

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
MINISTRY OF FINANCE, MONGOLIA

THE STUDY ON THE SUPPORT  
FOR THE ECONOMIC TRANSITION AND  
DEVELOPMENT IN MONGOLIA

FINAL REPORT  
OF THE  
MEDIUM TERM ECONOMIC  
DEVELOPMENT STRATEGY

March 2000

JICA LIBRARY



J 1156167 (7)

DAIWA INSTITUTE OF RESEARCH LTD.  
NOMURA RESEARCH INSTITUTE, LTD.

THE STUDY ON THE SUPPORT FOR THE ECONOMIC TRANSITION AND DEVELOPMENT IN MONGOLIA

FINAL REPORT OF THE MEDIUM TERM ECONOMIC DEVELOPMENT STRATEGY



S S F
JR
00-081







**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
MINISTRY OF FINANCE, MONGOLIA**

**THE STUDY ON THE SUPPORT  
FOR THE ECONOMIC TRANSITION AND  
DEVELOPMENT IN MONGOLIA**

**FINAL REPORT  
OF THE  
MEDIUM TERM ECONOMIC  
DEVELOPMENT STRATEGY**

**March 2000**

**DAIWA INSTITUTE OF RESEARCH LTD.  
NOMURA RESEARCH INSTITUTE, LTD.**

## Abbreviations and Acronyms

<b>ADB</b>	Asian Development Bank	<b>mn</b>	Million
<b>bn Tog</b>	Billion Togrog	<b>mn.kwh</b>	Million kilowatt per hour
<b>BP</b>	Balance of Payment	<b>MOAI</b>	Ministry of Agriculture and Industry
<b>c/lb</b>	cent per Libra	<b>MOP</b>	Ministry of Finance
<b>CA</b>	Capital Assistance	<b>MOID</b>	Ministry of Infrastructure Development
<b>CAB</b>	Current Account Balance	<b>MTS</b>	Medium Term Strategy
<b>CES</b>	Central Energy System	<b>NGO</b>	Non Governmental Organizations
<b>EA</b>	Energy Authority	<b>NIR</b>	Net International Reserves
<b>EES</b>	Eastern Energy System	<b>NSO</b>	National Statistical Office of Mongolia
<b>ESAF</b>	Enhanced Structural Adjustment Facility	<b>ODA</b>	Official Development Assistance
<b>FDI</b>	Foreign Direct Investment	<b>OT</b>	Official Transfers
<b>FSU</b>	Former Soviet Union	<b>p.a.</b>	per annum
<b>G</b>	Gega	<b>PIP</b>	Public Investment Program
<b>GDP</b>	Gross Domestic Product	<b>PP</b>	Power Plant
<b>GNP</b>	Gross National Product	<b>PPP</b>	Purchasing Power Parity
<b>GOM</b>	Government of Mongolia	<b>Q</b>	Quarter
<b>IMF</b>	International Monetary Fund	<b>RCA</b>	Revealed Comparative Advantage
<b>ISIC</b>	International Standard for all Industrial	<b>t</b>	ton
<b>JICA</b>	Japan International Cooperation Agency	<b>TA</b>	Technical Assistance
<b>JV</b>	Joint Venture	<b>Tog</b>	Togrog
<b>KfW</b>	Kreditanstalt für Wiederaufbau (German Construction Bank)	<b>TPES</b>	Total Primary Energy Supply
<b>kg</b>	kilogram	<b>UB</b>	Ulaanbaatar City
<b>kwh</b>	kilowatt per hour	<b>USAID</b>	US Agency for International Development
<b>lb</b>	Libra	<b>VAT</b>	Value Added Tax
		<b>WES</b>	Western Energy System



1156167 (7)

## CURRENCY EQUIVALENTS

March 2000	Currency Equivalent
1,070 Tg	/USD 1.00
113.45 ¥	/USD 1.00

## PREFACE

In response to a request from the Government of Mongolia, the Government of Japan agreed to conduct a Study on Medium Term Development Strategy and Medium Term Public Investment Program of Mongolia, and entrusted the study to the Japan International Cooperation Agency (JICA), under the title "Study on the Support for the Economic Transition and Development in Mongolia".

JICA organized a study team composed of Daiwa Institute of Research Ltd. and Nomura Research Institute, Ltd. The team headed by Mr. Hirohiko SEKIYA of Daiwa Institute of Research Ltd. visited Mongolia eight times from September 1998 to March 2000. In addition, JICA set up an advisory committee headed by Mr. Shinji Asanuma, Professor, Asian Tax & Public Policy Program, Hitotsubashi University, between September 1998 and March 2000, which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned in the Ministry of Finance and other ministries, and developed database system essential to forming Public Investment Program. After returning to Japan, the team conducted further studies and compiled the final results found in this report.

I hope this report will contribute to establishing a proper system of forming Medium Term Development Strategy and Medium Term Public Investment Program. I also hope it enhances the friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned in the Ministry of Finance and other ministries concerned for their close cooperation throughout the study.

March 2000



Kimio Fujita

President

Japan International Cooperation Agency

March 2000

Mr. Kimio Fujita  
President,  
Japan International Cooperation Agency

Dear Mr. Fujita,

### Letter of Transmittal

We, hereby, have the pleasure of submitting our report entitled "Medium Term Development Strategy" and "Medium Term Public Investment Program" for the "Study on the Support for the Economic Transition and Development in Mongolia". The report describes the results of the Study conducted by Daiwa Institute of Research Ltd. and Nomura Research Institute, Ltd. in accordance with the contract entered into with the Japan International Cooperation Agency (JICA).

Our Study Team carried out eight field surveys between September 1998 and March 2000. While in Mongolia, the Team cooperated with the Ministry of Finance and other concerned ministries to produce the Medium Term Development Strategy and the Medium Term Public Investment Program in the process of formulating Mongolia's 2000 budget. In addition, the Team contributed to preparations for the Mongolian Assistance Group meeting (June 1999).

Based on results of the field surveys in Mongolia and study activities in Japan, the team prepared this report, in cooperation with the Mongolian side.

In view of the necessity of Medium Term Development Strategy and Medium Term Public Investment Program in Mongolia, and the need for socio-economic development in Mongolia as a whole, we recommend that the Mongolian government implement these suggestions without delay.

We wish to take this opportunity to express our sincere gratitude to your Agency, the Ministry of Foreign Affairs, the Japanese Embassy in Mongolia, and the JICA Ulaanbaatar office. We also wish to express our deep gratitude to the Ministry of Finance and other concerned organizations for the kind cooperation they extended our Team, as well as for the warm hospitality provided during our stay in Mongolia.

Very truly yours,

関屋 宏孝

Hirohiko Sekiya  
Team Leader,  
The Study on the Support for the Economic  
Transition and Development in Mongolia



# Medium Term Economic Development Strategy:

## Table of Contents

PREFACE

LETTER OF TRANSMITTAL

EXECUTIVE SUMMARY: .....	1
INTRODUCTION.....	20
1. OVERVIEW OF THE MONGOLIAN ECONOMY .....	21
2. NATIONAL MEDIUM TERM STRATEGY .....	26
2.1 DEVELOPMENT STRATEGY OF THE MONGOLIAN GOVERNMENT .....	26
2.2 GROWTH POTENTIAL PROJECTION BY INDUSTRY .....	27
2.3 GROWTH PATH .....	33
3. SECTOR MEDIUM TERM STRATEGIES .....	35
3.1 AGRICULTURE .....	35
3.2 MINING .....	44
3.3 MANUFACTURING .....	55
3.4 ENERGY (ELECTRICITY & FUEL) .....	68
3.5 TELECOMMUNICATIONS .....	77
3.6 TRANSPORT .....	89
3.7 SOCIAL DEVELOPMENT (HEALTH, EDUCATION, POVERTY ALLEVIATION).....	98
3.8 ENVIRONMENT .....	113

## Figures

Figure 1. Mongolia and FSU, 1996 .....	21
Figure 2. Real GDP Growth Rate.....	22
Figure 3. Output structure of Mongolia (constant prices) .....	23
Figure 4. Employment structure .....	23
Figure 5. Trade Balance.....	25
Figure 6. Copper Price (LME Quarterly Average).....	45
Figure 7. Gold Price (LME Quarterly Average).....	47
Figure 8. Comparison of Tax Effects.....	51
Figure 9. Private Sector Share of GDP .....	55
Figure 10. Exchange rate 1996-1998 .....	57
Figure 11. Output by Manufacturing Sub-sector (1995 Prices).....	58
Figure 12. Export Value by Commodities .....	60
Figure 13. Primary links in the energy sector .....	72
Figure 14. Network Hierarchy in Mongolia.....	79
Figure 15. Separation Phase of Privatization .....	81
Figure 16. Financial Relationships in the Telecommunication Sector .....	82
Figure 17. Current Governance Structure in the Telecommunication Sector .....	83
Figure 18. Restructuring of the Telecommunication Sector .....	86
Figure 19. General Secondary School Enrolment Rates .....	103
Figure 20. Public Education Expenditures.....	104
Figure 21. Institutional Framework .....	110

## Tables

Table 1. Bilateral Trade Balances .....	25
Table 2. Sector Growth Rate Forecasts .....	27
Table 3. Employment by sector (000s).....	28
Table 4. Output growth (1993 prices).....	28
Table 5. Mineral Production (000 tons unless otherwise indicated) .....	30
Table 6. Erdenet outlook (copper sector).....	30
Table 7. Gold sector outlook.....	31
Table 8. Electricity Demand Growth Rate Forecasts.....	32
Table 9. Livestock Population .....	36
Table 10. Agriculture Strategy Objectives and Measures.....	40
Table 11. Mineral Production (thousand tons unless otherwise indicated) .....	41
Table 12. 1998 Cost Comparison - Western Average vs. Erdenet .....	42
Table 13. Liquidity Position of Erdenet.....	46
Table 14. Example of Tax Incentives to Be Introduced.....	47
Table 15. Annual Inflation rate (%) .....	56
Table 16. Ten Largest Export Commodities .....	59
Table 17. Labor Force and Employment Rate .....	61
Table 18. Issues and constraints that hamper the manufacturing sector .....	62
Table 19. Import tariff of China for Mongolian export commodities .....	64
Table 20. Coal Production by Mine: Jan-Sept 1998 .....	68
Table 21. Cost Structure of 15 Major Coal Mines in Mongolia .....	69
Table 22. CES Peak Capacity .....	70
Table 23. CES capacities with refurbishing of Power Plant No. ....	70
Table 24. Electricity Consumption by Sector .....	71
Table 25. Peak Demand Forecast.....	75
Table 26. Telecommunications Service Data.....	77
Table 27. TLPT in Countries of Comparable Population Density (1996).....	78
Table 28. Disbursement of ODA Financed PIP .....	79
Table 29. Investment, Revenue, Lease Fee and Tax of MT.....	83
Table 30. Revenue Growth of Mongolian Telecom .....	84
Table 31. Asset Turnover Ratio of Basic Telecommunications Enterprise .....	85
Table 32. Major Indicators of Health .....	98
Table 33. Expenditure in and Assistance to the Health Sector .....	98
Table 34. Distribution of Educational Expenditures in 1992 .....	106
Table 35. Distribution of Educational Expenditures in 1998 .....	106
Table 36. Environmental Issues .....	114

# **Executive Summary: Medium Term Strategy and Public Investment Program Formulation**

## **1. Introduction**

### **1.1. Background**

A study entitled "Economic Transition and Development in Mongolia" (hereinafter, the "Study") has been produced in response to a request by the government of Mongolia to the Government of Japan. The Japan International Cooperation Agency (JICA) and Mongolia's Ministry of Finance agreed upon the scope of work in Ulaanbaatar on April 3, 1998. JICA then organized a study team consisting of Daiwa Institute of Research Ltd. (the Prime Manager) and Nomura Research Institute, Ltd. (hereinafter referred to as the "Study Team") to implement the Study, which officially began in September 1998.

The Japanese Team has conducted the Study under the guidance and coordination of the JICA Steering Committee, headed by Professor Shinji Asanuma. The Mongolian side also established a Steering Committee, headed by the Minister of Finance, who was responsible for coordinating the activities of the Mongolian counterparts. The counterparts consisted of officials from the Economic Policy Department and Fiscal Policy Department, both within the Ministry of Finance. The Japanese Team asked the Mongolian Steering Committee to establish a Mongolian Working Team, composed of officials from the concerned line ministries.

The Japanese team, in cooperation with the Mongolian counterparts, has carried out the following projects in the course of the Study:

1. A Study on the Formulation of a Medium Term Strategy and Public Investment Program (MTS/PIP Study)
2. A Study on Tax Collection Enhancement (Tax Collection Study) - completed in September 1999
3. A Study on Rural Banking Services and Saving Mobilization (Rural Banking Study) - to be completed in March 2000.

This summary concerns only the first of these projects, the MTS/PIP Study.

### **1.2. Objectives**

There are two major objectives for the MTS/PIP Study:

- 1. Preparation of the MTS and PIP with the cooperation of Mongolia's Ministry of Finance.**
- 2. Transfer of technical expertise to the Mongolian counterparts**

The first objective hopes to assist in achieving a smooth transition to a market economy with greater long term economic growth prospects. The second objective has been achieved through the joint examination and preparation of the MTS and PIP.

The MTS and the PIP have been analyzed from a medium term perspective, which, it is hoped, will strengthen the links between the planning and budgeting phases of resource management. Inter-sector prioritization is derived from each individual sector MTS, which analyzes the current situation, major issues, current government policy, and growth potential (for production sectors). The MTS provides the most important rationale for PIP prioritization.

Formulating a PIP is one component of a Medium Term Expenditure Framework which integrates recurrent and capital expenditures. To improve the current method of PIP formulation, a rolling three-year PIP has been proposed. This will establish an efficient screening process, clarify public investment strategies by defining priorities and create a mechanism to match investment decision with available resources. Through these efforts, the study hopes to establish a stable and transparent fiscal and public finance system to be used during the budgetary process.

### **1.3. Basic Principles of Study Implementation**

The following have been basic principles in the course of this study:

- 1. Establishment of a framework for joint work under the initiative of the Mongolian Government**
- 2. Cooperation with international agencies, particularly the IMF, WB and ADB**
- 3. Work according to the budget schedule**

### **1.4. Work Flow**

The 19-month Study has been conducted from September 1998 to March 2000. An inception report in September 1998 was followed by progress reports in March and September 1999, and finally, a final report in March 2000. The Mongolian Assistance Group Meeting (MAGM) of June 1999 came at the mid-point of the study, and the study team was able to provide support preparatory works by the MOF for use at the meeting.

## **2. The Medium Term Strategy**

### **2.1. National MTS**

The national MTS integrates the individual sector strategies with the economic realities Mongolia faces to create a coherent forward-looking development plan. The following characteristics, unique to Mongolia, are considered:

- **small domestic economy:** low population and low per capita income mean that Mongolia should not depend on domestic demand alone to lead growth. Successful enterprises will quickly satisfy domestic demand and will be constrained if export corridors are blocked. Thus, an open-economy stance, as is generally in place, is required to attain optimal growth rates.
- **vulnerability to external shocks:** a small open economy, combined with a high dependence on export items that exhibit high price volatility, results in extreme vulnerability to external shocks, as has been experienced with the fall in copper and cashmere prices in the late 1990s. Even windfall gains from a sudden price rise have negative implications – such as the resulting exchange rate appreciation which chokes other export industries, or the temporary increase in government revenues which may lead to unsustainable policies (or lack of reform). For these reasons, Mongolia should attempt to diversify its export base over the medium to long term.
- **agriculture based economy:** one-half of the population is directly engaged in agriculture, primarily in livestock. Currently, accurate market signals are not reaching rural households, which is inhibiting growth and contributing to increasing income disparities.

Taking these characteristics into account, we define a national MTS for Mongolia:

- **Maintain consistency with ESAF:** Mongolia has done a praise-worthy job of following the ESAF guidelines to date. Adhering to ESAF constraints not only is beneficial in its own right, it also leads to increasing confidence and credibility in government policy. These factors are essential if FDI is to be attracted.
- **A stable energy supply is a prerequisite to growth** (as well as contributing to improvements in the standard of living). The basic energy infrastructure is in place but requires partial rehabilitation, more consistent maintenance and greater efficiency in operation. The financial costs needed are small relative to the cost of building the initial infrastructure and are deserving of high governmental priority.
- **Development experience has shown that “ignoring” the agriculture sector by forcing resources into other sectors retards growth.** While much of the agriculture sector is privatized, the government has to provide and maintain appropriate infrastructure as well. Livestock

related industries have high export growth potential if the right governmental policies are pursued.

- Mongolia's primary exports will broaden from copper and cashmere products to include gold and agribusiness. In addition, tourism is a high growth foreign exchange earning industry. Government policy must be consistent with strengthening foreign currency earning capacity by reforming the environment for FDI. Improving trade relations with China would also be a great boon to exports.
- Continued growth of the private sector with adequate institutional reforms: Early rounds of privatization were rushed in the belief that the free markets could quickly respond to the new environment. Unfortunately much of the legal and financial framework on which a market economy depends was not in place. A safer approach to privatization is to create the legal and financial framework for private sector growth which will then spawn new businesses as entrepreneurs (domestic and foreign) enter the markets.
- Support infrastructure that will contribute to increasing private business activities, such as the rehabilitation of roads, bridges and railway.

Based on the micro-constraints of individual sectors, sectoral growth projections were performed for the medium term (through 2005). Results suggest considerable variation in growth rates in the coming years, with rapid growth in gold mining and tourism, both of which will become increasingly important as foreign exchange earners. Livestock will continue to provide stability for the economy, however efforts are needed to improve physical and institutional infrastructure. The decline of the manufacturing sector will bottom-out and future growth will center on processing of agricultural goods. Medium term energy needs will be met using current facilities only (with occasional imports to meet peak demand). The aggregate growth rate for the economy has been estimated to be 4.4% from 1998 to 2005. The potential of future energy sources are not considered due to various uncertainties. The other relevant constraints are detailed in the sectoral medium term strategies (which follow).

