



# POLICY ALTERNATIVES FOR LIVESTOCK DEVELOPMENT IN MONGOLIA (PALD)

A Research and Training Project



**Summary Report of Work  
Undertaken in 1992**

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#### INTRODUCTION

The Policy Alternatives for Livestock Development (PALD) project aims to facilitate, through training, research and policy analysis, the transition from a command to a market economy in the extensive livestock sector in Mongolia. The project is jointly carried out by the Institute of Development Studies at the University of Sussex, UK, and the Research Institute of Animal Husbandry and the Institute of Agricultural Economics in Mongolia. In Mongolia, PALD is sponsored by the Ministry of Food and Agriculture, the Academy of Sciences and the Supreme Council of Agricultural Cooperators.

Some small scale PALD research activities started in 1991, under preliminary funding, and were reported in the PALD 1991 report. The present report describes work undertaken during calendar 1992.

During 1992, PALD has been part funded by the John D. and Catherine T. MacArthur Foundation (Chicago, USA), with additional support from the Esme Fairbairn Charitable Trust (London), the UK Ministry of Agriculture and, through its core programme support to the Institute of Development Studies, the UK Overseas Development Administration. The Mongolian Ministries of National Development and of Science and Education funded the Mongolian research institutions contributing to PALD. We are extremely grateful to all these donors, whose support has enabled PALD to undertake a substantial amount of work during 1992.

In addition to the funders listed above, PALD has benefited from support from other institutions and individuals during 1992, which we would like to acknowledge here: the United Nations Development Programme in Ulaanbaatar, especially Eric de Mul and his successor as Resident Representative Johannes Swietering, Marta Ruedas, Shun-ichi Murata and Gerry Picard, Kate Gordon (UNV), Lyndon Brown (UNICEF); Dr Purevtseren of the Research Institute for Land Policy in Ulaanbaator and his staff members Tsolmon, Magsarjav, Soyolkhu and Tserenbaljir; Peter Sloane, Nick Guyer, Ian Kydd, James and Lucy Kyngge, Georges Korsun and Sean Hinton in Ulaanbaatar; H.E. Ambassador Cholsurengyn Baatar and Dalad Delger at the Mongolian Embassy in London, and Jeremy Hardie.

There have been rapid political and economic changes in Mongolia during 1992, and since these have an important influence on the work of PALD, they are summarised in the first section of this report. Following this, PALD work is described under each of its three main research themes: household and intra-household economic strategies; environmental management, fodder and natural resource tenure; and macro-economic implications of liberalisation and managing the transition. The report ends with a brief description of PALD's training and policy dialogue work, and a list of reports being prepared.

## MONGOLIA IN 1992

This section summarises information from many sources, especially PALD fieldwork, the 1992 Donor Consultation Report prepared by UNDP, and various issues of the Mongol Messenger.

### Recent political developments

In January a new Mongolian Constitution was adopted which incorporates the principles of a democratic society based on a market economy. It recognises many forms of property, including the right of Mongolian citizens to own land and forms the basis for more specific legislation necessary for the economic transformation of the economy.

Democratic elections were held on 28 June 1992 in accordance with the new Constitution. Six political parties participated and 95.6 percent of eligible voters took part. The Mongolian People's Revolutionary Party (MPRP) won 71 out of the 76 seats in parliament and retained its position as the ruling party. The MPRP maintained its commitment to stabilising the economy and continuing the transition to a market economy.

Since the election important institutional changes have taken place. The Ministry of National Development becomes the National Development Board, with responsibility for formulating government policy in economic, social and technological development and coordinating foreign loans, grants and investments. A Ministry of Administration has been formed to coordinate the activities of local administrative bodies with those of the ministries of central government. The Ministry of Science and Education has taken over the funding of PALD's counterpart Mongolian research institutes.

### Legal and administrative changes

The Law on Administration, Territorial Units, and their Leadership was approved by the State Hural on 18 August and is designed to strengthen and improve local administrative and democratic structures. A new unit, the bag, will form the smallest administrative unit within the sum. Governors of sum and bag will be nominated from local Hurals for a period of four years and will have increased management responsibilities in the area of their jurisdiction.

The bag administrative unit, or social institutions within it, may in future assume many of the production functions previously carried out by the negdel. Its components are residence- and kinship-based customary units of cooperation among herders which played an important role in pasture allocation and dispute settlement before collectivisation. Bag boundaries have generally been formed from the territory of the old brigades but, following the recent ruling that a single bag should have a maximum of between 150 and 170 households under its control, some reorganisation has taken place. This has not affected how households move or camp together, although there have been parallel changes here too with the formation again of khot ails. Within any one bag there may be a number of horshoo units of voluntary cooperation among herders for the production and marketing of livestock.

