goods in the autumn and spring against anticipated cashmere and other livestock product sales in May, occasionally with additional short-term loans in late spring and summer. This strategy works well during years of good cashmere prices, as was the case up to 1999, but is dangerous when cashmere prices fall, as they did in 2000: herders in Bogd reported that the price had plummeted from about 45,000 tugrig (US\$41) per kg to around 20,000 tugrig.

In 2002, there were several additional influences on the extent of winter stores and borrowing. In regions which had suffered a bad *zud* in the preceding years, such as Zag district, stores were smaller than usual, as previous livestock losses had limited the number of animals which could be slaughtered for consumption as well as reducing total income and hence expenditure on purchased foods. Some Zag households were relying more than usual on borrowing, winter stores having run out for many early in May. In Bogd, however, where past winters had not been particularly severe, many herders had slaughtered *more* livestock than usual in anticipation of a bad *zud*: nearly 47,000 animals were slaughtered in autumn 2001 out of a total herd of 144,000, compared with 18,400 in the previous autumn (*Report on the Economic and Social Situation of Bayankhongor Province 2001*). Many herders were therefore better prepared than usual for the 2001–02 winter both in terms of abundant winter stores and in terms of extra cash, which was often spent on additional fodder for the remaining animals.

The credit situation, however, was getting worse for nearly all herders, with intensified demand for loans of food and other goods in the absence of normal livestock income, but also increasing reluctance on the part of shop-owners to lend to herders, and increasing difficulties experienced by herders in finding the money to pay back existing loans. Falling cashmere prices had undermined the loan strategy. Given these trends, access to credit through friends or patrons was becoming increasingly important. Reported loans varied in size from an exceptional 500,000 tugrig (US\$455), which was taken to cover the cost of Tsagaan Sar celebrations, supplementary spring fodder, and a son's wedding, to more common amounts of 20,000 to 40,000 tugrig, typically half in cash and half in goods, taken as winter stores of flour, ran out.

4 Supplementing consumption

Irrespective of stores, nearly all households in the study areas reported significant changes in the composition and amount of food consumed after a *zud* winter, particularly in 2002 when the *zud* was exceptionally severe and resources were diminished due to preceding bad winters. In Bogd, the food situation was widely described as the worst in living memory. The near-absence of milk and milk products – usually the main staple in summer – from herders' diets was perceived as the greatest problem. Instead, of the usual array of yoghurt, butter, curds, and both fresh and fermented milk, most households interviewed had only small amounts of fresh milk ('barely enough for milk tea'); a few had been able to prepare some butter and yoghurt, but a larger number had no milk at all. Nearly all households reported eating only one cooked meal (dried meat with rice or noodles) per day, with other meals consisting of black tea and cookies. Fewer or no snack foods were available.

In a situation where the opportunity cost of maintaining normal diets is high, rationing food consumption is an entirely rational response in order to preserve the assets necessary for recovery after the shock (Devereux 1993). The desire to protect productive assets – livestock and vehicles – was universal among those who intended to stay in herding after the *zud*, even to the point of compromising winter welfare. For example, a Zag household, which had received 65 goats and sheep through a restocking project in 2000 and consequently had a relatively large herd of 125 animals before the most recent *zud*, decided to forego slaughtering animals for winter meat in order to maximise post-*zud* herd size and ensure viability after repayment of the restocking loan in 2003. Another family in Zag, anticipating high losses before the severe 1999/2000 *zud*, had sold 10 male yaks (deemed particularly vulnerable) in the summer, with most of the cash put aside for post-*zud* restocking, rather than used for winter provision. The portion spent was used on hay and fodder, not food. Most households which owned jeeps or motorbikes were extremely reluctant to sell them, considering motorised transport necessary for effective herding, particularly after a *zud* when horses are scarce.