## **2.2. MTS by Sector**

### **Agriculture**

On the surface, agriculture was one of the most successful sectors of the Mongolian economy in the 1990s. The total number of livestock grew by over 28% from 1992 to 1998 and is now estimated at 33 million. In addition, the sector absorbed extensive amounts of labor - with employment rising by over 30% between 1993 and 1998. However, aside from the privatization of *negdel* assets beginning in 1991, these changes were spurred by a combination of negative influences:

- the collapse of other sectors, which pushed labor into agricultural activities
- poor market access for herders, which has prevented the sale of animals – leading to larger herds of declining quality
- lack of abattoirs and access to credit – which, again, has led to larger herds
- distorted price signals – which has led herders to breed for volume of output rather than quality (this applies particularly to cashmere).

Many of the issues listed here would be favourably affected by improved physical and institutional infrastructure (such as rural roads, water access, regional markets). Essentially this type of infrastructure allows the market to function more efficiently.

Land capacity has been pushed to its limit. Overgrazing has worsened in recent years. Further increases in livestock numbers will come at the further expense of herd quality. Herders must see it in their self-interest to maintain the sustainability of pasturelands. The formation of grazing associations, such that groups of herders become mutually responsible for a specified area of rangeland in conjunction with the soum government would help. High yielding fodder and pasture management improvement are urgently needed in order to save animal lives under environmental disaster with excessive snow and cold.

Crop growth is constrained by many of the same factors, with the addition of the harsh winter growing environment, soil erosion, stagnant development in new seed types and competition from imports.

For both livestock and farming, investment in land capacity is essential. Particularly important are water resource rehabilitation and improved rural roads. Extension services and wider access to veterinary services also need government support.

Finally, the collapse of traditional export markets must be met with government efforts to secure new markets and promote Mongolian goods, such as efforts to lower Chinese tariffs.

### **Mining**

Over the medium term, mining will continue to be the top foreign currency earner. Copper has traditionally been the top mineral export, but this is expected to change in the next few years, with gold taking over the top spot.

The main constraint in the gold sector is the environment for foreign investment. The institutional framework surrounding FDI remains problematic for many foreign partners, as do the relatively

high taxes applied to gold. (The main report offers several policy suggestions.) Nevertheless, the gold industry remains relatively un-exploited, with low cost extraction possible in many areas of the country.

As for copper, Erdenet should be able to maintain its 5% share of total world production, but restructuring, with an eye toward eventual privatization, is recommended. Restructuring can improve fortunes with minimal additional investment.

### **Manufacturing**

Mongolia's big bang transition threw recently privatized domestic firms into severe competition with foreign products by quickly lowering import tariff protection. The sector was unprepared for this competition and suffered tremendously for the first half of the decade. Things have stabilized, and certain sub-sectors are even growing, but the sector overall is still having difficulty.

The food processing and textile industries, accounting for 50% and 25% of the sector, respectively, are "survivors" of the transition in the sense that their decline was relatively slow and they are not expected to decline further. The primary constraint to expansion is institutional capacity. The current business environment prevents foreign capital from taking advantage of Mongolia's low wage labor. Development of an efficient collection and distribution system is not yet in place and may take years to achieve. As opposed to large government investment, the MTS should focus on reducing these institutional barriers.

A starting point might be the 1998 World Bank Study (cited in main report), which found that the foreign business community perceives the following as hindrances to investment:

- Overly complicated licensing, registration and approval process
- Discretionary implementation of regulations by government agencies
- Corruption
- Frequent changes of policy and regulations
- A tax system biased against the manufacturing sector
- Absence of banking services.

Measures to provide access to credit, such as the WB's two step loan program or the export usance finance scheme, are pivotal at this time.

### **Energy (electricity, heat and coal)**

Coal's position as the primary source of energy, supplying 74% of the total primary energy supply, is unlikely to be challenged over the medium term. Approximately three-fourths of coal



consumed is for electricity and heating – and around 40% of electricity is consumed by the Erdenet Copper Mine. This industry structure, in which certain firms play a large role in the production-distribution-consumption chain, is susceptible to crisis should one link falter – as happened in late 1998.

Electricity consumption collapsed in the early years of transition, bottoming out in 1994. As of 1997 consumption remained at just 70% of the 1989 level. Thus, based on demand projections, aside from rehabilitation of existing plants, no new capacity is likely to be required for 6 or 7 years. A second rehabilitation phase at Ulaanbaatar Power Plant 4 is the most cost efficient means of ensuring sufficient capacity for the capital region for the near future. Aside from this project, rural electrification should be pursued as budgets allow.

The financial situation of the energy sector in general is poor. Weak management has prevented an improvement of conditions. As mentioned, because the energy sector is dominated by a limited number of major players, difficulties at one link of the chain can quickly spread, causing a larger crisis. A debt clearing house should be established to clean up the current difficulties and prepare for the next crisis before it occurs.

As for long-term development, hydroelectric power plants and other alternatives should be considered in line with the future oil and electrical projects now being assessed.

### **Telecommunications**

The telecommunication sector of Mongolia is now trying to shift away from ODA as a source of investment toward internally generated cash flow. Restructuring should focus on the following issues and constraints:

- The basic telecommunication sector has not yet been separated from the state budget
- Undefined lines of responsibility allow overly-optimistic feasibility studies
- Managerial efficiency of the state-owned sector needs improvement
- Tariff regulations are not well coordinated
- Due to low population density, rural service is rarely profitable.

Like the manufacturing sector, the MTS is best directed at creating the appropriate environment for private sector participation and establishing independent management of Mongolian Telecom.

### **Transport**

An extensive transport system is particularly vital for Mongolia, as it has no sea access and no navigable rivers. Creation of such a system, however, requires significant investment per person

due to Mongolia's large size and small population. Unfortunately, the transport sector is not yet sufficiently developed to meet the needs of economic growth and national integration.

Over the years there has been a severe neglect of basic road maintenance. This means that today extensive rehabilitation is needed as well as continued routine maintenance. Financing for routine road maintenance and capital repairs are to be secured by the Road Fund. However, the Fund is far from sufficient to meet these needs. At present, only a tiny fraction of the required routine maintenance is met. The base of the Fund needs to be enlarged by increasing the petroleum tax and finding other revenue sources. The fund can also contribute to the domestic component required by most foreign loans.

Changes in trade traffic flow and urban lifestyle have led to increasing motorization. This is consistent with Mongolia's national integration strategy, which the ADB has supported with technical and financial assistance.

About fifty years have passed since the construction of the existing railway facilities, which have deteriorated due to the harsh weather conditions. Replacement of vital railway assets, such as sleepers (ties), locomotives, railcars, communication and control equipment is required. The establishment of disaster resistant structures for the railway line is needed to ensure safe and reliable transport.

The social benefits of improved country integration must be balanced against the economic considerations of specific projects. Such normative economic decisions can only be decided by Mongolia itself. In the current setting of severe budget difficulties there is less flexibility to undertake projects with low economic rates of return. Subsidized access to UB from distant regions to compensate for the underdevelopment of the transport network can continue over the medium-term. However, to what degree the government can and should subsidize such policies (so-called minimum access guidelines) needs further debate and consideration.

### **Social Development**

The social return on human development expenditures has been shown to be quite high -- especially at the base of the pyramid (primary education and primary health). Investment in basic education is an effective anti-poverty measure and improves economic growth potential. Higher education students should bear a larger burden of their educational costs. In fact, however, spending on higher education students has greatly exceeded spending on primary and secondary students (on a per student basis). A reallocation is needed to emphasize primary education at the expense of higher education.

The present basis of payment for the health insurance fund is extremely narrow. The fund now covers nearly 91% of the total population in Mongolia (about 2.3 million people), but only about 700,000 people are obliged to pay premiums. Health insurance programs should continue to be targeted at the poor, however wider employment of user charges is needed to boost revenues. The ordinance enacted in 1999 enables various medical test services to be chargeable in accordance with a fixed fees list. To establish a fair market-based economy, no particular groups should arbitrarily be granted privileges.

### **Environment**

In general, stricter environmental regulations are needed, along with more comprehensive enforcement of existing policies. Environmental impact assessments must be upgraded in quality and more thoroughly applied. However, environmental policy is rather ad hoc, with no firm theoretical foundation. This is in part due to the fact that the government had little experience with environmental protection policy during the command economy era. The government should seek international advice to overcome this deficiency.

Funding for environmental protection must be increased if substantial progress is to be made. The environmental budget accounts for under 1% of GDP (0.5% in 1998), with just 10% of this budget distributed to rural governments. With such a small budget, it is obviously difficult to enforce environmental regulations. In addition, the budget depends on grants for 67.6% of capital assistance projects and 88.9% of technical assistance projects. Although Mongolia must continue to rely heavily on foreign assistance with respect to its environmental program, domestic financing sources should be developed, based on the user (or polluter) pays principle, in order to allow Mongolia to pursue its own self-defined environmental agenda.

### **3. Public Investment Program**

#### **3.1. National PIP**

The objective of this part of the study is to assist the National PIP formulation process at the Ministry of Finance by proposing a budget-consistent medium term PIP for both foreign and domestic budget financed projects for the years 2000 to 2002. Throughout the formulation process consideration has been made such that the medium term development strategies the Study Team articulated are reflected in both the sectoral and national level PIPs.

The following points relate to the PIP formation process:

1. The PIP presented in this study is consistent with the sector and national medium term development strategies.
2. It is assumed that Government budgets will continue to be consistent with the ESAF framework. The medium term national PIP is, in turn, consistent with such a government budget.
3. A striking feature of foreign-financed projects is the overwhelming amount of ongoing and committed projects relative to present borrowing and absorption capacity. As they consume almost three-quarters of the 2000-2002 resource envelope, room for additional projects is minimal. This characteristic exists in domestic financed projects as well, which are dominated by ongoing projects.
4. Mongolia's public investments are financed to a large degree by foreign aid and debt – external debt is projected to peak at around 90% of GDP in 2000. In order to maintain the repayment capacity of the government, we prefer projects which promise relatively high and tangible economic returns over the medium term. Economic infrastructure projects are prime examples.
5. In 1998, the size of the government current deficit (current revenues against current expenditures) was 1.2% of GDP. The overall budget deficit for the same year was 11.2% of GDP. These fiscal difficulties are expected to continue (a budget deficit equivalent to 6.9% of GDP is forecast for 2002). Despite these constraints, the importance of the PIP should be stressed as it creates the conditions for sustainable growth. We have formulated a future domestic PIP which is consistent with the ESAF framework, and is allocated to sectors vital to Mongolia's development.

The most important factor in PIP preparation is prioritization. As resources can not possibly meet all competing needs, prioritization is the only way to ensure that resources flow to their best use. The basic criteria for prioritization are consistency with development strategies, economic

efficiency and particular technical, financial and institutional considerations. The following are the summarized considerations for inter-sector prioritization:

Sectors within economic infrastructure given highest priority were energy and transport – in keeping with the strategy of developing economic infrastructure. Improved transportation infrastructure will bring down transaction costs and is also the glue for national integration. Public investment in energy is absolutely necessary to enhance economic growth. In addition, Mongolia is in the fortunate position of not having to expand energy capacity – but rather can meet all medium term needs through rehabilitation alone with occasional imports to meet the peak demand.

Social infrastructure, such as education, health and the environment should be well financed, particularly investment in primary health and education. The reason social development and environment were not given highest priority is that these investments dependant on ODA grants do not provide sufficient economic and financial returns over the short and medium term covered in this study.

Among industrial sectors, basic infrastructure investment in agriculture, mainly related to livestock, needs PIP support.

Sectors given lower priority in terms of PIP funding were mining, manufacturing and telecommunication. The basis for this judgement is that these sectors belong in the private sector domain and the government should not, in general, offer public assistance.

#### **Foreign financed projects**

Core pipeline projects are chosen from the short lists prepared in the individual sector studies and are prioritized according to sector strategy and economic benefit. The gap between the resource envelope and prior resource commitments allows only 6 projects to be selected. The list of foreign-financed pipeline projects for 2000-2002 that we recommend funding are:

- Energy sector (1): Rehabilitation of power plant
- Transport sector (2): Trunk road rehabilitation and new construction
- Agriculture sector (2): Improvement of water supply sources in pasturelands and sector development program (project type portion)
- Environment sector (1): Reduction of air pollution in UB

### **Domestic financed projects**

As with foreign financed projects, ongoing projects occupy the bulk of budget resources. In line with the strategy of domestic PIP formation, we stress maintenance of economic infrastructure to absorb the gap between the resource envelope and ongoing project requirements. Projects recommended to be funded through purely domestic means include:

- Energy sector: maintenance and rehabilitation of existing power plants; extension of electricity transmission lines
- Transport sector: maintenance and rehabilitation of existing infrastructure; renovation of railway sleepers
- Agriculture sector: further investment in well repair

As an independent entity, MTZ should generally be responsible for financing its own investment. However, maintenance requirements currently overwhelm the capacity of MTZ. Should the railway system become inoperable, the negative spill-over on the economy would be considerable, and, as such, burden sharing between the government and MTZ is recommended. Overhauling / repositioning the railway business is also needed.

As ODA loans require repayment and debt service, the importance of economic return has been emphasized. We have also emphasized the importance of maintaining public capital expenditures despite the consolidation of public spending as a whole.

The aggregated sectoral allocation of the foreign-financed and domestic PIP is show in the attached table. Although both PIPs emphasize economic infrastructure improvements, the foreign financed PIP is much more heavily weighted toward this objective.

PIP Sector Allocations 2000 - 2002		
	Real Domestic Allocation (excluding counterpart funds)	Foreign financed PIP
<b>Economic Infrastructure</b>	<b>53.7%</b>	<b>80.0%</b>
- Energy	20.0%	55.4%
- Electricity	20.0%	38.6%
- Fuel	0.0%	16.8%
- Transport	33.7%	20.4%
- Road	24.3%	13.7%
- Railway	9.3%	3.8%
- Aviation	0.0%	1.5%
- Other	0.0%	1.4%
- Telecommunication	0.0%	4.2%
<b>Social Infrastructure</b>	<b>18.0%</b>	<b>16.1%</b>
- Education	8.5%	1.8%
- Health	3.0%	3.6%
- Urban Development	6.0%	6.8%
- Others	0.5%	4.0%
<b>Agriculture and Industry</b>	<b>3.0%</b>	<b>3.9%</b>
- Agriculture	3.0%	3.9%
- Manufacturing and others	0.0%	0.0%
<b>Capital Repair</b>	<b>10.0%</b>	<b>0.0%</b>
<b>Administration and Other</b>	<b>15.4%</b>	<b>0.0%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>

### 3.2. PIP by Sector

#### Agriculture

Rural road development and support of rural markets are recommended - as the root cause of many of the problems that afflict the agriculture sector is the inability to access markets. (Many herders do not slaughter their animals for precisely this reason.) This is a major handicap considering that the GOM is anticipating growth in final use animals to carry this sector over the medium term.

Water infrastructure rehabilitation will relieve pressure on the land and increase capacity.

#### Industry and Mining

Public investment should phase out of manufacturing and mining, as investment in these sectors should be left to the private sector. In the current situation, in which infrastructure is wholly insufficient, however, private enterprise is unlikely to be profitable in many sectors of activity. Until the public sector takes the lead in infrastructure development, rural agri-business activity will be restrained.

## **Energy**

Relatively inexpensive rehabilitation projects can ensure sufficient capacity for the majority of the population for the next several years. Beyond rehabilitation, no new capacity is likely to be required until late next decade, under the assumption that imports from Russia will remain accessible to meet peak demand.

Rural electrification transmission lines should be extended as the budget permits, starting with least cost projects (in terms of cost per person served).

## **Telecommunications**

As the telecom sector is relatively profitable, it has easier access to credit than other sectors. The sector has taken advantage of this, but has simultaneously taken on considerable debt. Concentrating on maintenance and postponing new expansion is the most appropriate way to improve financial viability of the state owned basic telecommunication sector. Making the telecom sector financially independent from the state is the medium term goal.

## **Transport**

The most efficient and urgent investment within the transport sector is road maintenance. The poor state of the road network restrains economic development by increasing transaction costs. Maintenance costs are relatively low and, if ignored, result in higher rehabilitation bills later.

New construction and upgrading of roads along the north-south trade corridor and the east-west linkage corridor have higher priority due to their highly positive economic impact and their importance for national integration. These projects are financed by international agencies, including bilateral support.

The next priority is road rehabilitation in the Ulaanbataar area. Past neglect of the UB road network, combined with an increase in vehicles – especially trucks, has accelerated the depreciation of the network.

Railway maintenance and rehabilitation, particularly railway sleepers, are the next priority. The railways play an important role in trade, but have suffered from years of neglect. Increasing their ability to handle heavy loads will benefit resource production and export capacity. In theory, MTZ, as an independent entity, should be responsible for arranging its own financing without resorting to public funds. However, to delay financing risks the railway system breaking down, which would have consequences far beyond MTZ alone. In these circumstances, use of public funds, through loans, is justified. No new or extension lines are currently justified.



**Social Development**

Fiscal constraints have meant declining budget allocations for education, health care and social welfare programs. The major objective of structural reform in social services is to increase efficiency by decreasing the level of state involvement and placing more emphasis on private initiative. Grant projects should be stressed over loan projects, but even with grant projects, recurrent costs must be considered. Sector development type programs (as opposed to specific projects) are appropriate, particularly those that explicitly target the poor.

**Environment**

The economic harm of environmental damage is varied. As the current budget is insufficient to adequately deal with the evolving problems, revenues must be expanded through broadening the base for licenses, user fees, and other taxes.