### Current trends in the macro-economy

The overall economic situation is bleak. GDP in real terms fell by at least 9 percent in 1991 and a decline of at least 5 percent is expected in 1992. In the last four months of 1991, inflation averaged 7 percent a month and is estimated to have been 120 percent for the year as a whole. In the first half of 1992 the monthly inflation rate increased to an average of 14 percent. The main causes are price liberalisation and loose monetary and fiscal policies. Monetary policy was tightened in the second half of 1991 to reduce inflationary pressures although broad money and domestic credit grew at 56 percent and 70 percent respectively. As a result, the IMF Standby Agreement was suspended in August.

The fiscal deficit in 1991 stood at nearly 13 percent of GDP. Receipts from taxes were constrained by the decline in imports, delays in the implementation of new tax measures and the weakness of the tax administration. Means of reducing the budget deficit have included reducing state subsidies to loss making enterprises, and to producers on input prices, and the budgetary allocation for the renovation and modernisation of some public enterprises. A 10 percent cut in government expenditure has been made in health, education and culture.

At the end of 1991 official unemployment was approximately 8 percent of the labour force. By July 1992 urban unemployment was 16 percent of the labour force. The official exchange rate remains at Tg40/US\$, with the barter and non barter rates unified in March. On the parallel market the Tugrik continued to depreciate in the first half of 1992 to a level of Tg250/US\$ and now stands at between Tg270-290/US\$. The value of trade has continued to decline. Exports and imports fell by 22 percent and 43 percent respectively in 1991. In the first seven months of 1992 trade turnover fell by 6.2 percent, although exports increased by 6.6 percent and imports fell by 15.7 percent against the same period the previous year.

The former Soviet Union remains Mongolia's largest trading partner accounting for 64 percent of trade turnover in 1991, with shares to Germany, Japan and China increasing rapidly. In the first quarter of 1992 imports of petroleum virtually ceased due to the failure to negotiate a new bilateral trading agreement with the Russian Republic. In June 1992 however an agreement to import 800,000 tons of petroleum was reached to be paid for in a combination of hard currency, tugriks and barter trade. In addition US\$38.7 million of credit will be given to Mongolia to finance the completion of construction projects.

### Trends in the major economic sectors

In agriculture and livestock, total gross output fell by 7.4 percent in 1991, made up of a negligible fall in livestock production and a 26 percent fall in the output of crops. In 1991 grain output fell by 29 percent, potatoes by 37 percent and vegetables by 61 percent. Total sowing areas for 1992 are lower compared to last year for all major crops. Industrial output fell by 20.1 percent in real terms in 1991 compared with the previous year and real output for the first seven months of 1992 is 20.4 percent lower than last year.

The importance of the livestock sector - PALD's main focus - is underlined by its reasonable performance relative to other sectors.

### Pricing policy and state orders

During 1991 and 1992 the government has taken measures to liberalise prices from state control. Meat and flour were the last prices to be controlled and were freed on 1 October. The price of milk has also been freed. As a result of price liberalisation most prices have increased six-fold.

The Government has sought to link price increases to salary increases in order to prevent reduction in real incomes. On 1 October salaries for those working in state organisations rose by 450 tugriks, pensions increased by 250 tugriks and student grants increased by 200 tugriks. However, pensions are commonly being paid several months late in the countryside.

The State Procurement Order still operates for some agricultural and livestock products, namely live animals, meat, wool, cashmere, grain, potatoes, vegetables, milk, sour cream and eggs. This is organised through the brokerage system at aimag level and has been maintained to ensure the provision of essential food supplies to the population, increase exports and create state reserves. It is not at all clear however, that the state order system is operating with the same efficiency in all areas.

Despite this, the trekking of animals for slaughter to Ulaanbaatar and other centres this autumn has been going reasonably well. This year's meat delivery target of 173,000 tonnes liveweight is expected to be met.

In all areas the harvest has been poor. It has been particularly bad in Eastern and Western aimag, as a result of drought in June and July. The yield has been better in the less drought-affected Central aimag, where there is better transport and a greater concentration of labour. The average wheat yield on 1 October was said to be 10.6 c/ha, a reasonable figure when in an average year a figure of between 10 and 12 c/ha would be expected. In some areas state farms have had difficulties selling vegetables and other harvested crops since as companies they have not made the usual agreements with aimag centres and vegetable processing factories.

