

# **POLICY ALTERNATIVES FOR LIVESTOCK DEVELOPMENT IN MONGOLIA (PALD)**

A Research and Training Project



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## **WEALTH AND POVERTY IN THE MONGOLIAN PASTORAL ECONOMY**

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#### GLOSSARY OF MONGOLIAN TERMS

<i>aimag</i>	province
<i>airag</i>	fermented mare's milk
<i>bag</i>	smallest administrative unit of contemporary state administration
<i>bod</i>	cattle based Mongolian livestock unit
<i>dzud</i>	freezing snow or ice covering pasture
<i>ger</i>	felt tent, household
<i>khushuu</i>	feudal territorial unit, 1670s-1930s
<i>idish</i>	'winter meat': often used in the context of food given to urban relatives
<i>khot ail</i>	camp of several cooperating herding households
<i>nair</i>	traditional Mongolian feast celebrated for a variety of reasons. Gifts are exchanged
<i>negdel</i>	former pastoral collective
<i>sum</i>	rural district
<i>suur</i>	minimum production unit during the collective period (1-2 households)

<i>tarag</i>	yoghurt
<i>tg</i>	tugrigs (currency)
<i>tsagaan tsar</i>	'white month' - Mongolian new year

#### ACRONYMS AND ABBREVIATIONS

CMEA	Council for Mutual Economic Assistance
IAE	Institute of Agricultural Economics
IDS	Institute of Development Studies, University of Sussex
MPPL	Ministry of Population and Labour
PALD	Policy Alternatives for Livestock Development in Mongolia
RTIAH	Research and Teaching Institute of Animal Husbandry
SEFF	State Emergency Fodder Fund

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## 1. SUMMARY AND INTRODUCTION

This paper examines patterns of wealth differentiation and rural poverty in the extensive pastoral livestock sector of Mongolia. The paper draws on research carried out during 1993 and early 1994 for the Policy Alternatives for Livestock Development (PALD) project and also draws on observations made in a socio economic survey carried out for the Asian Development Bank Livestock Feed Improvement Project also by PALD between June and September 1993.

The emergence of both absolute and relative poverty in rural Mongolia is becoming an issue of increasing concern as the effects of market reform are felt throughout the country and impact particularly on a growing section of the rural poor. Despite this, most government and donor activity in the last few years has concentrated on urban poverty issues; only recently has emphasis been placed on the experience of poverty among the rural population (UNDP 1994; Government of Mongolia 1994).

Even so, policies to address the needs of the livestock sector are still at an early stage, largely because the scale of rural poverty is both difficult to assess and widely disputed. First, there is no real agreement on what constitutes a minimum herd size (and thus a rural poverty threshold) and second, there is a widely held belief that few herding households are really poor because all have the potential to be self-sufficient in livestock production and so are less vulnerable to poverty than other sectors of the population. This ignores the fact that some rural households have insufficient livestock to meet subsistence needs and that many households, such as those headed by women or the elderly, have insufficient labour to meet their needs.

Attention to the needs of the rural livestock sector is important for a number of reasons. In addition to the general goal of social equity, the efficiency and productivity of all members of the herding population is critical to the economy as a whole. Pastoral livestock production accounts for 70 percent of agricultural production, and employs 34 percent of the economically active population; it is therefore in no sense a marginal sector of economic activity. A focus on poverty in the rural areas then, is important first because it offsets some bias in research and activity towards urban areas and second because the herding economy and the individuals within it are of fundamental importance to the Mongolian economy as a whole.

What do we mean when we talk about poverty in the Mongolian context? Poverty generally can be defined in different ways, from the inability to earn or consume enough, to the inability to achieve a secure and sustainable livelihood. Poverty can also be defined by lack of sufficient wealth or assets.

Income poverty, the commonest standard and the one used in Mongolia, is measured by estimating the number of people below a minimum level of household income needed to buy the most basic needs. This minimum level or poverty line is usually based on recommended calorie requirements or the estimated cost of a bundle of goods (including food and shelter) necessary for survival. An individual's survival is threatened if she falls below this level (UNDP 1994, Kabeer 1989). Closely related to the idea of income poverty is the idea of asset or wealth poverty measured as the lack of sufficient assets such as livestock or labour necessary for survival. This concept of poverty is the most relevant to the Mongolian case where ownership of livestock (and the size of household herd) is the most common way in which wealth and poverty are measured.

But income and assets are not the only factors determining the well-being of an individual, since an increase in real income may not lead to an increase in a person's ability to gain access to public goods such as health, education or transport (Lipton & Ravallion 1994, UNDP 1994). In order to widen the definition of poverty therefore, it is important to include the capabilities approach. Under this approach, income is not seen as an end in itself but as a means which enables individuals to achieve desired ends. How far income influences well-

being depend on a range of factors including an individual's personal or environmental circumstances. In the Mongolian context, individuals with enough income may lack mobility (for reasons of age, gender, disability), which may isolate them from society and prevent them from gaining regular access to markets or services.

This paper looks at wealth and poverty in three ecological areas of Mongolia and illustrates the range of factors which contribute to increasing poverty and risk among the rural population. These include the nature of market reforms and the removal of collective subsidies and support, which have increased the range of risks faced by herders and led to increasing levels of poverty and vulnerability. This means that the focus of the paper is less on the *state* of poverty (how far basic needs are satisfied) and more on the *process* of poverty - "the interlocking sequence of events ...by which individuals move from a higher to a lower level of wellbeing" (Kabeer 1989).

Since 1990, Mongolia has experienced rapid economic and political change as it moves from a centrally planned to a market based economy. A major part of its programme of economic transformation has involved reform of the agricultural sector made up largely of extensive livestock husbandry or mobile pastoralism.

Between 1950 and 1990 rural people were collective (*negdel*) or state farm employees. The collective was primarily an economic unit responsible for marketing livestock products, supplying inputs and consumer goods as well as fodder and transport services to its members. The collective covered the same territory as a single district (*sum*), which was responsible for providing health, education and veterinary services.

Collectives were divided into production brigades or teams, which were further broken down into *suurs*, individual production units made up usually of one or two households. The collective set production targets for each *suur* determining the quantity of meat, wool and other products to be supplied according to the annual state procurement order. Each *suur* was usually responsible for the production of a single species herd, for which a monthly salary was paid. Households also owned a small number of private animals which could be sold or used for their own consumption (Mearns 1991).

Beginning in September 1991 the collectives began to be privatised as part of a major programme of economic liberalisation. Collectives have been transformed into shareholding (joint stock) or limited liability companies, voluntary cooperatives or disbanded altogether (Mearns 1993). Where collectives have disbanded, herders are fully private and entirely responsible for marketing their livestock, which are privately owned. Where companies remain, their management and organisational structure is very similar to that of the collective. In some cases the animals are privately owned but herders are supported by collectively managed services provided by the company; in others herders lease livestock from the company, receive a salary and supply livestock products as under the collective.

The provision of inputs and services to herders in the transition period has been severely constrained by economic and logistical problems. Rising fuel prices and fuel shortages have affected the harvesting of fodder and the supply of supplementary feed, the availability of transport for nomadic moves and transport of livestock products to urban centres. Even where subsidised services still exist they are often erratic or provided at a high cost. Veterinary and medical services are also introducing a large element of cost recovery (PALD 1993a). As the cost and burden of risk inherent in herding production is gradually transferred from the state onto the individual, herders are reverting to traditional risk management strategies, developing multi-species herds and returning to customary and more localised levels of cooperation for the management of labour and the production of hay and other inputs (PALD 1993b, Swift and Mearns 1993).

Thus, while the privatisation of livestock gave new opportunities in livestock ownership and herd management to the vast majority of herders, the benefits were not evenly distributed. The economic difficulties that accompanied the transition meant that even the richest herders

experienced difficulties in exploiting market opportunity, while poorer households had even fewer mechanisms of support available to them than in the past. The result has been increasing patterns of wealth differentiation in livestock ownership and household incomes as households adjust to a range of climatic and economic risks and an increasing reliance on informal patterns of support among poorer households.

The paper is organised as follows. Part 2 explains the field work methodology. Part 3 discusses the process of transition to a market based economy in Mongolia and the conditions which have led to the emergence of poverty generally and in rural areas in particular.

Part 4 considers the changing nature of the herding environment in three sample areas and looks at the privatisation process and changing levels of service provision to rural areas.

Parts 5 and 6 look at patterns of wealth differentiation between herding households using case study data from the three areas studied. Part 5 examines patterns of livestock ownership, herd structure and sales and marketing. Part 6 looks at the incomes and expenditures of rural households.

Part 7 considers local perceptions and measurements of rural poverty, sets out the main characteristics of poor households in the pastoral economy and looks at how increased household vulnerability to certain risks such as livestock loss has contributed to increasing poverty.

Part 8 considers the ways in which rural poverty is managed both formally and informally, and considers the increasing importance of localised, kin-based customary institutions in sustaining the labour and consumption requirements of the most vulnerable households.

Part 9 discusses the main conclusions of the paper and briefly outlines ways in which present interventions can be improved and developed into a comprehensive strategy to address rural poverty.



## 2. METHODOLOGY

The methods employed in the research included rapid rural appraisal techniques (wealth ranking) and semi-structured interviews with individual herding households.

Most research took place at three sites:

- Tariat *sum*, Arkhangai *aimag*
- Kharkhorin *sum*, Övörkhangai *aimag*
- Bayan Tsagaan *sum*, Bayankhongor *aimag*

The first two sites were areas of previous PALD research; the third was an area which experienced heavy livestock losses during the *dzud* (freezing heavy snow) of March 1993. These sites are in different ecological areas and have different patterns of livestock ownership provide a range of representative herding environments, as Table 1 shows.

**Table 1** Livestock ownership in sample *sums*

<i>Sum</i> (District)	<i>Aimag</i> (Province)	Ecological Zone	Livestock Ownership End 1992
Tariat	Arkhangai	Mountain-Forest Steppe	99% Private 1% Company
Kharkhorin	Övörkhangai	Central-Eastern Steppe	61% Private 31% Company 8% Other
Bayan-Tsagaan	Bayankhongor	Altai (Mountain Gobi ecozone)	73% Private 27% Company

Source: *Sum* statistics

Each *sum* was visited for a period of two to three weeks during which at least five days were spent collecting secondary data and interviewing *sum* officials. Data gathered included information on the privatisation process, the types of livestock ownership in the *sum*, poverty statistics and the level of health and education provision.

Field work was concentrated in a single administrative district (*bag*) within each *sum*.<sup>1</sup> These were Tsagaan Nuur *bag*, Tariat *sum*, Jalbaa *bag*, Kharkhorin *sum* and Bag No.1, Bayan Tsagaan *sum*.<sup>2</sup> Data gathered for households in each chosen *bag* included size and composition of livestock holdings, and household size.

<sup>1</sup>. The *bag* is the smallest administrative unit below *sum* (district) level. Each *sum* is usually divided into between five and seven *bags*, each containing from 100 to 200 households

<sup>2</sup>. Throughout the text each area will be referred to by *sum* and *aimag* name only.

The initial classification of households in each *bag* was done through wealth ranking using the card sorting method developed by Grandin (1988) (see also Mearns *et al* 1992 for a previous Mongolian example). This was done as follows:

Three key informants with good local knowledge were chosen from each *bag*. Each informant divided cards marked with the names of all the household heads into four groups from rich to poor households based on their own criteria. Each household was then given a score according to the group in which they were placed. The average weighted scores of each informant were then calculated to produce a single classification of all households in the *bag* ranked from richest to poorest. This was then divided into four wealth groups.

This classification was used to select sample households for semi-structured interviewing. In two cases (Arkhangai and Övörkhongai) this sampling was purposive; based on wealth ranking but with some bias towards richer and very poor households. In the third case (Bayankhongor) random sampling was used.

A total of 65 households were interviewed about a range of issues, including perceptions of wealth and poverty, household consumption, and general poverty issues. Within this sample, 50 households were interviewed about annual livestock sales. A further 10 households within the larger sample were interviewed about their detailed incomes and expenditures. Data from an additional 32 households collected during previous PALD research (PALD 1993b) were used in the analysis of household income patterns, making a total sample for this analysis of 42 households.

### 3. TRANSITION TO THE MARKET ECONOMY AND THE EMERGENCE OF POVERTY

Between 1950 and 1989 Mongolia's development was characterised by capital intensive industrialisation based on heavy industry, created and supported by imports, subsidies and expertise from the Soviet Union and other CMEA countries. The dependence of the Mongolian economy on the Soviet bloc as a market for exports and as a source of investment was considerable. By 1989, 90 percent of exports and 93 percent of imports occurred with the USSR and CMEA countries. (Lee 1993). By 1990 Mongolia obtained 40 percent of consumer goods, 80 percent of supplies and 90 percent of technical machinery from the Soviet union. Mongolia gained in other ways too: its economic and political ties with the Soviet Union brought important investments in health, education and social security, providing an important social safety net in urban and rural areas.

However, the economy was very inefficient. The heavy dependence on imports meant that the industrial sector was largely uncompetitive, with negative value added when compared with world market prices. In addition, concentration on the industrial sector meant neglect of the large agricultural sector dominated by pastoral livestock production. The terms of trade remained consistently against agriculture, with prices to rural producers remaining unchanged for three decades until 1991 (Lee 1993; UNDP 1994).

The transition to a market economy began in 1990, but was severely curtailed by a range of external shocks which reduced the effect of domestic policy changes. Between 1989 and 1991 Soviet aid was reduced and then terminated, and trading with CMEA countries collapsed. Mongolia lost its main export market, its secure supply of imports (especially oil) and favourable terms of trade (UNDP 1994, Lee 1993).

This led to a fall in the value of exports, and a severe reduction in foreign exchange earnings. A 2.1 percent decline in GDP in 1990 was followed by a further decline of 18 percent in 1991. Falling output led to domestic shortages of fuel and spare parts, disrupting the transportation system and leading to difficulties in the procurement and distribution of food. This situation was further compounded by the maintenance of artificially low state procurement prices for livestock and livestock products which were unable to compete with the rising free market prices offered by private traders (Lee 1994).

These events plus liberalisation of the exchange rate and removal of price controls for goods and services, led to rapid inflation, rising prices, unemployment and increasing poverty.<sup>3</sup> In 1991 the consumer price index rose by 54.3 percent, in 1992 by 321.1 percent and by a further 193 percent in 1993 (UNDP 1994). Average output and incomes declined by 5 percent in 1990, 8.3 percent in 1992 and a further 2.6 percent in 1993; across the period as a whole this amounts to a decline in average income by a quarter (UNDP 1994).

Severe constraints were placed on the governments ability to continue to finance the health, education and social security sectors, and there were declining real expenditures in all three areas. Between 1991 and 1992 for example, expenditures in the health sector fell from 5.1 to 2.9 percent of GDP, in education from 10.2 percent to 5.3 percent and in social security from 4.5 percent to 1.8 percent of GDP (UNICEF 1993). The real value of wages declined. Although real wages in the state sector rose eightfold between 1991 and 1994, they were not able to keep in line with the twenty fold increase in consumer prices over the same period. Unemployment has risen dramatically since 1989 and stood at 8 percent of the labour force at the end of 1993. This is largely attributed to the falling numbers of jobs in state enterprises,

<sup>3</sup>. Other factors are also considered to have contributed to this situation, including economic mismanagement and the ill-judged sequencing of key reforms (UNDP 1994).

and although employment in the private sector has continued to grow this has not kept up with labour demand (UNDP 1994).

### **The extent of poverty**

In 1989 there was no official poverty in Mongolia. By 1992 the poor comprised 17 percent of the population; by the end of 1993 they were 24 percent of the population, made up of 21 percent poor and three percent very poor. The latest figures in June 1994 stated that 26 percent of the population were in poverty (Government of Mongolia 1994). The poor are evenly divided between urban and rural areas: 49.9 percent of poor households live in urban areas and 50.1 percent live in rural areas. Under this distinction the urban areas comprise the capital Ulaanbaatar, and the two other major cities, Darkhan and Erdenet, while the rural areas comprise the remaining population of the eighteen *aimags*.

Those officially categorised as poor are those households whose per capita income is below 40 percent of the monthly minimum wage, set at Tug 5,019 (US\$12.5) at the end of 1993. The poverty line was set at Tug 3200 (US\$8) for urban and Tug 2900 (US\$7.2) for rural areas (UNDP 1994). The poverty line or minimum living level (MLL) is based on an individual's ability to gain access to a bundle of goods to satisfy basic needs. These include food, shelter, clothing, heating, household goods, medical supplies and school books. Norms calculated for each item are based on market prices.