## **4. MTS and PIP Formulation: Issues and Key Factors of Improvement**

### **4.1. Medium Term Strategy**

The current MTS, the "Government Action Plan 1997-2000" (GAP), was announced in 1996 after the present coalition party came into power. Since then, the MoF has annually reviewed the GAP guidelines during National Budget proceedings, at which time they issue the "Introduction to Guideline and Budget Implementation and Forecast" (hereinafter, "Guidelines") with macro economic forecasts for the subsequent three years. In the course of the Study, the Study Team has observed the following issues with respect to the present MTS formulation procedures in Mongolia:

1. The government of Mongolia renewed a three-year IMF adjustment program, known as the Enhanced Structural Adjustment Facility (ESAF), in June 1999. The objective of the ESAF is to restore macroeconomic stability and implement structural economic reform to achieve sustainable economic growth over the medium-term. To the extent that macroeconomic management is consistent with the ESAF, stabilization and conservative fiscal and monetary policies are prioritized. While this has led to improved macro-economic policy, the coordination and promotion of micro-economic policies, concerning real production sectors and infrastructure, has been less than satisfactory.
2. MTS policy priorities and sequencing are not clearly defined in the annual "Guidelines", which merely raises a list of issues. Policies that assist in coordinating the production potential of each sector should be examined.
3. There is no clear connection between the entities responsible for a developing an MTS and the corresponding policy measures needed to support the strategy - such as the PIP, current expenditures, subsidies, tax exemptions or other financial assistance.
4. State owned enterprise reform policy has frequently changed and lacks consistency.
5. Industrial production sectors, such as livestock and manufacturing, have been transformed and are now led by the private sector. However, as Mongolia is still in transition, it is premature to assume that the private sector can solely lead economic growth without further institutional reforms. The Government must continue to support private sector activities through both physical and institutional infrastructure development.

### **4.2. Public Investment Program**

Currently, the PIP is prepared in line with the MAGM held every 18 months. However, the PIP has not been integrated into the Government capital expenditure budget - which is in essence an

ordinary single year budget. The Government had been intending to introduce budget system reforms as of 2000, with particular focus on performance and output oriented fiscal management, through the enactment of the “Public Sector Management and Finance Act” (based on the so called New Zealand Model). However, the Parliament did not discuss the issue during the 1999 autumn session. Therefore, our recommended Medium Term PIP attempts to improve this process on our own joint initiative without any legislative basis. The following are our recommendations on PIP formulation.

### 4.3. Key Factors of Improvement

As a framework for our recommendations on the planning and execution of Mongolia’s economic development strategy – we have broken down the MTS and PIP issues into the following four categories: (1) Planning/Programming, (2) Budgeting, (3) Informational issues, and (4) Human Capacity issues. The MTS portion of this report generally falls within the first of these categories while the PIP portion overlaps (1) and (2), but more naturally falls under the latter. Informational issues involve creating and maintaining accountable records as well as improving communication links between entities. Finally, human capacity improvement concerns investing in the human capital of those in charge of formulating and executing policy. The recommendations described below fall into these categories in roughly the following manner (some recommendations apply to more than one category):

	National Level	Sector Level
Planning / Programming	M1; P2N; P3	M1; M2; P2S;
Budgeting	P4; P5	M3; P4
Information	P1; P3; P4; P6; P7	P1; P7
Human Capability	M4	M4

#### Medium Term Strategy (M1 – M4):

M1. Policy coherency: Sector strategies prepared for each MAGM, which occur on an 18 month cycle, should be more integrated with the annual “General Guideline”. This will increase policy consistency and provide the basis for a more coherent MTS.

M2. Realignment of sector specific policies: Sector specific policies should be clarified in terms of priority and sequencing. In addition, communication between line ministries, and between sections within line ministries, is required to properly take into account cross-sector linkages. For example, there is considerable complementarity of livestock, manufacturing and infrastructure sector policy in the area of agro-processing.

**M3. Correspondence between policy implementation agency and budget support:** The manner in which the implementing agency is to be funded through the budget must be more clearly defined. Currently the implementing agency is defined in “General Guidelines” but neither the size nor the source of funding is disclosed.

**M4. Research and Training for new policy agendas:** Research and training systems need improvement to strengthen development strategy formulation and public financial management. The MOF personnel limit is far from that needed for adequate implementation of MTS and PIP tasks. In the year 2000 budget, the MOF has been allocated funds for a new quasi-official training facility to be used in common with affiliated agencies, such as the General Department of National Taxation and Customs. It is advisable to expand the functions of the facility to enable research that enhances the ability of the agencies to perform new policy tasks.

**Public Investment Program (PIS – P2S, PIN – P5N):**

**P1. Examination of implied policies:** An accurate track record of each sector’s PIP should be shared between the MOF and the concerned line ministry. This information provides a basis for the future intra- and inter-sector allocation of funds.

**P2. Project priority setting:** Prioritization within each sector should be clearly indicated by the line ministry concerned. The MOF has responsibility in allocating funds among sectors in a manner consistent with the national development strategy. We suggest the following as fundamental medium term prioritization criteria:

**Sector level (P2S)**

1. Consistency with the sectoral MTS
2. Economic efficiency (rehabilitation projects take precedence over expansion projects)
3. Implementation preparedness - including technical, financial and institutional constraints.
4. Ongoing and committed projects should, in general, be given priority to ensure policy continuity

**National level (P2N)**

1. Consistency with the national MTS
2. Economic benefit of sector investment

**P3. Inter-sector allocation:** It is the mandate of line ministries to determine intra-sector prioritization after considering strategy and the track record of investments. At the same time, a sectoral allocation framework – an inter-sector allocation principle – should be determined through debate among the concerned governmental parties. Upon receiving intra-sector prioritizations, the MOF can determine inter-sector allocations within the resource envelope based on development priorities. However, this process should be interactive with information sharing between the fiscal authority and line ministries.

**P4. PIP ceiling:** Before starting preparation of the PIP related budget by line ministries, the MOF should indicate sectoral capital expenditure ceilings based on the inter-sector allocation principle and the macroeconomic resource envelope. This process needs to take account of the present reality that the amount of room for new pipeline projects is restricted, as ongoing and committed projects typically consume most resources.

**P5. Comprehensive management of the PIP:** The Regulation Council of Foreign Investment, Loan and Assistance (approved by Government Resolution No. 102, June 17, 1998) is recommended to be led by the Prime Minister rather than the current advisory committee to the Prime Minister (chaired by the Minister of External Relations). To evaluate the appropriateness of overall public investment, the PIP should be comprehensively managed within the MOF, regardless of the financial source of individual projects (foreign or domestic), type of assistance (project or program – including technical assistance), or the degree of grant element (loan or grants). By monitoring both loan and grant projects, the MOF can ensure fiscal discipline is maintained – including consideration of recurrent costs.

**P6. Consolidated database:** In accordance with “ODA Regulation Decree No.93” (June 12, 1999), a consolidated database of the MOF and MOER should be established.

**P7. Complementarity between MAGM and annual budget:** PIP related work for both the MAGM and the budget should be coordinated and categorically unified, eliminating unnecessary duplication of work. The JICA Study Team has made recommendations to the MOF regarding a new unified data base and data collection system.

# **Medium Term Strategy**

## **Introduction**

This paper analyzes future growth prospects of several independent production sectors. Section two provides a brief a national overview of the Mongolian economy. This is followed, in section two, by a national medium term development strategy, including growth forecasts. Growth projections reflect the most likely real production development scenarios based on recent trends and the severity of constraints faced in each individual sector. Section three provides a detailed analysis of the following eight sectors: agriculture, mining, manufacturing, energy, telecommunications, transport, social development and environment. Each sectoral analysis discusses the current situation, the major issues that must be resolved, and a medium term strategy that, it is hoped, will be helpful to the Mongolian government as they proceed down their development path.

# 1. Overview of the Mongolian Economy

## Geography and Population

Mongolia, a vast country located between Russia and China, is well endowed with natural resources. Transportation is difficult and climatic conditions are severe. Roughly 28% of the population of 2.42 mn resides in the capital, Ulaanbaatar (1998).

## Transition Economy

Mongolia had close economic relations with the former socialist bloc prior to the collapse of the Soviet Union in 1991. The collapse had a great influence on Mongolia, as the socialist bloc accounted for over 80% of trade. As a result of a shortage in machine parts, material and other goods, the manufacturing sector was devastated and there was extensive migration to rural areas, resulting in a dramatic increase in the number of herding families. The corresponding rise in livestock has pushed the land to its capacity limits. Opposition to privatization plans and other policies has slowed reform in recent years. The government is still prone to extract revenues, aside from taxes, from private enterprises - a legacy of the Soviet era.

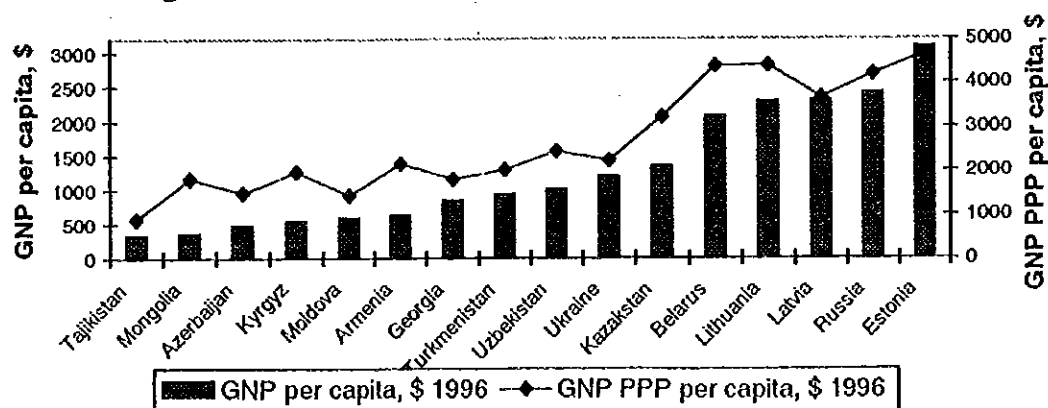
## Small Economy

Mongolian has the second smallest GDP in the world, behind only Guinea-Bissau (survey of 130 countries). Mongolia's per capita GNP of US\$ 360 ranks 102<sup>nd</sup>. If measured on a PPP basis, however, the rank rises to 90th, reflecting relatively low prices for many consumer goods.

## Constraints due to a Small Domestic Market

Mongolia's small domestic market makes an export oriented development strategy attractive. To achieve this, an open economy is imperative, and has largely been achieved. Recently a temporary import tariff was enacted to deal with a severe budget crisis.

Figure 1. Mongolia and FSU, 1996



Source: World Development Indicators, The World Bank, 1998

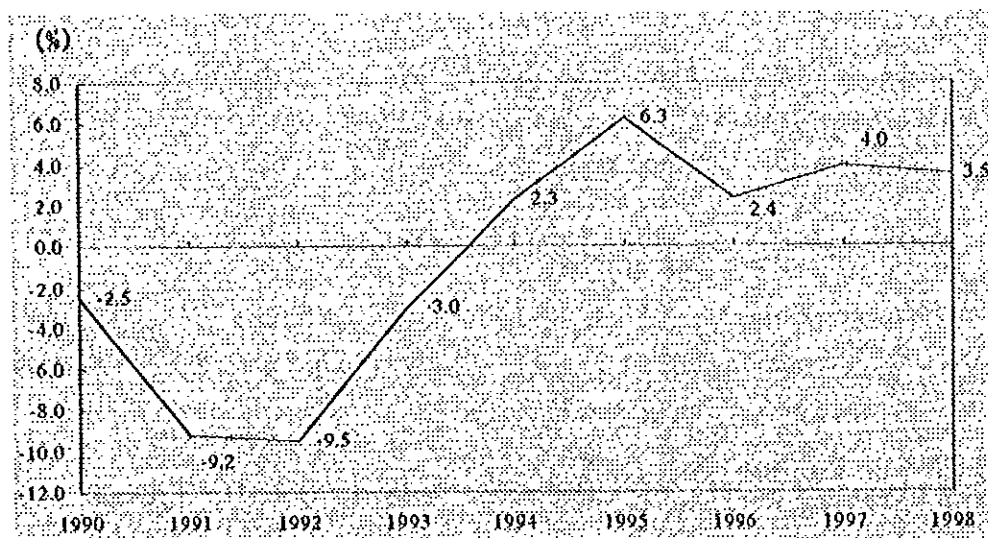
## GDP and Employment Structure

Drastic change in economic structure has accompanied the transition to a market economy. Manufacturing has been hurt more than any other sector, with annual output falling 13.8% per year in the 1990s. Changes in the overall structure of employment reflect the structural change Mongolia has seen. Between 1990 and 1998, the percentage of employment in agriculture rose from 33% to 48.7%, while that in industry fell from 16.8% to 12.1%, and that in construction fell from 8.4% to 3.4%.

The majority of structural change occurred in the first half of the 1990s, and brought with it a strong contraction of output. GDP fell by over 9% in both 1991 and 1992. Since 1996, structural change has slowed and GDP growth has stabilized at 3-4% per year. Livestock remains the backbone of the economy. The value added of agriculture (livestock and crops) was 34% of GDP in 1997, of which about 88% (30% of GDP) came from livestock. Industry contributed 25% of GDP, consisting of mining (11%), manufacturing (8%) and energy & heating (6%).

Figure 2. Real GDP Growth Rate

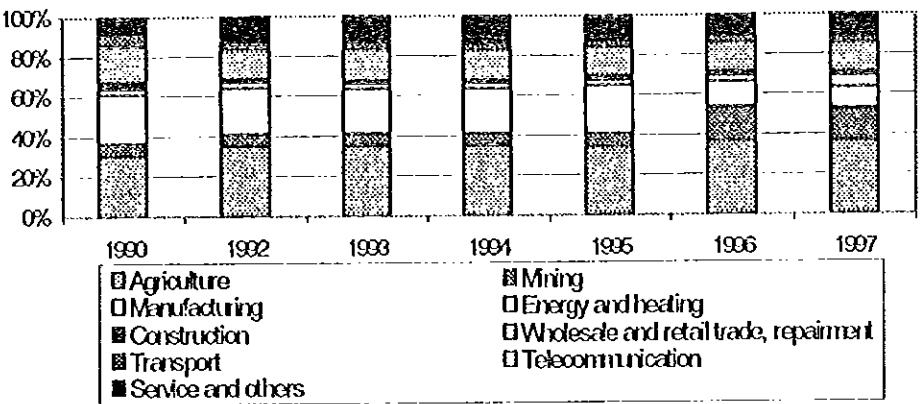
(Unit: %)



Source: National Statistical Yearbook 1998

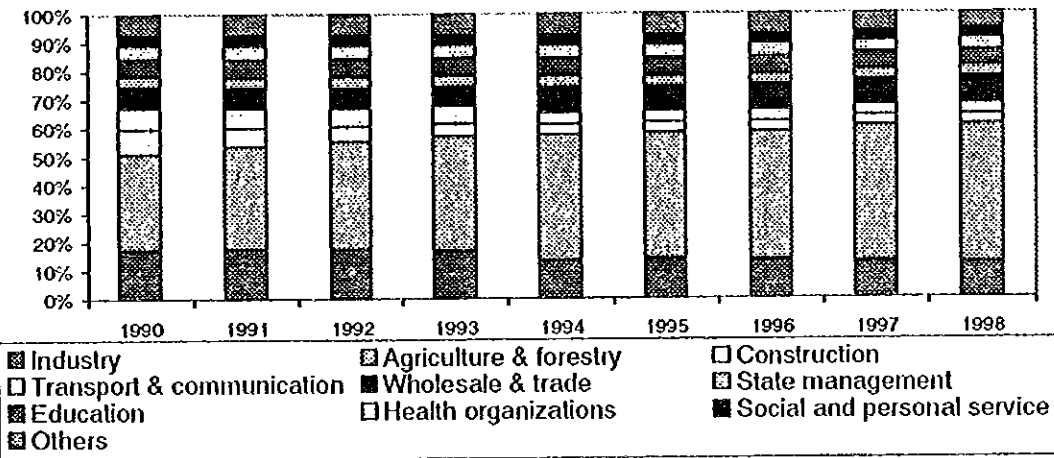


**Figure 3. Output structure of Mongolia (constant prices)**



Source: National Statistical Office  
 Note: Mining, manufacturing and energy sectors' contribution to GDP for 1990-1994 is calculated basing on composition of these sectors in the industry sector.

**Figure 4. Employment structure** (unit: %)



Source: National Statistical Office

**External Sector**

Trade liberalization has led to structural adjustment and changes in the terms of trade. Centrally planned prices have been replaced with market prices, and the trade flow has shifted from Eastern European and Soviet markets to markets in Asia and Western Europe. Mongolia now largely allows world prices to dictate trade flows and trade composition.

Export revenues grew rapidly in 1995, and remained strong through 1997, buoyed by relatively high world prices for copper and cashmere, two of Mongolia's main exports. When world prices for these goods began declining, export earnings declined as well. Copper concentrate accounted for 52% of 1995 exports. Comparing this to 1998 data, despite a 3.5% rise in export volume,

copper export revenue fell by 55.7% and its share in total exports had dropped to 38%. A similar story can be told with cashmere, in which a 56% rise in volume resulted in a 32% decline in revenues. Mongolian export revenues are highly dependent on a small number of commodities, which have not fared well in recent years.

The major trade balance export categories, with sub-sector breakdowns, in 1998, were:

- minerals (48% of total exports): copper 38%, fluorspar 6%, molybdenum 4%
- animal products (18%): dehaired cashmere 10%, sheep skin 4%, frozen beef 3%, raw wool 1%
- other manufactured merchandise (12%): sawn wood and products 9%, sewn coats and tops 3%

Prior to 1999, only the monetary authority was allowed to export gold. However, as of 1999, business entities were also given this privilege. Mongolia's gold production has increased from 624 kg in 1992 to 10 tons in 1998. Current production accounts for 0.7% of world output. Within Mongolia, gold exports had climbed to 30% of total exports by 1998.<sup>1</sup> Over the next 10 years, gold production is expected to continue rising and gold will play an increasingly important role as a foreign exchange earner.

