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# Mongolia Poverty Assessment in a Transition Economy

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## CURRENCY EQUIVALENTS

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Tug. 1.0= \$0.002

\$1.00= Tug. 480

## FISCAL YEAR

January 1 - December 31

## ACRONYMS AND ABBREVIATIONS

APAC	-	Aimag Poverty Alleviation Council
CMEA	-	Council for Mutual Economic Assistance
GOM	-	Government of Mongolia
IDA	-	International Development Association
IMF	-	International Monetary Fund
MOF	-	Ministry of Finance
MOH	-	Ministry of Health
MOSE	-	Ministry of Science and Education
MPPL	-	Ministry of Population Policy and Labor
NGO	-	Nongovernmental Organization
NPAC	-	National Poverty Alleviation Committee
NPAP	-	National Poverty Alleviation Program
PAP	-	Poverty Alleviation Program Office
SSO	-	State Statistical Office
UNDP	-	United Nations Development Program
UNICEF	-	United Nations Children Fund

## GLOSSARY OF MONGOLIAN TERMS

<i>aimag</i>	-	province
<i>bag</i>	-	sub-district
<i>dureg</i>	-	urban district
<i>dzud</i>	-	freezing snow or ice storm covering pasture
<i>feldsher</i>	-	rural health officer
<i>ger</i>	-	felt tent
<i>horoo</i>	-	smallest urban administrative unit
<i>khot ail</i>	-	camp of cooperating herding households
<i>negdel</i>	-	former pastoral collective
<i>sum</i>	-	rural district

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## EXECUTIVE SUMMARY

### Overview

1. With an area of 1.6 million square kilometers and a population of 2.3 million, Mongolia is one of the most sparsely-populated countries in the world. Nearly 50 percent of the population is situated in rural areas, of which half are pastoralists. Its vast but fragile pastureland supports a livestock population of 28 million. Mongolia's severe continental climate and geographical spread make the delivery of basic services an arduous task.

2. Since 1990, Mongolia has embarked on a far-reaching economic reform program and political and social transformation. The sudden loss of its traditional source of economic assistance and trading partners, coupled with the introduction of austerity measures to stabilize the economy, triggered major economic and social repercussions. Between 1990 and 1993, the economy contracted by about 20 percent of GDP, and open unemployment reached 20 percent. Power and coal outputs declined by 29 percent and 24 percent, respectively. Mechanized agriculture on marginal crop lands, which is no longer sustainable without massive subsidies, declined by about 60 percent. Social indicators—school enrollment, maternal mortality, infant mortality and morbidity—deteriorated. In summary, poverty has emerged as an increasingly severe problem in Mongolia. The Government of Mongolia (GOM) has identified the unemployed, elderly, female-headed households, children, pensioners and small herders as those who bear the social cost of transition, and these groups are the primary focus of this report.

3. The objectives of this poverty assessment are to:

- (a) provide an in-depth understanding of the economic, demographic, regional and social characteristics of the poor;
- (b) promote poverty reduction as an explicit objective in the formulation of public policy and resource allocation; and
- (c) assist donors—bilateral, multilateral and Nongovernmental Organizations (NGOs)—in assessing the design and impact of their country assistance programs on poverty alleviation.

4. This is the first poverty assessment for Mongolia, and it was prepared in close collaboration with GOM. It supplements the growing number of investigations into poverty in Mongolia produced over the last two years. The analysis in the report is based primarily on the Living Standard Measurement Survey (LSMS), conducted in June 1995,

and is augmented by government household surveys, case studies of selected households and other secondary data. It also draws from the findings of the International Development Association's (IDA) economic and sector work, the government's National Poverty Alleviation Program (NPAP), and other policy and program documents issued by government, local and international organizations and NGOs.

5. The report is selective in coverage and is divided into five Chapters. Chapter 1 sets the stage for the assessment and develops a profile of the poor and the most vulnerable groups of Mongolia. It is designed to deepen the understanding of the key characteristics of the poor—demographics, gender, location, sources of income, occupation, etc. The sudden rise in poverty in Mongolia is largely associated with the sharp contraction of the economy between 1990 and 1993: The causes of the contraction and the government's response to stabilize and reform the economy resulting in the recovery in 1994 and 1995 are discussed in Chapter 2. Chapter 3 discusses the social development—education and health—challenges facing Mongolia in its attempt to restore the human capital accumulated hitherto. The adequacy and efficacy of the safety net for the poor are examined in Chapter 4. Finally, the report outlines key policy and program elements aimed at combating poverty as part of the government's overall development strategy during the transition period.

### **Poverty Profile**

6. What is the extent of poverty in Mongolia? Who are the poor? Where do they live? What is their occupation? How do they cope with poverty? To answer these and other related questions, per capita household expenditure is adopted as a basis for measuring living standards. Since 1991, the government has annually estimated poverty lines based on a normative Minimum Living Level (MLL). However, for this assessment, a new poverty line was constructed using information from the government's Monthly Household Survey and the LSMS. This poverty line differs from the government's in that it is based on the actual food consumption patterns of the poorest 40 percent of households. The other main differences are that an attempt has been made to account for regional price differences and, also, to utilize non-food expenditure information reported in the LSMS. Based on the weighted national poverty line of Tug. 7,471, or \$17 per month, nearly 0.8 million people or 36 percent of the population are poor. Due to the differences in methodology used, the resulting poverty lines are not directly comparable with the government's urban and rural poverty lines, and hence, the rates of poverty implied by the different sets of poverty lines are also not directly comparable. To target assistance to the poor, the government has identified the following vulnerable groups: (a) children who have lost one or both parents; (b) disabled persons; (c) elderly without care; (d) the unemployed; (e) small herders; (f) low income households with many children; and (g) female-headed households. Does the analysis of the LSMS confirm these groups as poor? The principal findings on the profile of the poor are summarized below.

7. **Female-headed households have a higher incidence of poverty.** Female-headed households comprise nearly one fifth of all households in Mongolia. Nearly 60 percent of individuals living in female-headed households are poor, compared with a poverty rate of 31 percent for those living in male-headed households. Potential reasons for this difference in poverty rates are the fact that female-headed households, on average, have fewer employed members but equal numbers of children to support as male headed households, and also, they tend to own fewer herding animals per capita. Heads of female-headed households are also less educated compared with male heads of households, and this would contribute to their lower earning capacities.

8. **Small herders are the predominant rural poor.** Rural households who owned 15 or fewer animals are far more likely to be poor than households owning more than 15 animals. Low productivity of the herd, inadequate marketing outlets and support services, and exposure to frequent climatic risks explain the vulnerability of small herders.

9. **There is a strong correlation between unemployment and poverty.** The LSMS shows that 58 percent of unemployed are poor. The contraction of the economy has resulted in an increase in unemployment and, in the absence of income-generating asset-ownership, the unemployed must rely on limited public assistance and private transfers until sustained growth generates employment opportunities.

10. **Urban poverty is marginally higher than rural poverty.** Unlike most low income, and even other, transition countries where rural poverty is predominant, the incidence of urban poverty in Mongolia is 38 percent compared with a poverty rate of 33 percent among the rural population. Similarly, the depth of urban poverty is marginally higher and more severe than rural poverty, signifying the high concentration of very poor households in urban areas. Urban poverty has been exacerbated by the closure and downsizing of state enterprises and rural-urban migration.

11. **Provincial (*aimag*) centers have the highest incidence of poverty.** The high rate of unemployment, due to the closure of public sector enterprises and migration from the rural areas, has contributed to 48 percent of the population in the *aimag* centers being poor.

12. **Education is a good predictor of overall poverty status.** The very poor are more likely to be illiterate or to have attained only primary education. The enrollment rate for the wealthiest households is 65 percent higher than for poor households. The enrollment rate for primary school-age children from very poor households is only 71 percent, compared with an enrollment rate of 91 percent among the wealthiest households. Over 30 percent of each school-age cohort fail to complete the primary cycle, and most of these children live in poor households or are street children—a growing social problem in the urban centers.

13. **Enrollment rates for girls are generally higher than those for boys.** Following the privatization of livestock, demand for child (especially male) labor has

grown significantly. Unlike urban areas where gender differences in school participation are negligible, in rural areas, male student enrollment for all expenditure quintiles is lower than for female students. The increasing costs of education (boarding schools), clothing, and the deteriorating school environments are also factors deterring parents from sending children to school.

14. **Pensioners have a low incidence of poverty and are better protected than social assistance recipients.** Only 27 percent of pensioners are poor compared with the overall poverty incidence of 36 percent. Compared with social assistance recipients, whose annual allocation as a percentage of GDP has remained constant over the last three years, the annual allocation to pensions has actually increased as a percentage of GDP.