### Privatisation

The government aims to privatise 60 percent of the country's fixed assets valued at a total of 24 billion tugriks. In the period June 1991 to July 1992 over 50 percent of large scale assets ("large privatisation") and around 70 percent of small-scale assets ("small privatisation") have been privatised.

In the first six months of 1992 the private sector produced about 15 percent of gross industrial output and about 30 percent of the combined output of the light industry and foodstuffs subsectors. It is expected that no less than 50 percent of agricultural production will be produced by the private sector this year.

The privatisation process has encountered substantial difficulties. These have been caused by the effects of economic dislocation generally, namely inflation, breakdown in infrastructure and the shortage of goods as well as by a lack of knowledge and experience of business management practices. Many privatised enterprises have been split into smaller units, resulting in the loss of the advantages of economies of scale.

## Privatisation in the livestock and agricultural sectors

In the livestock sector around 60 percent of all livestock is now in private ownership, although the pace and scale of the transfer has not been uniform across the nation. Negdels have been replaced by 227 joint stock companies and 58 limited companies and cooperatives. Some 70 state and fodder farms have been transformed into 280 small companies.

Under the Production Unit Law, state farms become state owned companies with the state retaining 51 percent control. The remaining 49 percent control is with private share holders. Negdels can be formed into share companies or limited companies, with share companies having assets worth more than 5 million tugriks in total and limited companies those with between 500,000 and 5 million tugriks worth of assets. Horshoo are those enterprises with less than 500,000 tugriks worth of assets.

Problems of privatisation in the livestock sector have been acknowledged. For example, assets have not always been divided equally, negdel members have not always had equal say in the form of company structure which has replaced the negdel, and some members have not benefited at all from privatisation. In some cases negdel members have moved from the area in which they are entitled to ownership rights and have lost out altogether; in other cases disagreements have occurred when members feel the 3 year membership rule is unfair to those who have been negdel members for less than this period but should be entitled to a share of negdel assets regardless.

The privatisation of negdels has not taken place uniformly. While all former negdels have been formed into companies over the past year the number of companies, the particular form they take, the roles they perform and their length of existence varies considerably across the country. This is because the negdel administration, after public meetings at which members express their views, has been able to decide the form of organisation it wants to replace the negdel in the long term. In some areas companies are in the process of being liquidated, often to be replaced by smaller units of cooperation such as the horshoo or by nothing at all. In other areas there are no plans to liquidate the company and there are very few individual fully private herders. Some examples make this variability clear:

### i) Turgen sum, Uvs aimag

In Turgen sum, one negdel was divided into 3 separate companies, two of which are livestock companies and one of which is a crop company. All except ten herders are members of one of these companies and receive regular salaries. There are no plans to liquidate any of the companies. In other parts of Uvs, negdels have been transformed into a single company.

### ii) Tariat sum, Arhangai aimag

Privatisation began in October 1991, when over 70 percent of negdel animals were privatised. During the second stage, in June 1992, remaining negdel animals were privatised. Between June and August 1992 many herders became fully private. The former negdel was divided initially into one company and one horshoo or voluntary cooperative. The company was formed in March 1992 but after the second stage of privatisation the company's assets fell below the minimum legal level for Share companies and so it had to become a horshoo. One of the horshoo now has no collective animals while the other has between 500 and 600 company animals.

### iii) Erdene sum, Dornogobi

In Erdene, the small privatisation took place in December 1991, with the former negdel being formed into a company in January 1992. The large privatisation was completed in September 1992 when the remaining animals were privatised and other assets divided (the majority of fixed assets such as buildings and machines went to the sum administration, while some vehicles were divided among individual bags).

In October the company organised the procurement of meat to fulfill the state order and is currently calculating company profits to be divided among its members. By January 1993 the company will be fully liquidated and herders will then make their own agreements for the sale of products with brokers. Some herders are unwilling to remain as individual fully private herders and are discussing plans to set up horshoo. The aim of the horshoo will be to make contracts with brokering institutions to market members' products, to coordinate production and organise transport and other services with the bag administration.

### Livestock marketing

Livestock marketing is organised through brokers at aimag and sum level. Brokering institutions are currently being set up, and in the meantime individual firms are operating in some areas making contracts with herders to supply wool, meat and other products.

The Agricultural Commodity Exchange remains responsible for the remnants of the state procurement order which, although still operational, is not being carried out with the same efficiency in all areas. For example in Erdene sum, Dornogobi, the company and sum administration have an agreement with the Agricultural Commodity Exchange at aimag level to ensure the supply of livestock products to local army bases and other state organisations. In Tariat sum, Arhangai, some herders are refusing to sell their products at the (fixed and therefore low) prices offered. Cash shortages in some areas have meant that payment to herders has been made in two stages, an initial cash advance (which some herders are seeing as the final price) and a second cash or goods payment once the products are sold.