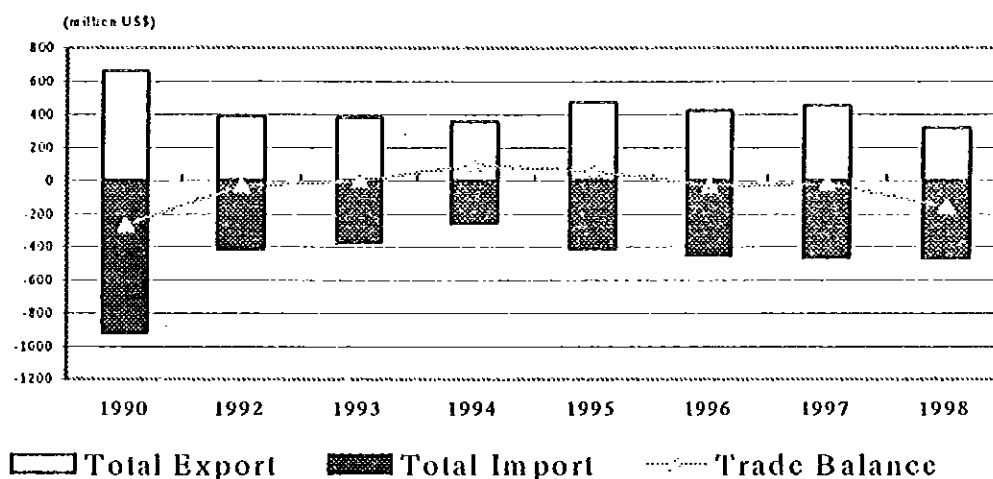
Tourism receipts, not included in the trade balance figures above, were 5% of GDP in 1998 and are a major growth market for the economy.

Imports consist mainly of petroleum products, consumer necessities, and capital goods, all of which exhibit a low price-elasticity of demand. Import expenditures have risen consistently since 1994, turning a trade surplus into a growing trade deficit.

---

<sup>1</sup> Prior to 1999, government sales of gold were not included in export data. We have amended official data to include government sales of gold on world markets.

**Figure 5. Trade Balance**



Source: National Statistical Yearbook 1998

Although exports to Russia have collapsed, Mongolia's dependence on Russian petroleum has not. The resulting bi-lateral trade deficit has worsened in recent years. Russia itself remains an important trading partner with an expectation of restoring the economy. Mongolia has maintained a trade surplus with China throughout the 1990s, due in large part to China's purchases of Mongolian cashmere. China's importance as a trading destination is growing and will likely become even more important in the future, both as a consumer of Mongolian products and as a provider of port access. For these reasons, warm trade relations with China are vital to the future of Mongolian exports.

**Table 1. Bilateral Trade Balances**

(Unit: US\$ mn)

	1991	1992	1993	1994	1995	1996	1997	1998
Russia	-3.1	5.4	-75.1	-40.0	-139.1	-67.1	-225.7	-106.4
China	36.5	11.8	54.3	49.3	33.3	15.0	38.3	32.3
Japan	8.9	-21.4	-3.7	16.9	1.4	-42.8	2.9	-43.0
South Korea	-6.8	-6.5	-3.0	4.2	4.6	16.0	23.3	-4.7
Other	-48.4	-51.9	18.8	-38.3	148.3	43.9	227.6	80.1
Total	-12.9	-62.6	-8.7	-7.9	48.5	-35.0	66.4	-41.7

## **2. National Medium Term Strategy**

### **2.1 Development Strategy of the Mongolian Government**

National economic planning functions were formerly the responsibility of the National Development Board, which was abolished in 1996. Since that time, no single agency has directed Mongolia's long-term economic planning and development strategies. The result is that the present government has no officially stated coherent long term policy. Despite this, an "implied policy" can be constructed on the basis of the following two documents:

- "Development Concepts of Mongolia" – May 3, 1996, Resolution No. 26, Parliament of Mongolia
- "The Mongolian Action Program for the 21<sup>st</sup> Century" (MAP 21) – 1998

Mongolia's medium term strategy is directed by the MOF, and is currently based on the "Government Action Plan 1997-2000" (resolution 61 of 1996). As part of this Plan, the "General Guideline for Economic and Social Development" is renewed annually with the budget. This provides a list of policy goals for the government to be achieved within the year, but provides little prioritization. The strategy, broadly defined, is to continue carrying out the economic reforms necessary to create an open market economy. The government remains intent on following IMF prescriptions to the best of its abilities. The most recent medium term development statement came at the most recent Donor Meeting (June 1999), which is held every 18 months. The objectives include:

- Macroeconomic stabilization
- Private Sector Development
- Financial Sector Development
- New Approaches to Infrastructure Development
- Promotion of FDI
- Promotion of Export-Oriented Industries
- A Human Development and Social Sector Development Strategy

For the most part, the above strategies are aimed at broad goals and macroeconomic issues. The government has mentioned little regarding specific scenarios of the manner in which key production sectors will be able to sustain growth – aside from expressing a desire to promote export-oriented industries. In this section, we attempt to construct the most likely growth scenario based on the trends and industry specific conditions considered in section 3.

## 2.2 Growth Potential Projection by Industry

In this chapter, we provide sectoral growth estimates for the medium term (through 2005) based on real production and supply constraints as analyzed in the sectoral MTS chapters of this study. The individual sectors were then aggregated to arrive at total GDP growth potential. This approach is distinctly different from the growth forecasts of the IMF and other international agencies as it is based on the micro-constraints of individual sectors as opposed to the macroeconomic approach of standard growth forecasts. Medium and long term growth projections in the IMF / WB framework, are based on demand side management, implementation of stabilization policies and consideration of resource balance constraints, such as fiscal and trade imbalances. Growth potential forecasts based on individual industry competitiveness and other supply side factors have been lacking. On the other hand, our growth potential projection can only be achieved after overcoming macro and resource constraints. To best grasp the future prospects of Mongolian growth, both approaches should be considered together.

**Table 2. Sector Growth Potential Projection**

	<i>Sector's Share in GDP</i>		<i>Annual Average Growth</i>
	<i>1997</i>	<i>2005</i>	<i>Rate %</i> <i>1998-2005</i>
1 Agriculture	0.34	0.32	3.8
Crop	0.04	0.03	2.4
Livestock	0.30	0.29	4.0
2 Industry	0.25	0.23	3.4
2.1. Mining	0.11	0.12	5.7
Copper	0.06	0.05	2.7
Gold	0.04	0.06	10.4
2.2. Manufacturing	0.08	0.06	0.5
Food	0.04	0.03	1.0
Textile	0.02	0.02	2.0
Others	0.02	0.01	-3.0
2.3. Energy and heating	0.06	0.05	2.3
3 Services and Others	0.41	0.44	5.3
<b>GDP</b>	<b>1.00</b>	<b>1.00</b>	<b>4.4</b>

The estimate results in overall annual GDP growth of 4.4%. However, there is considerable variation within sectors. The largest sector, agriculture, is expected to grow at 3.8% pa, less than

the overall GDP growth rate. Stellar growth is expected in mining, led by gold with 10.4% annual growth, while the manufacturing industry will remain stagnant (0.5% growth). The tertiary industries are forecast to enjoy strong growth of 5.3% - led by growth in private business, tourism, aviation and telecommunications.

### 2.2.1 Agriculture (Focusing on Livestock and Crop Production)

Agricultural growth in the 1990s has been driven by extensive rural migration. While the total number of employed in Mongolia has risen only slightly since 1993, a collapse in industry and other output has resulted in a 30% rise in agricultural employment.

**Table 3. Employment by sector (000s)**

	1993	1994	1995	1996	1997	1998	1993-1998 Change (%)
Agriculture	302.2	336.6	354.3	358.1	373.0	394.1	30.4%
Industry	124.1	100.9	108.1	104.7	98.9	97.9	-21.1%
Other	346.5	349.0	332.3	329.0	300.5	317.5	-08.4%
Total	772.8	786.5	794.7	791.8	772.4	809.5	04.7%

Source: ADB

This labor has gone primarily into the newly privatized livestock sector, contributing to the 27% growth in livestock numbers seen from 1990 to 1998. The result was average annual output growth of 4.93% from 1993 to 1998 for the sector as a whole.

**Table 4. Output growth (1993 prices)**

	1993	1994	1995	1996	1997	1998	Average Growth Rate
Agricultural output* (Tog mn)	58,335	59,911	62,454	68,714	71,986	74,217	
Share of GDP (%)	35.1	35.2	34.5	37.1	37.4	37.3	
Growth rate (%)		2.7	4.2	10.0	4.8	3.1	4.93

Source: Statistical Bulletin, 1993-1999, National Statistical Office, Mongolia

Projected growth for the 1998-2005 period is 3.8%, somewhat lower than recent growth rates. As mentioned, the capacity of the land has been pushed to its limit. Without substantial investment, further increases in livestock numbers can come only at the expense of declining herd quality. However, even without rapid growth in the number of livestock, growth can be achieved as

exports of live animals rise, and/or more animals are used for meat and other products. That is, even if the stock of livestock remains relatively constant, an increased percentage of final use animals allows growth. The growth of final use animals is expected to continue rising at around 5% per year – and is the primary engine for growth in the sector.

The other constraints discussed in this chapter show no sign of easing (declining hygiene of herds, poor marketing / lack of export markets, and lack of vocational training – particularly among new herders). These result in a declining value added for each additional animal, such that overall sector growth is forecast to be less than the growth in final use animals. Even if necessary public investment is made into infrastructure, training / education, animal hygiene, and other areas, the impact will be seen only gradually in GDP data.

Crop growth is constrained by many of these same factors, with the addition of the harsh winter growing environment, soil erosion and stagnant development in new seed types. Currently, 0.8 tons/ha of wheat are harvested on average. Output is expected to rise with the introduction of a higher yield variety of wheat (ADB). In Selenge Aimag, where 1.5 tons/ha is estimated to be the break-even point, some farms are harvesting close to 2 tons/ha, which reveals that farming can be a viable concern. However, in terms of total output, the fall in cropped area that has taken place in recent years is expected to offset any productivity increases. Competition from Russian and Chinese imports, along with the lack of subsidies, will prevent a significant rebound in production. Medium term output for the mechanized farming sub-sector is forecast to continue at current levels.

In the intensive farming sub-sector, expansion of the Green Revolution Program will lead to increasing output from the bottom hit in the mid-1990s. Increases in cropped area and productivity will lead to relatively high growth rates of roughly 4% in the intensive farming sub-sector.

In sum, continued growth of final use animals is the driving force behind a forecast of 4% annual growth over the medium term in the livestock sub-sector. The crop sector combines 0% forecast growth in mechanized farming with 4% forecast growth in intensive farming. Given a 4:6 mechanized to intensive ratio, crop growth is seen to be around 2.4% pa over the medium term. Combining these estimates, with the appropriate weighting given to livestock, overall agricultural growth over the medium term is forecast at 3.8%.

## **2.2.2 Mining**

Production growth rates for the major minerals in recent years vary widely. Gold production has been exploding while Fluorspar production has declined slightly.

**Table 5. Mineral Production (000 tons unless otherwise indicated)**

	1992	1993	1994	1995	1996	1997	1998	Average annual growth rate
Copper concentrate	300.2	334.3	343.3	346.4	351.5	357.9	358.4	4.02%
Molybdenum concentrate	3.5	4.4	4.4	3.9	4.7	4.2	4.2	7.65%
Gold (kg)	624.5	n/a	1,789.5	4,504.0	6,976.4	8,451.0	9,531.4	70.21%
Fluorspar	622.1	536.8	383.2	526.9	565.1	567.1	612.0	-2.37%

Source: State Statistical Office, *Mongolian Economy and Society in 1996, Statistical Yearbook 1998*

The GDP growth projection for the sector is for a 5.7% weighted average annual growth rate from 1998 to 2005 (including all minerals). Unfortunately in recent growth rate data, the mining sector is not broken out separately.

The copper sector has abundant capacity, such that, lack of physical capital is not a constraint on growth. However, it is necessary to invest the relatively small amounts needed to get the current physical capital up to full production potential. The main bottleneck here is the effectiveness with which capital and labor are used (total factor productivity). A restructuring of Erdenet, and other JV companies, would improve output forecasts with minimal additional investment. The medium term forecast is of steady growth of 2.7% per year, based on increased exports to China.

**Table 6. Erdenet outlook (copper sector)**

	1998		1999	2000	2001	2002	2003	2004	2005
	Unit								
Copper in concentrate	thousaud	358	362	478	453	449	441	436	n/a
Total production cost	c/lb	77	74	74	76	79	81	83	85
Average copper price	c/lb	75	69	74	80	84	88	93	99
Sales revenue	US\$ mu	207	190	212	235	250	263	276	295
Net Income	US\$ mu	-6	-14	0	7	9	13	17	25
Contribution to Budget	US\$ mu	2	0	2	7	8	19	21	36
(Dividend GOM)	US\$ mu	2	0	2	2	2	10	10	20
(Income Tax)	US\$ mu	0	0	0	5	6	9	11	16

Source: Latest forecast of the study team, June 1999

The GOM is pinning high hopes on the gold sector, primarily through high FDI. Even if their projections are optimistic, gold should soon overtake copper in terms of its ability to earn foreign currency. The main constraint on higher growth in the gold sector is uncertainty of foreign investment. To this end, the institutional framework surrounding FDI is key. Nevertheless, the



gold industry is expected to earn US\$100 - US\$300 mn annually from exports over the next few years, replacing copper as the number one mineral. Gold is assumed to continue to grow, though at a slower rate than the GOM projects. Our projection of a doubling of Mongolian output, to 20 tons in 2005, is justified due to the relatively un-exploited low cost extraction possible in many areas of the country along with surging private sector investment. This equates to 10.4% annual production growth for the gold sub-sector (shown in the top line below).

**Table 7. Gold sector outlook**

	1998		1999	2000	2001	2002	2003	2004	2005
	Unit								
Produced gold	Tons	10	11	12	14	16	18	18	20
Production Cost	US\$/g	8.50	8.50	8.93	9.37	9.84	10.3	10.9	11.4
Average Price	US\$/g	10.4	9.5	10.5	11.5	12.6	13.9	15.3	16.8
Sales Revenue	US\$ mu	104	105	125	161	202	250	275	337
Net Income	US\$ mn	5	0	2	6	12	20	27	40
Contribution to Budget	US\$ mn	17	12	17	24	33	44	53	68
(Income Tax)	US\$ mn	4	0	1	4	8	13	18	27
(Royalty)	US\$ mn	3	2	3	4	5	6	7	8
(VAT)	US\$ mn	10	10	13	16	20	25	28	33

Source: Latest forecast of the study team (June 1999); gold prices estimated by Nonnura Australia analyst

### 2.2.3 Manufacturing

Manufacturing enterprises in Mongolia face many constraints, some of which, such as small domestic demand and geographical handicaps, cannot be controlled. In addition, development of an efficient collection and distribution system and creation of a business environment which is attractive to FDI may take many years to implement.

Suggested policy measures are mainly targeted at increasing export revenue. The biggest agro-based export commodity in Mongolia is dehaired cashmere. Recent declines in the quality of Mongolian cashmere will eventually cut into the premium that the cashmere industry can charge.

The food processing and textile industries account for 50% and 25% of the sector, respectively. These sub-sectors are survivors in the sense that their decline was relatively slow and they are not expected to decline further. The primary constraint is insufficient institutional capacity. That is, insufficient policy formulation and implementation keep markets imperfect. The poor business environment prevents foreign capital from taking advantage of Mongolia's low wage labor. Poor banking policies limit credit, and thus, investment. In addition to this, the poor quality of output

can not compete against high quality imports. Food enterprises have to compete with imported food products and, as mentioned, the global cashmere market is suffering from over capacity. The Japanese business community is treating the international tender of Gobi Corporation cautiously. An increase in FDI from East Asian countries is not expected in the medium-term due to the recent currency and economic crisis. Against this background slight medium term growth is forecast: 2% for textiles and 1% for food. Other manufacturing enterprises will not be able to easily stop the recent contraction, and negative growth of 3% annually is forecast. Combining these sub-sector growth projections according to share in GDP results in an overall manufacturing growth forecast of 0.5%.

## 2.2.4 Energy

Despite the potentiality of (1) new oil development in the eastern part of the country, (2) the Trans-Siberia natural gas pipeline, and (3) a new high voltage electricity transmission line, coal's position as primary source of energy is unlikely to be challenged over the medium term. The projections here do not consider these future projects, as it is too early to ascertain their feasibility and impact. We do know, however, that over the medium term coal production will be more than sufficient to meet domestic demand. Future energy consumption and peak demand have been forecast for the CES system based on three scenarios of future real GDP growth

**Table 8. Electricity Demand Growth Rate Forecasts**

	High	Medium	Low
Real GDP growth	5%	3.75%	2.5%
GDP Elasticity of electricity demand	0.43	0.43	0.34
Average annual growth rate of electricity consumption			
1997 – 2005:	1.4%	1.0%	0.5%
1997 – 2020:	2.2%	1.6%	0.9%
Average annual growth rate of peak electricity consumption			
1997 – 2005:	1.5%	1.0%	0.6%
1997 – 2020:	2.2%	1.6%	0.96%

Using a GDP elasticity of demand of 0.5, slightly higher than the EA, to reflect increases in living standards (per capita income) and the changing consumption habits of the populace, the energy sector is forecast to grow at an annual rate of 2.3% over the medium term.

## **2.2.5 Tertiary Sector**

### **Trade**

Trade accounts for 44% of “tertiary and other industries”, or roughly 18% of total GDP. We forecast trade to continue growing as it has in the recent past, at roughly 5% per annum. This forecast is based on the assumption of continued deregulation and growth of small private businesses – which allow trade to flourish.

### **Transport and Communication**

Based on the assumption that the industrial structure will not undergo fundamental change, growth in passenger-km and ton-km of 4 to 5% from 1999 to 2004 has been estimated. Within this, air services, which account for half of all value-added in the transport sub-sector, is expected to grow relatively fast from increased tourism and business demand. With recent air facility infrastructure improvements, growth of 10% pa is possible. In the communication sector, the privatized telecom field is expected to grow quickly while the publicly held postal system will grow slowly – resulting in growth in the sector which will be comparable to overall GDP growth. Combining these results in projected growth of 6.7% for the transport and communication sub-sector.

### **Services**

Tourism and related services (hotels, restaurants, travel agencies, etc.), accounted for 5% of GDP in 1997 (after removing transport). The government tourism promotion program, started in 1999, is improving the necessary facilities and should lead to an estimated 13% annual growth in tourist days over the medium term. Specifically, tourist arrivals should grow at 8-10%, and the average length of stay will rise by 3-4%. Adding this growth with other services results, after weighting, in service growth of 5.8%.