15. **Private transfers are significant sources of expenditure in poor households.** Nearly 20 percent of household expenditures in the poorest quintiles is accounted by private transfers compared with 8 percent by public transfer programs. Without private transfers, the poverty rate in Mongolia would increase to 46 percent.

16. **The poor have limited access to basic services.** Despite Mongolia's wide coverage of heating, water, electricity and transport facilities, the poor have limited access to such services. In a climate where the winter lasts on average for five months and the average temperature is -20 degrees centigrade, the demand for heating in urban and rural areas is phenomenal. In urban areas, 32 percent of the poor have access to central heating compared to 61 percent among the non-poor. To meet the demand for heat, the poor rely on coal, dung and wood. The poor have limited access to piped water, and this could contribute to higher morbidity due to water-borne diseases.

### **Key Poverty Issues for Public Policy**

17. The above poverty profile confirms many of the government's identified vulnerable groups—female-headed households, small herders, unemployed and dependent children. Against this backdrop, what are the key issues for public policy and program interventions?

18. Individuals living in female-headed households are a large proportion of the poor in Mongolia. The past pro-natal government policies, which provided generous child benefits, including free pre-school facilities and maternity homes, have induced higher fertility rates among poor households than in non-poor households, and this may explain the sudden rise in the incidence of poverty. Following the withdrawal of state-financed services, female-headed households in both urban and rural areas would have suffered more than male headed households. The closure of free pre-schools would have influenced mothers to stay out of the labor market because of the need to provide home care for their children. Female-headed herder households, owning small numbers of livestock, are dependent on the limited public social assistance and private transfers. The expansion of targeted programs to assist such households should be a top priority for public policy.

19. Poverty among small herders, who constitute nearly 50 percent of the herding population, is pervasive. Potential reasons are the limited diversity of animal species in herds, low productivity, limited marketing infrastructure, lack of technical support services, and the risk burden arising from severe snowstorms (*dzud*) causing chronic shortage of fodder supply. Prior to the privatization of livestock, these services were provided by the former pastoral collectives (*negdels*). Livestock accounts for 75 percent of agricultural GDP and is a key source of foreign exchange earnings. The challenge for the government is to address the overall sectoral constraints with particular attention to small herders.

20. A marked feature of Mongolia's poverty situation is the higher prevalence of urban poverty compared with rural poverty. The implication for public policy is to establish an objective and transparent resource allocation criteria between the vocal urban poor and the diverse, scattered and less vocal rural poor.

21. Mongolia devotes 16 percent of GDP to education, health and poverty-related interventions. While this share appears high for a low income country, a decomposition of these expenditures reveals that Mongolia's vast territory and harsh winter climate dictate over one third of the expenditures in education and health being devoted to heating and transport. The issue facing the government is how to maintain a level of expenditure that is fiscally sustainable, coupled with the introduction of measures to improve the efficiency of expenditures, for example, improving heating efficiency and the rationalization of the use of existing schools and health centers.

22. Related public expenditure issues are access to, targeting and quality of education, and health services. This poverty assessment shows that education and health subsidies benefit the wealthiest quintiles twice as much as those in the poorest. Enrollment in primary education has declined from 98 percent in 1989 to 84 percent in 1995. Enrollment of the poor in rural areas has declined from 86 to 77 percent. Among livestock herding households, the secondary school (ages 13-16) dropout rate for male children has increased sharply and is about three times as much as it is for other households. Privatization of livestock, rising school fees, and the growing question about the relevance of education in a pastoral society, are cited as causes for the new wave of non-enrollments among the rural population. To avert the potential of a growing illiterate generation, the government, in collaboration with communities, has the formidable task of formulating a delivery mechanism that is cost effective, and relevant to meet the new demands for quality education.

23. The rates of maternal mortality and morbidity increased steadily from 1989 to 1993. In poor provinces, the closure of maternity hostels and limited transport facilities due to inadequate resources are potential reasons for these outcomes. Coverage of sanitation, safe water and immunization also fell more sharply in poor than in rich *aimags*. Introduction of health fees and reduced government subsidies have raised the cost of access to and utilization of public health provision and also reduced the quality of services. The emergence of private health providers enabled only those in the wealthiest

quintile to seek better quality care. Meanwhile coverage of water, sanitation, immunization and public health expenditures have improved in high-income *aimags*. These findings imply that even with equitable growth in income across provinces—an unlikely prospect—the distribution of provincial government health expenditure will become more unequal. What are the mechanisms to redress the situation in poor *aimags*?

24. Although social assistance is equitably distributed, due to fiscal constraints only 15 percent of the very poor, residing in urban areas, are receiving benefits. How do the remaining 85 percent cope with poverty? The impact of private transfers is significant for the poor. The challenge for policymakers is to increase the amount and coverage of social assistance, particularly for the poor in remote *aimags*, without “crowding out” private transfers.

### **Prospects for Poverty Reduction**

25. Economic reform, poverty alleviation and public sector reform are the three declared priority areas of the government. Acceleration of structural and sectoral policy reforms, involving restructuring of public sector institutions and enterprises, may exacerbate poverty in the short run. Until the economy generates adequate supply response, the need for targeted public sector poverty related expenditures will be required.

26. Although Mongolia started to monitor poverty only following the start of the transition program in 1990, it has since embarked on an ambitious poverty alleviation program. The National Poverty Alleviation Program (NPAP) was launched in June 1994 as a multi-sectoral poverty reduction program to reduce the officially-measured incidence of poverty from 26 to 10 percent of the population by year 2000. It acknowledges the reinforcing roles of sound macroeconomic policies to generate employment opportunities and investment in human capital to enable the poor to meet the new labor market demands. The development of management capacities for the public sector to redefine its role and facilitate the growth of the private sector, investment in rural infrastructure and basic services, availability of lines of credit for women and other small entrepreneurs, and safety net programs to protect those who are unable to benefit from the expanding labor market are the key features of NPAP. For the rural sector, NPAP recognizes that the livestock sector will remain the mainstay of the economy and a vehicle for poverty reduction. As a framework for poverty reduction, NPAP provides a suitable mechanism for integrating poverty alleviation in the overall development agenda and channeling resources to targeted poverty reduction programs. The strategy outlined below complements the government’s approach to poverty reduction.

### **Growth and Poverty Reduction**

27. The key elements for growth and poverty reduction are continued macroeconomic stability and structural reform leading to job-creation and the generation of adequate resources to finance appropriately targeted social services. A public expenditure program aimed at poverty reduction should comprise:

- (a) labor intensive investments and training programs for the unemployed to meet growing requirements for new skills in view of the importance of the link between unemployment and poverty, particularly, for the urban poor;
- (b) maintenance of the present level of social expenditures while adjusting the composition and improving efficiency, access and targeting;
- (c) support for poor small herders through the promotion of productivity enhancing measures including pasture improvements based on the traditional herding groups, provision of veterinary services, supply of emergency fodder during severe snowstorms, sectorwide policy changes to remove non-market interventions in meat pricing and barriers to live animal exports, and provision of market information;
- (d) protection of the real level of pensions, improved management of social security administration and increases in the allocation for social assistance; and
- (e) targeted energy price subsidies for the urban and rural poor, while narrowing the margin between the average tariff and long-run marginal costs, particularly for industry and other energy-intensive users for industrial use.

28. To complement public expenditure programs, a restructured financial sector would boost the development of small-scale labor-intensive enterprises and credit programs for the poor.

29. The deepening of the reform program, improvement in the efficiency of public expenditures, and the growth of the private sector should ensure continuation of the 6 percent growth of GDP achieved in 1995. Under this growth scenario, poverty would decline gradually. With a 4 percent increase in per capita consumption, an annual reduction of about 7 percent in the incidence of poverty is feasible, based on the "elasticity" of aggregate consumption/poverty incidence is 1.8.<sup>1</sup>

### **Improving Access, Quality and Targeting of Social Services**

30. Pre-transition Mongolia provided universal access to basic education and health services with minimal regional variations. It is against this background that the search for improving the poor's access to social services should be examined. When the state provided these services free, the utilization rates were much higher than currently observed, thus indicating an underlying demand for such services.

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<sup>1</sup> For a cross section of countries, elasticities have been found in the range of -1 to -4. (See World Bank, *Implementing the World Bank's Strategy to Reduce Poverty, Progress and Challenges*, 1993.) Based on the LSMS data, the estimate for Mongolia is -1.76.