### Social safety net

Rapid inflation, high unemployment and shortages of basic foods have had a serious effect on the poorer groups in Mongolian society, especially in towns, where people have little opportunity of self-provisioning. A total of 69,000 families are currently living below the official minimum income level. Every second person has received benefits from the social security system, and this amounts to 21.2 percent of state budget expenditure for 1991.

The government is seeking to develop a framework of social security and insurance appropriate to a market economy. Measures include new pension and Social Allowance laws and a new system of social security financing through a pension fund. Pensions are to be indexed to the cost of living.

### Education

Mongolia currently has a literacy rate of over 90 percent. About 19 percent of the labour force has completed secondary education and 16 percent have received higher education. Until recently education at all levels was provided free and 25 percent of the state budget was spent on financing this sector.

The 1991 Education Law retains free primary and secondary education provision but makes higher education fee paying. It also allows for both public and private educational institutions.

### Health

The low availability of certain foodstuffs, partly as a result of liberalisation, has probably had an adverse effect on health, in particular on the health of women, children and the elderly. There may have been a recent increase in maternal and child illness and infant mortality. The infant mortality rate under one year and the maternal mortality rate per 1,000 live births in 1991 were 62.07 and 1.3 respectively. In the first half of 1992 these figures increased to 69.72 and 2.2 respectively. Incidence of diseases such as tuberculosis, measles, chicken pox, typhoid and scabies have increased considerably.

Shortage of hard currency has led to a severe cut in imports of drugs and other medical equipment, and there is now an acute shortage of essential drugs and vaccines despite loan and other assistance worth US\$12.5 million from the World Bank, Asian Development Bank and other donors.

### Impact on herding households

PALD research in 1992 has found that the impact of economic liberalisation and privatisation in particular has affected herders severely, although the latter may have suffered less than the urban poor. Shortages in basic food stuffs and other commodities has probably resulted in a substantial fall in the standard of living for many herding households. Shortages of staples such as flour and rice as well as the inadequate development of markets for livestock products, have resulted in substantial changes in the consumption patterns of herders. This is seen most clearly in moves towards increased self-provisioning among some households.

The ability of herders to maintain a regular cash income from the sale of livestock products seems to depend first on their membership of a company or horshoo and second on the ability of that organisation to act on their behalf. In some areas, companies and horshoo have made contracts with brokering organisations to supply products, and herders have received regular salaries as a result. In other areas, particularly where companies no longer exist and where there are increasing numbers of fully private herders, households are having difficulty marketing products and their incomes are becoming increasingly irregular. There is, however, limited evidence of private enterprise taking place between individual herders. There is an increase in the level of barter exchange.

There has been a substantial fall in health and social security provision and the cost of other essential services such as fodder and transport have risen considerably. In many areas the payment of pensions (which form a substantial source of income for many households) has become increasingly irregular. The ability to cope with the changes and increasing costs of privatisation differs according to the wealth status, gender and age composition of herding households. Some herders are better able than others to purchase goods at high prices, and to get assistance in the form of loans and cash advances from others.

### Main donor activities in the livestock sector

The Asian Development Bank is funding technical assistance projects in agriculture and livestock. The livestock feed improvement project will identify suitable methods of production, storage and quality control of fodder consistent with the new ownership structure. It will also estimate future demand for improved fodder. US\$35 million has been earmarked by the ADB for this project.

DANIDA is funding a livestock sector plan for Mongolia which will be run in close conjunction with the ADB fodder improvement project. The project is examining the constraints on primary production and markets, future potential and development, policy issues and priorities and sector plan and investment proposals, with emphasis on institutional development.

### PALD RESEARCH IN 1992

During 1992, the PALD project undertook extensive research designed to identify broad policy alternatives for economic liberalisation in the livestock sector, and to monitor the impact at household level of liberalisation policy decisions already made. The research broadly followed the three main themes identified in the original PALD project document: household and intrahousehold economic and social strategies, including especially questions of poverty, vulnerability and risk, and gender and intra-household issues; environmental management questions, including especially fodder and natural resource tenure; and macro-economic questions including especially the management of the transition to a liberalised pastoral economy.

### Household and intra-household strategies

A key component of PALD research is aimed at understanding individual, household and small group livelihood strategies, risk and risk-avoidance, and poverty. Within households, differences by gender and probably age are important, since different categories of people are differently vulnerable to the changes accompanying economic liberalisation. Research focuses on both formal and informal economic and social relations and exchanges, and on the interaction of the command economy, the emerging market economy, the existing administrative structure and the traditional systems regulating Mongolian society.