Banking, and social services are expected to grow slightly – around 1% annually for government activities and 2% for others. This results in a steady decline in terms of share of GDP.

After appropriate weighting, overall growth for tertiary and other industries is 5.3%.

## **2.3 Growth Path**

Agriculture’s annual growth rate of 3.8% is less than the overall GDP forecast growth rate of 4.4%. However, the livestock sector will continue to be a major source of stable growth and social stability. The sector has shown considerable labor absorption capacity and will continue to serve as the backbone of the economy.

The mining sector will continue to grow with private investment and play a correspondingly larger role as a foreign currency earner. Despite a steady slide in gold prices throughout the 1990s, gold will soon be replacing copper as the top foreign exchange earner. Both copper and gold fell to decade lows in 1999, copper bottoming out in March 1999 and gold reaching its low in July 1999. Since that time they have improved somewhat but are still 25.5% and 43.7% off their decade high, respectively. Private investment will continue to flow in, particularly to the gold sector, which will fuel growth.

Tourism is an emerging high growth sector, also with promising potential as a foreign currency earner. Although the tourist season is short, recent growth proves that Mongolia has plenty to offer travellers from all around the world. The government is wise to focus on basic tourist infrastructure and let the private market take care of other needs (food, lodging, entertainment, tourist services, etc.).

Although future growth will be driven by private sector industry, it is vital that the GOM understand the important role it must play in creating the appropriate environment for growth. Without sound government leadership in the overall development orientation, potential growth opportunities will be retarded. Investment prioritization remains the key to putting capital to its best use. Thus, the Public Investment Program will play a decisive role in the future development of the Mongolian economy.

## **3. Sector Medium Term Strategies**

### **3.1 Agriculture**

#### **3.1.1 Current Situation**

The agriculture sector (consisting of livestock and crop production) directly employs 49% of the work force, leads the economy in contribution to GDP (34%) and accounts for more than 35% of exports (1998 data). The four sub-sectors within agriculture have had different recent growth experiences:

##### **(i) Extensive livestock (co-grazing of camels, horses, cattle, sheep and goats):**

Extensive livestock farming accounts for 85% of total agricultural output. The total number of livestock grew by over 28% from 1992 to 1998 and is now almost 33 million. Over the past ten years the number of herder households has more than doubled, people try to find employment opportunities in the countryside. This has resulted in the majority of herder households having uneconomic herd sizes of less than 250 animals.

The increase in livestock population has been disproportionately in males and castrates. The average age structure of the total Mongolian herd has increased, due to older males and castrates being kept in the herds. In 1990, breeding females were 46.58% of the total population, whereas in 1997 this figure was 41.85%.

Retention of older animals of all species by Mongolian herders contributes to a decreasing quality of products. Older animals, particularly males, produce thicker cashmere (cashgora) and wool – which is less attractive for manufacturing, lower quality skins and tougher, less attractive meat and meat bi-products. Older females are less fertile and are less capable of caring for their progeny because of lower milk production.

The tendency of herders to use livestock as a store of value has contributed to the rise in livestock population. The rate of increase in livestock varies from animal to animal: goats (216%), horses (135%), cattle (131%), sheep (97%) and camels (66%). MoAI has estimated that total livestock will exceed 34 million heads by 2003.

**Table 9. Livestock Population**

(thousand heads)

Year	Camel	Horse	Cattle	Sheep	Goat	Total
1990	538	2,262	2,849	15,083	5,126	25,857
1998	357	3,059	3,726	14,694	11,062	32,898
98/90 (%)	66	135	131	97	216	127
2003 projection	359	3,270	4,078	15,061	11,516	34,284
2003/1998 (%)	100	107	109	102	105	104

Source: MOAI

**(ii) Intensive livestock (housed dairy cattle, pigs and poultry):**

Unlike extensive livestock, intensive livestock has been decimated in the 1990s. By 1998, the number of pigs had fallen to 14% of the 1990 level (from 135,000 to 19,000) while the number of poultry had fallen to 18% (from 326,000 to 58,000). Under the Soviet system, the production of hay and fodder was highly subsidized. Large bodied Holstein dairy cows were obtained, and replaced native cattle. Stores of hay were developed around the country, which, though highly uneconomic, did sustain production levels, and were an effective buffer against sudden spring snowstorms (Zud). This production insurance, and fodder / hay production in general, has collapsed in the 1990s. From this perspective, the fall in intensive livestock is mainly a result of opening up to market forces. The hay produced in Mongolia today (as of 1997) is of low digestibility, low crude fibre and low metabolisable energy. Management and feed resources are currently not available to operate dairies. Lack of fodder is such that many dairy cattle are not fed even a maintenance ration.

**(iii) Mechanized farming (large-area crop production):**

The area of cereal cropping has steadily decreased over the past 10 years, from 693,000 ha. in 1989, to 301,000 ha. in 1998. Wheat production has fallen commensurately, from 687,000 tons to 192,000 tons. Many factors have contributed to this, but more than anything, the fall is a result of the removal of Soviet subsidies. Because of the government's wish for agricultural self-sufficiency, agriculture was developed with a production focus being dominant. Despite climatic difficulties, Mongolia produced sufficient wheat, potatoes and vegetables to provide for the population. Along with the removal of subsidies, other factors have contributed to the poor performance. Lack of credit, aging equipment and the unavailability of machine parts have all played a role. Crop losses at harvest time continue to pose problems, indicated by the loss of approximately seventy thousand tons of wheat under snow in autumn 1998.

**(iv) Intensive farming (vegetables – especially potatoes):**

Production of potatoes and vegetables peaked in 1989 at 155,500 tons of potatoes and 59,500 tons

of vegetables. After falling to 46,000 tons and 24,000 tons, respectively, in 1996 they recovered slightly, reaching 64,800 tons and 44,300 tons, respectively, by 1998. Some of this recovery is due to the “Green Revolution” program, which includes a program to promote potatoes and vegetables in peri-urban areas.

### **3.1.2 Major Agriculture Issues**

#### **Privatization**

Perhaps the most difficult and controversial change that a transition from command to market economy brings is the privatization of state property. Privatization within Mongolia’s agricultural sector was begun in 1991 with the sale of the national livestock herd. State farm privatization followed in 1992, though this remains incomplete. Privatization, in general, has frequently been upheld by anti-privatization interests.

#### **Collection and Distribution Problems / Market Problems**

Lack of functioning markets at which to sell output is a barrier to economic development. This applies both internally (lack of regional markets) and externally (lack of export markets). An environment conducive to the sale of domestic goods in international markets has not been established.

One manifestation of these imperfect markets is the distorted price signals many rural herders receive. For example, the price at which high quality cashmere is currently being sold is no different from that of lower quality, coarser fiber. Herders have responded to this by breeding for higher output and lower quality. The quality of Mongolian raw cashmere wool is, thus, being eroded over time, and will not be easily regained as the number of premium goats dwindles. Worse, herders have little negotiating power – particularly in rural areas. Traders know that herders, with little option, will eventually accept their price. Collection / distribution problems prevent markets from functioning smoothly.

#### **Lack of transport infrastructure and processing facilities**

Lack of an efficient road system adds costs to rural products and is a dis-incentive to investment in livestock. Access to markets, slaughter facilities and cold storage are significantly restrained at present. Meat and meat by-products are not profitable for many herders, due to their distance from markets. As such, production concentrates on non-perishable, more durable products, such as fiber and skins. Retention of older animals, due to lack of profit in slaughtering them for meat, is another natural outcome, which contributes to the declining quality of the herds.

### **Lack of Sufficient Water Access**

A lack of active, serviceable water points affects the location of livestock at pasture throughout Mongolia, adding to grazing pressures and limiting carrying capacity in particularly concentrated areas. During 1990, 64.5% of total pastureland was serviced by operating water points (reservoirs, bores and wells). The present situation is vastly inferior. On a national basis, there are thirty four thousand wells and more than 1700 reservoirs in existence. Only about fifty percent of them are functional. Approximately 78.7% of drilled wells are out of use. Over the past five years, 25% of total wells have been totally destroyed, 18% of wells are not in use and investment in digging new wells is not being undertaken. Lack of water points means concentration of livestock around rivers, ponds, operational wells and bores, which contributes to over-grazing of plant species.

### **Overgrazing**

Privatization of livestock has created a “tragedy of the commons”, in which privately owned livestock are grazing on public lands. It is in each individual livestock owner’s interest to expand herd size, with little regard for the long-term sustainability of the pastureland. The unsurprising result has been an explosion in the number of livestock and a degradation of pasturelands – which eventually leads to lower animal productivity and health.

### **Decline of Animal Quality and Veterinary Services**

The number of livestock, in 1998, covered by preventive injections and vaccinations decreased to a third of the numbers in 1986/1990, despite the considerable increase in the total number of animals. The animal population is increasingly susceptible to contagious diseases that were once largely eliminated. This has impaired the quality of meat and other products in the sector. Of particular concern are breeding practices which focus on quantity as opposed to quality. If this persists, the image of Mongolian cashmere will fall from top class to ordinary.

### **Lack of new seed varieties**

The seed production system has almost ceased to operate. The supplies of elite seed and stockpiled reserves are rapidly running out. No new seed varieties have been obtained for many years and current seed genotypes are becoming unfit for use.

### **Soil Erosion and other Environmental Problems**

Soil erosion has occurred as a result of poor cultural and soil management practices. Traditional tilling techniques are damaging to the soil.

### **Poor Financial Condition of Farming Related Industries**

The financial strength of flourmills, vegetable storage and marketing companies, and the beverage industry is weak, due to:



- lack of short-term working capital to buy bulk grain at harvest;
- delay in payment in purchasing and selling of grain due to a lack of available and adequate capital at reasonable interest rates;
- a protracted payment system;
- default on payment to growers and traders in the market pipeline;
- inadequate physical grain handling systems.

#### **Poor Business Practices**

Due to poor business practices and the lack of controls within business, misappropriation of farming company assets has been common. This has been aggravated by widely dispersed ownership of agrarian companies, a lack of corporate governance by shareholders, non-establishment of business and financial monitoring and analytical measures, and lack of expenditure supervision on company assets.

#### **Financial Restrictions / Lack of Credit**

Financial restrictions / lack of credit have limited the private sectors' ability to resolve many of these problems even when willing and capable.

Many Mongolian farmers have experienced great hardship over the past few years. It has been common that, upon delivery of wheat to government owned mills, payments either have not occurred, or have been so long in coming that the farmers have not been able to purchase fuel, seed, and fertilizer in time for the next year's sowings. It is obviously necessary for the mills to be able to fund the purchase of grain. The main mill, Altan-Taria, has been privatized, but there has not been any significant improvement in performance, due to under-capitalization.

### **3.1.3 Medium Term Agriculture Strategy for 2000-2002**

A general focus on **export promotion** will force domestic producers to meet international standards. However, it would be a mistake for the government to assume that, as things have been privatized, there is no longer a role for the government to play. In fact, successful export promotion will require substantial government leadership, support and investment. The collapse of traditional export markets must be met with efforts to secure new markets and promote Mongolian goods.

The earnings and overall value of the extensive livestock sector is currently well below its potential. Thus, due to its size and relatively high promise, agricultural policy should be directed primarily toward the extensive livestock sub-sector.

**Table 10. Agriculture Strategy Objectives and Measures**

Sub-sector	Objectives	Measures
Extensive Livestock	Development of meat export market	Implement national "Livestock Health" program <ul style="list-style-type: none"> <li>- Improve animal hygiene</li> <li>- Improve veterinary services</li> <li>- Improve extension services</li> <li>- Improve transport infrastructure</li> <li>- Improve water access / capacity reassessment</li> </ul>
	Improve processing / marketing	Negotiate export agreements with China <ul style="list-style-type: none"> <li>- Support creation of soum-based cooperatives</li> <li>- Establish local markets</li> <li>- Improve access to abattoirs</li> <li>- Improve meat inspection</li> </ul>
	Improve cashmere genetics	<ul style="list-style-type: none"> <li>- Improve veterinary services</li> <li>- Improve vocational training</li> </ul>
Intensive Livestock	Productivity increase	<ul style="list-style-type: none"> <li>- Define boundaries of regions close to urban centers within which land tenure can be discussed</li> <li>- Encourage FDI and other financial sources</li> <li>- Improve vocational training</li> </ul>
Mechanized Farming	Rehabilitation of crop production: Fund mobilization	<ul style="list-style-type: none"> <li>- Support creation of soum-based savings and credit cooperatives</li> </ul>
	Improve functioning of market	<ul style="list-style-type: none"> <li>- Establish local markets</li> <li>- Distribute market information</li> <li>- Improve transport infrastructure</li> </ul>
	Improve farming techniques and output per hectare	<ul style="list-style-type: none"> <li>- Improve vocational training</li> <li>- Establish an elite seed-procurement system</li> <li>- Experiment with minimum tillage and other measures to prevent soil erosion and increase yields</li> <li>- Build stable irrigation and fertilizer supply</li> </ul>
Intensive Farming	Rural Employment	<ul style="list-style-type: none"> <li>- Enlarge "Green Revolution" program</li> <li>- Implement "White Revolution" program</li> <li>- Improve vocational training</li> </ul>

As there are several inter-related constraints to growth in the industry, co-ordinated action is needed. First and foremost for the government are infrastructure issues. The private market will not produce adequate infrastructure, thus, it will be a permanent constraint until the government

takes the lead. Better rural roads, improved water access and establishing regional markets are good starting points. Many of the issues listed here would be favourably affected, and possibly resolved, if better infrastructure existed. Essentially this type of infrastructure allows the market to function more efficiently. Most rural herders are effectively cut off from the market, resulting in distorted price signals and poor herd management. Regional markets that attract sufficient produce to grade different qualities - and pay a premium for higher quality - are needed. In the case of cashmere, when herders receive a higher price for high quality cashmere they will respond by seeking to breed from selected stock. In the case of meat, access to markets (and abattoirs) will allow herders to sell their livestock at the optimal time – resulting in better herd management. Livestock could be sold in its prime, and herders would have incentive to keep their livestock healthier. Obviously the benefit of markets applies equally to farming activities as it does to livestock.

The government allocated Tog204mn from the central budget for the repair of 167 wells, in 9 aimags, last year (barely half of one percent of the number of wells). Approximately Tog 400mn is to be spent on the construction of 250 wells this year. These amounts are extremely small compared with the total number of wells and the extent of the problem. If a well has an effective life of, perhaps, twenty years then it could be expected that at least 1700 wells would need refurbishment each year.

Forming soum-based marketing co-operatives would allow herders to exchange information and avoid exploitation. Market centers and co-ops are also ideal for efficiently distributing information on improving animal hygiene, disease outbreaks and new technologies. Improved meat inspection practices would help promote penetrate export markets. A livestock extension service (including training and follow-up visits) should be contemplated. Privatization of the veterinary services has been a disaster. Apart from the government placing restrictions on how privatized facilities in the rural areas must be utilized, few herders either have cash, or are willing to pay for veterinary services. Lack of preventive disease control, reduction in vaccination of animals, reduction of internal and external parasite control measures and a dramatic increase in the cost of veterinary medicine prices, have all contributed to lowering animal product quality. The high cost of veterinary services makes it difficult for veterinary doctors to survive.

Herders need vocational training in disease recognition in individual animals and on a herd basis. Preventable diseases may not be observed, particularly by inexperienced herders, as they are often not easily diagnosed. Training/education is also needed as private economic activity stems from an entrepreneur having the knowledge to see opportunity, to carry out the activity and have the skills to control the business. Herders need education in farm management technologies to understand

marketing, quality requirements of their products to satisfy processors, animal health, need for co-operative action to develop power relationships at the producing end of the market supply chain, and to appreciate the value of grazing associations to control environmental damage. It is estimated that the survival rate of newborn animals in Mongolia is greatly enhanced if there are simple structures (e.g. barns) to protect them during their first months. Knowledge such as this can be easily spread through vocational training programs.

Overgrazing has worsened in recent years. To correct this market failure, the herders must see it in their self-interest to maintain the sustainability of pasturelands. One solution would be the formation of grazing associations, such that groups of herders become mutually responsible for a specified area of rangeland in conjunction with the soum government. Through such a framework, schedules could be adhered to in which pastureland could lay fallow, and re-generate, for the amount of time appropriate for the region. Grazing associations give herders the incentive to practice sustainable pasture management.

Meeting the basic objective of developing meat export markets requires improving domestic conditions as well as external relations. Providing a viable export market for animal products will allow growth far beyond that of domestic demand. Serving China's huge population would essentially remove all demand constraints for domestic producers. To this end, **strengthened trade links with China** through further negotiations and transport linkages is essential. They must negotiate to reduce the high import tariff on meat and meat products from Mongolia – which is much higher than the 5% tariff of Mongolia.

To assist with pasture management and planning, as well as environmental issues, the land's carrying capacity must be reassessed. Scientific estimates some years ago indicated that the pasture could supply adequate feed for 60 million sheep units during the winter period and 90 million sheep units during the summer (sheep units: 1 camel = 5 sheep; 1 horse = 7 sheep; 1 cow = 6 sheep; 1 goat = 0.9 sheep). Under modern methods of pasture management, these estimates need reassessment. The 33 million livestock alive today is equivalent to 70 million sheep units.

Turning to some of the issues specific to the farming sectors, **supporting soum-based savings and credit associations** would help relax credit constraints, as would encouragement of other financial sources, including foreign investment.

Improved energy supplies are increasingly needed in every stage of meat production – particularly for abattoirs and cold storage facilities. This is quite expensive and, in the medium

term, only rural extensions of the existing energy supply grid can be expected. Similarly, improving public irrigation infrastructure would benefit all farmers.

Improved vocational training is needed for farmers as well as herders, especially for the many newcomers to the farming sector. This could be done through school farming activities. Farming extension service may need to be enhanced, along with an enlargement of the Green Revolution program. Included in the training, minimum tillage techniques would help to increase output and slow adverse environmental impacts. Other soil erosion prevention measures should be implemented. The introduction of better seed varieties, specific to the region, requires further support of research and development efforts. Enlargement of the White Revolution program, aimed at the dairy industry, may be appropriate.