Accordingly, the strategies employed by households were primarily geared towards securing sufficient

Table 1: Examples of household ‘strategy sets’

Household head: Avirmed	Household head: Sukhbat	Household head: Munkhtor
7-member female-headed household in Zag; lost all 19 animals in 1999–2000	9-member household in Bogd; lost all but 39 of 1,000 animals in 2001–2	8-member household in Bogd; lost all but 6 of 250 animals in 2001–2
<ul style="list-style-type: none"> ● Reduced consumption ● Monthly disability benefit (18,000 tugrig) ● Frequent remittances of money, food, etc. from employed daughter in Ulaanbaatar ● Food aid in 1999–2000 (one year’s supply of flour and rice from the Red Cross) 	<ul style="list-style-type: none"> ● Reduced consumption ● Savings from past cashmere sales (now exhausted) ● Sale of approx. 8 kg of cashmere (176,000 tugrig) ● Large winter stores expected to last until late summer 	<ul style="list-style-type: none"> ● Reduced consumption ● Loan of 40,000 tugrig in April from a friend – unable to repay ● Sale of collected dung and firewood in the winter ● Sale of approx. 2 kg of cashmere (44,000 tugrig) ● Casual employment: carrying sand (approx. 14,000 tugrig in cash and kind since Dec. 2001) ● 1 month’s work in gold mine (little net earnings) ● Food help from siblings
Daughters want to migrate to Ulaanbaatar, but mother is unwilling to leave the countryside	Want to sell main asset (stone animal shelter) and migrate to brother in Baganuur city	Want to migrate to provincial centre for employment

consumption as reserves began to be exhausted, without eroding recovery capacity (de Waal 1989). A variety of sources were drawn upon to this end. Three types of entitlements in particular were key in enabling herders to maintain sufficient food consumption after *zud*: small cash incomes (from both livestock and non-livestock sources), help from families and friends, and relief aid. Due to important differences in access to these sources, the ‘strategy sets’ of individual households varied; a common feature, however, was diversification, with most households relying on at least three different sources. Some of the non-livestock-based responses employed were not ‘coping strategies’ in the sense of special resources and activities reserved for exceptionally difficult periods (Davies 1993). Rather, these mechanisms also exist and are active in normal years, but they are usually secondary in importance to income and consumption derived from livestock. When livestock income fails, however, these non-livestock sources of income become crucial. Noticeably, several households with severe losses were considering leaving the pastoral economy altogether and taking their chances in

town. Table 1 summarises the ‘strategy sets’ of three households that suffered severe livestock losses.

5 Small cash income

By far the most important source of non-livestock income in the study areas was cash pensions, paid since *negdel* times to all herders who, upon attaining the age of 55 (women) or 60 (men), have paid annual social insurance contributions for a minimum of 20 years. Apart from a limited system of social welfare aimed at providing minimal support for the utterly destitute, pensions and other social insurance benefits (such as disability allowances) constitute the only formal safety net for herders.

In the *negdels*, social insurance contributions were automatically deducted from herder salaries, ensuring eligibility. After 1989, however, participation in social insurance schemes became voluntary for herders, and extremely few chose to continue payments, either for reasons of cost or because of a lack of information and/or understanding of the system. As a result, while the

current generation of pension-age herders is nearly universally covered by the pension system, most herders now in their late forties or younger will not be eligible for pensions upon reaching retirement age. This is likely to have serious consequences for herder households' survival in times of stress, as pensions and benefits were the primary source of post-*zud* income for recipients and their families, and for most the only one not derived from livestock. Being paid monthly, pensions constitute a non-seasonal buffer against fluctuations in livestock income. Although at 18,850 tugrig (US\$17) they still leave recipient households below the official poverty line of 18,000 tugrig per each member of the household, they enable recipients to purchase regularly at least some basic necessities, as well as allowing them greater access to credit as pension books can often be used as collateral for loans from shops. Many poor herders, in particular, said that this was the only way in which they could secure loans. The importance of pension entitlements has therefore increased further, as credit availability has declined after *zud*.

Other sources of cash included the sale of skins salvaged from some of the animals which had died during the *zud*, and the sale of cashmere, wool, and other products from the few animals which had survived. Not all skins were recovered, and earnings from livestock product sales were a tiny fraction of those in normal years: for example, several families had been able to sell a mere 1 or 2 kg of cashmere in the spring of 2002, compared with over 15 kg from a modest 'normal' herd of 50 goats. In addition, the price of raw cashmere has yet to recover from its dramatic fall in 2000: the price in Bogd in 2002 was about 22,000 tugrig (US\$20) per kg. Nonetheless, livestock product sales provided the main current income for many households with no pension entitlements, and were to some degree important for nearly all households. A few households were able to draw on small savings accumulated in the years when the price of cashmere was high; most of these had, however, exhausted their savings by the spring of 2002.