The way the poverty line is measured may obscure the actual levels of urban and rural poverty. First, the rural poverty line is much lower than the urban one, on the grounds that rural households consume their own animal products, more than compensating the reduced access to many goods in rural areas. Poverty lines are revised upwards every few months to adjust for inflation but adjustments do not reflect the real rise in prices. Thus poverty levels are likely to be underestimated generally, and rural poverty to be underestimated in relation to urban poverty (UNDP 1994).

While employing an income based poverty line, the government has also identified categories of vulnerable groups who are likely to be especially vulnerable to poverty. These include orphans, those with disabilities, the elderly, the unemployed, female-headed households, households with many dependents. Women and children especially form a significant category of the poor; at the end of 1993 21.5 percent of poor households were female-headed and 25 percent of poor households had more than four children under sixteen. Over 54 percent of the registered unemployed are women. Importantly, these categories do not include herding households with few livestock who are especially vulnerable to economic and climatic risks but who are not at present considered especially vulnerable.

### **The emergence of rural poverty**

Poverty has always existed in the Mongolian pastoral economy. In the pre-collective period, prior to the 1950s, wealth differentials between herding households were high. Society was organised along feudal lines with a very uneven distribution of livestock between rich and poor. Humphrey (1978) notes that in Tsetsenkahn *aimag* in 1890, feudal lords owned an average of 230.8 head of livestock while personal serfs had an average of 3.3 head of livestock. Poor households often were forced into labour relationships with richer households to survive; herding their livestock in exchange for the consumption of livestock products.

During the collective period, wealth differences between herders certainly existed, but were less marked as limits on private livestock holdings were enforced until the mid 1980s. Different economic entities imposed different limits; members of state farms were allowed fewer private animals than members of collectives although all the limits were often exceeded (PALD 1993b). Salary ranges also ensured differentiation among households. Herders were rewarded for their herding skill and paid salaries according to the total number of animals and type of species herded. Large animals (cattle, horses, camels) were usually allocated to the

most skilled (and usually the most wealthy) herders. In Tariat *sum*, Arkhangai for example, annual salaries ranged from 6,000 tugriks for a seasonal milking worker to between 10,000 and 20,000 tugriks for permanent herders. The largest salaries went to those with the biggest herds and to those who best met or surpassed production quotas (personal communication, *ex-negdeI* chief, Tariat *sum*, Arkhangai, 1993).

While this did create differences between households, all herders were protected from extreme poverty by allocation of animals from the collective, and by the range of subsidies and benefits the collective was able to provide. The change from collective to private ownership of livestock however has created the potential for an increase in poverty and vulnerability among the rural population. There are a number of reasons for this including the nature of the privatisation process itself, the wider reform process, the increase in individual risk and the fall in levels of service provision to the herding population.

The privatisation process. At the end of the collective period over 70 percent of livestock were owned by collectives, ten percent by state organisations and around 20 percent by private individuals. Following the privatisation of livestock beginning in 1991, it is estimated that around 75 percent of Mongolia's total head of livestock of 20 million animals were under private ownership by 1993 (Mearns 1993) and this rose to around 90 percent by late 1994.

Despite adherence to general guidelines, individual collectives were given considerable freedom in determining the nature of privatisation. The emphasis was on rewarding those whose contribution to the collective was highest. Households could be rewarded according to the following criteria: (i) the number of animals a person contributed from their private herd at the time of collectivisation; (ii) the number of years the household had been members of the collective; (iii) the contribution a person made to the collective. This allowed exacerbation of existing inequalities within the collective system. For example, those judged to have contributed the most were more likely to be those who had been responsible for the largest herds and had the highest incomes. The wealth of individual collectives also determined the number of animals received by different households; members of rich collectives received many more than members of poor ones. It is also likely that the allocation of livestock took place more equitably in some areas than in others. Evidence from some *aimags* suggests that some gender discrimination in the allocation of livestock occurred, with women being allocated less valuable stock than men (PALD 1993b).

The economic reform process. The privatisation of livestock also took place within a wider sequence of reforms, the timing of which has not resulted in a smooth economic transition in the rural areas. The decision to privatise livestock ahead of the development of input and output markets meant that adequate marketing channels and incentives for increased production were not been developed and herders were faced with initially a hostile marketing environment as well as a greater degree of risk (UNDP 1994).

The most significant aspect of the reform process has been the maintenance of poor terms of trade for livestock and livestock products; these have, in fact, worsened since privatisation. There was a significant lag in the liberalisation of livestock product prices which took place in 1993, compared with the liberalisation of prices for consumer and other goods such as flour, rice and sugar which took place from 1991 onwards (Edström 1993). The effect was to constrain market development and effectively reduce market participation by herders (Edström 1993). The immediate response of herders was to retreat into self-provisioning (Cooper and Gelezhamtsin 1993) and barter exchange of livestock products rather than live animals for basic goods (Edström 1993). This has had a particular impact on poorer sections of the rural population who have less flexibility in marketing than richer ones and less opportunities to resort to self-provisioning.

The increase in individual risk. The emergence of rural poverty is likely also to be linked to the increased level of risk faced by rural households. Before privatisation the main risks of herding were carried by the collectives who provided herders with guaranteed incomes, free fodder, transport and veterinary services which effectively protected herders from a range of

risks such as extreme winter conditions, animal disease, drought and genuine hardship. In addition, herders in more marginal environments like the Gobi were given additional incomes to compensate for the harsh herding environment. Now all these risks (plus the additional risk of market failure) has been placed on the individual herder.

Falling service provision. The rural population has also been severely affected by rising unemployment and the contraction of public service provision which have contributed to an increase in poverty. Despite an increase of 400,000 herders following livestock privatisation, unemployment in rural areas is estimated to be between 15 and 20 percent of the population compared with 4-5 percent of the population in Ulaanbaatar (UNDP 1994).

The level of education provision in rural areas was impressive under the collectives, with a very high level of school enrolment and literacy among herding children. The education budget was cut by 69 percent between 1990 and 1992, leading to some cost recovery and the closure of boarding houses for rural children. Enrolment rates for grades 1-3 have fallen from 100 percent in 1989 to 74 percent in 1992 (UNDP 1994) with rural areas particularly affected as children are withdrawn from school to help with herding.

Health service provision has also been severely affected. Under the collectives, a wide range of primary health care, and ante- and post-natal services were delivered at *sum* and *bag* level. Since 1989 the number of maternity homes for women have been reduced from 287 to 52, resulting in more home deliveries, and a possible increase in the maternal mortality rate (Randall 1993). The rate is much higher in rural than urban areas with 23 deaths per 10,000 live births in the *aimags* compared with 13 in the cities. There has also been a decline in the number of patients treated and admitted for hospital care. Shortages of drugs, transport and other resources are seen as reasons for this decline in services (UNDP 1994).

The rural population has also been affected in other ways. Already isolated physically by limited road and rail links, communication difficulties have been exacerbated by rising fuel prices and shortages of spare parts as well as a concentration of vehicle ownership and access in the hands of a few officials and individuals at the time of privatisation.

#### 4. THE CHANGING HERDING ENVIRONMENT

The herding environment has changed considerably in Mongolia in the last few years. The most important changes have been the transfer of livestock ownership from collective to private hands, and the change in the way goods and services are owned and distributed to herding households. The most significant of these changes - the privatisation of livestock - has taken place differently in different regions. In some areas herders have become fully private, belonging to no particular organisation, in others they remain members of companies and have benefits and responsibilities similar to those in the collective. The three *sums* studied reflect these differences and different patterns of wealth and poverty have emerged as a result. Each *sum* is discussed in turn.

**Table 2. Summary information, sample sums, 1992**

<i>Sum</i> & Province	Population	Land Area (ha)	Privately Owned	Livestock Company Owned	State Owned
Tariat Arkhangai	5,599	465,000	95,269	90	755
Kharkhorin Övörkhongai	14,900	233,000	74,830	38,262	10,347
Bayan-Tsagaan, Bayankhongor	3,400	500,000	102,000	38,000	0

Source: *Sum* statistics

##### **Tariat *sum*, Arkhangai**

Tariat *sum* lies in the mountain-steppe zone of Arkhangai *aimag*, to the north of the Khangai mountain range. It is an area of forests, deep mountain valleys and relatively large areas of high quality open pasture. Mountains rise to over 3000 metres above sea level. In 1992 it had a population of 5,599, just over a quarter of whom live in the *sum* centre.

Privatisation of livestock took place between October 1991 and October 1992. Over 99 percent of livestock are now privately owned by individual households. The predominant species herded are goats and sheep, cattle (including yak) and some horses.

Herders are largely independent although some herders have contracts with the *ex-negdel* Gerelt Zam livestock company to supply meat products to the company on a regular basis. The *negdel* was dissolved in early 1992 and is now a company responsible for the marketing of herders livestock products.

##### **Kharkhorin *sum*, Övörkhongai**

Kharkhorin *sum* is situated in the central forest-steppe zone of Mongolia and is an area of high quality pasture characterised by broad river valleys and rolling hills. The *sum* is the site of an ex-state farm with some 31,800 ha of crop land largely devoted to wheat production, 8,200 ha

of forest and 178,600 ha of natural pasture. The main species herded are sheep, cattle and horses with only a small number of goats.

In June 1992 the state farm was divided into four shareholding companies. Kharkhorin company has 70 percent state ownership as controller of the state owned irrigation system. The majority of shareholders in the other companies are company employees who invested their privatisation vouchers in the companies (Edström 1993).

Most livestock (61 percent in 1992) are now privately owned by individuals, while 31 percent were owned by companies and 8.4 percent by state organisations. Company livestock are leased to individual company members who herd animals for a salary and are required to fulfill individual production quotas on cashmere, wool or milk. Herders are fined if quotas are not met while surplus production may be sold privately. This closely follows the old *negdel* economic model.

#### **Bayan Tsagaan *sum*, Bayankhongor**

Bayan Tsagaan *sum* lies in the mid-west of Bayankhongor *aimag* in the semi-arid Gobi zone. Bayan Tsagaan *sum* has a population of 3,400 and a total of 140,000 livestock, of which 27.1 percent were owned by the *ex-negdel* livestock company in 1992. The rest were owned privately by individual herders or by small private economic units.

The process of privatisation in Bayan Tsagaan *sum* appears unusual compared with other areas studied by PALD. In January 1991 the *negdel* sold off its large animal stock of camels, cattle and horses to herders. Households were allocated large animals according to the number of *negdel* members within the household. Each adult was given the equivalent of 0.5 camels, 0.5 horses and 1/10th of a cow. According to *sum* officials herders paid for livestock in cash or in kind (with livestock products).

At the same time the *negdel* entered into a lease agreement with herders for the herding of *negdel* small stock of sheep and goats. Between January 1991 and September 1993 herders leased sheep and goats at a fixed rate of 19 tg per sheep and 43 tg per goat. Each household was allocated 23 sheep and goats per person. Herders continued to supply livestock products from these animals to the *negdel*, but all offspring were kept by the herders. In September 1993, herders used their privatisation vouchers to purchase leased animals from the company, by then a shareholding company.

#### **Access to inputs and services following privatisation**

The livestock, health and education services provided to the herding community in the past have been severely reduced both by the privatisation process itself, as well as budgetary constraints which have reduced the level of service provision in the rural areas.

The kind of livestock services (fodder and hay, transport) available to herders following privatisation varies across individual *sums*. It depends to a large extent on the level of private livestock ownership in the *sum* and the amount of control retained by *ex-negdel* livestock companies following privatisation.

In Tariat *sum*, Arkhangai, where all livestock are privately owned, the role of Gerelt Zam livestock company is confined to the purchasing and marketing of herders' livestock products. It provides little in the way of services or input provision. In Kharkhorin *sum*, Övörkhongai, where company ownership and control is high, access to key inputs and services has been well maintained although services are sometimes erratic. In Bayan Tsagaan *sum*, Bayankhongor, herders are relying increasingly on their own means to get transport and other services.



Although they are an essential input for livestock production, purchased inputs of fodder and hay are not high among herders' priorities in the post-collective period. In areas like Tariat *sum*, Arkhangai, where subsidised inputs are no longer available, herders rely on supplies of reasonably plentiful hand-cut hay to meet requirements for supplementary winter feed. They have also developed collective means of organising the cutting and collecting of hay. In Kharkhorin *sum*, Övörkhangai, companies continue to provide fodder and hay freely to their members and herders seldom purchase additional fodder and hay themselves. In Bayan Tsagaan *sum*, Bayankhongor, where households leased livestock up until September 1993, herders bought fodder and hay at reduced price from the company for both leased and private animals. Most households interviewed had bought a small amount of fodder and hay for their animals before the winter of 1992 although one of the poorest households cut hay by hand themselves. During the *Dzud* of March 1993 herders received some fodder and hay free from the State Emergency Fodder Fund and made additional purchases themselves.

Access to transport, mainly to move camp, appears to vary between *sums*. In Tariat *sum*, Arkhangai where vehicles are available to herders but at high cost, herders use their own draught animal transport, sharing animals for this purpose. Collective arrangements for moving camp and other transport needs are well developed and discussed in Part 8. In Kharkhorin *sum*, Övörkhangai such collective cooperation is less well developed since the livestock companies provide free transport for camp moves twice a year. At other times herders pay the company or move themselves using borrowed animals. On occasions when the system is not operating effectively (for example when the companies have limited petrol), herders do not always respond with their own collective action, sometimes delaying or putting off moves altogether.

In Bayan Tsagaan *sum*, Bayankhongor, all herders in theory have free access to their share of privatised vehicles. In practice all but very wealthy herders appear to rely on draught animals to move camp and other transport needs. Given the high concentration of draught animals among the wealthiest households in this area, this has particular implications for poorer herders who often have to borrow animals to move camp, and for herding and making trips to the *sum* centre.

### Health and education

Health service provision has been reduced in all three areas but most drastically in Tariat *sum*, Arkhangai. Electricity cuts through most of the winter of 1993 meant virtual closure of the *sum* centre hospital, with the majority of patients treated at home. Staff have been cut by a third and health workers have access to only one vehicle for *sum* and *bag* visits.

Health provision has been best maintained in Kharkhorin *sum*, Övörkhangai. Staff report no staff cuts; one doctor is responsible for 180-230 households and the service as a whole has access to four vehicles. Patients pay a small set charge for treatment at hospital with some exceptions. In Bayan Tsagaan *sum*, Bayankhongor, more regular visits to herders, vaccination programmes and health checks for pregnant women have been maintained. The *sum* has introduced some charges for patients admitted to the *sum* hospital.

Education directors in all three *sums* reported falling attendance rates following privatisation, largely because herding households are withdrawing school age children because of rising costs and increased labour needs in herding. Although data are limited, household interviews suggest that drop-out rates are not higher among poorer households. Table 3 shows school attendance levels for the three *sums* studied.

**Table 3. School attendance by *sum*, 1993-94**

<i>Sum &amp; Aimag</i>	No of School Age Children 7 - 18	Numbers Attending	Percent
Tariat, Arkhangai	1357	706	52.0
Kharkhorin, Övörkhongai	3062	1266	73.4
Bayan-Tsagaan, Bayankhongor	700	503	72.0

Source: *Sum* statistics

In Kharkhorin *sum*, Övörkhongai attendance rates are reasonably high (73.4 percent). This is possibly due to the fact that children of herding households have greater opportunities to travel to and from school using vehicles provided by livestock companies. Education officers in Bayan Tsagaan *sum*, Bayankhongor reported an attendance rate of around 72 percent compared with a figure of 95 percent during the *negdel* period. Falling attendance rates among herding households were attributed to the lack of vehicle transport for children to travel to and from school, and the withdrawal of free meals for boarding children. The two *sum* dormitories which previously housed 300 pupils are now closed, and the 105 boarders from herding families now stay with *sum* centre relatives. The attendance figures for Tariat *sum*, Arkhangai appear very low, particularly since this figure includes some 63 pupils attending a local *bag* centre school. A number of herders move camps close to the *bag* centre during the school term so that their children can live at home while attending school. These households place most of their animals in the care of relatives living away from the *bag* centre at these times.

In some *aimags* education officials have begun to introduce some cost recovery into the system, and some *aimags* such as Khovd and Gobi-Altai now charge school fees for pupils. Only limited costs are recovered in the three areas studied: for example in Kharkhorin *sum*, Övörkhongai, boarding pupils now pay 50 percent of food costs. This has resulted in some reduction in the numbers of boarders. The school itself raises 20 percent of its salary budget through sales of livestock products.

Faced with falling attendance rates and rising costs of static *sum* based education services, some areas have begun to introduce distance learning education. One such experimental programme is developing in Tariat *sum* Arkhangai, for 1st to 6th grade pupils currently not attending school.