Privatization of land has been, and continues to be, one of the most divisive aspects of transition. Privatization of farmland and privatization of pastureland present somewhat different issues. The benefits of any given piece of farmland go exclusively to the farmer who has planted there. By its nature, farming is more aligned with privatization principles than pastureland. Privatization provides owners with the incentive to invest in producing the optimal output from a long-term, sustainable perspective. In addition, land ownership provides collateral, allowing easier access to credit. As farming is relatively investment intensive, privatization should have a correspondingly greater impact on the crop sub-sector than the livestock sub-sector. The GOM can continue with their efforts by defining the boundaries of regions close to urban centers within which land tenure issues can be discussed. As for the vast pasturelands of Mongolia, more time is needed to assess the social and economic impacts of privatization before concrete steps are taken.

In addition, the Government is expected to make an advance towards the privatization of enterprises engaged in the production and processing of agricultural products based on further reforms of the legal and business environment.

## 3.2 Mining

### 3.2.1 Current Situation<sup>2</sup>

Production growth rates for the major minerals in recent years vary widely. Gold production has been exploding while Fluorspar production has declined slightly.

**Table 11. Mineral Production (thousand tons unless otherwise indicated)**

	1992	1993	1994	1995	1996	1997	1998	Average annual growth rate
Copper concentrate	300.2	334.3	343.3	346.4	351.5	357.9	358.4	4.02%
Molybdenium concentrate	3.5	4.4	4.4	3.9	4.7	4.2	4.2	7.65%
Gold (kg)	624.5	n/a	1,789.5	4,504.0	6,976.4	8,451.0	9,531.4	70.21%
Fluorspar	622.1	536.8	383.2	526.9	565.1	567.1	612.0	-2.37%

Source: State Statistical Office, *Mongolian Economy and Society in 1996, Statistical Yearbook 1998*

With the decline in international prices of mineral products since 1997, the mining sector faces a serious challenge. Mining's contribution to the nation's exports and public finances has been falling drastically and restructuring is desperately needed.

## Copper Sector

### Erdenet

In 1998, the Erdenet open pit copper mine produced 430,000 tons of copper concentrate, fully 5% of world production. However, production costs of US\$0.77/lb (copper concentrate) were 10% above world average production costs. The primary reason for the higher cost was the cost of smelting and refining, which is performed in other countries (Russia, China and Korea). As a result, Erdenet's smelting and refining expenses, US\$0.30/lb, far exceed the world average of US\$0.12/lb. In addition, the cost of welfare provision for Erdenet City, the high price of electricity, and low labor productivity undermine competitiveness.

---

<sup>2</sup> Coal is included in the energy sector and is not discussed here.

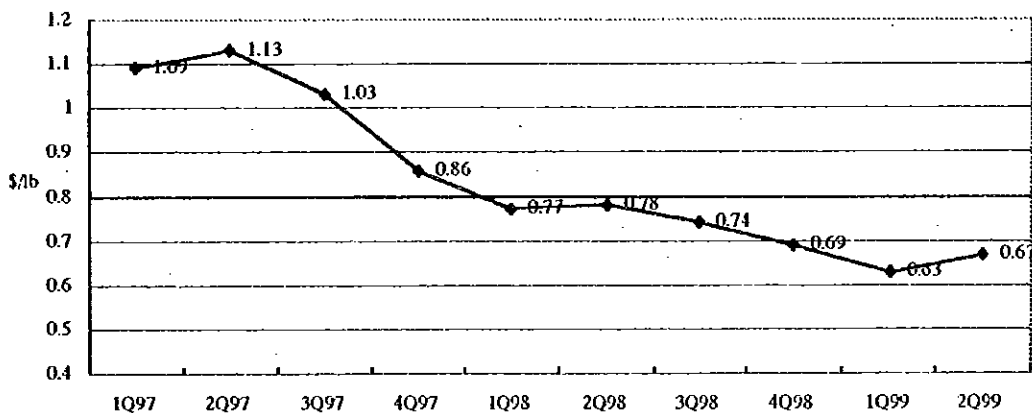
**Table 12. 1998 Cost Comparison - Western Average vs. Erdenet**

Cost Items	Unit	Western Average		Erdenet (Estimate)	
Labor	c/lb	0.10 US\$	15%	0.05 US\$	6%
Power	c/lb	0.09 US\$	13%	0.11 US\$	14%
Stores	c/lb	0.16 US\$	23%	0.08 US\$	11%
Smelting and Refining	c/lb	0.12 US\$	17%	0.30 US\$	39%
Freight	c/lb	0.02 US\$	3%	0.07 US\$	10%
Depreciation	c/lb	0.12 US\$	17%	0.06 US\$	8%
Indirects	c/lb	0.06 US\$	9%	0.09 US\$	11%
Interest	c/lb	0.03 US\$	4%	0.01 US\$	1%
Total	c/lb	0.70 US\$	100%	0.77 US\$	100%

Source: International Copper Statistics, Estimates from Financial Statements of Erdenet, 1998

Unfortunately, for Erdenet, copper prices have been falling over the past few years:

**Figure 6. Copper Price (LME Quarterly Average)**



As a result of the drop in international copper prices from US\$1.13/lb in 1997 Q2 to US\$0.67/lb in 1999 Q2, Erdenet is now operating at a loss. Faced with this crisis, a partial restructuring has begun. A portion of Erdenet City welfare provision costs borne by the mine have been cut and modernisation of machinery and vehicles has begun. As of July 15, 1999, production costs were running at US\$0.75/lb for the year.

Erdenet's liquidity position has worsened over time, resulting in some loan repayments being delayed. A further sustained drop in copper prices will cause major problems if restructuring is not successful.

**Table 13. Liquidity Position of Erdenet**

	1996	1997	1998	1Q1999
Current Assets/Current Liabilities	138%	159%	111%	96%

Source: Financial Statements of Erdenet, 1996-1999

Because of Erdenet's large size and contribution to government finances, these difficulties have been transmitted to the entire economy. Worse, production costs will escalate as copper mining moves to greater depths and extraction of lower-grade copper ore.

As described in JICA's Working Paper I Study (1998), the contribution of copper to the government budget is unlikely, in the near term, to exceed the US\$80 million peak reached in 1995. Rather, the contribution is estimated to slowly rise to around US\$36 million by 2005. If the government undertakes the Privatization of Erdenet now, the net asset value of the firm would be US\$320 million at a 7% discount rate and 20-year NPV (Net Present Value) basis (US\$240 million using a discount rate of 10%).

#### **Erdmin**

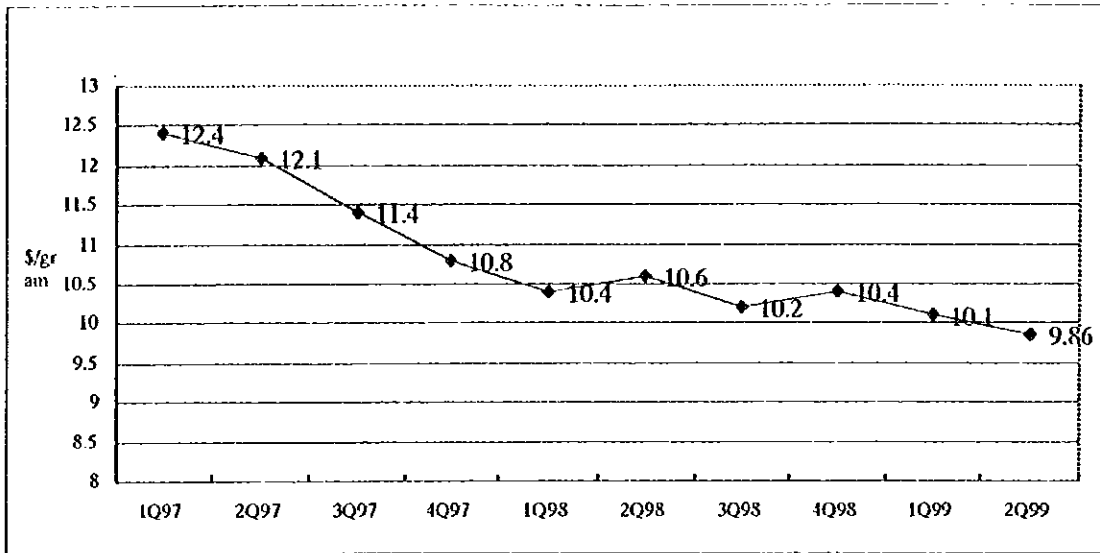
Erdmin Company Ltd. was established as a Mongolian-American joint venture company in 1995 to extract copper by treating the oxidised or cut-off grade copper ore of Erdenet, of which there is approximately 30,000 tons stockpiled. The joint venture was initially founded by Erdenet mines (Mongolian side-51%) and Magma Copper (American side-49%). Later Magma Copper sold its equity to Armada Gold, which is incorporated in Canada and has operations in Australia. Around US\$15.0 million was invested to construct a plant with an annual production capacity of 3,000 tons copper cathode. In 1997 the plant produced 2,639 tons of copper cathodes and exported 2,441.9 tons, with revenues of US\$5.1 million. Unfortunately, no production cost data is available. The current volume of stockpiled copper is sufficient for only 10 years of operation at current designed capacity and first year operations did not go as well as originally hoped.

#### **Gold Sector**

Since the government decided to allow gold development by private-sector enterprises in 1993, the number of mining companies has increased from 3 (in 1991) to over 100 in 1997. Mongolia's gold output has correspondingly risen from 624 kg in 1992 to over 10 tons in 1998. Unfortunately, world gold prices have fallen from US\$12.4/g in 1997Q1 to US\$9.86/g in 1999Q1.



**Figure 7. Gold Price (LME Quarterly Average)**



According to government forecasts, production is expected to continue rising, from over 12 tons in 2000 to 20 tons by 2005. It is estimated that production costs will increase from US\$8.5/gram in 1998 to US\$11.4/g in 2005 as production moves from dredge deposits to hard rock deposits. Nevertheless, annual exports are expected to rise from US\$100 million to over US\$300 million over the next few years. It will thus exceed the value of Erdenet's production and sales, replacing copper as the number one industry in five years. The contribution to government revenues (the sum of corporate income tax, royalty and value-added tax) will exceed that of copper after 1999. However, if world gold prices continue to fall, production will soon be unprofitable. To attract foreign capital and develop remote areas, a flexible tax incentive scheme is necessary. The following tax incentives have been proposed to accelerate the development of hard rock gold:

**Table 14. Example of Tax Incentives to Be Introduced**

Area	Income Tax	Royalty	Withholding Tax
Well Developed	40%(maximum)	2.5%(maximum)	10%
Developed	First 3 years from the start of production, tax forgiveness and after then 35%(maximum)	First 3 years from the start of production, tax forgiveness and after then 2.5%	8%
Under Developed	First 5 years from the start of production, tax forgiveness and after then 35%(maximum)	First 5 years from the start of production, tax forgiveness and after then 2.5%	5%

Source: Report by Mr. Dashiin Bat-Erdene, 1998 – Gurvansaihan JV.

## **Fluorspar Sector**

In 1997, the Mongolrostsvetmet fluorspar mines (Berkh, Bor Undur, Khar-Airag, Khajuu Ulaan and Urgen), produced a total of 130,000 tons of fluorspar concentrate, 3.2% of world output. Mongolrostsvetmet is a Mongolian-Russian joint-venture. The firm faces a serious stagnation in demand because it has been exporting the bulk of its output to the CIS countries. Consequently, the development of new markets is a matter of utmost urgency. Market prices of fluorspar for metallurgical use (CaF<sub>2</sub>: 75%) have fallen from US\$105/t in 1996 to US\$77/t as of the first quarter of 1999. The government of Mongolia must sharply reduce high production costs through restructuring before making an export strategy.

China accounts for more than half of world fluorspar production and more than 90% of fluorspar imports to Japan. It will be difficult for Mongolia to compete with Chinese exports as the Chinese product tends to be of higher quality and transportation costs are obviously cheaper for China within Asia.

### **3.2.2 Major Mining Issues**

#### **Major Issues in the Copper Sector**

##### **Privatization**

Privatization of Erdenet has been much talked about, but little action has been taken. The government (51% shareholder) and Russia (49% shareholder) should proceed with Privatization framework talks – however Privatization itself should proceed gradually. Restructuring, such that the firm is profit-making, prior to privatization, would enhance the attractiveness of the firm.

##### **Reducing Social Costs of Erdenet**

One element of restructuring is to reduce the social obligations of Erdenet, such as financing schools and hospitals, in the Erdenet area.

##### **Problems with Electric Power Supply to the Mining Sector, Especially Erdenet**

As indicated in the energy sector paper, electricity demands of the mining sector account for as much as half of total electricity demand. The major consumers are Erdenet copper mine, Mongolrostsvetmet Concern's fluorspar mine, a Darkhan metallurgical plant, and Baganuur JSC's coal mine. Mongolia's energy demand structure is, thus, somewhat of a mining sector oligopsony. The largest consumer is Erdenet, which accounted for 41% (791 m<sup>3</sup> kwh) of total electricity consumption in Mongolia in 1997. Erdenet purchases electricity from three sources: (a) the

Central Energy System (CES) grid (47%) - mainly generated from Ulaanbaatar PP No. 4, (b) imports from Russia (43%) and (c) generation by coal fired thermal power stations in Erdenet. (10%). However, Erdenet faces three major problems in power supply:

**1. First, poor peaking load capability at Ulaanbaatar PP No. 4, which forms the base-load capacity**

The coal fired thermal power stations in the CES grid are suitable only for base-load operations. As peak demand of Erdenet occurs in the winter, reaching over 50MW, Erdenet must import energy from Russia.

**2. Second, a lack of standby capacity to meet demand fluctuations**

Ulaanbaatar PP No.4 generates about 70% of total electricity. If a boiler, turbine, or generator at PP No. 4 stops, there is no domestic alternative capable of meeting its output. As a result, Erdenet must import additional volume from Russia. However, Russia is sometimes unable to meet the sudden rise in demand. In this situation, Erdenet has no choice but to cease production. Although there are two coal fired power stations, with 28MW total capacity, in Erdenet, they are too small for standby capacity and are mainly used to supply steam to mine machinery and city inhabitants. Additionally, the Erdenet power stations face extremely high costs for fuel from Sharyn Gol coal mine. Rehabilitation is needed to improve the efficiency of the boilers in order to save fuel costs.

**3. Third, lack of diversified domestic energy sources, which creates dependence on Russia**

Russia demands payment in foreign currency, which is in limited supply in Mongolia. In the winter of 1998, Erdenet suffered from stagnant copper prices and failed to pay their Russian electricity bill. As a result, Buriat Energo, in Russia, notified Erdenet mine and the Energy Authority that electricity transmission from Russia would be suspended as of 3 p.m. November 27, 1998, unless payment of US\$3 mn was made immediately. Suspension was avoided thanks to urgent financial assistance from the Japanese government. Even if the government were to concentrate all of their financial sources on rehabilitation of Ulaanbaatar PP No. 4, Mongolia would still not be rid of power crises. Long term energy supply security in this country can not be solved through rehabilitation of Ulaanbaatar PP No. 4 alone. Diversification of electricity development will ensure energy supply security, and self-reliance on the CES grid, which is of great economic importance to Mongolia. Due to a distorted power load system unequipped to meet peak loads without the former USSR, mining sector operations have suffered considerable interruptions, and the whole economy has been threatened with energy crisis.

### **High dependence on Russian imports of electricity**

At Erdenet, after smelting and refinery charges (40%), power charges are the largest production cost component (15%). Erdenet has a keen interest in reducing power charges, particularly with recently stagnant copper prices. The average electricity import cost from Russia, generated by hydropower stations, increased to 3.73 cents/kwh in the first three quarters of 1998. Since the unit import price during the winter is 4.1 cents/kwh, and there are surcharges of US\$245/MW for demand in excess of 150MW, the average price in the peak demand season in 1998 was close to 4.2 cents/kwh. Erdenet is afraid that the peak demand price of electricity imports will be raised to 5.1 cents/kwh in 1999, which is almost 50% more expensive than the average generating cost of existing domestic coal fired power stations.

### **Refinery issue**

A refinery is needed, through private investment. Unfortunately, under the current ownership structure, foreign investors have shown little interest in building a refinery. The attractiveness of a refinery would undoubtedly increase if the firm had better management practices.

### **Poor accounting methods**

Erdenet accounting methods are unclear and unreliable. International independent auditors would provide a better assessment of accounting methods and results, leading to a restructuring of the business.

### **Transfer facility**

The rail transfer facility at Zamyn Uud, on the Chinese border is currently being upgraded with Japanese assistance. As China becomes an increasingly important trade partner, poor border infrastructure creates a growing bottleneck.

### **Fiscal constraint**

Recent discoveries of copper deposits near the Chinese border west of Zamyn Uud appear to be unviable due to the high transportation costs involved. At any rate, financing the extraction of these deposits, including infrastructure costs, should be done through private investment – not public investment.