Two major research activities this year have started to piece together a detailed picture of the Mongolian pastoral livelihood system and to identify constraints. Work focussed on the two sample areas where research started last year: Erdene district (sum) in the Gobi desert steppe ecological zone in the south east of the country, and Tariat district in the Arkhangai mountain steppe ecological zone in the centre-west of the country. (Ikh Tamir district in the same zone, where research was undertaken last year, was closed to visitors because of an epidemic of bubonic plague; Tariat is similar in most important economic and ecological respects.)

Particular attention under this part of the work programme is given to the themes of poverty, vulnerability and risk. Robin Mearns (Institute of Development Studies) led a joint research team from the Research Institute of Animal Husbandry and the Institute of Agricultural Economics investigating household incomes in representative samples in the two study areas, building on last year's research. The team, especially Shombodon (Research Institute of Animal Husbandry), Baterdene and Densmaa (both Institute of Agricultural

Economics), examined in detail the changes in agricultural enterprises and livestock ownership with the privatization programme during 1991-92. They also investigated the consequences of decollectivisation for livestock product processing and marketing. Louise Cooper (Institute of Development Studies) and Narangerel (Research Institute of Animal Husbandry) investigated household incomes and vulnerability in the two field samples, and also gathered available national household income data from the Central Statistical Board for comparative analysis.

Slavoj Szynkiewicz (Polish Academy of Sciences) and Tomasz Potkanski (Department of Anthropology, University of Warsaw) with Tangut, a senior researcher and head of the ethnographic section at the Mongolian Academy of Sciences and Batbuyan (Institute of Geography and Geocryology), investigated social relationships, groupings and economic cooperation among Mongolian pastoralists as economic liberalisation gains momentum. Among other themes, they researched traditional and contemporary patterns of social structure (comparing the contemporary situation with data on pastoral Mongol social organisation collected by Dr Szynkiewicz over the past 20 years), the organisation of work in rural cooperatives and post-cooperative organisations, effective rules of land tenure, traditional and contemporary rules of livestock ownership, and traditional and contemporary forms of mutual assistance among pastoralists.

Simon Strickland (Centre for Human Nutrition, London School of Hygiene and Tropical Medicine, supported by the Royal Society), worked with the PALD project to investigate recent changes in food balance sheet and nutritional status information available in Mongolia, and assessed the evidence identifying specific groups as particularly vulnerable to nutritional deficiencies, seasonally or continuously, under economic liberalisation. He also tried to assess the significance of relationships between the aetiology of rickets in children and maternal nutrition during pregnancy and lactation under the prevailing patterns of Mongolian nutrition, and the ways this may change with liberalisation. He is drafting a proposal for a nutrition research project to be carried out in association with PALD but with different funders, examining seasonal food insecurity and nutritional risk in rural and urban Mongolia.

Safety nets - to provide poor rural households with some assurances of protection during the economic dislocations of liberalisation and against continuing risk - have been an important PALD research theme in 1992. The Polish team (Szynkiewicz, Potkanski and Tangut) studied this in relation to wider social organisation and customary patterns of mutual assistance. They found that safety nets in Mongolian society have long been based on communal institutions (such as Lama Buddhist monasteries) rather than on kin and neighbour assistance; in the last thirty years the state has efficiently taken over such functions and has played an essential role. In the present partial market conditions, almost the only remaining safety nets (other than a universal pension system which remains important but very uncertain), are those of kin and neighbourhood and they are unlikely to be sufficient.

Melvyn Goldstein and Cynthia Beall (Case Western Reserve University, US) working for the past two years on their own research project in the mountainous Hovd area of Western Mongolia, will produce a paper for PALD on customary and modern social security in their field area. Jeremy Swift (Institute of Development Studies) did work this summer on Mongolian livestock insurance. This is an apparently uniquely successful system of protecting households against loss of animals from certain environmental risks, and a key part of the former state-supported safety net, but it is now being transformed

from a state-owned to a private sector financial agency. How it can best survive the transition is a key area of policy reform.

The PALD project has a special interest in differential impacts of liberalisation within households, since experience elsewhere suggests that particular population categories such as women, children or the old may be especially vulnerable. During 1992, Louise Cooper and Narangerel started detailed research on this in the two field samples. Their work so far focuses on income, expenditure, labour use, consumption patterns and decision-making within households, and considers actual or potential impacts of economic liberalisation on different categories of people within the household.