## **Basic Education**

31. Enabling the poor to become well-educated requires not only that they have access to primary education, but also that they finish primary education and make the transition to post-primary education. At each stage, poverty poses a barrier, and the government's policy interventions should endeavor to overcome this barrier if it wishes to ensure "education for all." The government has given priority to enhance and equalize opportunities in basic, primary, and secondary education in its "Education Laws." Many of the recommendations of the Education Master Plan and the government's objectives concerning equity, efficiency and quality of educational services could be attained by further improvements in the following key areas.

32. **Enhancing Retention.** Reduction in dropouts (especially at the primary level and among poorer groups) is important for the long-run equalization of incomes and reduction in poverty. To enhance retention rates, several specific interventions should be considered. Subsidies that compensate families for the opportunity costs of education (for example, from wages forgone) should be promoted as they enhance the likelihood of enrollment among the poorest students in primary and especially in secondary schools. Also distance learning through *khot-ail* and *ger* schools should be supported. For higher education, retention among the poor can be augmented mainly by improving access to student finance, scholarships, loan schemes, and more distance learning.

33. **Improving Quality.** Ample scope exists for improving quality of schools through compositional shifts in public budgets from non-teaching staff to learning and teaching materials. As a compensatory-financing mechanism, an equalization fund managed by the central government should be considered where rich *aimags* can assist poor quality schools in disadvantaged areas.

34. **Improving Efficiency.** The unit cost of primary education is high by international standards. In the face of chronic resource constraints, local governments must introduce cost saving measures. Raising pupil-teacher ratios, reducing non-teaching staff, and other measures including energy conservation, are viable options for improving internal efficiency in the use of public resources.

35. **Linkages to Labor Market.** To improve the match between educational output and labor market demand among the poor, the government should expand access to post primary education through allocation of funds in science, technical, and vocational education away from the traditional academic programs, scaling tuition fees by fields of study, and accrediting private-training providers on the basis of labor demand and improved quality standards. For the educated unemployed, job training and retraining in collaboration with employers to acquire new skills are recommended.

## **Basic Health Services**

36. Health status indicators by provinces and by quintiles clearly show that the poor and less educated are at greater risk of diseases and have higher mortality rates. Potential

reasons for this are that the poor have less access to preventive and curative health services, and the fact that public resources are targeted inefficiently. Reducing the gap in health status across quintiles and regions requires improving access, introducing selective user fees, delivery of quality services and better targeting of health resources.

37. **Improving Access.** There is a need for selective investments to improve the services in existing maternal and child health care centers in rural areas. Priority investments in medical equipment, essential drugs and supplies, outreach activities with staffed ambulance services, and transport and vehicle maintenance are essential for the improvement in access to such services as routine preventive, prenatal, and delivery offered by these facilities. Reducing user costs associated with medical care and drugs, and improving the quality of care for those who actually gain access, are critical for the enhancement of access of the poorest households to health facilities. Fee exemptions can be compensated for by redirecting savings from efficiency gains in government expenditures and surpluses from social insurance fees.

38. **Improving Quality.** The government can improve quality of services available to the poor by redeploying more trained health personnel to poor areas. This would require bonus and hardship allowances particularly for rural health personnel. Another step would be to provide district hospitals and sub-district (*bag*) rural health officers (*feldshers*) with basic medical equipment, drugs, medical supplies, beds and transport.

39. **Improving Targeting and Efficiency.** If economic growth during the post-transition period in the *aimags* alone is less likely to reduce the imbalance in *aimag* health expenditures, there is a strong case for the central government to target an increasing share of resources to the poorest provinces. Since the central government allocates resources mainly for non-salary health service programs, a strategy of redistribution of central government health expenditure from richer to poorer provinces will generate a larger overall decline in infant and maternal mortality and improve efficiency of government health resources.

### **Social Assistance**

40. To effectively protect the poor during the transition period, the following measures are recommended.

- (a) **Financing Social Assistance.** Despite the meager social assistance funding, public sector transfers should be carefully designed to supplement the flow of private transfers and other sources of income. If the objective of public policy is to fill 20-25 percent of the expenditure gap between actual expenditures and the level required to reach the food poverty line, the amount planned for 1996 for pure social assistance (i.e., other than benefits for mothers, loans, etc.) should be enhanced.
- (b) **Improving Targeting:** The level of education of the household head, and the number of animals owned (per capita) are good targeting indicators.

Thus, in rural areas, assistance to the bottom 10 percent of the households, owning the smallest animal stock per capita, would improve proper targeting. Women and children are clearly vulnerable groups. However, finer targeting would be necessary, considering that of the very poor, over a third are female-headed. Linking the female-headed criterion with other indicators such as number of children or number of animals owned would also be useful for purposes of targeting. To ensure that the very poor across the country benefit, the prevailing inter-regional inequity in the distribution of assistance should also be corrected. This scenario has to change if the poor in far-flung areas are to receive assistance.

- (c) **Streamlining Social Assistance.** At present, social assistance is provided in various categories (for example, women with many children, multiple births, etc.). In all, 11 categories of social assistance benefits and 4 categories of pensions exist in Mongolia. There is clearly a need to consolidate and streamline the system of benefit categorization and thus save on administrative costs per unit of transfer.
- (d) **Delivery of Social Assistance.** The experience of decentralized delivery of social assistance in a number of countries suggests that as local authorities begin assuming responsibilities, the relatively poorer *aimags* with low tax revenue potential, are likely to be at a disadvantage in delivering the desired level of assistance to the poor. To protect the very poor located in the poorer *aimags*, there is a need for cross-subsidization from richer to poorer *aimags*, with the central government taking an active role in achieving such a redistribution of revenues.

### **Focus on Poverty**

41. An understanding of the dynamics of poverty is a key to effective policy formulation and program interventions. Toward this end, it is imperative for the government to enhance its poverty monitoring capacity both in terms of household survey implementation and analysis of such data. This should be supplemented by in-depth studies of traditional pastoral institutions, coping mechanisms and the scope for promoting the roles of communities and NGOs in poverty alleviation programs.

42. The National Poverty Alleviation Committee (NPAC), chaired by the first Deputy Prime Minister and comprising sectoral ministries, NGOs, related national and local poverty councils and management offices, is the appropriate focal point for poverty reduction programs. To provide effective support to NPAC, the Poverty Alleviation Program Office (PAPO) and the *Aimag* Poverty Alleviation Councils (APAC) should be strengthened in the areas of staffing, resources and training.

## 1. A PROFILE OF POVERTY

### A. INTRODUCTION

1.1 Poverty analysis is being used more and more frequently as input into policy-making in developing countries. While there remains much debate regarding the actual meaning of poverty, as well as differences of opinion regarding how to measure poverty and identify the root causes, certain steps have become quite standard in poverty analysis.

1.2 The first step is defining a *measure or indicator of living standards* that can be used to rank households from least well-off to most well-off in a consistent fashion. Most commonly used is household income or consumer expenditures per person (or per adult equivalent person). Single or composite measures of other types of indicators are also sometimes used—for example, nutritional status, access to basic services, and the like. The second step is to develop a measure (or set of measures) to distinguish the poor from the non-poor—to define a *poverty line* (or lines) expressed in terms of the living standards indicator. The third and final step is to use the living standards indicator and poverty line(s) to identify who are the poor, and, through use of additional information (i.e., on geographical location of the household, housing and access to basic services, nutrition levels, morbidity and mortality, productive activities, ownership of assets, and the like) to develop the *poverty profile* that identifies salient characteristics of the poor and important root causes of poverty.

1.3 The overall objective of poverty analysis is to identify policy measures and program interventions that help to reduce poverty and improve living conditions for the poor. The Mongolia Living Standards Measurement Survey<sup>2</sup> (LSMS), which provides the empirical base for much of the work described here, is a tremendously rich source of information about the lives of Mongolian people. Its real strength lies not in its ability to measure levels of poverty—although the survey can and has been used to measure poverty and identify the poor—but rather in its ability to go beyond simple measurement and identify important characteristics of the poor and, thus, provide better guidance to policymakers on what measures to take to reduce poverty. For example, the LSMS can tell us what kind of work is done by the poor and how many of them are currently unemployed. It will tell us how many of the children living in poor households are enrolled in school, and whether they are less likely than children from better-off households to attend secondary school or university. It will help us in identifying coping mechanisms of the poor in this difficult period of transition, and how well-targeted are

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<sup>2</sup> The survey was administered in June 1995, by the Mongolia State Statistical Office. In measuring consumer expenditures, it covers the period June 1994 through June 1995.

existing social safety net programs. All of this information can be used to make economic and social policies more pro-poor and to improve the design and targeting of existing programs.