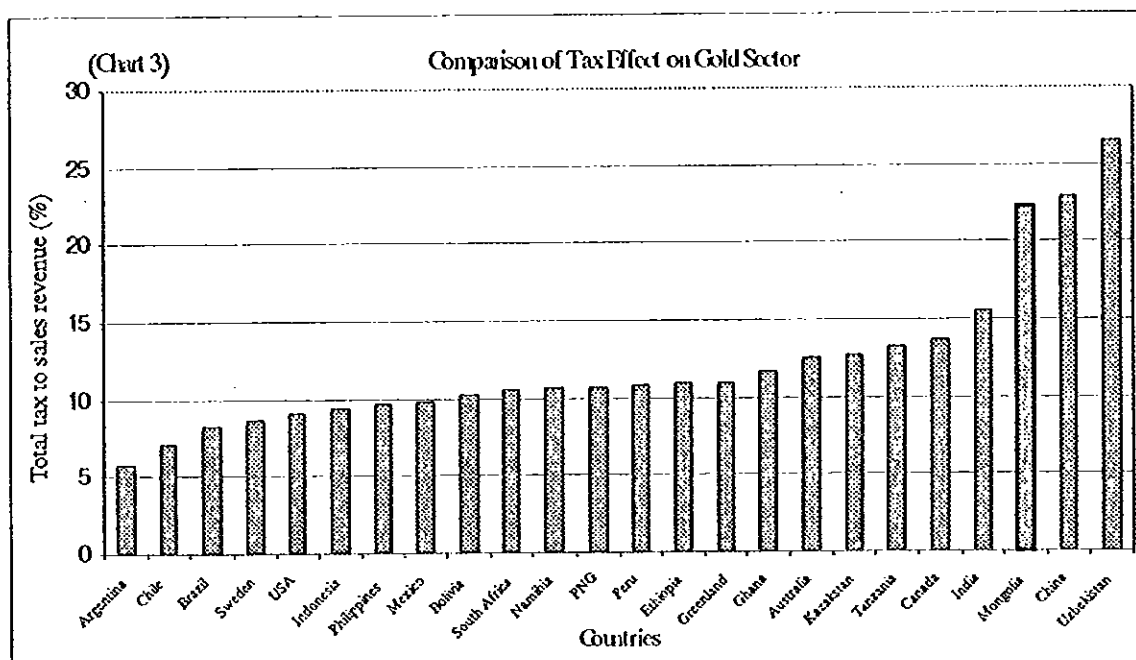
### **Developing export markets**

Developing export markets is necessary in response to the collapse of COMECON. China is an attractive market to develop as demand for copper and many other minerals is rising.

## Major Issues in the Gold Sector

The government, seeking to offset budget deficits, implemented a 10% value-added tax for gold in November 1997. This makes the effective tax rate on gold in Mongolia one of the highest in the world. Several investors have contemplated pulling their capital out of Mongolia in order to avoid the heavy tax burden. The withdrawal of foreign investors would seriously hurt, as FDI and foreign mining technology are critical.

Figure 8. Comparison of Tax Effects



Source: Mineral Resources Authority of Mongolia, 1999

To prevent such an outcome, the tax could be repealed or compensated for through a reduction in other taxes, such as a reduction in the maximum rate of corporate income tax in the gold sector from 40% to 20%. The Mineral Resources Authority of Mongolia is in discussion with officers of the government and members of the parliament to reduce the heavy tax burden on the gold sector.

To date the cost of mining gold has been relatively low – but costs will rise in the future as the most easily accessible gold deposits are depleted.

Despite depressed gold prices the last few years, the government is expecting considerable investment in gold mining over the medium term. If world central banks continue to sell off their gold holdings, prices may stay rather low. However, in the fall of 1999 many European central

banks announced a 5-year moratorium on selling gold reserves which has led to at least a temporary recovery in gold prices – to the obvious benefit of Mongolia.

## **Major Issues in the Fluorspar Sector**

Mongolia wants to diversify exports of fluorspar from Russia to Asian countries. Japan primarily uses Chinese fluorspar as it meets Japan's strict standards more fully than does Mongolian fluorspar.

In addition, the current average price of Chinese fluorspar for metallurgical use is US\$70/t or less, and US\$125/t for acid use (FOB from Tienjin). As China dominates the market, it is able to reduce prices to drive new competitors out and then raise prices after the competitor is eliminated. Whether or not Mongolia can export to Japan depends on whether it can export fluorspar at a cost low enough to compete with China. However, the production cost of Mongolian fluorspar ranges from US\$85-130/t depending on use and grade. It is essential to reduce production cost through restructuring which would cut social and welfare costs.

Third, shipment methods are a problem. There are two routes by which Mongolia can export to Japan. One is via Vladivostok, which has safety and reliability problems. The other is via Tienjin. However, it is not certain whether the Chinese government will authorize the shipment of Mongolian fluorspar via Tienjin, given the competitive threat it presents.

Regardless of the route, transportation costs are high. Mongolian cargo must pay 4 times what Russian cargo pays within Russia. It costs US\$57/t to transport from Mongolian mine sites via Haushik, on the northern border with Russia, to Vladivostok. Similarly, it costs US\$47/t from Mongolian mine sites via Ereen, on the southern boarder with China, to Tienjin. These expensive transportation costs are a serious obstacle in exporting to Japan. It is urgent for the government to negotiate agreements to reduce railway transportation costs.

Fourth, the exporter must make certain that the fluorspar, not to be shipped in sacks, is free from dust and other contaminants at all stages of shipment. Japanese buyers demand that shipments be delivered at the Port of Tienjin, rather than Ereen at the Mongolian border. Therefore, the question is whether Mongolian exporters can access a system that guarantees clean delivery at Tienjin or Vladivostok. There must also be a system to make sure that fluorspar is not mixed with other cargo when it is loaded onto ships.

### **3.2.3 Medium Term Mining Strategy for 2000-2002**

#### **Restructuring and Privatization**

Privatization in Russia in the early 1990s benefited from a strong world economy and the presence of institutional investors within Russia that were able to raise large amounts of capital. Unfortunately neither of these conditions exists in Mongolia at the present time. This creates a problem when trying to privatize an entity the size of Erdenet. In addition, along with the fall in copper prices over the past few years, the net present value of Erdenet has fallen as well. Modernisation of management techniques, and other restructuring would make the firms (Mongolrosvetmet, Erdenet) more attractive to potential investors. Among other things, provision of social welfare is hurting performance and consideration should be given to transferring responsibility for this from firms to the local government. For these reasons only after restructuring has had an impact and copper prices recover will privatization become possible.

One way to privatize Erdenet in a slower manner is for the government to establish a state-run investment firm first, and diversify its stake gradually. The government could release its holding in stages by introducing non-voting shares with preferential dividend rights, while giving due consideration to shareholder equality.

#### **Encourage investment**

Encouraging investment is particularly necessary at Erdenet, as the modernisation of machinery and equipment is estimated to require US\$5-10 million financing annually. Erdenet mine can procure large amount of funds overseas for the construction of a refinery only after the government proceeds with restructuring or Privatization of its mine.

#### **Strengthen trade ties**

The government can take advantage of its proximity to China by strengthening trade ties. In particular, there may be opportunities in the copper market to be exploited in China.

#### **Transport facility**

Development of railway bulk transport facility would reduce transaction costs to China. In addition, agreements with China and Russia to reduce railway transportation costs would help export competitiveness.

#### **Amend the Mineral Law of 1997**

Despite the open door policy to private investment and a surge in licenses, large amounts of

foreign investment have yet to be seen. Two factors are the lack of sufficient infrastructure and an inadequate mineral legislation framework. The Mineral Law of 1997 has been criticised for the following reasons:

- The “stability agreement” in Article 20, which includes provisions regarding the stability of tax and other rates over time, is aimed only at “mining license holders”. Given the high-risk nature of mineral exploration, it is important for investors to enter a stability agreement before the initiation of exploration. It is proposed that Article 20.1 be revised from “if the mining license holder....” to “if the license holder (either exploration or mining license holder)....”
- License holders can hold areas up to 4000 square kilometers. This large size may reduce competition and exploration activities.
- The relatively low fee structure for exploration licenses delays investors from speedy exploration. Higher exploration license fees would accelerate exploration. Alternatively, license holders can be required to have minimum expenditure obligations.

#### **Lower or compensate for the VAT on gold**

Foreign direct investment in the gold sector is likely to decelerate because of the high tax rate. Options are to reduce the VAT or compensate for it through a lower corporate income tax.

#### **Use tax incentives**

Tax incentives for the western regions and southern parts of the country would induce needed investment there. One set of incentives has been proposed by Mr. Dashiin Bat-Erdene, Executive Director of Gurvansaihan - a Mongolian-Russian-American gold mining joint venture.



### 3.3 Manufacturing

#### 3.3.1 Current Situation

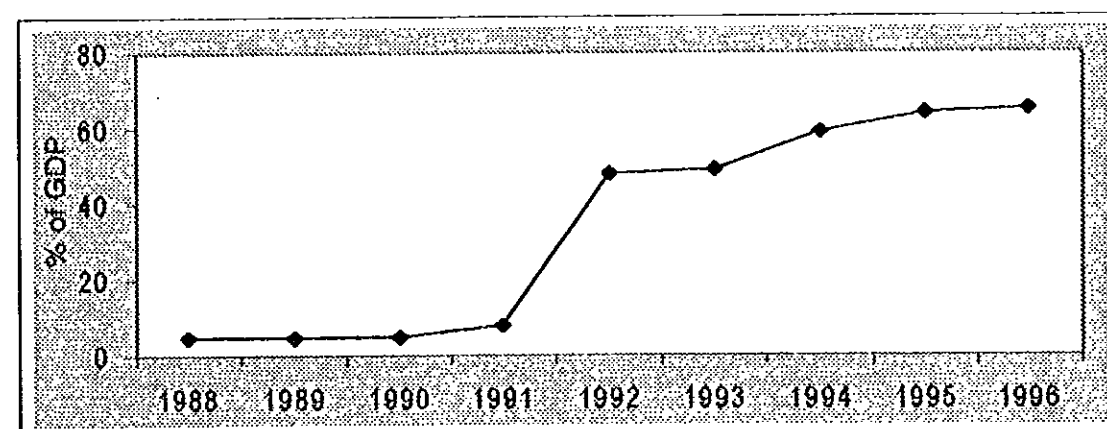
Mongolia's big bang transition has been characterised by 1) far-reaching and rapid privatization, 2) price liberalisation, 3) movement to a floating exchange rate, and 4) trade liberalisation. Exchange rate depreciation and the elimination of import duties have created a favorable environment for exports. Price distortions on manufactured goods have been eliminated which has led to a decline of non-feasible sub-sectors, such as intermediate goods.

#### Privatization and the Collapse of SOEs

In the big bang transition, the first Government consideration was to carry out privatization. Enactment of the Privatization Law in May of 1991 was significant. Under a voucher-based scheme, assets in some 4,500 enterprises were privatized, including most small businesses, such as restaurants and retail shops, as well as state agricultural enterprises and co-operative farms, through a bidding process. Vouchers valued at MNT 20.0 billion had been distributed free of charge to almost two million citizens by October 1993. Small non-agricultural assets were auctioned and large assets were sold through the Mongolian Securities Exchange (MSE). In terms of value, the largest blocks of privatized assets were from the agricultural and industrial sectors. During this privatization program most small SOEs were transferred to the private sector. Most of the privatized SOEs were reorganized into joint stock companies and shares were traded through the MSE for investment vouchers.

These actions facilitated an increase in the private sector share in GDP growing from 5% in 1990 to 65% in 1996.

Figure 9. Private Sector Share of GDP



Source: National Statistical Office

Private participation has increased in agriculture, wholesale, trade and construction. The trade and wholesale sectors were the fastest growing sectors in 1994-1995. Agriculture and transport sector growth was highest in 1996. More than 90 percent of the total livestock population is now in private hands. However, during this adjustment period, many manufacturing SOEs went bankrupt or stopped operations, particularly COMECON-planned state-operated enterprises. In aimag centres, SOEs that had been producing intermediate goods lost their markets and most have gone bankrupt. Producers of consumer goods face limited local demand and are struggling for survival. Many laid-off workers became unemployed in regional aimag centres. They are trying to develop small-scale services and trade, which do not require substantial investment.

Acceleration of the privatization process began in 1997 with the Government's announcement of a program to complete privatization of most of state-owned assets and enterprises. In 1997-2000, the government aims to complete privatization of 400 to 700 fully and partially state-owned enterprises, mainly through auctions. Quotes from the English program brochure, "Mongolian Privatization 1997-2000" show the government's commitment to Privatization. The State Property Committee (SPC) was responsible for implementation of this program.

The Government intends to accelerate privatization of manufacturing industries. As of September 1999, only a few large SOEs in the manufacturing sector were in the hands of Government. The SPC plans to privatize these manufacturing companies in the near future through international tender or sealed bid auction. On May 26, 1999 the SPC announced the privatization procedure of the state-owned cashmere company, Gobi Corporation, through international tender.

### Price Liberalization

Price liberalization was launched in 1991 as a prerequisite for shifting to a market economy. Along with meat and flour, which were removed from the ration system, the charges for public utilities and services were partially deregulated. The prices of fuel, energy, bread, flour and other staples rose sharply. The annual inflation rate reached 325.5% in 1992 before falling steadily.

**Table 15. Annual Inflation rate (%)**

	1992	1993	1994	1995	1996	1997	1998
Inflation rate	325.5	183.0	66.3	53.1	44.6	20.5	6.0

Source: Mongolian Statistic Yearbook 1998

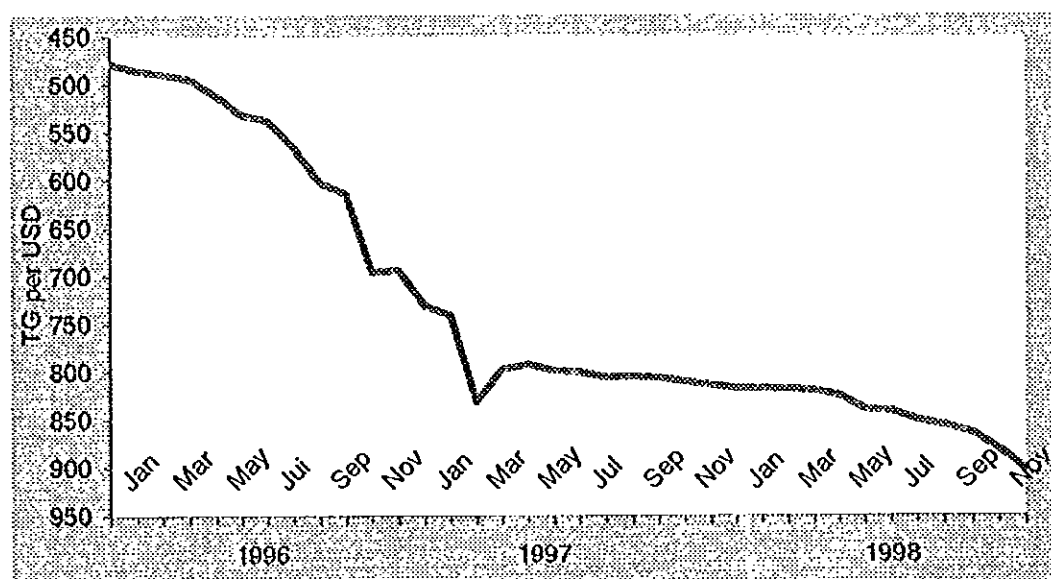
The government elected in June 1996 moved quickly to further eliminate price controls. In September 1996, price commissions were abolished. Currently there are no protective price

controls on manufactured goods. By 1998 prices had largely stabilised with inflation running at just 6.0%.

### Depreciation

Movements in the exchange rate have reflected monetary policy and trade balance. The togrog to dollar exchange rate dropped from 5.6 in late 1990, to 150 togrog by the beginning of 1993. Following the introduction of a floating exchange rate system, in June 1993, it declined further, to 396. In 1996, as the prices of copper and cashmere dropped in world markets, a trade deficit emerged. The exchange rate dropped sharply in the second half of 1996 before stabilising somewhat in 1997 at around 800. Since that time it has been slowly depreciating.

**Figure 10. Exchange rate 1996-1998**



Source: Bank of Mongolia: Annual report 1997, Monthly Bulletin December 1998

After the elimination of import tariffs in mid-1997, imports increased. On the other hand, the export price of copper and cashmere dropped in 1998. This resulted in a trade deficit equal to 15% of GDP in 1998. The large trade deficit is putting downward pressure on the exchange rate in 1999, which is favorable for export industries.

### Trade Liberalization

Prior to the transition, Mongolia's trade partners were former socialist countries, dominated by Russia. In the early 1990s Mongolia liberalised trade and became a member the IMF and WB. The geographic location of trade partners has expanded and Mongolia now trades with almost sixty countries. Mongolia became a full member of the WTO in January 1997, and its already

liberal external trade regime was further liberalized in early 1997 with the elimination of all import tariffs, except for those on alcoholic spirits. Since July 1999, a 5% custom duty has been imposed to raise state revenue, however no specific tariff is set for the protection of manufacturing sector. A small number of export taxes remain – on nonferrous and scrap metals, and from June 1997, on raw cashmere and raw camel wool.

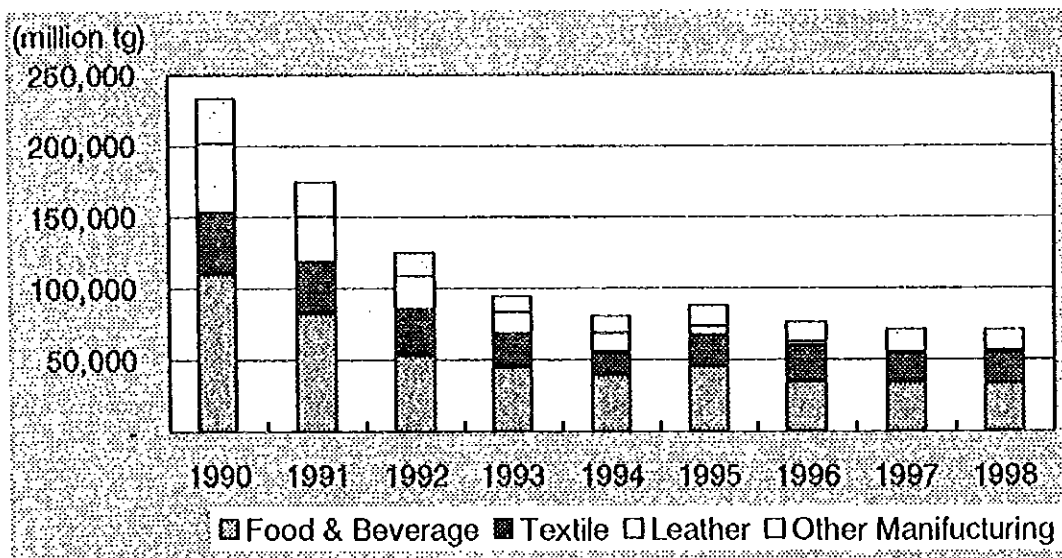
**Output falls**

Manufacturing was the most seriously damaged sector in the transition. The average annual growth rate of manufacturing output from 1990 to 1998 was negative 13.8%, with 1998 output just 30.4% of the 1990 level. After falling rapidly in the early 90s, the contraction has slowed in recent years. In 1997, manufacturing contributed only 7.9% to GDP. During this transitional period, the structure of industrial output has changed drastically. Manufacturing has fallen from accounting for 71.9% of industrial output in 1990 to just 30.3% in 1998. On the contrary, the mining sector has risen from 17.5% in 1990 to 51.5% in 1998.