#### **Environmental management, fodder and natural resource tenure**

Land tenure is a central issue in present policy discussions in Mongolia, as the government moves towards a decision about changes in land ownership and control. Although most of the debate so far has been about urban and arable land, future tenure arrangements on extensive pasture land are also under discussion, and decisions will have to be taken soon about what legal regime replaces former collective farm control of land allocation between herding households and brigades.

Robin Mearns focussed on pastoral organisation, land tenure and land policy reform in his work this summer. This research will set the empirical material in the context of bodies of literature and theory on collective action and common property resource management, new institutional economics, and the comparative literature on decollectivisation.

In Mongolia, as in other pastoral societies, customary land tenure arrangements have evolved at the local level to regulate herders' access to pasture land. The most important seem to be 'neighbourhood' level groups known generically as neg nutgiinhan ('people of the same place'). There are regional variants, differing in scale and usually bounded by topography or limiting ecological factors, including neg jalgynhan ('people of one valley') in the Hangai mountain region, or neg usnihan ('people using the same water source') in the Gobi desert. Group members are usually closely related, by blood or by marriage. Research was carried out to 'map' these kinship relationships, and to relate social groups to the environmental resource base. Like the khot ail (the basic herding group of cooperating households), these customary institutions appear to be re-emerging in contemporary Mongolia in response to the break-up of the pastoral collectives and other economic reforms.

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

Customary land tenure arrangements operated historically in conjunction with allocative procedures of a more formal nature, under first feudal-theocratic (pre-1920s) then socialist state structures (1920s-1980s). Experience in other

pastoral contexts suggests that development practices that fail to recognise customary resource tenure regimes may reduce rather than enhance herders' control over the security of their own livelihoods. Moreover, the principle of building on customary institutions - where they are shown to have the potential effectively to regulate access to pasture land - is likely to be the most promising means to ensure the sustainable management of Mongolia's extensive grasslands, on which the rural economy depends.

The draft Land Law of Mongolia, due to be ratified during the Autumn 1992 session of the Ikh Hural (Parliament), together with other recent legislation (the new Constitution and certain clauses of the Civil Code), provides a useful basis for future land policy. However, further institutional and policy mechanisms are necessary to provide the means to translate land policy into effective land management practice. PALD research suggests that an appropriate land tenure structure would support and combine the best aspects of customary arrangements with new, formal land tenure options. The most promising of these seems to be the leasing of pasture land to groups of herders based on customary, 'neighbourhood-level' social institutions, issued on a rolling basis with renewal made conditional on satisfying certain legal requirements to maintain land quality and productivity. Evidence from other pastoral economies suggests that such a strategy is likely to make sense both in terms of efforts to increase productivity in the livestock sector, and to help ensure the sustainable management of Mongolia's grasslands in the longer term.

It is vital that the herder groups to whom land is leased are of a scale that is sufficiently large to encompass the entire physical resource unit appropriate for pastoral management given local ecological conditions. The territory must be large enough to allow for the usual level of seasonal mobility between pasture areas, and provide room for additional flexibility to cope with ecological risk. It may be necessary to move between different resources from one year to the next when ecological hazards dictate (drought, heavy snowfall). The appropriate scale of resource unit varies considerably across Mongolia, with larger resource units in the drier, riskier Gobi regions, and smaller units in mountain areas where there are greater possibilities for vertical mobility between seasonal pastures. PALD fieldwork suggests that an area of some 30-100 sq. km., or the scale of a single tributary river valley, is an appropriate pastoral resource unit in the Hangai mountains, while in the Gobi region an area of the order of 2,000 sq. km. is likely to be required. The Hangai pastoral system would allow for land to be held and managed at the level of the neighbourhood group (neg nutgihinhan) while the riskier conditions of the Gobi, demanding greater flexibility in nomadic movement, suggest that a group as large as the bag itself is the smallest effective resource-managing institution.

Researchers D. Bazargür and C. Shirevadja (Institute of Geography and Geocryology, Mongolian Academy of Sciences) and B. Chinbat (Mongolian State University) have prepared a PALD research report on pasture land tenure, summarising research undertaken over the past ten years. On the basis of surveying the seasonal movements of some 15,000 suur in all aimag of Mongolia, covering about a third of all districts, the team have suggested that a move towards private pastureland ownership should be resisted. They indicate the importance of communal organisation in pastoral livestock husbandry and believe the khot ail should be strengthened under the market economy.