## 5. WEALTH DIFFERENTIATION IN THE HERDING ECONOMY

### Livestock ownership

Ownership of livestock and household herd size is the most significant way in which herding communities differentiate between rich and poor. The same is true for Mongolia although average herd sizes differ in different areas.

Differences in the size of livestock holdings between the three *sums*, shown in table 4, reflect regional differences in pasture quality, and differences resulting from policies during the collective period. In Tariat *sum*, Arkhangai where pasture quality and herd productivity is high, average herds are around 70 animals per household. In Bayan Tsagaan, Bayankhongor where the natural environment is more risky and herd productivity lower, herds are larger. This may be a hangover from the policy of subsidising poorer areas during the collective period, leaving more animals to distribute at the time of privatisation of collective assets. In Kharkhorin *sum*, Övörkhongai the natural environment is good but the smaller average herd size reflects the high proportion of company livestock which households have and the limits on private livestock holdings by state farm households during the collective period.

**Table 4. Patterns of livestock ownership, 1992-3, by *sum***

	Tariat, Arkhangai	Kharkhorin, Övörkhongai	Bayan Tsagaan, Bayankhongor
No of households	159	135	165
Total private livestock	11,169	7,392	22,484
Household average	70.2	54.8	136.3
Standard deviation	36.4	38.3	108.7
Range	8-175	5-242	0-605
Average leased livestock per household	0	103.6	56.9

Source: *Sum* statistics

**NB.** Figures for leased livestock are based on interview sample rather than *bag* statistics. All other figures are based on *bag* statistics. The average number of leased livestock is included for Bayan Tsagaan, Bayankhongor since lease agreements were in place during the period from which this livestock data dates. It should be noted however that leasing of livestock stopped in this *sum* in September 1993.

#### (i) Household herd sizes

The distribution of herd size by individual household is difficult to assess. Table 5 gives an estimate of the national herd size distribution by household in 1992. It shows that 59 percent of households have fewer than 50 animals and 19 percent less than ten animals. These figures are very general however, and therefore not a particularly reliable indicator of increasing patterns of wealth differentiation. They include both urban and rural households and therefore include households whose predominant source of income is not from herding. Neither do they take into account herd composition, household size or regional differences in herd size.

**Table 5. Herd size distribution, Mongolia, 1992**

Herd size (Number of animals)	Households (Percent of total)
<10	19
11-30	23
31-50	17
51-100	22
101-200	14
201-500	5
501-1000	0.1

Source: UNDP 1994

Data from the three *sums* studied do not show such extreme patterns of wealth differentiation but may more accurately reflect the situation among herding households. Of the 459 households from the three *sums* studied 15.3 percent had 30 animals or less, while 35.3 percent had 50 animals or less; 2.4 percent had 10 animals or less. Although official estimates of what constitutes a minimum herd size differ from region to region (from 30 animals in Tariat *sum* to 100 animals in Bayan Tsagaan *sum*) these figures show that one third of households in the sample have less than fifty animals.

**Table 6. Herd size distribution in sample *sums*, 1993**

Herd size (Number of animals)	Percent of households with herds of different size in:		
	Bayan Tsagaan, Bayankhongor	Tariat, Arkhangai	Kharkhorin, Övörkhongai
<10	6.1	0.6	3.7
11-30	4.2	11.3	21.5
31-50	7.8	22.6	29.0
51-100	25.5	44.7	31.9
101-200	39.4	20.8	34.8
201-500	15.2	0.0	7.4
501-1000	1.8	0.0	0.7
Total	100.0	100.0	100.0
(n)	165	159	135

Source: *Sum* statistics

*(ii) Livestock ownership and wealth status*

Interviews with herders show that household herd size is, for them, the primary factor defining wealth status. Regression analysis of wealth ranking data in two of the three areas suggests that there is some relationship between perceived wealth status and size of household herds: in both areas household herd size explains 40 percent of household wealth status. This means that 60 percent of any individual household's wealth rank is explained by other factors such as alternative sources of income, herding skill or age.

In order to compare data across the three sample areas it was decided to use private livestock holdings expressed in traditional livestock units (*bod*) rather than wealth ranks in order to stratify households on the basis of wealth<sup>4</sup> households were ranked in this way using the most recently available *bag* statistics which give details of each household's private livestock holdings. The households in each *bag* were then divided into four equal wealth quartiles with quartile 1 being the richest and quartile 4 being the poorest. Table 7 shows patterns of livestock ownership in each wealth quartile by *sum*.

The greatest differences in livestock holdings are between households in Bayan Tsagaan *sum*, Bayankhongor where the poorest 25 percent of households own only 5 percent of livestock and the richest 25 percent of households own 52 percent of livestock. The smallest difference between groups is in Tariat *sum* Arkhangai where the richest own 42 percent of total livestock in the *bag* and the poorest 11 percent. Up until September 1993, however, the differentiation in private livestock holdings in Bayan Tsagaan was to some extent reduced by leased holdings.

The greatest range in the total number of private animals per household again is in Bayan Tsagaan (a range of 0-107.9 *bod* of livestock per household, compared with 3-86.9 *bod* of livestock for households in Kharkhorin and 2.9-96.2 in Tariat). The figure of 0 was recorded for some households who, at the time *bag* data were collected, were without private livestock holdings and herded only leased livestock (sheep and goats).

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<sup>4</sup>. A *bod* is made up of 0.7 camel, 1 horse, 1 cattle, 7 sheep or ten goats.

**Table 7. Distribution of total private livestock holdings expressed in traditional livestock units (*bod*) by wealth quartile**

Tariat, Arkhangai	Total	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Total	5605.8	2339.3	15771.1	1082.8	606.6
% of Total	100	41.7	28.1	19.3	10.8
Average	35.3	60	39.4	54.0	15.2
Std. Dev.	17.8	11.3	4.3	9.3	4.7
Range	2.9-96.2	48-96.2	33-47.5	36-74.0	2.9-21.1
Livestock per person	10.3	12.8	10.1	10.4	7.9
Kharkhorin, Arkhangai	Total	1st Quartile	2nd Quartile	3rd Quartile	4th Quartil
Total	3079.1	1445.1	775	550.7	308.3
% of Total	100	46.9	25.2	17.	10.0
Average	22.8	43.8	22.8	16.2	9.1
Std. Dev.	14.7	13.6	2.7	1.4	2.4
Range	3-86.9	28.2-86.9	18.6-27.5	13.8-18.4	3-13.7
Livestock Per Person	7.6	12.4	8.5	5.8	3.6
Bayan Tsagaan, Övörkhangai	Total	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Total	4394.1	2273.7	1185.3	696.2	238.9
% of Total	100	51.7	27.0	15.8	5.4
Average	26.6	55.5	28.2	16.6	6.0
Std. Dev.	21.3	20.9	4.3	2.6	4.2
Range	0-107.9	34.8-107.9	21.3-34.3	12.9-21.2	0-12.3
Livestock Per Person	8.2	13.2	9.9	5.4	3.6

Note: For *bod* see text  
Source: *Sum* statistics

(iii) *Herd structure and wealth status*

The proportion of households with a mixed species herd increases markedly with wealth, suggesting that richer households have a greater capacity for risk spreading. Table 8 shows the proportion of households herding all types of animals in the sample *sums*.

**Table 8. Proportion of households owning all species of livestock by *sum***

<i>Sum</i>	No. of Species Herded	Percentage Of Each Quartile Herding All Types			
		1 Richest	2	3	4 Poorest
Tariat, Arkhangai	4	92.3	90.0	90.0	45.0
Kharkhorin, Övörkhongai	5	36.4	2.9	8.8	0.0
Bayan Tsagaan, Bayankhongor	5	93.0	45.2	33.3	2.4

Source: *Sum* statistics

In Tariat *sum*, Arkhangai, where all species except camels are herded, 90 percent of the richest three quartiles, and 45 percent of the poorest quartile own all four types of animals. In Kharkhorin *sum*, Övörkhongai, where ownership of camels is limited mainly to the wealthiest group of households, only 36 percent of the richest quartile and none of the poorest herd all species. In Bayan Tsagaan *sum*, Bayankhongor, again the difference between rich and poor is marked, with 93 percent of the richest quartile but only 2 percent of the poorest quartile owning all five species.

The uneven distribution of species between wealth quartiles means that certain types of stock are more concentrated in the hands of wealthier households.<sup>5</sup> Across the sample as a whole, the richest quartile owns between 40 and 70 percent of large stock and around 40 percent of small stock. In Tariat *sum*, Arkhangai there is a more even distribution of species between wealth quartiles compared to the other two *sums*.

In Kharkhorin *sum*, Övörkhongai there is a big difference in the proportion of large stock owned by different wealth quartiles with the richest quartile owning 78 percent of camels compared with 0 percent for the poorest quartile. In Bayan Tsagaan *sum*, Bayankhongor the distribution of species between wealth quartiles is more uneven than in the other two areas with the poorest quartile owning on average 0 percent of camels and 8 percent of sheep compared with 6 percent of camels and 12 percent of sheep in Kharkhorin *sum*, Övörkhongai and 10 percent of camels and 11 percent of sheep in Tariat *sum*, Arkhangai.

#### Live animal sales

Annual live animal sales for fifty sample households from the three sample *sums* were examined for the period October/November 1992 to October/November 1993. Average annual livestock sales per household are similar in Bayan Tsagaan *sum*, Bayankhongor (4.8) and Tariat *sum*, Arkhangai (3.7) but much lower in Kharkhorin *sum*, Övörkhongai, where the

<sup>5</sup>. Appendix 1 shows average private livestock holdings by species for each sample *sum*.

average is 0.6. These figures are likely to be explained by the existence of company salaries and smaller private herds in Kharkhorin and the larger herds in Bayan Tsagaan and good market access in Tariat.

**Table 9. Average annual live animal sales per household by *sum* (50 households)**

<i>Sum</i>	Sample Size	Total Number Sold	Large Stock	Small Stock
Tariat, Arkhangai	15	3.7	2.2	1.7
Kharkhorin, Övörkhongai	14	0.6	0.4	0.2
Bayan Tsagaan, Bayankhongor	21	4.8	0.2	4.5

Source: 50 household survey

The 50 households sampled had sold a total of 165 animals or an average of 3.3 per household. However, of the fifty households, 19 had sold no animals at all. This is largely the result of the trend for households to withdraw from livestock sales where possible given current market conditions which are not in their favour.<sup>6</sup> Of these 19, four were in the richest quartile, three in the middle two quartiles and nine in the poorest quartile. However there is no linear relationship between sales of live animals and household wealth status. Data from 50 households from the three sample *sums* suggests that households from the middle two wealth quartiles (2 and 3) make proportionately slightly higher sales of livestock than households in the top and bottom two wealth quartiles. This supports the findings of recent research that middle wealth households are more likely to sell live animals than richer or poorer households (Edström 1994).

**Table 10. Annual average live animal sales by wealth group (50 households)**

Live Animal Sales	Quartile			
	1 Richest	2	3	4 Poorest
Large Stock	1.4	1.5	1.6	0.7
Small Stock	2.1	4.1	1.7	1.1
Total	3.5	5.6	4.1	1.3

Source: 50 household survey

<sup>6</sup>. See Edström (1994) for a detailed discussion on this point.



### Marketing decisions

Live animals are sold or exchanged in order to acquire basic goods such as flour and rice. In most cases studied these were barter exchanges. Of the fifteen households in the Tariat *sum* sample, 4 had sold no animals and were in two cases poorer households with no animals to sell. Of the 12 who had sold animals, this was to secure access to basic goods or cash to purchase them with. The majority also had a contract with the Gerelt Zam livestock company which provided easy access to basic goods. The large number of households with contracts with the company is the main reason for the number of sales in Tariat *sum*, Arkhangai.

In Kharkhorin *sum*, Övörkhangai sales of live animals are much lower as households can, for the most part, rely on company salaries and pensions to buy basic goods which are more regularly available through the company. None of the poorer households in the sample had sold any animals for this reason. Of the fourteen household samples in Kharkhorin, 10 households had sold at least one live animal over the one year period, five had sold none. Larger households particularly tend to sell animals so that they can purchase flour and other goods in large amounts. Richer households in both Tariat *sum* and Kharkhorin *sum* made sales in order to acquire goods other than basic necessities including expensive one-off items such as *ger* covers and tarpaulins.

Live animal sales by all households are likely to increase in the future. Households in Kharkhorin *sum* particularly, stated that rising prices and the ending of ration allowances for flour and other goods in the middle of 1993 meant an increase in the need to exchange animals for goods. Already small stock are being exchanged for large amounts of a single good - for example a single sheep is exchanged for 70 kilos of flour or 500 candles. In Kharkhorin *sum*, Övörkhangai households stated that the distance of their camps from the *sum* centre meant that goods have to be bought in large quantities each time to offset the costs of taking transport to the *sum* centre and the time taken to make the trip. This means that live animals are often the only means of exchange. Households stated that the need to sell live animals for goods is less pressing during periods such as spring and summer, when salaries increase during the lambing and milking seasons.

## 6. INCOMES AND EXPENDITURES OF RURAL HOUSEHOLDS

The composition of rural household monetary income has changed considerably over time. Between 1986-89 on average salaries made up 74.5 percent of rural household cash income with income from private sales amounting to 14.5 percent; pensions and benefits were 7.6 percent, other *negdel* sources (such as prizes and bonuses) 2.1 percent, and other income (gifts etc.) 1.3 percent. By 1993, salaries were only 23.9 percent of average household income and products sales were as much as 44.6 percent (see table 11).

**Table 11. Composition of average household monthly cash income, Mongolia, 1986-1993 (percent)**

Income source	1986-9	Nov. 1992	Nov. 1993
Salary & Bonuses	76.6	35.2	23.9
Pensions & Benefits	7.6	8.8	11.7
Product Sales	14.5	41.6	44.6
Other	1.3	14.4	20.3
Total	100.0	100.0	100.0

Source: State Statistical Office.

Data from PALD research going back to 1990 shows income from product sales rising from around 14 percent of household monetary income during the *negdel* period to around 80 percent of household income in 1993, almost double that of the State Statistical Office (SSO) data (See Appendix 2). This is perhaps explained by the fact that these data are derived from *sums* where herders are fully private; there are no lease agreements in effect and no salaries are paid to the majority of herders. In an area where salaries remain important, such as Kharkhorin *sum*, Övörkhongai, income from product sales amounts to 39.6 percent and salaries 45.6 percent, of monetary income.

All these data refer to monetary income only. When own consumption is included, the proportion of household income derived from livestock products and salaries is reduced, with income from products produced and consumed within the household forming around a quarter of total household income.

### Household incomes and expenditures

Patterns of household income and expenditure were examined for a total of 42 households in order to identify how far trends in the official data are mirrored by households in specific areas of the country. Given the small sample size, any conclusions made can only be tentative and illustrative of trends.

In addition to data gathered from the three sample *sums* referred to throughout this paper (from which income and expenditure data were gathered in ten households), additional data

income and expenditure from 32 households from four other *sums* were used to increase the size and representation of the sample overall.<sup>7</sup>

The breakdown of the total sample by region is as follows:

Region	<i>Sum</i>	<i>Aimag</i>	No. of Households
Forest Steppe/Steppe	Tariat	Arkhangai	4
	Kharkhorin	Övörkhangai	3
Altai Mountain-Gobi	Erdenburen	Khovd	7
	Tsogt	Govi-Altai	5
	Bayan Tsagaan	Bayankhongor	3
Gobi Desert-Steppe	Mandalavoo	Omnogobi	10
	Erdene	Dornogobi	10

The sample size is not equal between regions and so there is some bias towards the Gobi *sums* which is reflected to some extent in the results.

#### Household cash and barter incomes

The composition of annual household cash and barter income was calculated using in depth interviews with 42 households distributed across different wealth groups in the six *aimags* listed above. Data were gathered for the same period in each area from June 1992-June 1993. The value of each household's income was divided by the number of household members to give the income per person for the household.

Total household income is composed of the total value of all goods produced and consumed within the household as well as the value of products sold and exchanged. However, the figures here are calculated to show only the cash and barter income per person for each interviewed household. This is because own consumption data was available for only twenty of the forty-two sample households. The value of products processed and consumed within the household is hard to value accurately. On average, however, own consumption of livestock products formed an estimated 33.8 percent of household income for those twenty households, with this figure ranging from 11.5 percent to 47.5 percent of total income. These figures are based on information from twenty Gobi households where access to markets is good. It is likely that in more isolated areas own consumption of livestock products would form a higher proportion of household income. Data from other *sums* has shown that own consumption can form as much as 55 percent of total household income (PALD 1993b).