1.4 This chapter first presents basic information on the level and distribution of living standards in Mongolia, as measured by per capita consumer expenditures. Section C describes a new set of poverty lines derived for the present study. These are different in some important respects from Mongolia's official poverty lines. Section D uses these new lines applied to per capita household consumer expenditures estimated from the LSMS to obtain new estimates of regional and national poverty rates. However, poverty is a complex and multi-dimensional phenomena. While the conventional expenditure-based approach to poverty measurement described in Section D is important, it does not capture all aspects of social welfare. Section E identifies key economic and social characteristics that help to discriminate the poor from the non-poor, i.e., employment and income generating activities, levels of physical and human capital, housing, access to basic services, and health and fertility indicators. The section also considers vulnerable groups, as defined by the Government of Mongolia. Are these groups really at risk of poverty? What is it about these households and individuals that puts them at risk?

## **B. MEASURING LIVING STANDARDS: LEVELS AND DISTRIBUTION**

1.5 Consumer expenditures are frequently used as a measure of living standards in lieu of household income. It is also common practice to divide consumer expenditures by household size, and to attribute to each member of the household the same per capita expenditure. In such case, the focus of the analysis is on individuals as opposed to households, and no adjustment is made for equivalence scales or household scale economies.<sup>3</sup> This work takes a similar approach: the sum of actual and imputed household consumer expenditures divided by the number of people in the household, appropriately adjusted for differences in purchasing power (i.e., differences in prices) between regions and between urban and rural areas, was used as the measure of living standards for Mongolia. This measure is different in some important respects from total household spending. First, imputations are made to estimate the value to the household of consuming goods they produce at home—i.e., crops, meat, milk, and hides from livestock owned by the household—or have received as gifts. Second, imputations are made to estimate the value of the flow of services obtained from durables and housing. Purchases of durables and housing are treated as changes in stocks or household assets, as are changes in the household's debt position, and are not included in the expenditure measure. Third, some payments—i.e., for various kinds of taxes—are also excluded from the living standards measure. The rationale for the exclusion is that these kinds of

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<sup>3</sup> Young children may need to consume fewer calories than adults, so that it costs less to feed a young child than to feed an adult. To adjust for this, household membership is sometimes reweighted to estimate adult-equivalent household size. While attractive in theory, the reweighting is problematic to implement properly and may introduce more rather than less error.

payments are not linked to a higher level of consumer welfare; at equal levels of total expenditures (net of taxes), a household that pays more taxes is likely to be no better off (in consumption terms) than a household that pays less taxes. (See Annex 1A for a complete description of the methodology used.)

1.6 According to the estimates from the LSMS, households in Mongolia consume on average Tug. 120,000 per person per year, which is equivalent to annual per capita expenditures of \$280. Table 1.1 shows monthly per capita household expenditures, the share of spending devoted to food, and estimated average calories consumed per person per day. Expenditures are reported in nominal (as reported in the survey) terms and after having been adjusted for cost-of-living differences between regions.<sup>4</sup> Average levels of per capita expenditures are similar in urban and rural areas.<sup>5</sup> In contrast, average consumer spending in the top 20 percent of the welfare distribution is nearly five times higher than average spending in the bottom quintile.

**TABLE 1.1: LEVELS AND DISTRIBUTION OF HOUSEHOLD LIVING STANDARDS**

Quintile or Region	Per capita Expenditures (Tug./month)	Price-adjusted Per capita Expenditures (Tug./month)	Share of Total Spending on Food (%)
Poorest 20%	3,686	4,081	59.9
20-40%	6,167	6,831	56.0
40-60%	8,423	9,174	54.9
60-80%	11,648	12,637	51.2
Wealthiest 20%	20,594	20,575	44.4
<b>Region</b>			
Urban	11,516	10,840	50.5
of which, UB	12,060	11,188	49.4
Rural	8,101	10,411	57.4
All Mongolia	10,116	10,665	53.3

Note: Quintiles are defined in terms of persons rather than households

1.7 A gini coefficient is often used to measure inequality in income and expenditure. The gini is bounded between 1 and 0, with values close to zero denoting a more equitable distribution and values close to one denoting a very inequitable distribution. Based on the LSMS data, the gini coefficient for (price-adjusted) consumption in Mongolia is 0.31, which suggests a fairly-equitable distribution of welfare levels. This is comparable to other transition economies in East Asia, for example, Vietnam (0.34) and Laos (0.32).

<sup>4</sup> The price adjustments were made by applying a regional cost of living index. See paras 1.15 and 1.17 for details.

<sup>5</sup> Urban areas include all *aimag* centers and Ulaanbaatar. Rural areas include *sum* centers and rural regions.

The gini coefficient for urban areas is slightly higher than that for rural areas (0.33 as compared with 0.27).

1.8 The share of spending on food (as opposed to other consumer goods and services) ranges from an average of 60 percent for the poorest households to only 44 percent for the wealthiest. High levels of non-food spending, particularly for housing, heat, and warm clothing, are necessary in Mongolia's difficult climate; even the poorest person needs a minimum of basic services to survive. Spending on food ranges from a high of Tug. 9,100 per person in the wealthiest quintile to only Tug. 2,200 per person for individuals in the poorest quintile. Similar to findings in other countries, the elasticity of calorie consumption with respect to income is low, except for households toward the bottom end of the welfare distribution. Wealthier households spend more on food in large part because they substitute more expensive calories for cheaper calories, and not because they consume a great deal more calories.

### C. DERIVATION OF THE POVERTY LINE

1.9 When estimating poverty lines, one typically uses a minimum-needs consumption basket and an associated set of commodity prices. In the simplest sense, the poverty line is defined as the estimated cost (e.g., prices multiplied by quantities) of purchasing the minimum-needs consumption. But there are many subtle questions that must be dealt with in the actual process of estimation. For example, if commodity prices differ across regions, one needs to correct the poverty line (or lines) to reflect cost of living differentials. Or, if the minimum-needs consumption basket includes both market goods and subsidized or non-market goods (e.g., goods not allocated through the market or whose prices do not reflect the value of the services received) values for the consumption of the non-market goods must be imputed. Estimation becomes particularly problematic when some households pay market determined prices for a particular commodity and other households receive it either free of cost or at subsidized rates.

1.10 This latter situation prevails in Mongolia, at least at present, for housing and for some kinds of basic services (heating, water supply). For example, urban households who live in government-owned housing and use central heating may pay less in out-of-pocket costs *for better quality services* than rural households who live in *gers* (semi-permanent tents made of felt on a wooden frame) and heat with wood. The fact that a rural household pays more (e.g., has higher reported consumer expenditures) does not mean that the rural household is necessarily better off; rather, the rural household simply may be paying a price that is closer to the market value (or real welfare value) of the commodity or service than is the urban household. While many of these price subsidies recently have been or shortly will be phased-out, the situation that prevailed at the time of the LSMS (June 1995) survey was complex and particular efforts were made to address this situation both in estimating a poverty line and the underlying household-level living standards indicator.

1.11 **Mongolia's Official Poverty Line.** The official poverty lines, referred to as the per capita Minimum Living Level (MLL), were first established in June 1991 by a working group comprising the State Statistical Office (SSO), the Ministry of Population and Labor (MPPL), the Ministry of Trade and Industry (MITI), and the Trade Union Council (TUC). The MLL is based on the estimated cost of obtaining the minimum basket of food and non-food goods necessary to support an adequate standard of living. It has been reviewed and updated on an *ad hoc* basis, and is approved by the cabinet. In September 1994, the MLL was set at Tug. 4,200 per person per month for urban households and Tug. 3,700 per person per month for rural households. A new set of official poverty lines were established by the government in December 1995, e.g., Tug. 8,000 per person per month for urban households and Tug. 6,900 per person per month for rural households.

1.12 **Derivation of New Poverty Line.** While the poverty line methodology currently used by the working group seems generally well-founded, modifications were made and new poverty lines were estimated for the Poverty Assessment. The modifications were designed to address three areas of concern with the working group's approach: first, the working group used a normative food basket for estimating the official lines, and the normative basket is not based on the actual consumption patterns of the poor. In addition, the official lines are based on different food baskets for urban and rural areas. Second, Mongolia's official poverty lines are estimated using only two sets of prices—averaged urban food prices and averaged rural food prices. These prices may not provide an accurate estimate of the actual cost of purchasing the minimum needs basket in different parts of the country: for example, prices in very isolated regions (including *aimag* centers) may be higher than prices in Ulaanbaatar. But the official lines are based on averaged prices across all urban areas and all rural areas. Third, various non-market goods are included in the basket of non-food items, and appropriate prices are typically not available (see para. 1.10). Rather than imputing prices, MLL nonfood spending was estimated based on actual nonfood spending levels of poor households.

1.13 These issues and proposed modifications were discussed with SSO and MPPL during a Bank mission.<sup>6</sup> The modifications used in estimating a new poverty line is described below.