In both Bogd and Zag, many herders have consciously tried to diversify income sources in the past few years in response to the threat of *zud*. One interviewed herder in Bogd and three in Zag had begun to grow vegetables on small private or shared

patches; most had few or no animals left and were consequently relying on vegetable production for the bulk of household income, consumption, and access to credit, with loans taken out over summer against the autumn harvest. The Zag farmer with the largest cultivated area harvested 6–7 tons of vegetables in 2001 (of which 2 tons was consumed and the rest sold), while another produced 2.7 tons, which he considered inadequate to provide a subsistence income. The start-up capital required to enter vegetable growing (minimum 100,000 tugrig, mainly for seeds) may act as a barrier to poorer households, unless subsidies are made available. The National Poverty Alleviation Programme was reported to have given loans for seeds to some poor households in order to enable them to overcome this obstacle.

There had been a surge of interest in gold mining at several sites around Bogd, where a third of households interviewed were planning to send at least one member to the gold mines. One herder who had already worked in the mines, however, reported that a large proportion of the approximately 5,000 tugrig daily earnings is spent on food and maintenance, and net income was meagre. Other options considered or adopted by a few herders were the collection and sale of dung and wood for fuel, the establishment of co-operatives for producing boots, clothing, and other items for sale, and casual employment in herding or manual labour. Their contribution to household incomes has, however, so far been marginal: the only herder to have found casual employment, for example, earned only about 14,000 tugrig (US\$13) in the spring of 2002.

6 Mutual assistance

Mutual assistance among family members, friends, and neighbours is a long-standing and important feature of Mongolian herding society (Potkanski and Szykiewicz 1993; Cooper 1993). Assistance takes many forms, from unconditional material help among immediate family members to practical cooperation in herding activities within the *khot ail* encampment, 'patron-client' or exchange arrangements between richer and poorer households, and flows of small gifts and loans of fodder, food, medicine, and other items between neighbours in a community. In difficult times, transfers may

intensify as households seek to invest in the 'insurance' provided by these networks. However, in severe crises which affect most or all households in the community, mutual assistance tends to break down. The scope for help from others contracts dramatically when everyone's livelihood is threatened (Templer *et al.* 1993).

In Mongolia, mutual assistance in post-*zud* hardship was constrained by several factors. First, material assistance from siblings and other relatives living nearby – usually the first to offer help in times of individual hardship – was generally limited in the study areas. This was universally attributed to the locally covariant nature of *zud* which, it was claimed, had left most households in the community unable to help others. Compounding the impact of *zud* losses, the general poverty of the community in some areas was further cited as a reason for a low level of mutual assistance.

Second, gifts (in the case of food and medicine) and loans (of hay, fodder, and transport animals) between households tend to be relatively small and infrequent, and are commoner in normal times than in a crisis. Material transfers are intended to bridge temporary deficits, not to meet substantial long-term consumption needs.

Finally, some traditional forms of cooperation, such as poorer herders herding livestock for richer ones in exchange for a share of the products, were widely reported to have declined due to *zud*, as richer households found their herds diminished to the point where extra labour was no longer needed, and milking animals in particular could not be spared. Some *khot ails* had broken up due to animal losses, with some dispossessed herders preferring to stay near the district centre hoping to find work rather than following customary migration patterns.

In spite of these constraints, help from neighbours, patrons, and friends living nearby was a prominent feature of the entitlement bundles of several households. The most important mechanism was the *khot ail* partnership. In spite of the reported decline in this form of cooperation, several new *khot ails* had been established specifically in response to the post-*zud* situation. These were commonly formed between a rich, labour-deficient household and a newly impoverished one, with the latter providing

most of the labour and relying on the former for daily subsistence. A few poor households who were already in such arrangements before the onset of *zud* have now become dependent on daily donations of staple foods from their richer 'partners', as their own resources have been exhausted. In some cases, patrons also provided other important assistance, such as long-term loans of transport or milking animals, as well as shorter-term loans of food and money. Together with pension entitlements, patrons were an important source of credit on favourable terms for poor households who would otherwise find it difficult to secure loans from shops.