<sup>7</sup>. The data from the additional four *sums* (Erdenburen *sum*, Khovd; Tsogt *sum*, Gobi-Altai; Erdene *sum*, Dornogobi and Mandalavoo *sum*, Omnogobi) was gathered as part of the socio-economic survey carried out for the Asian Development Bank Livestock Feed Improvement project by PALD between June and September 1993. (PALD 1993b).

**Table 12. Average annual household cash and barter income 1992-93 (42 households)**

Income Source	Per H-hold Tg/Per Year	Percent of Total	Per Person Tg/Per Year	Percent of Total
Live Animals	21306.5	35.1	4496.9	35.5
Livestock Prod.				
Total	23034.9	37.9	4613.1	36.5
Milk Products	1116.9	1.8	196.7	1.6
Wool & Hair	6579.2	10.8	1228.6	9.7
Cashmere	14116.7	23.2	2964.3	23.4
Hides & Skins	1222.1	2.0	223.5	1.8
Salaries	5306.2	8.7	968.8	7.6
Pensions/Benefits	7890.0	13.0	1960.0	15.5
Aid/Assistance	457.8	0.8	69.4	0.5
Other	2700.2	4.5	565.5	4.4
<b>Total</b>	<b>60695.6</b>	<b>100.0</b>	<b>12673.8</b>	<b>100.0</b>

Note: Other income largely constitutes gifts and loans from family and friends. It is likely that the proportion of income derived from these sources is underestimated in household reporting of income.

Source: 42 household survey

Household cash and barter income is dominated by sales of livestock products and live animals. Sales of livestock products are the largest single component (36.5 percent) with sales of live animals amounting to a further 35.5 percent. In total, sales of livestock and livestock products forms 72.0 percent of total household per person cash and barter income. Salaries, the main income source during collectivisation, are still significant for only two of the *sums* in the sample. Of the livestock products, cashmere is the most important, forming nearly a quarter of all per person household income. This is attributed partly to the high monetary value of cashmere compared with other livestock products, and also the significance of goat production to many of the households in the sample. Pensions and benefits are the third largest component of per person cash and barter income after cashmere and amount to 15.5 percent.

On average 27.4 percent of cash income is derived from the barter exchange of livestock products for basic foods such as flour and rice. The highest estimated figure for barter for a single household was 71.5 percent of monetary income but for most households the figure was lower. It is likely however that the proportion of income from barter exchange was underestimated by households in their reporting of household income.

### Cash and barter income according to wealth status

Average per person cash and barter income increases with wealth status. Table 13 shows that per person cash and barter income is around one third lower for the poorest group than the richest group.<sup>8</sup>

**Table 13. Average annual household cash and barter income (in tg) per person by wealth group 1992-93 (42 households)**

	Wealth Group 1 (Richest)	Wealth Group 2	Wealth Group 3	Wealth Group 4 (Poorest)
No. of households	11	10	12	9
Live Animals	4964.0	4757.5	4114.4	4146.4
Livestock Products				
Total	7035.9	6283.6	3076.8	1844.5
Milk Products	311.8	52.4	225.3	178.0
Wool/Hair	1253.7	2484.4	502.0	771.7
Cashmere	5199.3	3529.5	2058.2	812.7
Hides/Skins	271.1	217.3	291.3	82.1
Salaries	872.5	353.3	1602.7	925.4
Pensions/ Benefits	1161.2	3119.5	1218.0	2637.3
Aid/Assistance	253.3	0.0	10.8	0.0
Other	1105.0	179.4	573.7	324.1
<b>Total</b>	<b>15391.8</b>	<b>14693.2</b>	<b>10596.4</b>	<b>9877.9</b>

Note: Households were placed into wealth groups 1-4 based on the size of their private livestock holdings expressed in traditional livestock units or *bod*.

Source: 42 household survey

The average per person household income received from the sale of live animals is very similar in all four wealth groups. This suggests that in general households sell a minimum number of live animals to secure access to basic goods but that sales of live animals do not increase with increasing herd size or wealth status. However, the range of income from the sales of live

<sup>8</sup> This gap is much greater however if comparison is made between total household income (as opposed to per person household income). Total household income is on average twice as high in wealth group two as in wealth group four. Per person, households in wealth group one have the highest income, but per household, households in wealth group two have the highest overall income. The figures for income per household are shown in Appendix 3.

animals is large - ranging from 0 to 20,303 tugrik per person. Seven households in the sample had no income from live animals; four of these were from wealth group 3 and three from wealth group 4.

Income from the sales of livestock products differs greatly between wealth groups. When added together the richest group earn nearly four times as much per person from livestock products as the poorest group. The richest group earn nearly twice as much income per person from the sale of milk products and wool and hair than the poorest group; over six times as much from sales of cashmere and three times as much from sales of hides and skins. Again if the figures per household rather than per person are considered we find that households in the second richest group receive the highest incomes from both sales of livestock and livestock products. Again this supports the idea that it is middle wealth households whose marketing incomes are likely to be the highest (Edström 1994).

The data suggest that households sell a minimum number of animals to reach a target income needed to acquire a necessary quantity of goods. Differences in income from then on are based on sales of livestock products, the level of income earned being based on what can be produced and sold in relation to herd size and own consumption needs.

In addition it appears that poorer households, in wealth groups 3 and 4, substitute income which is not earned by sales of livestock products with income from pensions and benefits and salaries. As Table 14 shows, the proportion of per person household income derived from salaries, pensions and benefits increases with poverty amounting to 11.9 percent of total cash income for the richest group and 36.1 percent of income for the poorest group.

Importantly, therefore, the assumption that rural households can adapt to the changing economic situation (characterised by rising prices and the falling value of pensions and benefits) by increasing sales of livestock and livestock products is only true in the case of more wealthy households. The poorest households rely on pensions and salaries to supplement their income because sales of animals and products are necessarily low.

**Table 14. Composition of average annual household monetary income (per person) by wealth group 1992-93 (42 households) (percent)**

	Wealth Group 1 (Richest)	Wealth Group 2	Wealth Group 3	Wealth Group 4 (Poorest)
Live Animals	32.3	32.4	38.8	42.0
Livestock Products				
Total	45.7	42.8	28.9	18.6
of which:				
Milk Products	2.0	0.4	2.1	1.8
Wool/Hair	8.1	16.9	4.7	7.8
Cashmere	33.8	24.0	19.4	8.2
Hides/Skins	1.8	1.5	2.7	0.8
Salaries	5.7	2.4	15.1	9.4
Pensions/ Benefits	7.5	21.2	11.5	26.7
Aid/Assistance	1.6	0.0	0.1	0.0
Other	7.2	1.2	5.4	3.3
Total	100.0	100.0	100.0	100.0

Source: 42 household survey

#### Household income by region

Regional differences in household income (shown in Tables 15 and 16) are based largely on the ecological potential of the region, herd size and structure, market access, features inherited from the collective period, and the form of economic organisation which has evolved following privatisation.

In the Gobi desert region, high incomes from animal sales reflect good market access, large herds, and the absence of salaries for the majority of herders. The large numbers of sheep and goats in average herds is reflected in high incomes from sales of cashmere, wool and hair. The high market value of cashmere is one of the most important reasons why incomes in this region are so much higher overall.

In the steppe region, smaller herds and the existence of salaries in Kharkhorin *sum*, Arkhangai, mean that overall income is lower and income from animal sales is limited as households only make animal sales to meet needs for basic goods. The small number of goats in the average herd means that income from cashmere sales is low, but the high levels of milk production are reflected in the highest income from the sale of milk products in this region.

In the Altai region the situation is similar to the steppe zones. Overall incomes are low as this region is relatively isolated from markets and in one *sum* in the sample there is still some company ownership of livestock.

**Table 15. Average annual household income per person by region, 1992-93 (tugrik)**

	Gobi	Steppe	Altai
Live Animals	8126.3	1136.4	1225.9
Livestock Products			
Total	7139.1	1302.6	2802.5
Milk Products	92.5	747.1	78.7
Wool/Hair	2161.7	324.2	406.7
Cashmere	4643.7	203.6	2025.6
Hides/Skins	241.2	27.7	291.5
Salaries	546.4	1007.2	1514.1
Pensions/ Benefits	2063.4	760.2	2382.0
Aid/Assistance	0.0	0.0	194.4
Other	963.9	0.0	334.1
Total	18803.1	4206.3	8452.9

Source: 42 household survey

**Table 16. Composition of average annual household income per person by region 1992-93 (percent)**

	Gobi	Steppe	Altai
No. of household	20	7	15
Live Animals	43.2	27.0	14.5
Livestock Products			
Total	37.9	31.0	33.1
Milk Products	0.5	17.8	0.9
Wool/Hair	11.5	7.7	4.8
Cashmere	24.6	4.8	24.0
Hides/Skins	1.3	0.7	3.4
Salaries	2.9	23.9	17.9
Pensions/Benefits	11.0	18.1	28.2
Aid/Assistance	0.0	0.0	2.3
Other	5.0	0.0	4.3
Total	100.0	100.0	100.0

Source: 42 household survey



Sales of live animals are much higher in the Gobi, which reflects large herds, and a continuing commitment to meat orders or state orders as under the collective; this contrasts with the other two regions where one sample *sum* in each region had some company ownership of livestock and regularly paid salaries, meaning that sales of private animals were lower. In the Altai region, also, access to markets is more limited in the western and south western *aimags* than for example in the Gobi *aimags* where market access through China is well established. In the Altai region, two of the sample areas had suffered losses as a result of the 1993 *dzud* and this had substantially reduced their sales of live animals.

Livestock products form a similar proportion of income for all three areas but this income is made up in different ways: in the mountain forest-steppe region largely by the seasonal sale of milk and milk products to organised dairies, and in the Gobi and Altai regions by the sale of cashmere.

#### Household expenditure patterns

Expenditure patterns of rural households have changed significantly as a result of economic liberalisation. State Statistical Office data (Table 17) show a significant increase in spending on food and a significant decrease in spending on non-food items. In 1993 there was a large increase in food expenditures compared with 1992. This increase is mainly the result of a 16 percent increase in expenditure on flour, explained by rising prices and by the level of barter exchange taking place in the rural areas - livestock products are exchanged for flour more than any other product. The PALD data for 1993 shows food expenditure to be an even higher proportion of average household expenditure, amounting to 55.4 percent of the total with 33.7 percent going on flour (table 18).

**Table 17. Composition of average household monthly expenditure, Mongolia, 1986-1993 (percent)**

	1986-89	1992	1993
Food	29.0	41.0	51.4
Non-Food	55.0	50.6	39.9
Services	5.4	6.3	6.9
Savings	5.7	2.1	1.8
Loans	4.9	-	-
Total	100.0	100.0	100.0

Source: State Statistical Office

**Table 18. Average annual household expenditure 1992-1993 (42 households)  
(Tugrik/percent)**

	Household Average	Per Cent	Per Person Average	Per Cent
Flour	16371.8	33.7	3174.5	32.8
Rice	4868.9	10.0	985.1	10.2
Tea	2420.5	5.0	449.2	4.6
Sugar	920.8	1.9	210.7	2.2
Sweets	649.6	1.3	148.3	1.5
Vegetables	65.5	0.1	10.7	0.1
Vodka & Tobacco	1658.3	3.4	310.1	3.2
<b>Total Food</b>	<b>26955.4</b>	<b>55.4</b>	<b>5288.6</b>	<b>54.6</b>
Household Goods	1794.4	3.7	363.7	3.8
Clothing & Boots	6834.9	14.1	1407.6	14.6
Human Health	816.5	1.7	100.7	1.1
Animal Health	182.4	0.4	41.4	0.4
Fodder and Hay	1465.0	3.1	316.9	3.3
Animal Tax	1067.1	2.2	186.9	1.9
Other	9425.0	19.4	1962.9	20.3
<b>Total Non Food</b>	<b>21585.3</b>	<b>44.6</b>	<b>4380.1</b>	<b>45.4</b>
<b>Overall Total</b>	<b>48540.7</b>	<b>100.0</b>	<b>9668.7</b>	<b>100.0</b>

Source: 42 household survey

Just over half of average household expenditure is on food products (including vodka and tobacco) of which the most is spent on flour and rice. Taking items individually, flour is the single most significant expenditure followed by 'other' goods, clothing and boots. Other goods comprises a range of items from gifts and loans to newspapers, school fees and books, to large items such as motorbikes, radios and petrol. These items comprise a large proportion of household expenditure since they are often *one-off* lumpy expenditures.

#### **Household expenditure by wealth group**

The highest overall per person expenditure is among households in group 2, the lowest among households in group 4.

**Table 19. Annual average household expenditure per person by wealth group (42 Households) (Tugrik)**

	Wealth Group			
	1 Richest	2	3	4 Poorest
Flour	3839.0	3734.9	2496.2	2611.1
Rice	1377.2	1588.2	458.9	508.9
Tea	307.3	585.3	444.2	541.1
Sugar	252.2	211.7	118.6	282.4
Sweets	157.7	99.8	134.2	188.6
Vegetables	40.9	0.0	0.0	0.0
Vodka & Tobacco	215.6	377.7	499.9	124.1
Total Food	6189.9	6597.6	4152.0	4256.2
Household Goods	313.4	395.1	467.1	251.0
Clothing & Boots	2628.6	1198.7	948.5	825.4
Human Health	53.2	24.3	144.6	191.7
Animal Health	43.3	33.0	27.5	120.0
Fodder and Hay	527.6	528.3	185.2	0.0
Animal Tax	306.6	163.5	231.0	7.1
Other	1290.1	2588.3	3057.7	567.6
Total Non- Food	5162.8	4931.2	5061.6	1962.8
Total	11352.8	11528.8	9213.6	6219.0

Source: 42 household survey

Households in the richest group spend around a third more per person on flour, over twice as much more on rice, almost twice as much more on vodka and tobacco, three times as much on clothing and boots and twice as much on other goods as households in the poorest group.

Overall, the richest households spend just under a third more per person on food, and nearly three times as much on non-food items as the poorest households. In fact total expenditure on non-food goods is similar for groups 1, 2 and 3 but much less for group 4, members of which spend two thirds of their cash and barter expenditures on food. This suggests that on average poorer households are less able to afford and do not make expenditures on many non-food items, even where they are essential. The poorest households spend more per person on human health, suggesting more ill-health among this group. Evidence of long term expenditure on medical needs was found in this group.

**Table 20. Composition of average annual household expenditure per person by wealth group, 1992-93 (42 households) (percent)**

	Wealth Group			
	1 Richest	2	3	4 Poorest
Flour	33.8	32.4	27.1	42.0
Rice	12.1	13.8	5.0	8.2
Tea	2.7	5.1	4.8	8.7
Sugar	2.2	1.8	1.3	4.5
Sweets	1.4	0.9	1.5	3.0
Vegetables	0.4	0.0	0.0	0.0
Vodka & Tobacco	1.9	3.3	5.4	2.0
Total Food	54.5	57.3	45.1	68.4
Household Goods	2.8	3.4	5.1	4.0
Clothing & Boots	23.2	10.4	10.3	13.3
Human Health	0.5	0.2	1.6	3.1
Animal Health	0.4	0.3	0.3	1.9
Fodder and Hay	4.6	4.6	2.0	0.0
Animal Tax	2.7	1.4	2.5	0.1
Other	11.3	22.4	33.1	9.2
Total Non- Food	45.5	42.7	54.9	31.6
Total	100.0	100.0	100.0	100.0

Source: 42 household survey

Households in the poorest group spend a greater proportion of their expenditure on food, especially flour, and on human and animal health (medical expenses and medicines) than all other groups. They spend proportionately less than other groups on other goods, livestock tax and fodder and hay. This reflects the need for poorer households to devote a greater proportion of their income to immediate food needs; the difference in the proportion of expenditure divided between food and non-food needs is greater in group 4 than in the other three groups. 'Other' expenditures such as gifts, which make up a large part of non-food expenditure, along with expenditure on clothes and boots, are less significant for group 4 households since they are less able to spend money on gifts or consumer goods such as motorbikes and radios.

**Household expenditure by region**

Regional expenditure patterns reflect regional income patterns with Gobi households spending on average twice as much per person than Altai households and over three times as much as Steppe households. Gobi households spend more per person on almost all food products clothing and boots, fodder and hay and other goods.