1.14 **Revising the Minimum-Needs Food Consumption Basket.** Rather than using the current MLL food basket, which was defined in a normative way rather than based on actual consumption patterns, SSO's Monthly Household Surveys were used to develop an alternative minimum-needs food basket. The new food basket is defined based on the average food consumption basket for households in the bottom 40 percent of the per capita expenditure distribution—that is, the poorest 40 percent of households in Mongolia. The approach thus uses *actual food consumption patterns of the poor to*

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<sup>6</sup> Main mission for the Poverty Assessment, November 1995.

identify a minimum-needs food basket. The new minimum-needs food basket was then scaled up<sup>7</sup> to ensure that it provides for an average consumption level of 2,100 calories per person (as in the MLL). To ensure consistency of measurement, a single food minimum-needs food basket was used for the entire country.

**1.15 Differences in Regional Purchasing Power.** It is important that the same standard of living (or welfare level) be used for all regions in measuring poverty. However, prices may vary across regions: it may cost more to purchase the same standard of living (e.g., the same basket of goods) in a region with higher prices than in a region with generally lower prices. To account for this, prices were obtained for urban and rural areas within each *aimag* covered in the LSMS survey—Arhangai, Dornod, Hovd, Omnogov, Tov, and Ulaanbaatar city—and adjustments were made to the recorded consumer expenditures using a Laspeyres price index.<sup>8</sup>

**1.16 Non-food Spending.** The official MLL also includes a basket of non-food commodities—i.e., clothing, consumer durables, housing, and other goods and services. Some of these commodities (for example, housing and housing services) are either non-market goods or are highly subsidized for some segments of the population. One could use the MLL basket of non-food commodities and try to impute values and relevant prices. However, this is difficult to do in a consistent way with the information currently available. Instead, the actual food and non-food household spending patterns from the LSMS was used to estimate the non-food component of the poverty line (see Annex 1B). A lower bound estimate of non-food requirements is used; the non-food component of the poverty line is set equal to the typical non-food spending for those households who can just afford the reference food basket (their total spending is just equal to the food poverty line) but actually displace some amount of food expenditures in order to satisfy minimal non-food needs. (Annex 1B presents a more detailed description of how the poverty line was derived).

**1.17** Table 1.2 shows the estimated costs of consuming the reference MLL food basket and the total (MLL food and estimated non-food) consumption basket for all regional strata. Prices and non-food spending patterns were found to vary quite substantially in different regions of the country. For example, food prices were generally higher in remote regions as well as in Ulaanbaatar, and poverty lines in these regions are accordingly higher. The Laspeyres indices<sup>9</sup> are presented in the third column.

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<sup>7</sup> In scaling up, some adjustments were made in the shares of basic commodities consumed.

<sup>8</sup> Nine strata—urban Arhangai, rural Arhangai, urban Dornod, rural Dornod, all Omnogov, rural Tov, urban Hovd, rural Hovd, and Ulaanbaatar City—were used in estimating the Laspeyres price index. The index used to adjust expenditures for households in a particular region is defined as ratio of the cost of purchasing the reference minimum needs basket (food and non-food) in that region to the population weighted average cost of purchasing the reference basket across all regions.

<sup>9</sup> In Table 1.2, defined as the ratio of the stratum-specific “cost of MLL food and estimated non-food basket” to the all-Mongolia “cost of MLL food and estimated non-food basket.”

**TABLE 1.2: URBAN AND RURAL REGIONAL PRICE INDICES**

Region	Cost of MLL Food Basket (Tug./person/month)	Cost of MLL Food and Estimated Non-Food Basket (Tug./person/month)	Regional Price Index (All-Mongolia average costs)
Arhangai, urban	4,907	6,415	0.89
Arhangai, rural	3,904	5,146	0.71
Dornod, urban	4,731	6,519	0.90
Dornod, rural	4,105	5,730	0.79
Omnogov, total	4,854	6,811	0.94
Tov, total	4,278	6,010	0.83
Hovd, urban	5,799	8,323	1.15
Hovd, rural	4,854	6,842	0.95
Ulaanbaatar City	5,564	8,053	1.11
All Mongolia	5,084	7,240	1.00

#### D. POVERTY COMPARISONS

**1.18 Measures of Poverty. Incidence, Depth, and Severity.** The incidence of poverty or *headcount index* ( $P_0$ ) is simply defined as the percentage of persons who are poor (i.e., who live in households that have per capita consumption below the poverty line). The headcount index is the most widely-used and publicized measure of poverty; however, it says nothing about the depth of poverty—namely, the extent to which welfare levels of individual households fall below the poverty line. The depth of poverty is measured by the *poverty gap index* ( $P_1$ ) that measures the average shortfall of per capita expenditure, expressed as a percentage of the poverty line. But the poverty gap index is not sensitive to the actual distribution of welfare among poor households (if one household just below the poverty line were to make a transfer to a much poorer household, there would be no change in  $P_1$ ). The Foster-Greer-Thorbecke index ( $P_2$ ) is used to measure the *severity of poverty*, and puts higher weights on the welfare levels of the very poor as opposed to households living very near to the poverty line. The three measures jointly can provide a good description of the poverty situation in Mongolia.<sup>10</sup>

<sup>10</sup> The three poverty measures can be calculated using the following formula:

$$P_{\alpha} = \frac{1}{N} \sum_{i=1}^q \{(z-y_i)/z\}^{\alpha}$$

where  $\alpha = 0,1,2$

$q$  = number of poor individuals

$N$  = number of individuals

$z$  = poverty line

$y_i$  = per capita expenditure of individual  $i$ 's household

**1.19 Poverty Levels in Mongolia:** Using the revised methodology, an estimated 828,000 people<sup>11</sup>, or 36 percent of the total population, were poor as of June 1995 (Table 1.3). This is in contrast to official estimates of 15 percent in June 1991 (at the start of the economic crisis) and 26 percent in June 1994. However, the two sets of estimates (official estimates and the new LSMS-based estimates) are not strictly comparable: this can be attributed to the use of a more comprehensive measure of living standards as well as different and likely more comprehensive poverty lines. Thus, this analysis can offer no real insights as to whether poverty levels have really risen since June 1994, nor by how much.

**TABLE 1.3: LEVELS AND DISTRIBUTION OF THE POOR**

Region	Incidence of Poverty (Percent Poor)	Population (‘000)	Percent of Persons	Number of Poor People (‘000)	Percent of Poor
All urban	38.5	1,222.2	54	0.471	57
- UB City	35.1	609.9	27	0.214	27
All Rural	33.1	1,057.8	46	0.350	43
All-Mongolia	36.3	2,280.0	100	0.828	100

**1.20 Urban versus Rural Poverty Levels.** In contrast to findings in many other countries, urban poverty is found to be marginally higher than rural poverty in Mongolia. Some 38 percent of individuals living in urban areas are identified as poor, in contrast to 33 percent of rural residents. Estimates based on official MPPL poverty lines show a similar pattern. But poverty levels in Ulaanbaatar are very similar to rural poverty levels; the urban-rural gap is driven by a very high poverty incidence in *aimag* centers that are the provincial capitals. High levels of migration—particularly from rural areas and *sum* centers to urban centers—likely contribute to the parity between urban and rural poverty levels.

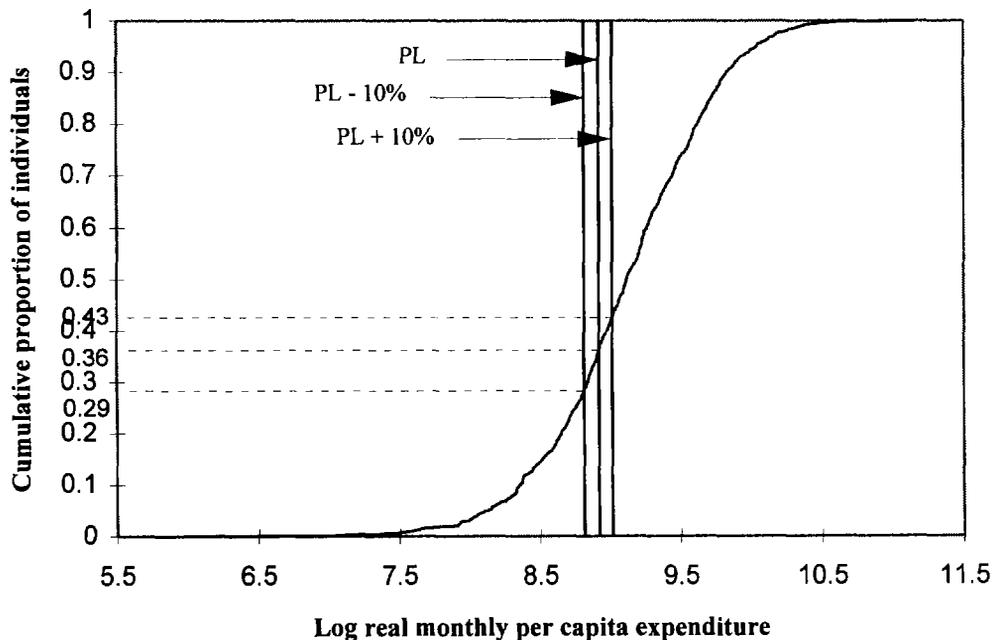
**1.21** Figures 1-1 and 1-2 present findings on poverty incidence graphically for all Mongolia and for urban versus rural areas. The natural log of regional price-adjusted per capita consumption expenditures is plotted on the horizontal axis and on the vertical axis is the cumulative proportion of individuals from households with lower consumption; the curves are therefore the cumulative distributions of consumption. The vertical line represents the poverty line; where it intersects the cumulative distribution determines the level of poverty (namely, the share of the population falling below the poverty line). The urban and rural distributions are particularly interesting (Figure 1-2): the respective cumulative welfare curves cross at a point very near the poverty line. At a higher poverty line—for example, a 25 percent increase over the current line—poverty levels in rural