Seasonal livestock nutrition is a key constraint to increased productivity in the Mongolian pastoral economy. A major PALD objective will be to explore the economic case for, and the technologies to undertake, animal feed supplementation. During the year, Dr S. Jigjidsuren, senior researcher at the

Research Institute of Animal Husbandry, produced a PALD working paper on national fodder policy. He identified an important fodder gap, which increased substantially in 1991 under early liberalisation moves: in that year, basic fodder requirements were more than 2.6 times larger than the amount of fodder actually produced. He outlined key potential areas of increased fodder production including: better management of natural pastures by maintaining and improving traditional migratory management of livestock, land tenure reform, the establishment of a viable state fodder reserve for emergencies, the rehabilitation of degraded pastures especially in the Gobi, seed production, cultivated pastures for intensive dairy, poultry and pig production, improved haymaking including reseeding, and improved silage and green fodder production and use. This work fed directly into identification of Asian Development Bank fodder project.

Mongolia is self-sufficient in wheat, but this is achieved at very high cost; with the withdrawal of Soviet technical assistance and funding it is imperative that Mongolia looks at the sustainability of this, at alternative possible uses of the land and other resources used to grow wheat, and especially at the possibility of growing fodder instead. Neil Chalmers (Macaulay Land Use Research Institute, Aberdeen) and Jonathon Kydd (Wye College, University of London) started work for PALD in 1992 on the domestic resource costs of wheat cultivation and of alternatives.

In other dry pastoral environments, especially in Africa, there has been a great deal of interest in harvesting surface rainwater runoff to grow crops or fodder. During 1992, Adrian Cullis (Intermediate Technology Development Group, Rugby) made a preliminary visit to the Gobi desert steppe area to investigate the potential for such rainwater harvesting. As elsewhere, the main problems are more to do with institutional and economic factors, not technical ones, but there seems to be some potential to move to small scale experiments in rainwater harvesting for fodder, within a wider approach to the fodder problem.

#### **Macro-economic factors and managing the transition**

The PALD project is also concerned, although in lesser detail, with some key macro-economic factors affecting the transition to a market economy.

A major issue in this respect is the design of alternative institutions to state power and to the former livestock collectives. Robin Mearns and the Polish team focussed on this question in their research this year, relating the evolution of rural development institutions to the customary organisational structures of Mongolian rural society. They found that the dissolution of the collectives has pushed herding households back towards closer kinship-based forms of cooperation and economic grouping. Liberalisation of the political system has brought about a growth in the importance of local communities in local politics and economics. New forms of grass-roots cooperatives, based on local community and kinship ties, have filled the organisational vacuum. A great variety of such forms is likely to emerge, and the state needs to define how it is to work with and support them.

The organisation of government services for rural people is an important area of reform. During the year Jerker Edström (Institute of Development Studies) made a preliminary investigation of the veterinary service, looking in particular at the economic costs and benefits of different types of veterinary care, and at ways in which minimum levels of service can be maintained in the changing political and economic circumstances.

## TRAINING

Training is an essential component of all PALD activities. All the research teams described in the previous section had a training element, with Mongolian researchers being taught specific methodologies on the job.

Rapid and Participatory Rural Appraisal (RRA/PRA) methods were used in most cases, and Robin Mearns ran a short refresher course in such methods, building on last year's course, at the start of fieldwork. A total of ten Mongolian researchers have now been trained in such methods and have used them in field research and are now in a position to train other colleagues themselves.

English language is a key training need. Few Mongolian researchers speak English, which limits their use of English language information and their participation without interpreters in meetings and conferences outside Mongolia. Although the foreign research team is learning Mongolian, there is a strong demand from the Mongolian team to learn English. During the year, in conjunction with the UNESCO-funded "English for Special Purposes" Institute in Ulaanbaatar, PALD organised intensive technical English language training for research team members. This will be followed by further courses at the end of 1992 and early in 1993, including an advanced course.

During 1992, Erdenebaatar, a senior member of the Mongolian research team, spent a month at the Institute of Development Studies, working with the IDS team on data analysis, including computerised mapping.

## POLICY ANALYSIS

An essential purpose of the PALD project is to present well-founded analyses of policy options in the extensive livestock sector to Mongolian decision-makers, and to participate more generally in the debate about economic reform. PALD Research Reports (eleven of which are planned as a result of 1992 fieldwork) are a first way in which research results are made available, in both Mongolian and English, to policy-makers, donor organisations and other researchers.

In addition to this, PALD will prepare a series of succinct Working Papers on key policy issues in English and Mongolian, and will organise policy workshops with senior Mongolian decision-makers to discuss the implications of PALD results. These workshops started in September 1991, and will continue at a rhythm of one or two each year during the life of the project.