More substantial, though less widespread, than assistance within the community were remittances received from urban relatives. Urban-rural linkages in Mongolia have traditionally been maintained to the benefit of both parties, particularly through the custom of *idesh* or 'winter food' – meat and other livestock products supplied to urban residents by their rural relatives in exchange for a variety of goods and services (Potkanski and Szykiewicz 1993). Since transition, these connections have gained in importance. Common services provided by urban relatives now include accommodation for school children and visitors, guidance in accessing medical care and other services, and help with locating trading and employment opportunities (NSO and World Bank 2001; Szykiewicz 1993). In times of stress, extra support from urban relatives is often called upon. In particular, interviewed households reported receiving significant amounts of material assistance from city-dwelling adult children or – less commonly – siblings who were generally working as traders or unskilled labourers and sharing their earnings with family members in the countryside.

In addition to money, food, medicines, and other items sent or brought to rural households by these relatives, urban contacts were crucial in offering the possibility of migration: the lack of such connections was frequently cited as a major obstacle to pursuing this option. Urban assistance to *zud*-affected areas was also provided by 'Native Land Councils', associations of former herders from a particular region or province now living in the capital Ulaanbaatar; however, these transfers are difficult to quantify as a large part was channelled either through individuals (such as MPs or businessmen) or charities such as Save the Children Fund.

7 Relief aid

The response of the government of Mongolia and national and international aid agencies to the emergency varied by year and by area. In 1999/2000, governmental and NGO aid was promptly provided, although relatively small. In Bayankhongor, government and quasi-official aid – consisting of rice, flour, candles and matches – was distributed in small amounts to numerous herders in affected areas, while NGOs such as the Red Cross and Save the Children supplied significant amounts of food to relatively few particularly vulnerable families. In Zag district, 125 households out of the district total of 613 received a ‘year’s supply’ of rice and flour (1,000 kg of flour and 300 kg of rice, in four instalments) from the Red Cross, and approximately 70 further households were allocated a single instalment of 250 kg of flour and 75 kg of rice from Save the Children. Aid from bilateral donors and the UN was more substantial in total value, but it arrived in many cases too late and was often not used until the *zud* of the following year (UNDP 2000). In addition to relief aid, Zag district was included in a number of restocking initiatives, funded by the World Bank, Save the Children, and the *Sankei* newspaper of Japan, after the 1999–2000 *zud*. A total of 108 households received between 30 and 65 smallstock each, with repayment scheduled for 2003.

In 2000/1, when the study areas were not badly affected, the donor response was significantly larger, owing to the greater severity of the situation in many other parts of the country and publicity surrounding the fatal helicopter crash of nine aid and media workers, as well as the existence of stocks from the previous year. A total of about \$25.3 million was made available for *zud* relief in cash and in kind, compared with less than \$1 million the previous year (*Dzud in Mongolia*).

In 2001/2, by contrast with the previous two years, international involvement was small as the impact of the *zud* was limited to fewer provinces and no appeal to donors was made by the Mongolian government. Small amounts of food and fodder were provided early on in the *zud* by the State Reserve Agency to all affected areas, but recipients were required to pay for transport costs which left the poorest unable to afford aid.

For those households that were selected for restocking or intensive NGO food provision

programmes in 2000, aid contributed significantly to post-*zud* survival and recovery. For most families interviewed, however, the amounts of relief aid provided were too small to have much impact. In Zag, a typical household received 10 kg of flour, 5 kg of rice, 50 boxes of matches, 4 packets of candles, and some coal and boots from a range of sources in 2000, and similar amounts of flour and rice as well as some hay and fodder from the State Reserve Agency in 2002. In Bogd, aid was received only in 2002 and was similar in size to that distributed in Zag. These donations were universally appreciated at the time, but were not deemed particularly significant for survival: 10 kg of flour would cover less than half of a four-member household’s estimated minimum monthly requirement of 25 kg. Of this ‘small’ aid, hay and fodder distribution by the State Reserve Agency in early spring was most valued as this was the time when livestock were most vulnerable; several herders felt that some animal deaths were avoided due to these donations.