<sup>11</sup> Based on beginning 1995 population counts published in Table 1.4, Mongolian Economy and Society in 1995, *Statistical Yearbook*, State Statistical Office of Mongolia, 1996.

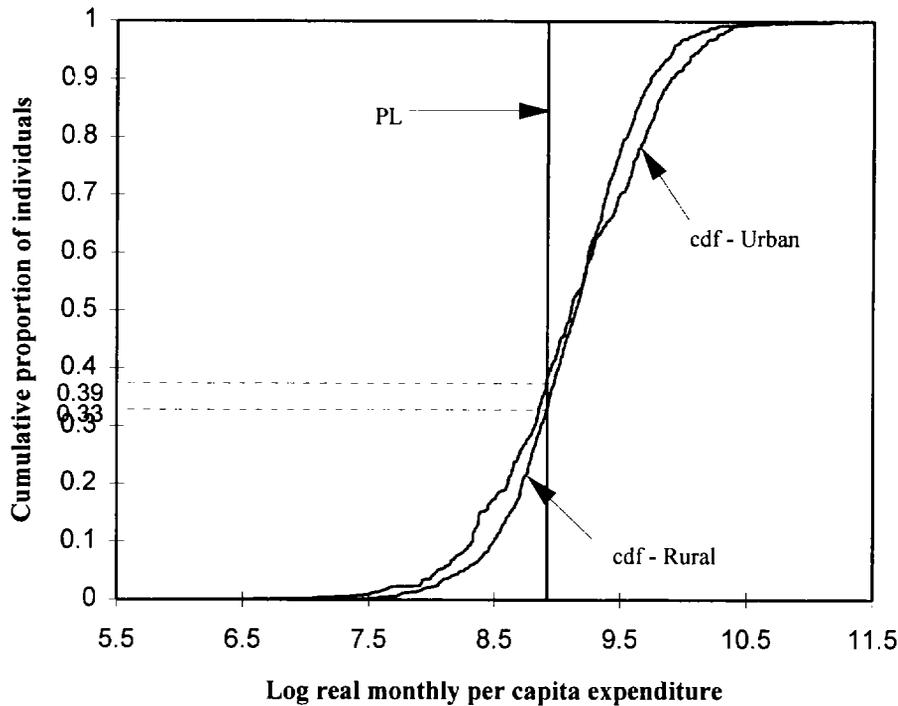
areas would begin to dominate poverty in urban areas. At lower poverty lines (i.e., lower than the official line), urban poverty clearly dominates rural poverty. These results are somewhat unusual: in the majority of developing countries, rural poverty rates are substantially higher than urban poverty rates and rural poverty often dominates urban poverty across a wide range of poverty lines. In Mongolia, while average consumption is higher in urban areas (Table 1.1), inequality is likewise higher and this contributes to higher poverty levels.

1.22 Note also that the slope of the cumulative distribution curve is very steep around the poverty line, which means that a relatively small change in the poverty line would have large effect on poverty estimates. For example, increasing the poverty line by only 10 percent increases the level of poverty to 43 percent (a 20 percent increase), while decreasing the poverty line by 10 percent results in slightly more than a 20 percent drop in poverty levels (to 29 percent). These results are displayed pictorially in Figure 1-1.

**FIGURE 1.1: CUMULATIVE DISTRIBUTION OF REAL MONTHLY PER CAPITA EXPENDITURE**



**FIGURE 1.2: CUMULATIVE DISTRIBUTION OF REAL MONTHLY PER CAPITA EXPENDITURE, URBAN AND RURAL AREAS**



**1.23 Depth and Severity of Poverty.** Both the depth and severity of poverty are marginally higher in urban Mongolia than in rural Mongolia. Table 1.4 shows estimates of all three poverty measures—the headcount index ( $P_0$ ), the depth of poverty (or the poverty gap index  $P_1$ ), and the severity of poverty (the squared poverty gap index  $P_2$ ) for urban and rural areas, as well as for Ulaanbaatar. Consistent with Mongolia’s relatively low levels of inequality, the poverty gap is not large. At a national level, the poverty gap for Mongolia is approximately half of what was found for the Kyrgyz Republic. The relatively shallow poverty gap for Mongolia indicates that while a considerable number of households have recently descended into poverty, most are bunched just under the poverty line. It is interesting to note that both the depth and severity of poverty are higher in urban areas than in rural areas. This is an unusual finding, particularly for countries at Mongolia’s very low level of income. Mongolia’s urban areas—particularly urban areas in the *aimags*—have surprisingly high concentrations of very poor households. Ulaanbaatar also accounts for many of Mongolia’s wealthier households, which explains in large part the higher level of inequality in urban areas.

**TABLE 1.4: POVERTY MEASURES**

Region	Headcount ( $P_0$ )	Depth ( $P_1$ )	Severity ( $P_2$ )
All urban	38.5%	12.2	5.7
- UB City	35.1%	10.4	4.5
All Rural	33.1%	8.9	3.6
All-Mongolia	36.3%	10.9	4.8

### E. ECONOMIC AND SOCIAL PROFILE OF THE POOR

1.24 It is important to understand the key economic and social forces that explain low incomes and high levels of poverty in Mongolia. Generally, policymakers have a potentially wide range of instruments that can be used to improve the welfare of the poor, ranging from social assistance, transfers, and subsidies, to a variety of economic measures that help to accelerate growth, raise incomes, and create new jobs. This section focuses primarily on the latter, and tries to build on what is already known about the poor in Mongolia. The intention is to bring the richness of the Mongolia LSMS to bear on a series of key questions most broadly: Who are the poor? Where and how do they live? What are their primary sources of income and in what sectors of the economy are they currently employed? How well-educated are they in comparison to individuals in non-poor households? Do they have access to and utilize basic health care and education services? It also touches on the concept of “vulnerable groups,” an important element of government’s poverty reduction program, by evaluating the links between vulnerable groups and poverty.

1.25 **Vulnerable Groups.** The government has identified the following individuals and households as comprising vulnerable groups: (a) children who have lost one or both parents; (b) disabled persons; (c) elderly persons without care; (d) the unemployed; (e) herders with few animals; (f) low income households with many children; and (g) female-headed households. The assumption is that individuals from these groups are at risk of poverty and that they receive various kinds of social assistance (Chapter 4). However, evidence suggests that some individuals who are members of one or more of these groups are currently poor, and some are not. For example, based on LSMS estimates, nearly 60 percent of persons living in female-headed households (comprising 50 percent of female-headed households) fall below the poverty line, while the poverty rate for persons living in male-headed households is around 30 percent. This suggests that female-headed households are indeed a vulnerable group. This section attempts to identify the underlying characteristics of the poor, and then to relate these characteristics to specific vulnerable groups. In the example just cited, it would address such questions as: why are female-headed households more likely to be poor than male-headed households? Because they have fewer workers? More dependents? Lower levels of education? Higher levels of unemployment? Answers to these questions—which are addressed later in the section—will help policymakers understand various policy and

program options that might help to improve the welfare of vulnerable groups in Mongolia.