**Table 21. Average annual per person household expenditure by region 1992-93 (42 Households) (Tugrik)**

	Gobi	Steppe	Altai
Flour	4187.6	1806.0	2675.7
Rice	1810.2	363.8	326.7
Tea	753.5	214.4	296.3
Sugar	313.0	70.7	119.6
Sweets	183.0	41.3	218.7
Vegetables	0.0	0.0	30.0
Total Food	7247.3	2496.2	3667.0
Vodka & Tobacco	534.3	119.5	208.1
Household Goods	458.6	105.6	395.6
Clothing & Boots	1952.0	315.8	1302.6
Human Health	25.9	218.8	145.4
Animal Health	66.1	14.3	22.1
Fodder and Hay	565.3	214.3	33.5
Animal Tax	206.7	49.1	224.8
Other	3184.5	630.4	994.8
Total Non-Food	6993.4	1667.8	3326.9
Total	14240.7	4164.0	6993.9

Source: 42 household survey

Table 21 shows that expenditure on 'other' goods is significant, amounting to 22.4 percent of expenditure among Gobi households, 15.1 percent among steppe and 14.2 percent among Altai households. In the Gobi *sums* this is made up largely of expenditure on gifts, vehicles and transport expenses including petrol. In the Altai *sums* where some cost recovery in education has been introduced, much of this expenditure is on school fees, books and newspapers as well as other goods such as radios and sewing machines. In the steppe region other expenditures were made up largely of gifts and the occasional expensive item such as a new *ger* cover.

## 7. THE EXPERIENCE OF POVERTY IN THE HERDING ECONOMY

### Local measurement of poverty

The measurement of poverty at local level is the responsibility of *sum* administrations who identify the number of poor households in each *sum* and target them for relief. In general estimates are based on the number of households and individuals with incomes falling below the minimum living level for rural areas. Estimates of household income are based on the total cash income a household receives, the size of the household's private livestock holdings and whether any household members fall into one of the six nationally identified vulnerable groups. However, individuals in the vulnerable groups are not generally targeted for assistance unless they are also poor, thus removing the problem of targeting the non-poor.

Despite general adherence to these guidelines interpretations often differ, and poverty thresholds are calculated differently in different areas, with some based on wealth measures and some based on income estimates. For example in some areas poverty thresholds are based on a minimum herd size (21 *bod* per household in one area of Övörkhongai) in others on the estimated production and market value of a herd of a given size (UNDP 1994).

In the sample *sums* there were variations in the measurement process also. In Tariat *sum*, Arkhangai for example, the calculation is based on the monthly income of the household; in Bayan Tsagaan *sum*, Bayankhongor, it is based on the households estimated annual income divided by the total number of people in the household. In both places the estimated household income included pensions and benefits, total herd size in relation to family size, and income from livestock product sales. While household herd size was taken into account it did not appear that estimates regarding own consumption were included.

In addition, in Tariat *sum* Arkhangai, these calculations were not worked out for all households in the *sum* but only for those which were first identified by *bag* governors as poor, largely according to a general measure of wealth based on herd size and lifestyle. While this may result in an accurate identification of the poorest households by officials who are themselves herders, it may not give the fullest picture of the situation in the *sum* as whole. Given these differences in measurement it is difficult to make any comparison between *sums*.

During the period that fieldwork was undertaken (October and November 1993) the official poverty line for rural households was 1040 tg per person per month. Those persons whose income fell below the second threshold for rural households of 416 tg per month were considered to be in absolute poverty.

Table 22 shows the number of households below the various poverty lines in each sample *sum*. The highest proportion of poor households is in Bayan Tsagaan *sum*, Bayankhongor (37.4 percent of households), compared to 18.6 percent in Kharkhorin and 12.1 percent in Tariat. In Bayan Tsagaan *sum*, as many as 10.8 percent of households are considered to be in absolute poverty compared to 6.0 percent in Kharkhorin and 3.8 percent in Tariat. In Kharkhorin *sum*, Övörkhongai 66 percent of households considered to be in absolute poverty are resident in one of the three *sum* centre *bags*, while the rest are resident in *bags* with herding populations. In Bayan Tsagaan *sum*, Bayankhongor, most households in absolute poverty are herding households.

**Table 22. Households below the poverty line, by sample *sum*, October/November 1993**

	Tariat	(%)	Kharkhorin	(%)	Bayan-Tsagaan	(%)
	Arkhangai		Övörkhongai		Bayan-khongor	
<i>Sum</i> Population	5599	-	13940	-	3490	-
Total hhs	1383	(100)	3314	(100)	786	(100)
Hhs below PL1	168	(12.1)	618	(18.6)	294	(37.4)
Hhs below PL2	115	(8.3)	420	(12.7)	209	(26.5)
Hhs below PL3	53	(3.8)	198	(6.0)	85	(10.8)
Sum Centre hh	18	(1.3)	130	(3.9)	19	(2.4)
Herding hh	35	(2.5)	68	(2.1)	66	(8.4)

Note: PL1 = general poverty line based on hh herd size  
 PL2 = households with per person income below 1040 tg  
 PL3 = households with per person income below 416 tg

Source: *Sum* statistics

These figures bear little resemblance to MPPL figures which at the end of 1993 showed 33.5 percent of the population to be below the poverty line in Arkhangai, 27.8 percent in Bayankhongor and 31.3 percent in Övörkhongai. Either the figures are inaccurate or the *sums* studied are not representative of the *aimag* as a whole. Certainly, Bayan Tsagaan *sum*, Bayankhongor was one of the worst affected areas of the 1993 *dzud*, so it is likely that levels of poverty have increased there.

#### Characteristics of poor households

Although local poverty measures are not an entirely satisfactory measure of poverty in the rural economy, and are not reliable enough to give objective figures of the number of people in poverty, they can tell us something about the characteristics of poor households in rural areas. Used together with local perceptions of poverty as expressed by herders and officials themselves, it is possible to build up an initial picture of the poor in the pastoral economy.

##### (i) Local perceptions of poverty

Herders themselves have their own ideas about what makes people poor and these ideas are consistent across regions and different periods of research. Herders' perceptions about wealth and poverty were drawn from the criteria used by herders when asked to place households in different groups according to wealth status during wealth-ranking exercises. This exercise was described in chapter 2.

Perceptions of wealth and poverty in the herding community are closely related to the size and composition of household herds, which is the primary criterion according to which households assign wealth status to different households. In addition, wealth status is defined in relation to a set of key assets, skills or attributes deemed necessary for effective livestock management. These include sufficient household labour and assets, and experience in livestock production. Since these assets are closely linked to the life-cycle stage of the individual household, there is

a strong link between perceived wealth status and life cycle stage. Wealth status is also defined in relation to household income and the capacity of households to get access to consumer goods and key production inputs such as fodder and transport. The capacity to respond to increased market opportunity, and to assist those in need, is also seen as significant. Finally, wealth status is defined in relation to a household's ability to provide hospitality to guests, participate in social and cultural events, and by the overall comfort and well-being of the camp.

As a result, the wealthiest households are perceived to be those of middle age people with low dependency ratios and sufficient labour to manage the household herd. Such households are composed of skilled herders, with experience going back many generations, who have full access to key resources such as water, pasture, fodder and transport. Ownership of high status consumer goods such as motorbikes and generators is also an indicator of high wealth. Wealthy households also have above average livestock holdings and in particular a large number of horses or camels for herding. They are also seen as having enough income to be able to make trips to Ulaanbaatar (for medical treatment or marketing) and to provide food and hospitality for guests.

Less wealthy or middle-wealth households are seen as reasonably self-sufficient, composed of good herders with access to key resources. They are seen as having fewer livestock than the first group and larger numbers of dependent as opposed to labour-age children. These households are often seen as composed of younger herders from wealthy households, with less income available for consumer goods or luxuries.

Poor households are generally perceived to be those with fewer animals, although herders tend to make clear distinctions between what they perceive to be 'deserving' and 'undeserving' poor. Households with average herd sizes who are thought of as having limited herding skills and are therefore 'lazy' or 'bad' herders, are perceived to be poorer than households with fewer animals but good herd management skills. Households headed by women are almost always perceived as poor regardless of the size of their livestock holdings. Poor households are seen as having few large animals for transport and day-to-day work, poor living conditions and little food to offer guests. These perceptions have also been borne out by other studies - particularly the impression that poor households are lazy or that wealth or poverty is based on the ability to respond to social and economic change (Harper 1994, Narantuya & Schoellhammer 1993).

The perceptions about wealth and poverty held by herders themselves match very closely with conclusions drawn from analysis of rich and poor households in the three sample *sums* studied. Analysis of case study data, general *bag* statistics and *sum* poverty statistics show wide differences in the characteristics of the richest and poorest households in all the sample *bags*. There are also differences between the characteristics of the poorest households in the three sample areas as identified by herders, and those identified as being in absolute poverty by the *sum* administrations in Tariat and Bayan Tsagaan *sums*. Overall differences between rich and poor were noted in the following areas: household size, household dependency ratio, herding skill and experience, income and assets, consumption, and gender, all of which are important indicators of poverty in the herding economy.

(ii) *Household size, dependency ratios and experience*

General *bag* statistics suggest that on average larger households are better off than smaller ones. This reflects the fact that poorer households are often older single people living alone or with one other person. The statistics show that poorer households have an average of 3.0 members and richer households an average of 5.1 members.

However, poverty statistics suggests that households in absolute poverty are larger than average, and have considerably fewer average numbers of livestock per person than the poorest households in the sample *bags*. For example herding households in absolute poverty in Tariat *sum*, have on average 4.6 household members and only 3.3 *bod* of livestock per



person, compared with 3.2 household members and 7.9 *bod* of livestock per person for the poorest group of households in the sample *bag* studied. From these data, absolute poverty appears to be strongly related to a larger household and fewer animals. This information is summarised in Appendix 4.

Poor households are also likely to have higher dependency ratios than richer ones. Data from 50 households from the three sample *sums* found that households had an average dependency ratio of 1.4 ie. 1.4 dependents (those over 60 and under 16) to every worker in the household. The highest dependency ratio was among the poorest group (1.6) and decreased with wealth; the richest group had a dependency ratio of 1.0.

Poor households comprise both the very young and very old. On average however, poorer households are usually younger and have less skill and experience than richer households. Average figures for the 50 sample households in the three *sums* studied, found that household heads of the poorest households had an average age of 40.5 years compared to an average of 50.3 for the richest households. Data from the 85 absolute poor households in Bayan Tsagaan *sum* showed that household heads had an average age of 35.5 years.

Poor households are also more likely to lack herding skill and experience. On average, households in the 50 household sample had an average of 19.2 years experience in herding, with the richest having an average of 29.3 years and the poorest 16.6 years experience. Among the poorer households are those who are relatively new to herding as well as newly married herders from poor households.

### (iii) *Income and assets*

Household incomes are currently a poor indicator of poverty in the herding economy, since monetary income does not necessarily reflect a household's wealth status. Evidence from chapter 6 suggests that poorer households may increase their total incomes relative to richer households by making necessity sales of livestock, while richer households tend to withdraw from sales of live animals where possible. Poorer households may also increase total incomes through salaries and benefits, which may offset the fewer sales of livestock products made by these households.

However, composition of household income is some indicator of poverty. Poorer households tend to rely on sales of live animals rather than livestock products and have a strong reliance on pensions and benefits. Data from chapter 6 shows that the poorest households have the lowest proportion of income from livestock product sales and the highest from pensions. The lower potential for earning income from sales of a range of livestock products significantly increases the need for poor households to raise incomes through sales and exchanges of live animals. As a result, the highest proportion of income of the poorest household is made up of live animal sales. Sales of live animals are lower among poor households in areas where salaries provide a regular source of cash income.

Poor households are more likely to lack the key assets necessary for efficient herding such as a diverse and sufficiently large herd, sufficient labour and production inputs.

Household herds are the best indicator of poverty in the herding economy. Poorer households have smaller herds and often lack a diverse herd structure. Chapter 5 shows that the poorest households own between 6 and 11 percent of total private *bod* of livestock, while the richest own between 42 and 52 percent of total *bod* of livestock. Absolutely poor herding households in Bayan Tsagaan *sum*, Bayankhongor, and Tariat *sum*, Arkhangai own less than half the number of livestock per person than the poorest quartile and a quarter as many livestock per person than the *bag* average. (see Appendix 4). Poor households are also less likely to have a diverse herd structure and fewer types of large animals for transport and herding purposes.

Poor households are more likely to have labour constraints than richer households, either because they are young with few labour-age children, or because they comprise older single-headed households. These households are also more likely to rely heavily on collective herding or assistance with specific herding tasks. Poor households are more likely to lack key inputs such as fodder and hay, relying more heavily on own production of these resources, which exacerbates existing labour constraints.

(iv) *Household consumption patterns*

Qualitative evidence based on household consumption patterns suggests that some of the poorest households do not produce sufficient livestock products to satisfy their own consumption and are more likely to experience seasonal food shortages than other households. Evidence from a number of households with few livestock suggests that households experience seasonal food shortages in spring when winter meat supplies run low and in summer when households rely heavily on milk products to satisfy consumption needs. Households with few milking animals may rely on loans of milk and other products from neighbouring households at this time.

The way herding households live can also be an important indicator of poverty. Poor households own a single small *ger* and minimal furniture, seldom replace outside covers and may not have sufficient felt layers for winter insulation. Wealthier households usually have larger living *gers* and often an additional storage or cooking *ger*. Outside covers are replaced regularly and *gers* have adequate furniture and floor coverings. Wealthier households as a rule own their own winter and spring shelters which are substantial with adequate covering for livestock. Very wealthy households in some areas also have their own house or storage building in which to store hay and fodder. Poorer households often share or borrow winter shelters from others and they may be less well maintained.

(v) *Households headed by women*

Households headed by women are on average poorer than households headed by men. Although evidence is not available for all three *sums* studied, data from Bayan Tsagaan *sum*, Bayankhongor found that of the 165 households in the *bag* 26 were headed by women. Of these 26, 23 were located in wealth quartiles 3 and 4, the poorest.

Women headed households are often poor because they lack livestock and labour, and often have large numbers of dependent children. Poor women household heads are usually single women from poor families and so their poverty is defined largely by their social position. Most have never married and have therefore not acquired any private animals through marriage. During the collective period these households maintained their independence through collective salaries; following privatisation, many have ceased to herd independently, given labour constraints and small numbers of private livestock. Many have returned to live with parents and relatives, losing their independent status; this is a key indicator of relative poverty.

Women-headed households are more likely to be entrenched in poverty than other poor households. Women are direct producers in the pastoral economy (of small stock, livestock products for sale and consumption) and reproducers of labour within the household. With a dual responsibility for both production and reproduction, women work longer hours than men and are less mobile (Cooper and Gelezhamtsin 1993). Currently women are more labour allocating to subsistence production within the household, in the form of direct processing (of milk products, leather and wool goods) for home consumption rather than for sale. Increased time and mobility constraints suggest that women-headed households may have less access to markets, and will be less able to raise productivity and increase incomes over the long term.

(vi) *The process of impoverishment*

The process by which households become poor varies according to the type of poverty which households experience. Households experience both transient and chronic poverty. Transient poverty may for example be an outcome of life cycle stage, or it can be triggered by risk or by seasonal shortfalls in income and consumption. Chronic poverty is more likely to be the outcome of long term social processes which affect a household's ability to accumulate the necessary skills or assets to participate fully in herding.

Transiently poor households include young, relatively new and inexperienced herders, some of whom have only recently started independent herding after dividing from their parent households. These households have had little chance to develop their herds, and remain vulnerable to shocks and risk arising from privatisation, as well as from the environment. Households at such an early stage in their life-cycle often have labour shortages, since children are usually too young to work. As households pursue lower productivity, more risk-averse production strategies (such as diversifying the species composition of their herds), labour availability has become more critical.

Transiently poor households also include those who returned to herding around the time of privatisation to get access to private animals when the collective herds were divided. These households include people made redundant by state enterprises, and other urban-rural migrants. They often have limited technical knowledge or skills and few assets or savings. Some of those who entered herding following privatisation have no rights to private animals through state or company channels and are at risk of becoming chronically poor. The transiently poor also include households which have lost animals through accidents (including predators) or natural calamity (such as drought, *dzud* or violent hail storms).

Chronically poor households include those from poor kin groups with few livestock. These households seldom inherit many livestock or good skills from their parents with which to escape poverty. Support from kin is insufficient, because the entire group is poor. Some households are chronically poor because they are incompetent herders, who do not have sufficient skills and who may squander livestock for current consumption. Other chronically poor households include those whose total capabilities are reduced for reasons of age, gender or disability. This group includes orphans, the elderly, those with physical or mental disabilities and single women heads of household. Clearly all who are vulnerable are not poor, but in these cases chronic poverty is determined by the combination of small herds and additional factors which create vulnerabilities.

**Poverty, vulnerability and risk**

The level of wealth differentiation in pastoral communities is exacerbated by the risky nature of the herding environment. Fratkin and Roth (1990) have shown that poorer households have lost greater proportion of their herds than richer households following drought, while Templer et al (1993) have shown that livestock losses from the *dzud* in Mongolia in 1993 were greatest among poorer households. Further case study evidence (discussed below) supports this view.