8 Conclusions

The livestock losses suffered by Mongolian herders in the successive drought and *zud* years from 1999 to 2002 were potentially on a sufficient scale to precipitate a major national crisis. The previous social security system had been largely removed. Livestock insurance against natural disasters was no longer obligatory, and few households insured their animals. The rural economy had largely reverted to barter. Communications and transport were poor. Poverty was widespread. Most of the conditions for a major episode of food insecurity were present. So why was there no famine?

One part of the wider political context is relevant. Since 1989, Mongolia has had an active democratic system, with a powerful elected parliament, containing representatives of several parties, an active opposition, and a free press. The devastating impacts of the droughts and *zuds* of 1999–2002 have been debated at length in parliament, and in the newspapers. Government has been open about what was happening, and within the limit of its resources has acted effectively. Mongolia clearly illustrates the thesis of Amartya Sen: the exercise of democratic rights and freedom of information is an impediment to the development of famine (Sen 1999).

The most important immediate reason why catastrophic livestock losses did not precipitate a famine must be sought in the behaviour of herders. Immediate collapse in food entitlements following livestock losses was not a danger to most herders in Bogd and Zag thanks to winter preparations by households. Although the lack of milking animals had a significant impact on food quality from spring onwards and food consumption was cut immediately in order to stretch reserves further, winter food stores, augmented by borrowing, ensured that for most herder households the real impact of animal losses on livelihoods only began to be felt in early summer. Good incomes from cashmere sales filled the gap in 1999–2000. When cashmere and other livestock product income crashed after 2000, herders turned to alternative sources, relying particularly on pensions and other social insurance benefits as well as on assistance from family and patrons to maintain a minimum level of consumption while conserving their remaining herd. Extra loans were sought, as was supplementary income in farming, gold mining, and casual jobs. In 2000, some households benefited from generous relief aid and restocking.

But for how long can the largely indigenous coping resources of Mongolian herders be counted on to stave off the threat of famine following catastrophic shocks? After three *zuds* in as many years, each following a drought summer, the capacity of some households may be stretched to near collapse. One indication of this is the recent increase in child malnutrition in Bayankhongor province, which doubled between December 2001 and May 2002, while nutritional assessments after the first two *zuds* in 2000 and 2001 by Save the Children and UNICEF found no evidence of increased malnutrition. Both provincial and district health officials in Bayankhongor reported increases in nutritional deficiencies, particularly due to the shortage of milk products. According to a representative of the Bayankhongor Civil Defense Board, 2002 is the first *zud* year when major 'human problems' in health and nutrition have resulted from livestock losses in the province.

Household coping, in the limited sense of maintaining sufficient food consumption after a livelihood shock, has by and large been successful up to this year but is now showing signs of failing as resources are exhausted. While most households

have sufficient food at present derived from a bundle of the sources and strategies described above, many are extremely vulnerable and are likely to face severe difficulties before autumn as winter stores run out, new loans are not available, and old ones cannot be repaid; for these families the 'collapse threshold' may be in sight (Swift 1989). This threat is particularly acute for those families which are unprotected by the two key 'safety nets' of formal social insurance (especially pensions) and strong mutual assistance linkages with other households.

In a broader sense, coping in terms of maintaining a sustainable livelihood has simply failed for many households: for poor households with small herds and little prospect of acquiring more animals, herding no longer yields enough to provide for long-run subsistence. Realising this, many herders, particularly in the Gobi region which was worst affected by the recent *zud*, are considering migration to cities in order to find non-herding employment; many have already done so, and nationally the rural population has decreased for the first time since transition (by 7.6 per cent in the past 2 years). The study areas have witnessed peaks of out-migration following bad *zud* winters, with the number of migrants from Zag quadrupling from 1999 to 2000. As most of those wanting to move who still have some animals intend to wait until the autumn in order to be able to slaughter fattened animals prior to leaving, the peak of this year's migration is probably yet to come. It may be that the droughts and *zuds* of the turn of the century will be the mechanism by which the great urban to rural migration of the early 1990s is reversed, leaving the pastoral economy in the hands of a smaller number of more experienced herders.

Others who either do not want to migrate or are constrained by lack of funds, obligations to care for elderly parents in the countryside, or (most importantly) the absence of city-based family or friends, are seeking alternative sources of income in or near their home districts. Although small-scale vegetable cultivation, single-worker migration for gold-mining, dung collection for sale, paid herding, and co-operative craft-making have so far been taken up by a limited number of herders, many more hope to engage in such activities to replace or supplement herding incomes.