**1.26 Where do the poor live?** The poor live everywhere in Mongolia—poverty levels are as high in urban areas as rural areas, and mid-sized towns (*aimag* centers) appear to have a particularly high incidence of poverty. Secondary sources<sup>12</sup> show that some *aimags* have a higher incidence of poverty than others—for example, Bayanhonger, Arhangai, Bayan-Olgii, Omno-Gobi, Bulgan, Hovd, and Sukhbaatar all report higher levels of poverty than the national average, while *aimags* such as Hovsgol, Tov, Selenge, Dorno-Gobi, Gobi-Altay, and Orhon report levels below the national average. But Mongolia does not seem to have regions with either high concentrations of poverty or of wealth. Indeed, Ulaanbaatar—Mongolia’s capital and largest city—has surprisingly high inequality and substantial levels of poverty (35 percent) given its economic importance in the country. Clearly stimulating economic growth in urban areas appears to be as important for poverty reduction as stimulating growth in rural areas.

**1.27 Under what conditions do the poor live?** Nearly 40 percent of individuals in Mongolia live in traditional felt tents, called *gers*. Even in urban areas, one fifth of the population still live in *gers*, while two thirds of the rural population live in traditional housing (Table 1.5).<sup>13</sup> Not surprisingly, the urban poor are much more likely to live in *gers* than the urban middle and upper classes—some 34 percent of the poorest households live in *gers* in contrast to only 8 percent of the wealthiest. A significant number of the urban poor also live in hostels or dormitories (10 percent). Three-quarters of the rural poor live in *gers*, and the figure only falls to 50 percent for the wealthiest group in rural areas. There is tremendous variety in the quality and cost of *gers*—the poorest households often live in tents with dirt floors, small living areas, and minimal or deteriorating layers of felt for insulation. In contrast, a wealthier household may live in a warm and well-insulated *ger* with wooden flooring and a spacious interior. And the cost of a *ger* dwelling is not necessarily lower than the cost of more modern housing: most apartments and many houses are still owned by the government and rents are highly subsidized. Because of these subsidies, it is not surprising that a considerable proportion of the urban poor live in apartments and houses. In contrast, the wealthiest groups of

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<sup>12</sup> Data provided by MPPL for the preparation of the IDA assisted Poverty Alleviation Project (Cr. 2760).

<sup>13</sup> The tables presented in this and ensuing sections use five mutually-exclusive categories of poverty status: (1) the very poor, who live in households with per capita consumption below 75 percent of the poverty line; (2) the poor, who are between the poverty line and the cutoff point for the very poor; (3) lower consumption non-poor, who live in households with per capita consumption between the poverty line and 1.5 times the poverty line; (4) the middle consumption non-poor, who are between 1.5 times the poverty line and 2.25 times the poverty line; and (5) the upper consumption non-poor, with per capita consumption more than 2.25 times the poverty line. In total, 19 percent of the population fall into category 1: poorest (and 16 percent of households), 17 percent of the population fall into category 2 (and 16 percent of households), 28 percent fall into category 3 (and 27 percent of households), 21 percent fall into category 4 (and 23 percent of households), and 15 percent fall into category 5: wealthiest (and 19 percent of households). Thus household size falls somewhat with increasing levels of consumer expenditures.

rural households are four times more likely to live in apartments than the poorest group of rural households.

1.28 The coverage of services—heat, water, electricity, and transport—is good given Mongolia’s low level of GDP. For example, all *sum* centers have power generators and the majority of households have access to electricity at least some part of the day. But the poor are still at a clear disadvantage in the use of these services (Annex 1C, Tables 1.1-1.4). Less than half of the urban poor have access to piped water, in comparison to over 85 percent of the wealthiest group of urban dwellers. Thirty percent of the urban poor purchase water from vendors, and 15 percent depend on groundwater (wells, lakes, rivers, springs). Some 60 percent use outside toilet facilities, and less than half are connected to a central heating system. The urban poor are more likely to burn coal or wood for heat (nearly 50 percent), while some 85 percent of the wealthiest group of households are connected to a central heating system. Infrastructure coverage is more limited in rural areas. For example, few rural households have access to piped water, inside toilets are rare, and few *sum* centers or outlying areas have available a central heating system. What services do exist can be very costly: *ger* dwellers typically pay five times higher tariffs for water supply and solid waste collection. In addition, there are clear differences in utilization by different welfare groups. For example, the rural poor are more likely to get drinking water from open streams and rivers; they are less likely to be connected to a power grid and rely on candles or kerosene for lighting,<sup>14</sup> while they often use wood for heating, they more likely to use dung as well, which is cheaper but less efficient than wood or coal.

**TABLE 1.5: THE CONCENTRATION OF POVERTY, BY HOUSING STYLE (Percent)**

		Poverty status					All
		Very poor	Poor	Not poor(l)	Not poor(m)	Not poor(u)	
Urban	<i>Housing style</i>						
	house	35.8	49.7	52.4	68.9	83.4	57.1
	apartment	19.6	21.0	26.1	19.6	7.1	19.3
	hostel/dormitory	10.4	3.3	4.7	1.0	1.3	4.4
	<i>ger</i>	34.1	26.0	16.8	10.5	8.1	19.3
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Housing style</i>						
	house	10.5	7.0	5.9	4.4	7.0	6.5
	apartment	12.1	18.4	21.9	35.2	45.5	25.5
	hostel/dormitory	3.1	1.8	1.5	0.6	.	1.4
	<i>ger</i>	74.3	72.7	70.7	59.8	47.5	66.5
	All	100.0	100.0	100.0	100.0	100.0	100.0
Mongolia	<i>Housing style</i>						
	house	27.4	31.4	30.2	38.3	60.8	36.1
	apartment	17.1	19.9	24.1	27.0	18.5	21.8
	hostel/dormitory	8.0	2.7	3.2	0.8	0.9	3.2
	<i>ger</i>	47.6	46.1	42.5	33.9	19.8	38.9
	All	100.0	100.0	100.0	100.0	100.0	100.0

<sup>14</sup> A surprisingly large number of the poorest rural households are connected to an electric power supply. It is not clear whether is a localized effect (e.g., specific to some of the soms covered in the LSMS) or true more generally for the rural population.

1.29 The annex tables also include incidence estimates that show the distribution of services across poverty groups (Annex 1C, Tables 1.1b—1.4b). Some services, namely publicly-owned housing, central power, piped water, and central heating, receive significant subsidies. According to the incidence tables, a high proportion of the subsidies accrue to the better off: service access is either proportional to population shares in each poverty group or slightly skewed toward wealthier households.

**1.30 What are the poor's primary sectors of employment and sources of earnings?** Prior to the analysis undertaken for the poverty assessment, surprisingly little was known about the primary sectors of employment and composition of income of poor households. This is in large part due to the massive economic changes that have occurred in Mongolia since 1990; the structure of production has changed dramatically, and a new system of economic incentives is being put in place. Factor markets—particularly labor and capital markets—are still in a state of flux, and the process of structural reform is not complete. Employment is of particular concern: a substantial number of workers have been made redundant, still others are likely to lose their jobs in the short term; according to data from the LSMS, nearly 20 percent of the workforce is currently unemployed 1995 (27 percent in urban areas, and 11 percent in rural areas). This estimate is based on a fairly-inclusive definition of unemployment: persons were considered unemployed who, at the time of the survey, had not worked in the past seven days and, were either actively seeking work or would be seeking work but thought there was no jobs available (i.e., discouraged workers).

**1.31 The Unemployed.** Open unemployment has only become a problem in Mongolia since 1990, and the unemployed are demarcated as a vulnerable group. Analysis of the LSMS confirms the link between poverty and unemployment: economywide, nearly 60 percent of the unemployed fall below the poverty line (Tables 1.6 and 1.7). The association between poverty and unemployment is particularly strong at the bottom of the distribution: over half of the very poor in urban areas were unemployed in contrast to an unemployment rate of only 7 percent for workers from the wealthiest group of urban households. Similarly, one third of the very poor were unemployed in rural areas in contrast to only 7 percent for the wealthiest rural group.