Five working papers will be published as a result of the 1992 fieldwork: on fodder, land tenure, poverty, pastoral organisation, and safety nets. These will be widely distributed in Mongolia and outside, and will form the main materials for a policy workshop to be held in Mongolia in early 1993.

During 1992, work has also gone ahead on the preparation, jointly with the Department of Geography at the University of Sussex, of a simple Geographic Information System as a tool to analyse quantitative data on the Mongolian economy. A preliminary Atlas of the Mongolian pastoral economy, based on the GIS analysis, will be published during 1993.

During 1992, Robin Mearns was a member of the DANIDA Livestock Sector review mission, and wrote the section of its report dealing with land tenure and

socio-economic aspects of pastoral livestock production. PALD staff also collaborated with the Asian Development Bank fodder project identification mission. PALD reports were made available to these and other visiting missions, and to the donor conferences organised by the UN Development Programme.

### PERSPECTIVES FOR 1993

During 1993, work in core PALD research and training areas will continue, with funding already committed by the MacArthur Foundation. This will particularly concern work on land tenure, pastoral organisation and safety nets.

There is a possibility that more detailed work on the pastoral household economy, with particular emphasis on differential impacts of liberalisation within households (especially on women, children and the old) will be undertaken by the United Nations Volunteer (UNV) programme, in close conjunction with and supported by PALD. This would fill a crucial gap in our work.

There are also interesting possibilities of collaborative work with other organisations: on human nutrition with the Centre for Human Nutrition of the London School of Hygiene and Tropical Medicine; and on rainwater harvesting for fodder with the Intermediate Technology Development Group. PALD would offer such collaborative work an organising framework, detailed baseline social and economic data, and the possibility of translating results into policy advice.

However, several key areas of policy research - including livestock marketing, local processing of livestock products, macro-economic questions including subsidies, pricing policy and rationing, broader institutional reform, the likely impact of global warming, and especially the whole livestock fodder and feed supplementation issue - remain uncertain for the moment, and will not be undertaken unless further funding becomes available.

### REPORTS

Based on research done in 1992, a series of PALD reports is in preparation. Three categories of report will be produced during 1993:

- **Research Reports.** Eleven research reports are currently in preparation as a result of the 1992 research. Research Reports are detailed accounts and analysis of fieldwork results, covering primary data or reviews of secondary data or literature. PALD Research Reports will be the primary vehicle for communicating the immediate results of field research. They will range in length from 10 to 100 pages. Most will appear in both English and Mongolian. They will appear under their author's name. A small number will be distributed without charge; they will otherwise be available at cost.

- **Working Papers.** Five Working Papers will be prepared in early 1993. PALD Working Papers will focus on a particular analytic or policy topic, bringing together information and especially analysis on that topic for policy debate. Working Papers will in general not exceed 20 pages, will be published under the author's name, and will all appear in both Mongolian and English. Working Papers will have an extensive free distribution list in both languages.

- **Policy Option Papers.** Policy Option Papers will analyse specific options available to the Mongolian government on a range of policy areas. They will appear after extensive discussion within the PALD team, with government and with donors, about feasibility and cost of particular policy options. Policy Option Papers will normally not exceed 10 pages, will appear anonymously, in Mongolian and English, and will have a large free distribution list in both languages. Specific Policy Option Papers have not yet been planned, but likely topics for 1993 include land tenure, pastoral organisation, fodder and safety nets.

### Other publications

Other publications which have appeared or are in preparation, based on PALD work, are as follows:

Mearns, R., 1991, 'Pastoralists, patch ecology and perestroika: understanding potentials for change in Mongolia', IDS Bulletin 22(4): 25-33.

Mearns, R., 1992a, 'Environment and land tenure in a transitional pastoral economy: the case of Mongolia', Paper presented at the annual conference of the Institute of British Geographers, Swansea, (forthcoming in J. Briggs (ed), Development in Marginal Environments, Belhaven Press).

Mearns, R., 1992b, 'Steppes towards privatisation: changing pastoral strategies', ILEIA Newsletter 8(3): 6-7

Mearns, R., and D. Sheehy, 1992, 'Pastoral Livestock Production', Technical Annex 2, Mongolia Livestock Sector Study Phase 1, Danagro A/S for DANIDA.

Edström, J., Onon Zana, Magsar Baljinnyam, 1992, 'Veterinary services in Mongolia: Prospects and issues in the context of the pastoral livestock economy'. Paper presented at the International Seminar for Smallholder Livestock Services, Yogjakarta, Indonesia, 20 November 1992.