Poor households and households on the threshold of poverty are more vulnerable than others to the range of risks, shocks and stresses previously alleviated by the support of collective infrastructure. These range from seasonal peaks and troughs in household income and expenditure, to social shocks such as loss of labour through illness, injury or death to climatic shocks such as heavy snow or *dzud*.

In the past (and to some extent the present) vulnerable households were buffered against seasonal consumption shortages through cash advances, salaries and regular purchases of basic food stuffs. Increasingly households are responding to food shortages through increases in the consumption and sale of livestock, resulting in decreasing herd sizes and greater poverty over time.

Also under the collective, labour deficit households received additional assistance from collectives during peak periods and were more effectively protected from the risk of livestock loss from disease or climatic stresses through free and regular supplies of inputs and supplementary feed. Currently poorer households are less likely to make purchases of supplementary feed, medicines and drugs so that animals are likely to be weaker and less quickly supplied with supplementary feed if households experience animal disease, drought or *dzud*. In addition, poorer households are likely to have less labour than richer ones to cope with additional tasks during a period of *dzud*.

### The impact of *dzud* on poverty

The impact of *dzud* on poverty is clear if one considers the impact of the 1993 *dzud* on herding households in Bayan Tsagaan *sum*, Bayankhongor. This severely affected a number of western *aimags* and resulted in heavy livestock loss.<sup>9</sup> In Bayan Tsagaan *sum*, Bayankhongor, a total of 39,000 livestock were lost, comprising 19,000 adult livestock and 20,000 young animals. In the worst affected area in the south west of *bag* no.1, herders lost between 50 and 87 percent of their herds.

Livestock losses were examined for 20 households from *Bag* no.1 Bayan Tsagaan *sum*, Bayankhongor. The loss rate was calculated by subtracting the number of livestock losses from the size of the pre-*dzud* herd for each household. The pre-*dzud* herd was calculated as the current herd, plus *dzud* losses, plus livestock sales and slaughter for own consumption during the period in question.

The data (summarised below in table 23) show that poorer households incurred proportionately higher losses than richer ones, with households from the poorest group losing on average 51.6 percent of their herds, over 10 percent more than the richest group who had an average percentage loss of 40 percent. The lowest average loss was among households in group three. The highest single proportionate loss was 86.1 percent, the lowest 10.7 percent both among households in the poorest group, showing the greater variability of percentage losses incurred by this group.

**Table 23. Proportion of livestock losses among 20 households in Bayan Tsagaan *sum*, by wealth group, shown as percent lost of pre-*dzud* herd**

	Sample Average	Groups 1 and 2 Richest	Group 3	Group 4 Poorest
Percent loss	43.5	40.0	36.4	51.6
Standard Dev.	20.4	20.1	15.4	21.3
Maximum	86.1	68.1	57.5	86.1
Minimum	10.7	16.5	15.7	10.7

Source: 20 household survey

<sup>9</sup> A more detailed account of these events as they affected the *aimag* as a whole is summarised in Appendix 5.

The impact on the viability of the herds of the poorest households was considerable. For example one household, with a pre-*dzud* herd of 1216 animals lost 61 percent of its herd, leaving a current herd of 467 animals. Despite incurring massive losses, this household's total herd remains at the top end of scale. By contrast, the highest proportionate loss in the sample (86.1 percent) was incurred by one of the poorest women-headed households, reducing her overall herd from 151 to 21 animals. The long term viability of this household was considerably reduced.

Most household's total losses included both leased and private livestock. Losses of leased livestock were only paid back to the company from private herds when households were considered to be negligent in the care of leased animals. For poorer households deemed negligent this was considerably more difficult than for richer households. For example in the case of the woman who lost a total of 151 livestock, 40 of these livestock were leased from the company. In order to pay these back the household used the 32 animals it was due to receive from the privatisation of sheep and goats due to take place six months after the *dzud* in September 1993. A further eight animals were borrowed from relatives to pay back to the company.

Heavy livestock losses were incurred for several reasons. Many households were moving their animals between winter and spring shelters at the time of the *dzud*. As a result it was difficult for them to reach shelter for the animals. Few households had any remaining hay or fodder to give to the animals and only got supplementary supplies from the *sum* centre after the fourth day of the *dzud* during which time greatest losses were incurred. Households were unable to make trails through the snow to enable the animals to reach pasture.

Herders overall response to the *dzud* seems to have been determined mainly by their labour availability and wealth status. Women heads of household (who usually manage labour shortages by drawing on relatives living elsewhere at peak times) were particularly vulnerable. Households with additional labour were able to clear snow for livestock and go to the *sum* centre to get fodder and hay.

In most cases households did not have any store of fodder or hay to give to animals immediately. In the case of one richer household, fodder was stored in a building near the winter shelter but was only accessible after three days. Most households made regular trips during the *dzud* to the *sum* centre where they purchased fodder and hay at reduced prices from the Emergency fund. Some fodder and hay was given to all households free. Access to transport animals to carry this was important, which gave richer households a considerable advantage over poorer ones.

## 8. SUPPORT TO POOR HOUSEHOLDS AT LOCAL LEVEL

### Formal support to poor households

Traditionally in Mongolia there has been some institutionalised support to poor and vulnerable households. In the pre-revolutionary period this took the form of the local (*khushuu*) administration and the monasteries; in the collective period, the *negdel* and *sum* administrations had primary responsibility for preventing destitution and providing support in the event of natural calamity. The desire for continuity in this is reflected in both the level of institutional support currently provided by the *ex-negdel* companies and by the level of expectation among herders themselves.

In the pre-revolutionary period, both long-term and emergency assistance was provided unofficially by monasteries, with poorer households often sending young boys to a monastery as a form of social insurance (Potkanski and Szykiewicz 1993). However the high proportion of assetless or destitute individuals and unequal wage labour relationships between rich and poor households suggests that assistance to the poor was marginal. It is not surprising therefore that the greatest support for collectivisation following the 1921 revolution came from poor herders seeking a way out of destitution through socialist reform (Humphrey 1978).

Under collectivisation, inequalities between households were compensated by substantial state and collective interventions. Poor herders were automatically supported by inputs and other services provided by the collective, including regular monthly salaries which were often paid in advance. In addition, the collective supplied assistance to labour-deficit households during periods of peak demand, and poor households received additional livestock for household consumption if their own herds were insufficient.

Currently the *ex-negdel* livestock companies to some degree continue this important safety net to herders. In some, areas herders are given advances on salaries and on expected supplies of livestock products, as well as subsidised transport, fodder and hay supplies. Some companies also contribute to emergency payments in the event of calamity. Salaries themselves (where they exist) are an important safety net, giving households greater opportunity to purchase foodstuffs on a regular basis without resorting to sales of livestock for this purpose.

Of the three *sums* studied in detail, salaries were only received by herders in Kharkhorin *sum*, Övörkhongai. Herders state that salaries increase their access to cash and basic goods and are an important alternative to live animal sales for poor households. The companies have also played an important role in selling basic goods such as flour to herders on a monthly basis, as well as providing free transport services, fodder and hay. However salaries are low, prices are rising, and the companies enforce fines on unfulfilled quotas. This is often to the detriment of poor households who are often working on the margins of production and who are more vulnerable to shocks and stresses and least able to afford fines set at market prices.

Companies in Kharkhorin *sum*, Arkhangai also stated that while they want to increase salaries when prices for livestock products improve, they felt that the current organisation of lease agreements was inefficient; with too many herders herding too few animals. They are keen to rationalise the system by taking animals away from the least efficient and productive herders; already company herd sizes and salaries are based on the skill and experience of the herding household. Two companies stated that it was their intention to withdraw lease agreements from bad herders, which included poor households. Companies in Kharkhorin *sum*, Arkhangai also stated that they gave support to poorer households through the sale of livestock at below the market price for winter food supplies. In Tariat *sum*, Arkhangai as well as Kharkhorin *sum*, Övörkhongai, companies have provided emergency assistance for medical expenses for poor households.

Assistance to the poor is provided in a number of other ways. Social security payments in the form of pensions and benefits are the most wide ranging form of support to poor households.

The value of pensions and benefits has declined rapidly as increases have not kept in line with inflation, but regular cash payments from these sources remain very important to poor households. As income and expenditure data shows income from pensions and benefits forms 26.7 percent of per person household income for poor households in the sample.

Poor households are also supported by the Social Assistance Fund, a national fund which is used to help poor households targeted for assistance. The fund is small; in 1993, allocations were less than 400 tg (\$US1) for each person below the poverty line. The fund also appears to be erratically distributed at *aimag* and *sum* level. In Tariat *sum*, Arkhangai, the *sum* administration allocated 19,000 tg to households identified as below the poverty line in *sums* of between 1,500 and 2,000 tg. The *sum* has received no money since September 1992 and so has set up its own fund based on individual donations. This will be used to fund emergency requirements for poor households such as funeral arrangements.

Further state assistance is received through the Children's Fund directed at half orphans, orphans and large households with many children. In 1993 114,000 tg was distributed among 300 herding and 70 *sum* centre households in the form of small cash payments according to the ages of children within the household. In addition, assistance is provided by *sum* organisations to retired workers in the form of goods, and help to cut and prepare wood and carry water.

In Kharkhorin *sum*, Övörkhangai, a total of 250,000 tg has been spent from the *sum* fund made up of state and local company contributions; 520 households have received payments between September 1992 and October 1993. In Bayan Tsagaan *sum*, one-off payments of flour were given to 85 households below the poverty line from a poverty fund made up largely of donations from *ex-negdel* organisations (around 70,000 tg) and the *aimag* poverty fund (around 10,000 tg).

These funds provide limited support to poor households. They receive minimal and irregular funding from district administrations and rely heavily on contributions from private organisations. Given their small funding base these funds target households which fall below the national minimum living level and are limited to providing one-off cash assistance to cover peaks in household expenditure and emergency medical or travel expenses.

Individual *sums* have also received some form of international assistance to address poverty. In Tariat *sum*, 5 tonnes of flour were received as aid from the World Food Programme. This was given initially to the 53 absolute poor households identified by the *sum* in the form of 13.5 kilos for each household member. The rest was allocated to the remaining 115 poor households. In Kharkhorin *sum* 15 tonnes of flour were distributed among 305 poor and vulnerable households in a range of categories; pregnant women, women with children under six months, orphans and single headed households and those identified as absolute poor.

#### **Informal support to poor households through customary institutions**

With state social support systems unstable or inadequate, and the current level of company support to herders unlikely to survive increased market development, the importance of customary institutions in providing support and security to poor and marginal households is increasing. The nature of these institutions and their current status as supporting mechanisms to vulnerable households is discussed below.

Collective institutions and systems of customary support play an important role in supporting the needs of poor and vulnerable households in rural economies (Platteau 1993, Burgess and Stern 1993), and are often seen as limiting patterns of wealth differentiation in pastoral communities since no household or group is allowed to become destitute (Fratkin and Roth 1990). The re-emergence of customary institutions in response to changes in the Monolian pastoral economy has been well documented (Mearns 1993, Potkanski and Szykiewicz

1993), while Sneath (1993) has considered the particular role of kin networks in creating fluid systems of support to the poor.

(i) *Individual and collective risk*

Customary institutions serve to manage both collective and individual risk. A 'collective' or 'covariate' risk is one which affects a community as a whole (such as extreme winter conditions, drought or market failure) while 'individual' risks are those which affect individuals at random (such as shortages of food or labour) (Templer *et al* 1993).

To some extent customary institutions help households manage collective risk because they guarantee the access of all households (including the poor) to key natural resources such as pasture land and water points. This allows, for example, for some flexibility of pasture use under difficult conditions such as drought. However, in general when risks such as a *dzud* affect an entire community at the same time customary forms of support are limited. This was certainly the case when a major *dzud* was experienced in Bayan Tsagaan *sum*, Bayankhongor, in March 1993 when the herding community relied heavily on agencies outside the local area for assistance.

Individual risk is managed more effectively within the community. In most rural communities there is a range of reciprocal arrangements through which households exchange labour, cash, food and livestock. These arrangements take a number of forms, such as gift-exchange, loans and adoption and have a range of outcomes - they may allow for the overall redistribution of livestock between generations or the social advancement of certain individuals - but they are also mutually beneficial. Based as much on obligation as altruism they create a system of risk insurance between households whereby "current generosity ensures future reciprocity" (Burgess and Stern 1990). This system is particularly beneficial to poor households who are more likely to be at risk of shortfalls in income or labour. Thus customary institutions play a strong role in consumption smoothing and risk spreading for poor households, especially where these households' own forms of self-insurance (such as stored foods) are ineffective.

During periods of relative stability or prosperity households are likely to invest in these institutions (for example through gift giving) as a means of confirming social status and determining their right to make claims against them in times of crisis or need (Swift 1989). As households become increasingly vulnerable during a period of transition or crisis, they make claims for assistance (in the form of labour or resources) on other households within the community.

(ii) *Exchanges of gifts and labour*

With the existence of the kinds of formal support systems discussed above, it has been argued that in Mongolia there is a "lack of [any] clear, specialised redistribution, or mutual assistance mechanisms within the social system" (Potkanski and Szykiewicz 1993). However, a number of customary institutions exist which allow for some redistribution of livestock and labour and which act as important mechanisms by which households make investments in the local community over the longer term.

The most significant customary institutions for this purpose are based on gift exchange. Traditionally, the principal occasions where livestock are given as gifts are during *nair* ceremonies. These are feasts organised to celebrate a marriage or a child's first hair cutting (Potkanski and Szykiewicz 1993). Marriage ceremonies act as a form of pre-inheritance with both partners receiving a share of livestock from the herds of their parents and of other close relatives. A child's first hair cutting occurs between the ages of three and five and a ceremony is arranged for this purpose. Children receive a range of gifts from relatives and friends including livestock, money and clothing.



These occasions are an important means by which households make long-term investments in their herd and in the future herds of their children. While the ceremony itself requires considerable short-term investment by the household, the long-term benefits are high. A household of average wealth, giving a *nair* for two children, may slaughter one large and one small animal and provide milk products and other food stuffs for the ceremony. Each child will receive around five smallstock plus other goods in return. Under current market conditions however, the ability of poorer households to afford even a modest *nair* is limited, although they may have the opportunity to borrow foodstuffs and other goods from relatives to ease the immediate costs of the ceremony.

Households also receive animals from relatives during *tsagaan tsar* (New Year) which occurs in the month of February. Although not traditionally an occasion where relatives exchange livestock as gifts, this may become an increasingly important mechanism by which poorer households are able to receive livestock from wealthier relatives. Young animals received by the children of a poorer household from a wealthy relative during *tsagaan tsar* can be used to pay back loans of livestock (made by the same relative) the following year. Poorer households who make regular claims on wealthier relatives recognise the importance of repayment to ensure that similar claims can be made in the future.

The redistribution of labour is made through the common practice of adoption which serves to solve the subsistence problems of those with many children and fulfill the labour requirements of those without. Children are adopted largely from relatives or close friends since it is recognised that the exchange is an unequal one (Potkanski and Szykiewicz 1993). This is an important means by which women-headed households especially are able to gain access to sufficient labour.

(iii) *Risk and social organisation*

The redistribution of livestock and labour is mediated through specific forms of social and economic organisation which also act as mutual support systems for poorer households. The most important of these is the *khot ail*, a level of household organisation which existed prior to collectivisation whereby a number of households cluster in a single camp and move and work together as an autonomous herding unit.

In many areas of Mongolia the *khot ail* has re-emerged following decollectivisation largely to cope with the increased labour required by diverse herd structures. There is considerable variation however, in the size and types of *khot ail* camps which have emerged; in high potential areas they can involve between five and 15 households, in low potential areas as few as two or three.

In general, there are three main types of *khot ail*:

- those comprised of close kin (most usually headed by a father and his married sons and daughters) with no related households.
- those comprised of a central core group of closely related households, but with additional unrelated or temporary member households.
- those made up of loosely related or unrelated households with no clear dominant family group (Edström and Enkhamgalan 1993; and PALD 1993b).

In *khot ails* of the first type, membership is permanent throughout the year with member households sharing winter and spring shelters and making seasonal moves to the same pastures. Often where these *khot ails* are very large, they may divide into one or more shelters for winter and spring periods. Larger numbers of these types of *khot ail* are found in high potential areas where the proportion of private livestock ownership is high and where most winter and spring shelters are also privately owned. In Tariat *sum*, Arkhangai the majority of

*khot ail* were found to be of this type. Given the low level of company intervention, collective action is particularly high.