**Survivors of Transition: Food and agro-based export**

Only two sub-sectors in manufacturing, food and agro-based exports have survived this transition. In terms of value-added, 54.6% of manufacturing value-added came from the food industry, while 24.6% came from the textile industry (mainly cashmere exporters).

**Figure 11. Output by Manufacturing Sub-sector (1995 Prices)**



Source: Mongolian Statistical Yearbook 1997, Statistical Bulletin December 1998

The surviving industries have some common characteristics. First, there is strong demand. Even in a shrinking economy, people have to eat. That is, demand for food is relatively inelastic with

respect to income (Engel's law). Dehaired cashmere is highly competitive in world markets. This competitive advantage originates in the high quality of raw cashmere combed from Mongolian goats, which have adapted to Mongolia's cold and harsh winters by growing thin, long cashmere.

Another common characteristic is that survivors have devised self-financing schemes and are less dependent on banks for working capital. Food enterprises usually require cash transactions. In the food industry, terms for receivables are typically shorter than payment terms. This eases demand for working capital. Almost all agro-based export enterprises were established as joint ventures with foreign partners. Foreign partners can supply or arrange working capital for the domestic partner in agro-based export industry.

#### Agro-based commodities: 27% of export

Even though the manufacturing sector has been hurt in the transition, it still plays important role in exports by linking agro-based commodities to foreign markets. Of the ten largest export commodities, six are agro-based: dehaired cashmere, sawn wooden materials, frozen beef, raw cashmere, sheepskin and sheep raw wool. Livestock-based commodities in particular have a strong comparative advantage.

**Table 16. Ten Largest Export Commodities**

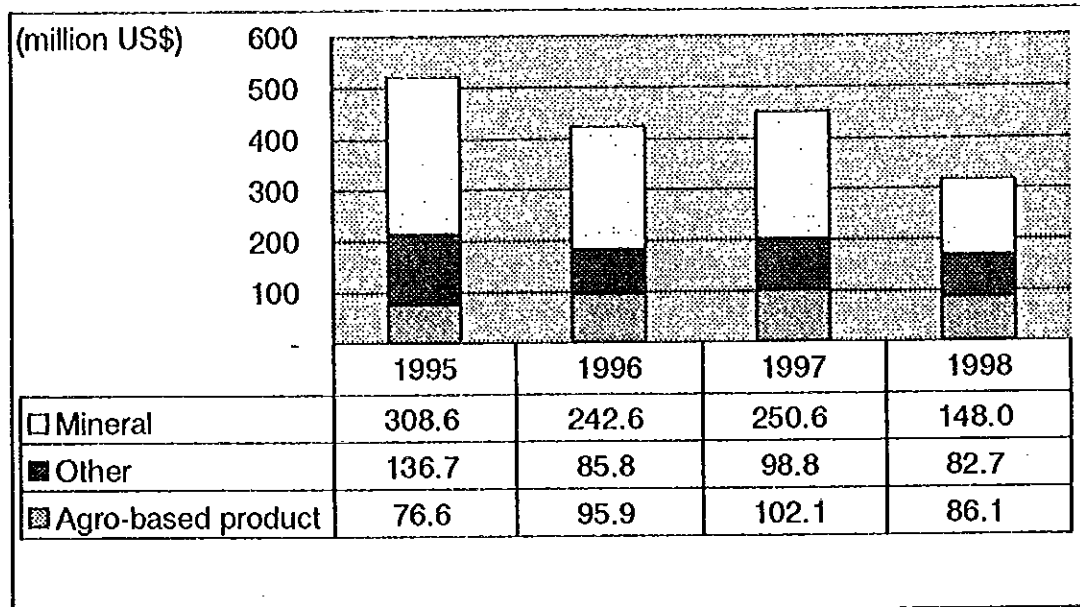
Commodities	1995		1996		1997		1998 Dec	
	Value	% of total	Value	% of total	Value	% of total	Value	% of total
Copper concentrate	268.6	51.5	205.2	48.4	211.4	46.8	119.0	37.6
Molybdenum concentrate	20.3	3.9	14.2	3.3	15.7	3.5	11.6	3.6
Fluorspar	19.7	3.8	23.2	5.5	23.5	5.2	17.4	5.5
Dehaired cashmere	45.2	8.7	51.6	12.2	31.5	7.0	30.8	9.7
Sawn wooden materials	4.4	0.8	9.9	2.3	20.8	4.6	29.5	9.3
Man's sewed apparel		0.0	8.0	1.9	13.4	3.0	10.1	3.2
Frozen beef	2.5	0.5	4.4	1.0	9.0	2.0	8.3	2.6
Raw cashmere	0.4	0.1	9.2	2.2	16.2	3.6	0.3	0.1
Sheep skin	13.5	2.6	13.8	3.2	15.2	3.4	13.0	4.1
Sheep raw wool	10.6	2.0	7.0	1.7	9.4	2.1	4.2	1.3
Top 10 commodities	385.2	73.8	346.5	81.7	366.0	81.1	244.1	77.0
Other commodities	136.7	26.2	77.8	18.3	85.5	18.9	72.7	23.0
Grand Total	521.9	100.0	424.3	100.0	451.5	100.0	316.8	100.0

Source: Foreign Trade Custom Statistic Yearbook

The share of agro-based commodities in total export value was 14.7% in 1995, and increased to 27.24% in 1998. However, the manufacturing sector contributed only 7.9% of GDP in 1997. Although the contraction of output has slowed, recovery, in terms of value-added or output is not

expected soon.

**Figure 12. Export Value by Commodities**



Source: Foreign Trade Custom Statistic Yearbook

From 1994 to 1998, the labor force (working age population) increased from 1.17 to 1.26 million, an average annual growth rate of 1.9%. Employment, for the same period, increased from 0.79 to 0.81 million, a growth rate of 0.7%. The economy could not create jobs fast enough to absorb the increasing labor force. As a result, the employment rate decreased from 67.5% (1994) to 64.4% (1998). Employment in the industry sector has declined since 1995. Only agriculture (mainly livestock) has offered job growth on par with labor force growth.

**Table 17. Labor Force and Employment Rate**

(1000 persons)	1994	1995	1996	1997	1998
Population of working age	1,165.7	1,186.7	1,212.8	1,229.6	1,256.8
Economically active population	861.4	839.8	847.2	852.0	859.3
Employed	786.5	794.7	791.8	788.3	809.5
Industry	99.9	108.1	104.6	100.4	97.9
Agriculture	339.6	354.3	358.1	374.5	394.1
Other	347.0	332.3	329.1	313.4	317.5
Labor force participation rate	73.9%	70.8%	69.9%	69.3%	68.4%
Employment rate	67.5%	67.0%	65.3%	64.1%	64.4%
Industry / Employed	12.7%	13.6%	13.2%	12.7%	12.1%
Agriculture / Employed	43.2%	44.6%	45.2%	47.5%	48.7%
Other / Employed	44.1%	41.8%	41.6%	39.8%	39.2%

Source: Mongolian Statistic Yearbook 1998

Statistics of income tax by sector are not available. However, it is widely assumed that the manufacturing sector contributes more than the service sector. Because tax collection capability is weak, tax collectors can not cover all the numerous small informal activities within the service sectors. On the other hand, manufacturing activity requires registration and the number of enterprises is relatively small, allowing tax collectors to easily identify profitable manufacturing enterprises.

The manufacturing sector, including even highly unprofitable State Owned Enterprises, does not receive any direct subsidy from the state budget. There are no protective price regulations on manufactured goods.

By linking livestock to export markets, the agro-based manufacturing sector plays a pivotal role in transforming a comparative advantage into a competitive advantage. However, in terms of value-added, job creation, and tax contributions, not much can be expected from the manufacturing sector in the medium-term (3-5 years).

### **3.3.2 Major Manufacturing Issues**

#### **Insufficient management skill and declining FDI**

The primary concern is that the general management skill of top managers is low for modern manufacturing activities. East Asian countries, since the early 1980s, have addressed this issue through introducing foreign direct investment (FDI). Foreign partners of joint ventures transfer capital, technology and, most importantly, general management skills (business planning, accounting, finance, human resource management, and technology development). Mongolian business leaders can learn these management skills quickly from foreign partners. Without the transfer of capital, technology and management from foreign partners, development of the manufacturing sector will be retarded.

However, Mongolian FDI is not only insufficient, it is decreasing. FDI in 1998, US\$18.9 million, was 24.4% decrease from 1997 US\$25.0. The implementation rate of FDI (Disbursement / Approval) is only one third.

#### **Weak policy formation**

One of the biggest reasons for the decrease in FDI is the relatively low credibility of government policy. Unstable and non-transparent policies are common and do not foster an environment conducive to investment. An example is the postponement of the Privatization of Gobi Corporation. An international tender was announced in May 1999 and foreign investors were solicited to invest. However, in July the parliament decided not to sell Gobi in 1999. Institutional capability limitations create barriers to entry by foreign and domestic entrepreneurs.

#### **Underdevelopment of the Formal Credit System**

Because of the underdevelopment of the banking system, the real interest rate on loans to the private sector has reached 38-40% in 1999. Manufacturing enterprises have difficulty accessing credit for investment or for working capital. As manufacturing is more capital intensive than service or trade, substantially more working capital is required. Due to lack of credit, many entrepreneurs are focusing on small-scale services and trade that requires less investment and working capital. This has delayed recovery of the manufacturing sector. Only entrepreneurs who can devise financial schemes that do not rely on banks can survive.

#### **Additional Constraints**

In order to improve profitability, survivors must improve all activities: Inbound Logistics, Operations, Outbound Logistics, Marketing & Sales, Service. However, manufacturing enterprises in Mongolia face deeply rooted constraints:

**Table 18. Issues and constraints that hamper the manufacturing sector**

<b>Activity</b>	<b>Constraints and Issues</b>
Inbound Logistics	<ul style="list-style-type: none"> <li>• Underdevelopment of the collection and distribution system for procurement of agro-based raw materials</li> </ul>
Operations	<ul style="list-style-type: none"> <li>• Obsolete equipment and technology</li> <li>• Insufficient quality for international markets</li> </ul>
Outbound Logistics	<ul style="list-style-type: none"> <li>• High domestic transportation costs due to underdevelopment of transportation infrastructure</li> <li>• High international transportation costs due to landlocked location</li> </ul>
Marketing & Sales	<ul style="list-style-type: none"> <li>• Small domestic market</li> <li>• Protective import duty charged by China</li> <li>• Stagnant economy of Russia</li> </ul>
Service	<ul style="list-style-type: none"> <li>• Poor after-sales service due to inadequate communication</li> </ul>



Underdevelopment of the collection and distribution system contributes significantly to the slow development of the manufacturing sector. Food and agro-based export manufacturers have to procure raw material from the agriculture and livestock sector. However, while manufacturing plants are located in big cities, herdsmen lead nomadic lives in rural areas. Since the collapse of the *negdel*, there has been no collection and distribution system for agro-based raw materials. There are around 30 cashmere companies engaged in dehairing activities. Among them, only Gobi Corporation has an established procurement system in the rural area. A full-fledged distribution system takes time to mature, and consists of:

- Transportation infrastructure, especially roads
- Entrepreneurs in transportation, wholesale, and foreign trade industries
- An efficient banking system which reduces the cost and risk of remittance
- A sufficient information network supported by efficient telecommunications

Many manufacturing enterprises are using obsolete equipment and technology. Product quality does not meet international standards. For example, meat products can not be exported to European markets because they do not meet the hygienic requirements.

Mongolia's domestic market is too small to support mass-production. The situation is aggravated by high domestic transportation costs involved in serving the two-thirds of the population that population lives in rural areas.

International transportation costs are prohibitively high for bulky manufactured products. Even if production cost in Ulaanbaatar is low, the FOB price at Tianjin port includes railway transportation of over 1500 km, significantly hurting the cost competitiveness of manufactured products.

Russia has been the biggest export market for meat. However, due to economic turmoil, meat exports to Russia have decreased and payment is made not by cash, but by barter. China's fast growing economy and large population is the biggest potential market for agro-based products. However, China is not a member of the World Trade Organization (WTO) and imposes protective import duties on agro-based products:

**Table 19. Import tariff of China for Mongolian export commodities**

Code	Item	Tariff
01	Meat and food products	45-50%
2207.10	Alcoholic beverages	75%
26.03	Copper concentrate	0%
26.13	Molybdenum concentrate	0%
42.03	Clothes and small stuff made by leather	70%
4103.10	Leather apparels	70%
43.02	Fur and skin coats	100%
5701.10	Carpet	80%
6101.10	Woolen products	80%
6104.41	Cashmere products	80%
62	Sewing products	90%

Source: MoAI

### **3.3.3 Medium Term Manufacturing Strategy for 2000-2002**

Private initiative has appropriately become the leading force in the manufacturing sector. For those SOEs that remain, restructuring is needed to improve competitiveness.

#### **Creating a favorable business environment for foreign investors**

The fundamental constraint in the development of the manufacturing sector is the weak general management skill of top management. Mongolian business leaders can learn management skills from foreign joint venture partners. Unfortunately, the current business environment is not favourable for foreign investors and FDI is decreasing. Thus, the first job of the government is to create attractive business environment for foreign investors.

Red tape discourages investment, particularly into the manufacturing sector. In 1998 the World Bank undertook a thorough diagnostic study of all procedural requirements related to foreign investment in Mongolia. One of the results of this study is the "Procedural Guide for Investors." This Procedural Guide reveals how red tape discourages foreign investors. The foreign business community perceives the following as hindrances to investment:

- Overly complicated licensing, registration and approval process
- Discretionary implementation of regulations by government agencies
- Corruption (in some cases, institutionalized)
- Frequent changes of policy and regulations
- A tax system biased against the manufacturing sector
- Absence of banking services

Eliminating these obstructions would lower transaction costs of the manufacturing enterprise and

create favourable environment for both domestic and foreign investors. The detailed analytical World Bank report on the FDI bottlenecks<sup>3</sup> is the best starting point for the government to improve the business environment for foreign and domestic entrepreneurs. Strategies of other developing countries, such as Mexico's deregulation czar and Hong Kong's independent commission against corruption, may be helpful to review.

#### **Establishing the legal framework for business activity**

While legislative reform continues, Mongolia will need to focus on the complex task of making its laws work in practice, especially in the areas of commercial and banking law. In the Action Plan of the SME Program, the Ministry of Justice has been allocated the following activities:

- To study laws, charters and rules which hinder SME development, in cooperation with the MoAI
- To work out proposals to amend these legal acts

These activities can greatly improve the business environment and should have the highest priority in the SME Program. Development of the legal framework needs long-term support from the donor community to the Ministry of Justice, the police and prosecutors.

#### **Listening to the private sector to improve policy formulation capacity**

In some successful countries, policy making has been embedded in consultative processes, which provide civil society, labor unions, and private firms opportunities for input. In East Asia public-private deliberation councils - such as Korea's monthly export promotion meetings, Thailand's National Joint Public and Private Consultative Committee, and the Malaysian Business Council - have provided mechanisms for feedback, information sharing, and co-ordination between the private sector and the government.

#### **Helping the survivors to develop and export**

A meat export project was formulated in 1998 and is being implemented from 1999 to 2001. This is a sector specific project that is designed by the MoAI and implemented with the co-operation of private enterprises and government agencies. However, the weak research capacity of MoAI and an unrealistic funding scheme hinders the effective implementation of the project.

In the preparation process of the meat export project, the MoAI studied the international market,

---

<sup>3</sup> "The investor Roadmap of Mongolia" was prepared for the Mongolian Investor's Conference on June 1998.

domestic industrial structure, product quality and production technology. At present meat products are exported mainly to Russia. Three bottlenecks are identified which prevent expansion into European and Chinese markets: poor meat processing technology, high hygienic requirements in European markets and a protective import tariff charged by China. To improve the health condition of cattle, the MoAI is receiving technical assistance from Japan on veterinary services.

In order to improve meat-processing technology, the government expects meat processing enterprises to invest in new equipment. However, many of them suffering from large deficits, with no ability to finance new investment. A realistic incentive scheme is not devised by the project, which shows vestiges of a centrally planned economy. In addition, the collection and distribution system of cattle for meat processing is not covered sufficiently.

MoAI is now preparing projects on cashmere, wool and leather. While it is known that Mongolia has a comparative advantage in cashmere, the international competitiveness of wool and leather has not been studied yet. In preparation of sector specific projects, detailed market and sector studies are necessary.

#### **Addressing the banking problem**

Today, the banking system presents a structure that hinders economic development. In the first five months of 1999, the Government of Mongolia, acting in coordination with the IMF, ADB, and the United States Agency for International Development (USAID), started to implement a major program of commercial bank restructuring. However, it may take several years until domestic manufacturing enterprises can have reasonable access to bank credit.

The World Bank is scheduled to begin a two step loan program, "Private Sector Development Credit", in January 2000. US\$12 million is expected to be disbursed from 2000 to 2003. The responsible agencies are the Ministry of Finance and the Bank of Mongolia. Two commercial banks have been selected as Participating Financial Institutes. The main objectives of this project are to promote private sector development and to strengthen the institutional capacity of the banking sector. Mongolian government is also negotiating with KIW on "Credit Program for small and medium-sized enterprises." DM 7.9 million is expected to be disbursed based on the similar scheme as the World Bank's program.

The export-usance financing scheme will partially alleviate the working capital problem of agro-based export manufacturers. Under this scheme, banks will provide export enterprises 3-6 month loans for the period from the purchase of raw materials to the point of export. The exporter gives the export contract to the bank as security. This loan is paid back upon receipt of the letter of

credit (L/C) without delay.