Whether these possibilities can provide sufficient income to prevent forced migration into the cities remains to be seen. If they do not, the autumn and winter of 2002 may witness an influx into urban areas of not only 'planned' migrants with some connections and assets to assist in securing new livelihoods, but also those who are more accurately described as 'distress migrants': former herders with no support networks, savings, skills or other survival resources, who move only when all other options have been exhausted.

The past three years of hardship have severely taxed the coping resources of already vulnerable

herders. For many households, the losses of the last winter have triggered the beginning of 'coping failure' and the necessity to switch from 'coping' to 'adaptation'; from short-term responses to temporary food shortages, to permanent changes in the ways in which food is acquired (Davies 1993). Unlike farmers, herders with too few animals cannot hope that a single good year will restore them to economic health. If another *zud* occurs before herders have had an opportunity to re-build their resource bases, the resulting increase in food insecurity and economic and social upheaval for affected households may well be far more widespread.

References

- Cooper, L., 1993, 'Patterns of mutual assistance in the Mongolian pastoral economy', *Nomadic Peoples*, Vol 33: 153–62
- Cooper, L. and Narangerel, G., 1993, 'Liberalisation of the Mongolian Pastoral Economy and its impact within the household – a case study of Arhangai and Dornogobi Provinces', *Policy Alternatives for Livestock Development in Mongolia Research Report 8*, Brighton: Institute of Development Studies
- Davies, S., 1993, 'Are coping strategies a cop out?', *IDS Bulletin*, Vol 24 No 4: 60–72
- de Waal, A., 1989, *Famine that Kills: Darfur, Sudan, 1984–1985*, Oxford: Clarendon Press
- Devereux, S., 1993, 'Goats before ploughs: dilemmas of household response sequencing during food shortages', *IDS Bulletin*, Vol 24 No 4: 52–9
- Dzud in Mongolia* (maintained by the State Board of Civil Defense and UNDP Disaster Management Project), URL: <http://www.un-mongolia.mn/news/disaster> [20 May 2002]
- Mearns, R., 1995, 'Community, collective action and common grazing: the case of post-socialist Mongolia', *IDS Discussion Paper 350*, Brighton: Institute of Development Studies
- NSO, 2001, *Mongolian Statistical Yearbook 2000*, Ulaanbaatar: National Statistical Office of Mongolia
- NSO, 1996, *Mongolian Statistical Yearbook 1995*, Ulaanbaatar: National Statistical Office of Mongolia
- NSO and World Bank, 2001, *Mongolia: Participatory Living Standards Assessment 2000*, Ulaanbaatar: National Statistical Office of Mongolia and the World Bank
- Potkanski, T. and Szynekiewicz, S., 1993, 'The social context of liberalisation of the Mongolian pastoral economy', *Policy Alternatives for Livestock Development in Mongolia Research Report 4*, Brighton: Institute of Development Studies
- Sen, A., 1999, *Development as Freedom*, Oxford: Clarendon Press
- Statistical Department of Bayankhongor Province, 2002, *Report on the Economic and Social Situation of Bayankhongor Province 2001*, Bayankhongor Town: Statistical Department of Bayankhongor Province
- Swift, J., 1995, 'Rural development: the livestock sector' in K. Griffin (ed.), *Poverty and the Transition to a Market Economy in Mongolia*, Basingstoke: Macmillan: 104–33
- Swift, J., 1989, 'Why are rural people vulnerable to famine?', *IDS Bulletin*, Vol 20 No 2: 8–15
- Szynekiewicz, S., 1993, 'Mongolia's nomads build a new society again: social structures and obligations on the eve of the private economy', *Nomadic Peoples*, Vol 33: 163–72
- Templer, G., Swift, J. and Payne, P., 1993, 'The changing significance of risk in the Mongolian pastoral economy', *Nomadic Peoples*, Vol 33: 105–21
- UNDP, 2001, 'Sustainable grassland management project document', draft, Ulaanbaatar: UNDP
- UNDP, 2000, *Lessons Learned from the Dzud 1999–2000*, Ulaanbaatar: UNDP, Ministry of Nature and Environment