In *khot ails* of the second type, membership is more likely to be seasonal with non-related members often joining for a specific periods when they perceive the benefits of association to be highest. For example, a household with a sizeable herd and adequate labour may herd independently during the summer (benefiting from the exclusive use of high quality pasture) but will join the *khot ail* for collaborative herding in the colder more difficult months of autumn and winter. Membership of the *khot-ail* in these cases is often based on longterm association with the core household group or on quasi-kin status with links through adoption.

*Khot ails* of the third type have more fluid membership as their composition is not so tightly based around a core kin group and often includes some herders new to the area. These types of loose and often highly seasonal *khot ail* are commonly found in areas now controlled by ex-state farm livestock companies. These companies have retained considerable control over the organisation of herding production and own the majority of livestock and shelters, so households often form different *khot ail* in different seasons according to company requirements. As a result, summer *khot ail* are often composed of loose relatives or friends who herd the same species for the company and who form a wider milking group composed of four or five *khot ail*. They may form separate *khot ail* for autumn and spring and split up again for winter. *Khot ails* of this type are particularly found in Kharkhorin *sum*, Övörkhangaï.

(iv) *Benefits of khot-ail relationships*

Households form *khot ail* largely to capture economies of scale in herding. The significance of the *khot ail* in this respect varies however, between the occasional pooling of labour between otherwise independent units, and a high degree of species specialisation between households.

Within some closely knit *khot ail* individual households often herd one species for the entire *khot ail* on a long term basis, thus reducing the overall labour input required by individual members. In other areas where there is no such specialisation, most *khot ails* rotate herding tasks between member households every three to five days. Rotational herding of this kind has particular importance in the post-*negdel* period since it allows households to free labour for tasks which have become increasingly important since decollectivisation, such as cutting hay and a wide variety of product processing.

Households also pool resources for a variety of tasks such as vaccinating livestock, transporting milk for processing, moving, collecting wood, cutting hair and wool and preparing and mending winter shelters. In some cases there is also cooperation in the training of animals, hunting and in the preparation of *nair* celebrations.

This division of labour is particularly beneficial to labour-deficit households (young single headed households and the elderly) who are not normally required to perform herding tasks and whose labour is often freed for household and other tasks. In addition the existence of a broad base of available labour within the *khot ail* can serve as an important risk minimising strategy in the event of natural calamity. In sudden heavy snows, large amounts of labour are required to bring animals to camp shelters quickly and to provide constant watch to ensure their immediate safety. Households with little labour rely on the assistance of others under such circumstances and livestock loss is minimised as a result. Other social risks such as temporary or permanent loss of labour within a household as a result of sickness or absence can also be accommodated within a *khot ail*, with other households giving assistance in a range of herding and household tasks.

In areas of lower ecological potential where *khot ails* are not a viable form of social or economic organisation (because pastures are not productive enough to support large herds), labour relations between households are often confined to pooling transport for nomadic moves, training animals, felt and hay making. The absence of *khot ails* in these more marginal

environments however, does not exclude a whole range of informal labour relationships between households in a single neighbourhood or family group which come into play as and when necessary. Occasionally, small and highly seasonal *khot ail* groupings, composed of two (exceptionally three) poor households, come together for the summer months primarily to pool labour. Other poor households will usually develop loose links to a larger group of related (usually wealthy) households from whom they receive assistance in herding at peak periods and other benefits (such as collective hay cutting or felt making) by association.

(v) *The khot-ail as a social safety net*

In addition to advantages in the allocation of labour, the *khot ail* provides an important social safety net to poorer households. This is achieved through a whole range of loans and exchanges which take place between member households. These range from the regular exchange of every day goods to the loan of livestock for specific purposes.

Loans of basic food stuffs (small amounts of flour and salt, tea, matches, tobacco and candles) occur regularly within the *khot ail* and reflect the need for mutually supporting exchanges in an environment largely isolated from markets. These loans are made on an almost daily basis across all wealth categories and are paid back rapidly. Loans of other food stuffs such as milk, milk products, and large quantities of flour are less common and made only to poorer households by wealthier kin in the same *khot ail* or richer relatives living elsewhere. Although characterised as 'loans' they in fact constitute a food security safety net for the receiving households who seldom have the ability to pay back the loan. This form of assistance is often received in exchange for labour with the poorer household assisting in milking or other tasks where possible. Among close relatives within a *khot ail* such a relationship is implicit rather than explicit but under some circumstances *khot ail* relationships between non-related households are based primarily on the exchange of labour for livestock products.

Loans of livestock are carefully managed transactions between households within *khot ail* and neighbourhood groups. Although within *khot ails* livestock are combined for herding purposes, they by no means constitute a shared herd. The most common livestock loans are of draught animals (cattle and camels) for nomadic moves. Households have come to rely on traditional methods of transport in the absence of affordable or accessible vehicles in the transition period, but few households have sufficient draught animals for this purpose and frequently borrow from other households. Within closely-knit *khot ails* draught animals and carts may be pooled and households moves staggered, but in others these animals are not automatically shared. For some households who are marginal to a *khot ail* therefore, investments in the *khot ail* through loans of small stock and labour, are often necessary to secure access to the draught animals of others.

Loans of livestock for sales have become increasingly important in an economy still characterised by high levels of non-monetised exchange. The majority of exchanges for flour, household goods and materials are made with traders who visit households requesting livestock of a specific age and species. Where a household wishes to make an exchange but does not have the specified animal, another household within the *khot ail* may lend an animal of a particular category for a period of up to one year, and will be repaid with a comparable animal. Loans of smallstock (sheep and goats) are most usual but larger animals (cattle and horses) may also be loaned for larger purchases. These loans are made for a variety of reasons and across all wealth categories but usually to households poor in labour or livestock who either have some animals herded by relatives elsewhere, or whose herd size is too small to allow livestock sales.

Loans of livestock for household consumption are not common and are usually only made to the poorest households either by close relatives within the same *khot ail* or by richer relatives in the wider community. These occur at critical points in spring when the households own supply of '*idish*' or winter meat has been exhausted. These loans are important in allowing poorer households not to slaughter livestock when at its thinnest and in helping them to

remain food secure until the summer when a greater supply of milk and milk products is available.

There is no evidence that households loan milking animals to poorer households, even where such animals are available. In some cases even milk itself is not actually given to the household in need but consumed by the receiving household at the household where milking takes place. For very food insecure households who may not produce any milk products themselves during the summer months, visits to other households are a necessity for the consumption of *airag* (fermented mare's milk) and *tarag* (yoghurt).

Following natural disaster poorer households also commonly borrow animals in order to pay back lost animals to the company according to the terms of their lease agreement. Relatives assist poorer households following heavy losses from both predators and *dzud*.

(vi) *The future of support within the khot ail*

The types of support and assistance discussed above operate within all *khot ail* regardless of the overall wealth of member households. However, the level of support tends to increase with need and this has different implications for *khot ails* depending on their wealth.

Although no distinct connection can be observed between *khot ail* composition and wealth status (Mearns 1993, PALD 1993b) most areas have some *khot ails* composed of both poor and rich households. This is often a life-cycle effect: in *khot ails* based on kin relationships, older members tend to be wealthier than their children (PALD 1993b). However there is also evidence that *khot ails* are often composed of households of similar wealth status with richer and poorer kin often grouping together.

As entire close kin groups may be either rich or poor depending on the historical basis of their livestock holdings, *khot ails* may not be able to function as mutually supporting mechanisms in the case of poorer groups. While richer *khot ails* are composed of households which are easily able to adjust to shocks and stresses, poorer *khot ails* are often burdened with the responsibility of supporting weaker kin. Some of the poorest groups contain one or two households which are effectively no longer viable as independent herding units, and are only sustained by the support of their relatives. Since these kin are themselves not rich this is likely to undermine the whole unit in the long-term and increase the vulnerability of the poorest groups in the herding community.

**Strengths and weaknesses of customary risk management**

The examples cited above give some indication of the level of support which poor households receive from within the community. They also highlight the strengths and weaknesses of these institutions as a way of effectively managing poverty in the long term.

Customary institutions are most effective at dealing with individual risk and are more likely to have an impact on transient as opposed to chronic poverty; small loans of food and goods are more easily available to the poor than long term loans of livestock to increase herd size. They are also effective in other ways. Private transfers to the poor and vulnerable are quickly and easily made, given the close physical proximity of kin and neighbours. This allows for both small and regular transfers as well as long terms loans. Loans and transfers are made between households well known to each other, who are well placed to assess an individual's capacity to repay in cash or in kind. They are also well placed to assess the true nature of the need and whether hardship is derived from negligence or bad luck. Traditional forms of insurance are, therefore, likely to avoid some of the problems of more formal or market based insurance mechanisms.

Customary institutions function according to a set of moral principles and customary rules which govern the behaviour of the individuals within them. Adherence to these rules is helped by the fact that communities are small, relationships are largely family based, and historical ties are strong. In addition, the high level of interdependence in the herding economy, the high risks involved, and the high potential for seasonal or transient poverty, means that the benefits of collective action and mutual insurance are recognised by all, and cooperative practices are likely to be sustained over the long term. Households are therefore more likely to fulfill obligations in for example, pooling labour for collective tasks, returning a loan or respecting the traditional use rights of others.

However the collective rules which govern customary institutions are most effective when operating within small communities and a stable social and economic environment. With broad changes in the herding environment taking place, the potential for customary institutions to be undermined has increased.

Support for the poor is often only provided by related households who are also poor, and therefore vulnerable to the same income and consumption risks. Also, the poor are less able to benefit from risk pooling and reciprocal relations between households, because they have less to offer initially in the way of goods or assets. As a result, the commonest way in which the very poor are able to participate in customary arrangements is by supplying labour. Since the herding economy is defined by labour scarcity this does allow for the creation of mutually advantageous relationships. However, for poor people who are also old or infirm, and whose labour power is negligible, the basis for support rests entirely on the continued altruistic behaviour of kin and neighbours.

As patterns of wealth differentiation have increased so the practice of livestock-poor households providing labour for richer households in return for a guaranteed minimum subsistence is becoming more common. While this arrangement may provide advantages for both parties, the potential for exploitation of the poorer household is high. In addition these arrangements are often insecure and temporary since they are based largely on the seasonal labour requirements of rich households.

## 9. CONCLUSIONS AND RECOMMENDATIONS

This paper has identified patterns of wealth differentiation and poverty in the Mongolian pastoral economy based on case study data from three different areas in Mongolia, and national and provincial statistics. The paper has argued that the nature of market reforms, the removal of collective subsidies and a reduction in services to rural households has made the range of climatic and economic risks faced by herders more, and has seriously reduced their ability to respond to market opportunity and to manage risk. The main findings are discussed below followed by a brief summary of policy recommendations.

### **The emergence of rural poverty**

1. Existing equalities between herding households under collectivisation have been exacerbated by the process of transition from a command to a market economy and led to an increase in absolute and relative rural poverty.
2. The particular features which contributed to this include (i) the nature of the privatisation process, (ii) the timing and content of economic reforms, (iii) the removal of inputs and subsidies and (iv) the transfer of responsibility for livestock marketing and risk management from the state to the individual.
3. The outcome of these processes has been rising prices and reduced access to basic goods, reduced market participation by the majority of herders, reduced protection from a range of climatic and economic risks and reduced access to a range of livestock, health and education services, all of which have led to an increase in poverty.

### **Wealth differentiation**

1. Ownership of livestock and household herd size is the most significant way in which households differentiate between rich and poor.
2. Examination of herd size distribution in the three case study areas revealed that there is a high concentration of wealth in the hands of richer households with the richest households owning between 40 and 50 percent of household herds and the poorest between 6 and 10 percent of livestock. The proportion of households with a diverse herd structure also increases with wealth, giving wealthier households a greater capacity for risk spreading.

### **Income, expenditure and marketing**

1. Analysis of the income and expenditure patterns of rural households reveal that poorer households are less able to exploit market opportunities and continue to rely heavily on support from the state in the form of pensions and benefits. In the current market environment, richer households are more able to withdraw from the market altogether; poorer households have less flexibility in this respect.
2. Poor households suffer more than others from rising prices and poor terms of trade for livestock and livestock products. Small herd sizes mean that they have less potential for raising incomes through the sale of livestock products and are more likely to sell or exchange a greater proportion of their herd than other households to cover basic needs. This is likely to have a negative impact on herd growth over time.
3. Overall, lower incomes mean that poorer households make fewer expenditures on non-food needs (such as clothing, inputs and services) and the greatest proportion of their income on

household food needs. Even so, poorer households spend one third less on food than richer households.

#### **The experience of rural poverty**

1. The rural poor have the following characteristics: they are livestock-poor households with lower incomes; they are on average younger, have higher dependency ratios and less herding experience than more wealthy households; they have smaller herds, a less diverse herd structure and fewer large stock for herding and transport. Households headed by women are more likely to be poor.

2. The experience of poverty has important regional dimensions. Different poverty processes operate in different ecological areas and under different market conditions. In the mountain gobi region of Bayankhongor for example, the distribution of livestock wealth is highly unequal and households are more vulnerable to climatic stresses such as heavy snow and extreme temperatures. In the steppe region of Övörkhongai, herders in Khakhorin *sum*, are more able to cope with increased risks as some elements of collective ownership and support remain: some dimensions of poverty are managed more effectively as poorer households are better protected from income shortfalls by monthly salaries and from livestock loss by subsidised winter feed supplements.

#### **Vulnerability and risk**

1. The changing level of risk faced by herders is probably the most significant factor contributing to increased wealth differentiation and poverty among rural households.

2. Apart from economic risks, the most significant risk herders face (in certain vulnerable regions) is the risk of livestock loss from heavy snow or *dzud*. Evidence suggests that the proportion of livestock losses incurred by poorer households is considerably higher than those of richer households and seriously threatens the viability of some of the poorest herders.

3. These data also show that the extent to which households are able to prepare for and response to this type of disaster is, at least in part, related to their wealth status.

#### **Support to the poor**

1. Formal support to poor herding households is limited and hampered by the use of inappropriate poverty measurements and very limited funds available to rural households.

2. Case study data shows that the poorest households in the herding community rely heavily on the support of kin and neighbours to maintain subsistence, and that the role of customary institutions is becoming increasingly important in providing the first line of assistance to the poor and vulnerable.

3. Customary institutions are reasonably effective at providing assistance at individual level but are less effective at coping with climatic or other risks which affect an entire community at the same time, other than by developing cooperative labour and other arrangements.

#### **Policies to reduce rural poverty**

Growth in the livestock sector is the main way in which poverty issues can be addressed in Mongolia. The aim should be to concentrate on the development of labour-intensive growth and an effective safety net to protect the poor and vulnerable in the rural economy.

### Poverty measurement and targeting

Poverty measurement and targeting is at present based on an income measure of poverty which is inappropriate for the rural economy. It is difficult to measure and misleading in an economy where much of production goes directly to own consumption, where most trade is in the form of barter, and where wealth is more closely related to ownership of assets (livestock) than to levels of income. The minimum income line does not coincide with herders' definitions of poverty.

This problem should be addressed in several ways. First, the definition of vulnerable groups should be extended to include households with small herds who are a particularly vulnerable section of the poor. As part of this a distinction should be made between herders and *sum* centre residents since different poverty thresholds are required for different groups.

Second, measurement of rural poverty should be based on a measure of household per capita livestock wealth, calculated in traditional Mongolian *bod* units. This is the measure most commonly used among herders themselves and remains constant over time while measures based on market values do not. This measure should be determined at local level and be representative of local ecological and economic conditions.

Third, lists of poor and extremely poor households should be drawn up locally by *sum* based poverty committees, composed of *sum* and *bag* governors, officials, livestock company officials, and herder representatives. Lists would indicate whether households were poor because of incapacity or lack of livestock.

### Safety nets

This paper has shown how important social security provision is to the incomes of poor rural households. Reform of social security provision is currently being debated by government based on recommendations made by the ILO. Over the long term this is likely to result in social security provision being increasingly targeted at the poorest, with the removal of wide ranging pension and benefit provisions.

Draft social insurance laws are currently being developed, and by 1996 they will be entirely based on employer and employee contributions. This would exclude all those not in formal employment including most herders. No decision has yet been made as to whether herder contributions for certain types of benefits and insurance should become compulsory or voluntary. While herders' statutory rights to pensions and benefits will not be affected if, as is likely, voluntary contributions for livestock insurance are introduced it is unlikely that the majority of herders will take up such insurance. The particular needs of the livestock sector should be considered carefully, including the possible introduction of compulsory livestock insurance with reduced premiums for the poorest.

The livestock sector, which has suffered most in the contraction of public service provision to the rural areas, should be compensated through the expanded Social Assistance Fund which is currently being developed. This could be done through the provision of food stamps to children of poor households, to offset the new costs of education and health, and with one-off payments for the poorest to enable them to directly purchase expensive items such as winter clothing.

### Credit

As discussed in chapter 8, informal mechanisms by which poor herding households receive credit are valuable. However, customary mechanisms are not able to meet some needs, such as the need for long-term loans of breeding females to allow poor households to build their herds or to replace high losses incurred during climatic disasters. Formal credit institutions are



unwilling at present to provide herders with credit since they do not accept livestock as collateral, so there may be a need to improve poor households access to subsidised credit possibly through group lending.

Group access to credit could be organised through customary institutions such as the *khot ail* or wider neighbourhood groups, while restocking of poor households could be better organised through existing livestock companies who would extend credit in the form of livestock to poor households to increase their herds over a set time period.

In addition credit should be made available to private individuals, *khoshoo* cooperatives, companies and traders to develop local marketing and processing which are constrained by existing credit arrangements and have limited access to capital and spare parts. The availability of credit for the development of local processing could have important implications for the rural poor, especially women, since this might provide employment for those seeking alternative incomes outside herding, such as single women with few animals and limited labour.

#### **Managing emergencies and collective risk**

The management of collective risk, which was comprehensive during the collective period, has been almost entirely removed as a result of economic liberalisation. Urgent attention should be paid to the development of policies to address rural emergencies such as drought or *dzud*. These would include the development of:

- a clear policy of planned response to emergencies when they occur.
- policies to strengthen kin and neighbourhood responses through for example, group insurance of livestock.
- policies to strengthen the ability of the State Emergency Fodder Fund to respond to *dzud* emergencies, including the restocking of regional fodder stores financed by receipts from local grazing and animal taxes.
- research to assess the probability of *dzud* and other large scale emergencies in different ecological regions and appropriate responses.

#### **Health, education and veterinary services**

The ability of the poor to escape poverty partly depends on their access to health, education and veterinary services. The type and level of services provided during the collective period are no longer feasible and attention should be paid to ways in which static *sum* based services can be maintained through the introduction of some cost recovery, alongside the development of more mobile services. The state should take responsibility for providing health and veterinary insurance for the most vulnerable so that the poor are not penalised.

*Sum* based services require urgent assistance to cover the costs of vehicle maintenance, drugs, equipment and electricity. This is one area where donors can make immediate interventions while the development of cost recovery mechanisms take place.

The long-term focus should be directed towards the development of more localised and mobile health, education and veterinary services. This could be achieved through *bag* level schools, distance learning, and increased training for *bag* level health and veterinary personnel.

**Strengthening customary institutions**

Customary institutions should not be ignored in the development of policies to enable rural people themselves to manage rural poverty alongside more formal institutions. One way to reduce transient poverty would be to transfer information and skills from experienced to new herders through such groups.

Strengthened customary groups could also act as the focus for group-based lending, marketing and emergency assistance, and to provide representatives on poverty committees at *sum* level, and local representatives for health, veterinary and education services. Groups which could be strengthened include *khot ails* and neighbourhood groups which overlap with more formal institutions such as livestock companies and the *bag*. At present it is these companies and *bag* governors who represent herder interests in the *sum* administration and development agencies. Herders themselves have expressed the view that alternative institutions which can represent their views at a wider level, and in a more representative manner are needed.

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APPENDIX 1: PRIVATE LIVESTOCK HOLDINGS BY *SUM*Table 24. Private livestock holdings by species, by wealth quartile, Tariat *sum*, Arkhangai

	Camel	Horse	Cattle	Sheep	Goat
Bag Total	0	1271	3434	5936	528
Average P/Household	0	8.0	21.6	37.3	3.3
1st Quartile					
Total	0	515	1446	2487	230
Percent of Total	0	40.5	42.1	41.9	43.6
Average P/Household	0	13.2	37.1	63.8	5.9
2nd Quartile					
Total	0	350	971	1692	144
Percent of Total	0	27.5	28.3	28.5	27.3
Average P/Household	0	8.8	24.3	42.3	3.6
3rd Quartile					
Total	0	277	631	1157	95
Percent of Total	0	21.8	18.4	19.5	18
Average P/Household	0	6.9	15.8	28.9	2.4
4th Quartile					
Total	0	129	386	600	59
Percent of Total	0	10.1	11.2	10.1	11.2
Average P/Household	0	3.2	9.7	15.0	1.5

Source: *Sum* statistics

**Table 25. Livestock holdings by species by wealth quartile, Kharkhorin *sum*, Övörkhngai**

	Camel	Horse	Cattle	Sheep	Goat
Bag Total	27.0	1063	1315	3778	1209
Average P/Household	0.2	7.9	9.7	28.0	9.0
1st Quartile					
Total	21	451	661	1729	546
Percent of Total	77.8	42.4	50.3	45.8	45.2
Average P/Household	0.6	13.7	20.0	52.4	16.5
2nd Quartile					
Total	1	263	331	988	384
Percent of Total	3.7	24.7	25.2	26.2	31.8
Average P/Household	0.0	7.7	9.7	29.1	11.3
3rd Quartile					
Total	5	223	207	648	206
Percent of Total	18.5	21	15.7	17.2	17
Average P/Household	0.1	6.6	6.1	19.1	6.1
4th Quartile					
Total	0	126	116	413	73
Percent of Total	0	11.9	8.8	10.9	6.0
Average P/Household	0	3.7	3.4	12.1	2.1

Source: *Sum* statistics

**Table 26. Livestock holdings by species, by wealth quartile, Bayan-Tsagaan *sum*, Bayankhongor**

	Camel	Horse	Cattle	Sheep	Goat
Bag Total	266	791	592	11748	9338
Average P/Household	3.7	1.6	4.9	3.6	72.1
1st Quartile					
Total	146	352	371	6331	4273
Percent of Total	54.9	44.5	62.7	53.9	45.7
Average P/Household	3.6	8.6	9	154.4	104.2
2nd Quartile					
Total	70	251	153	2876	2654
Percent of Total	26.3	31.7	25.8	24.5	28.4
Average P/Household	1.7	6	3.6	68.5	63.2
3rd Quartile					
Total	36	135	63	1960	1642
Percent of Total	13.5	17.1	10.6	16.7	17.6
Average P/Household	0.9	3.2	1.5	46.7	39.1
4th Quartile					
Total	14	53	5	581	769
Percent of Total	5.3	6.7	0.8	4.9	8.2
Average P/Household	0.4	1.4	0.1	15.3	20.2

Source: *Sum* statistics

**APPENDIX 2: COMPOSITION OF HOUSEHOLD INCOME - ERDENE *SUM*,  
DORNOGOBI AND IKH TAMIR AND TARIAT *SUMS*, ARKHANGAI, 1990-1993**

**Table 27. Composition of average annual household monetary income, Erdene *sum*,  
Dornogobi, 1990-1993**

Year	1990	1992	1993
No. of hhs	7	3	10
Average Annual Household Income (Tugrik)			
Salary & Bonuses	13274.8	18000.0	4442.0
Product Sales	2330.1	23860.3	63467.1
State Benefits	748.6	5876.0	5502.0
Other	893.6	400.0	4232.6
Total	17247.1	48136.3	77643.7
Per cent			
Salary & Bonuses	76.9	37.4	5.7
Product Sales	13.5	49.6	81.7
State Benefits	4.3	12.2	7.1
Other	5.2	0.8	5.5
Total	100.0	100.0	100.0

Source: Mearns 1991, Cooper and Narangerel 1993 & this paper.



**Table 28. Composition of average annual household monetary income, Ikh Tamir and Tariat *sums*, Arkhangai**

Year	1990	1992	1993
Sum	Ikh Tamir	Tariat	Tariat
No. of hhs	5	3	4
Average Annual Household Income (Tugrik)			
Salary & Bonuses	10233.4	1200.0	0.0
Product Sales	1815.0	14116.6	20082.5
State Benefits	920.0	10758.0	4325.0
Other	288.0	0.0	0.0
Total	13256.4	26074.6	24407.5
Per cent			
Salary & Bonuses	77.2	4.6	0.0
Product Sales	13.7	54.1	82.3
State Benefits	6.9	41.3	17.7
Other	2.2	0.0	0.0
Total	100.0	100.0	100.0

Source: Mearns 1991, Cooper and Narangerel 1993, and this paper.

**APPENDIX 3: MONETARY INCOME BY WEALTH GROUP**

**Table 29. Average annual household monetary income by wealth group, 1992-93 (42 households) (Tugrik)**

	Group 1 (Richest)	Group 2	Group 3	Group 4 (Poorest)
No. of Households	11	10	12	9
Live Animals	22668.8	27420.5	18058.7	17178.8
Milk products	1848.2	300.0	1081.7	1177.8
Wool/Hair	6915.2	14272.0	2124.8	3560.4
Cashmere	21742.5	21080.0	9769.5	2855.6
Hides/Skins	1458.2	1726.0	1109.2	524.4
Salaries	6181.8	1940.0	6670.0	6157.8
Pensions/Benefits	6812.0	14715.0	3569.0	7385.3
Aid/Assistance	1665.1	0.0	75.8	0.0
Other	4507.8	1100.0	2651.9	2333.3
Total	73799.5	82553.5	45110.5	41173.4

Source: 42 household survey

## APPENDIX 4: LIVESTOCK HOLDINGS OF POOREST HOUSEHOLDS

Table 30. Average total private livestock (LS) holdings of poorest households, Tariat *sum*, Arkhangai compared with *bag* average for Tsagaan Nuur *bag*, Tariat *sum*, Arkhangai

	Tsagaan Nuur <i>bag</i>		Tariat <i>sum</i> average	
	<i>Bag</i> Average	Poorest Quartile	Poor H-holds	Poor Herding H-holds
Household Size	4.3	3.2	5.0	4.6
Total Private LS	70.2	29.4	25.0	26.5
Standard Deviation	36.4	9.4	13.1	12.8
LS Per Person	20.2	14.7	5.7	6.7
Standard Deviation	12.2	10.5	3.5	3.5
Total Private LS ( <i>Bod</i> Units)	35.3	15.2	11.2	12.7
Standard Deviation	17.8	4.7	6.7	7.2
LS Per Person ( <i>Bod</i> Units)	10.3	7.9	2.7	3.3

NB. Poor Households = Both *sum* centre and herding households classified by the administration as absolute poor in Tariat *sum* in 1993. The data show that among absolute poor households, average household size is slightly higher than the average for Tsagaan Nuur *bag* and quite a bit higher than the average household size for the poorest quartile in Tsagaan Nuur *bag*. Total private livestock holdings are not much lower than the average figure for the poorest quartile in Tsagaan Nuur but higher household size means that figures for livestock per person are more than a third less than the *bag* average for both poor groups.

Source: *Sum* statistics

**TABLE 31. Average total livestock (LS) holdings of poorest households, Bayan Tsagaan *sum*, Bayankhongor, compared with average for *bag* No.1. in same *sum***

	<i>Bag</i> No. 1		<i>Sum</i> average	
	<i>Bag</i> Average	4th Quartile	Poor H-holds	Poor Herding H-holds
Household Size	3.7	2.1	5.2	5.2
Total LS	194.1	58.5	75.5	85.5
Standard Deviation	145.4	29.3	46.3	46.1
LS Per Person	61.5	40.6	14.8	16.8
Standard Deviation	39.2	25.3	9.9	9.9
Total LS ( <i>bod</i> Units)	32.9	9.4	13.6	15.7
Standard Deviation	24.1	4.3	9.2	8.9
LS Per Person ( <i>bod</i> Units)	10.5	5.9	2.8	3.2

NB. Poor Households = Both *sum* centre and herding households classified by the administration as absolute poor in Bayan Tsagaan *sum* in 1993. The data include both private and leased livestock as the poverty statistics were not disaggregated. Here, average total livestock numbers for absolute poor households are higher than for the poorest quartile in *Bag* No.1. However average figures for livestock per person are just under a third less than those for the poorest quartile.

Source: *Sum* statistics

#### APPENDIX 5: *DZUD IN BAYAN TSAGAAN SUM, BAYANKHONGOR AIMAG*

Between 15 and 23 March 1993, Bayankhongor *aimag* received very heavy snowfall throughout the *aimag*. The western areas of the *aimag* were the worst affected. By March 23 the *sum* had an average snow cover of 50 cms. In the mountain areas of the first *bag*, snow reached depths of 70 cms to 1 metre; in other areas the depth was about 30 cms. This level of snow cover was high compared with normal years, when a maximum snow depth of 20 cms is expected. Usually the snow covers pasture for only a few days and is removed by strong winds.

*Dzud* (or freezing snow) is a frequent occurrence in this part of Mongolia although often very localised. Serious *dzud* or disasters, where no movement by camel or vehicle is possible for the greater part of the *dzud* period, occurs less frequently. *Sum* officials said other serious *dzuds* had occurred in 1964, 1967 and 1988 but even then the degree of movement possible was better than in 1993.

#### Livestock losses

The total loss of livestock in the *sum* was 39,000, made up of 19,000 adult livestock and 20,000 young animals. In the worst affected area in the south west of 1st *bag*, herders lost between 50 and 70 percent of their herds.

Case study data suggests that heavy livestock losses were incurred for several reasons. Many households were moving their animals between winter and spring shelters at the time of the *dzud*. As a result it was difficult for them to reach shelter for the animals. Few households had any remaining hay or fodder to give to the animals and only got supplementary supplies from the *sum* centre after the fourth day of the *dzud* during which time greatest losses were incurred. Some households, particularly those with limited labour, found they were unable to take the animals to pasture for at least a month. During this time they kept animals in shelters and fed them hay and fodder once it was available. They were unable to make trails through the snow to enable the animals to reach pasture.

#### Herders response to the *dzud*

Herders' overall response to the *dzud* seemed to be strongly based on labour availability and wealth status. In most cases studied, herders were either moving between shelters or still resident at winter shelters when the *dzud* occurred. Households were in general isolated, and many women heads of household, who as a rule manage labour shortages by drawing on relatives living elsewhere at peak times, were on their own, not anticipating the need for extra help. Households with additional labour were able to clear snow for the animals and go to the *sum* centre to get fodder and hay for the animals. In most cases, households received additional assistance from relatives who brought fodder and hay from the *sum* centre.

In most cases, households did not have any stores of fodder or hay to give to animals immediately. Either they had not purchased fodder and hay before the winter or supplies had already been used. Some households stated that they wanted to buy more supplies but the cost of fodder and transport was too high. In the case of one richer household, fodder was stored in a building near the winter shelter but was only accessible after three days. Most households made regular trips during the *dzud* to the *sum* centre where they purchased fodder and hay at reduced prices from the Emergency fund. Some fodder and hay was given to all households free. Access to transport animals for this purpose was important. Only the very rich households were able to move the household and livestock to better pasture. One household paid 4,000 tugrig in cash and 3 sheep to the driver of a vehicle who helped him move.

### ***Aimag level response to the dzud***

The response to the *dzud* was coordinated at *aimag* level by the *aimag* Emergency Commission whose main responsibility is to coordinate response to natural disaster through the mobilisation of petrol and vehicles, emergency fodder, hospital and veterinary services.

Bayan Tsagaan was the first *sum* to receive assistance with helicopters carrying food and clothing providing initial assistance. Snow clearing machines and trucks were also sent from the *aimag* centre and Ulaanbaatar, although transportation by road was impossible for the first eight or nine days of the *dzud*.

The *sum* received immediate assistance from OverKhangai army division who brought fodder and hay by truck. The *sum* delivered fodder and hay from emergency reserves by truck and camel mainly free of charge to herding households. Few herders had their own supplies left as late as March. Although the 1992/3 winter had been relatively mild and the animals were reasonably strong after ten days without supplementary feed, substantial losses were incurred.

### **Cost of the assistance**

The state-funded Central Emergency Commission provided 90 percent of the budget for the *aimag* level operations. The cost of March 1993 assistance totalled 6-700 million. The *aimag* provided reduced cost fodder to *sum* administrations, companies and *khorshoos*. The state provided an additional 87 million tg to replace livestock lost as a result of the *dzud*. Included in this figure were donations made by other state, private and international organisations. This was divided equally and allocated to *sum* administrations were then responsible for purchasing livestock for their *sums*.

Bayan Tsagaan *sum* received 3.5 million tugrig from the Ministry of Finance to buy livestock as well as some additional donations from international and private organisations. The *sum* bought 146 horses from Dornogobi *aimag* at a cost of 15,000 each and 40 camels from a southern *sum* for 30,000 tugrig each. Herders of *Khovd aimag* donated 700 sheep and goats. The *sum* is to receive another 3.5 million in the future with which it will buy sheep and goats. The *sum* has no other plans for restocking in the future.

The livestock were distributed among those herders worst affected according to the size of the herd before the *dzud* and the proportional impact of the *dzud* on the herd. Wealth status was also taken into account.