**TABLE 1.6: THE CONCENTRATION OF POVERTY, BY LABOR FORCE STATUS  
(Percent)**

<i>Type of settlement</i>	<i>Labor force status</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	employed	44.7	66.0	75.8	78.7	92.8	73.0
	unemployed	55.3	34.0	24.2	21.3	7.2	27.0
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Labor force status</i>						
	employed	65.0	85.9	92.9	95.8	92.7	88.7
	unemployed	35.0	14.1	7.1	4.2	7.3	11.3
	All	100.0	100.0	100.0	100.0	100.0	100.0
Mongolia	<i>Labor force status</i>						
	employed	53.5	75.7	85.5	87.9	92.8	80.7
	unemployed	46.5	24.3	14.5	12.1	7.2	19.3
	All	100.0	100.0	100.0	100.0	100.0	100.0

**TABLE 1.7: THE INCIDENCE OF POVERTY, BY LABOR FORCE STATUS  
(Percent)**

<i>Type of settlement</i>	<i>Labor force status</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	employed	10.4	15.6	24.4	22.8	26.8	100.0
	unemployed	34.9	21.8	21.0	16.7	5.6	100.0
	All	17.5	15.8	26.1	20.6	19.9	100.0
Rural	<i>Labor force status</i>						
	employed	9.9	16.2	33.5	27.5	12.9	100.0
	unemployed	41.9	20.9	20.3	9.4	7.5	100.0
	All	13.9	16.5	31.4	25.7	12.4	100.0
Mongolia	<i>Labor force status</i>						
	employed	10.1	15.9	29.3	25.4	19.3	100.0
	unemployed	36.9	21.5	20.8	14.6	6.1	100.0
	All	16.1	16.1	28.2	22.7	16.9	100.0

1.32 A statistical profile of the unemployed versus the employed has been constructed by poverty level (Annex 1C, Tables 1.5 and 1.6). This profile can be used to identify the characteristics of the unemployed that may make them vulnerable to being poor. Tables 1.8 and 1.9 summarize salient information from the statistical profiles. Compared with the employed, poor unemployed persons are, on average, younger and live in households which have more children, often live with other household members who are unemployed, and have overall fewer workers. As expected, unemployed persons tend to have somewhat lower levels of education as compared with the employed, particularly with respect to higher education. Note, however, that 13 percent of the unemployed have a university education, and an additional 21 percent have completed secondary school.

**TABLE 1.8: STATISTICAL PROFILE OF THE EMPLOYED VERSUS UNEMPLOYED, BY POVERTY STATUS**

		<i>Employed</i>						<i>Unemployed</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>													
<i>Urban</i>	<i>Age</i>	32.9	33.	36.7	36.1	37.9	36.0	28.4	26.4	26.4	30.5	27.4	27.9
	<i>household size</i>	6.8	6.	5.4	4.9	4.2	5.2	6.9	6.0	6.4	5.3	5.2	6.2
	<i>Number of unemployed</i>	0.6	0.	0.2	0.1	0.1	0.2	2.4	1.9	2.0	1.9	1.4	2.1
	<i>Number of employed</i>	2.2	2.	1.9	2.1	1.9	2.1	0.5	0.9	0.6	0.5	1.2	0.7
<i>Rural</i>	<i>Age</i>	33.1	32.	32.3	33.1	35.5	33.1	27.6	30.0	27.6	30.0	29.9	28.5
	<i>household size</i>	6.0	6.	5.7	5.6	4.5	5.6	6.3	5.7	6.4	5.2	4.7	6.0
	<i>Number of unemployed</i>	0.3	0.	0.1	0.1	0.1	0.1	2.2	1.8	1.7	1.5	1.8	1.9
	<i>Number of employed</i>	2.3	2.	2.8	2.8	2.5	2.7	0.5	0.5	1.1	1.5	0.6	0.7

**TABLE 1.9: EDUCATION LEVEL OF EMPLOYED VERSUS UNEMPLOYED, BY POVERTY STATUS (PERCENT)**

<i>Education level</i>	<i>Employed</i>						<i>Unemployed</i>					
	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
none	5.8	3.0	1.9	2.3	0.8	2.4	5.6	3.7	.	3.7	.	3.4
primary	64.7	67.9	60.3	52.8	29.9	54.2	70.9	60.7	67.2	46.8	42.9	62.6
secondary	15.2	9.9	14.2	9.1	12.6	12.0	15.5	25.2	25.1	21.4	26.4	21.2
higher	14.3	19.3	23.6	35.8	56.7	31.4	8.0	10.5	7.8	28.1	30.7	12.9
All education levels	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1.33 **Sectors of Employment.** Except in rural areas, where some 80 percent of the poor are herders, the poor are employed in a wide range of sectors (Annex 1C, Table 1.7a and 1.7b). In some sectors they predominate: urban workers in the health and education sectors have a high incidence of poverty (nearly 45 percent live in households that fall below the poverty line) and the urban poor also include a substantial number of factory workers. Interestingly, and unlike many other low-income countries, employment and unemployment patterns of women and men were found to be fairly similar in Mongolia.

1.34 Herders who own a small number of animals are also demarcated as one of Mongolia's vulnerable groups. LSMS estimates show that herders in rural areas who are classified as very poor have on average 4 cattle/horses, and 12 sheep/goats—or only about 16 animals per family. Herders classified in the remaining poor group of households have on average 6 cattle/horses and 23 sheep/goats—or about 29 animals per family. This is in contrast to herders in the wealthiest group of rural households, who report owning an average of 54 animals per household (12 larger animals and 42 sheep and goats) (Table 1.10). Additional analysis shows that rural households who owned 15 or fewer animals were far more likely to be poor (33 percent very poor, 21 percent poor) than households owning more than 15 animals. For example, only 6 percent of rural households owning between 16 and 25 livestock were very poor, and 18 percent were in the second group of poor households. And, not only is herd size linked to poverty status, but there is evidence that the distribution of livestock across households is actually becoming more unequal over time, as poor households are forced to sell or consume animals to survive.

**TABLE 1.10: AVERAGE LIVESTOCK HERD SIZE (PER HERDER HOUSEHOLD), BY POVERTY STATUS**

		Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor (l)</i>	<i>Not poor (m)</i>	<i>Not poor (u)</i>	
<i>Type of settlement</i>							
Urban	cattle&horses	1.6	4.4	2.8	6.6	9.4	6.0
	sheep&goats	12.6	5.6	11.8	42.6	79.4	40.3
Rural	cattle&horses	4.2	5.5	7.7	9.8	11.8	8.0
	sheep&goats	11.5	23.0	29.3	35.0	41.5	29.5
Mongolia	cattle&horses	4.0	5.5	7.6	9.6	11.5	7.9
	sheep&goats	11.6	22.3	28.7	35.3	46.1	30.0

1.35 **Sources of Income.** What are the primary sources of income for the poor? In particular, how important is unearned income in comparison to earned income (e.g., from employment or business activities)? According to LSMS estimates, the poor are highly dependent on unearned income—in particular, pensions and retirement payments and private gifts and transfers. Summary estimates are presented in Table 1.11 (details in Annex 1C, Table 1.9). According to these estimates, the very poor receive an estimated 27 percent of their income in the form of pensions, and an additional 16 percent from

other unearned sources. The share of pensions in total income falls steadily with increasing welfare levels—for example, households in the wealthiest group receive only 7 percent of income from pensions and 13 percent from other unearned sources. Interestingly, income shares suggest the new emergence of an entrepreneurial class in urban areas (particularly Ulaanbaatar); the poorest households receive only 4 percent of income from non-agricultural self-employment, in contrast to 14 percent for the wealthiest urban households. Similarly for rural households, less than 1 percent of the income of the poorest households comes from non-agricultural self-employment, in contrast to 9 percent of income for better off rural households.

**TABLE 1.11: AVERAGE INCOME SHARES, BY POVERTY STATUS  
(Percent)**

		Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor (l)</i>	<i>Not poor (m)</i>	<i>Not poor (u)</i>	
<i>Type of settlement</i>							
Urban	pensions	33.2	24.2	12.5	11.9	7.4	17.2
	other unearned income	18.6	12.9	16.6	15.9	16.7	16.2
	agriculture income	2.3	0.9	4.5	2.5	6.5	3.6
	non-agriculture income	4.4	7.2	12.0	13.6	16.2	11.0
	wages	41.5	54.8	54.4	56.1	53.2	52.0
Rural	pensions	22.9	12.4	9.1	6.9	7.4	10.8
	other unearned income	14.3	11.4	7.3	5.7	8.3	8.7
	agriculture income	42.9	50.8	60.4	59.5	55.8	55.5
	non-agriculture income	0.7	1.0	2.0	7.9	10.7	4.1
	wages	19.2	24.3	21.2	20.1	17.7	20.8

Note: agriculture income (non-agriculture income) is the sum of (non-)agricultural self-employment income and home consumption of (non-)agricultural products.

1.36 **Pensioners.** Pensioners are also demarcated as a vulnerable group. The fact that poor households rely heavily on income from pensions suggests that many pensioners should be counted among the poor. The extent to which this is true depends on how one identifies pensioners. The conventional definition, also used in Mongolia, is all men aged 60 years and older and women aged 55 years and older—in effect, retirees. But the public debate on pensions in Mongolia is not just limited to pensions for retirees; many working-aged individuals were retrenched or received early retirement post-1991, and they now receive pensions for life with the amount based on years of service and when the job separation occurred (for example, average pensions received upon retrenchment in 1992 were much larger than those received today).

1.37 How extensive is the pool of working-aged individuals who currently receive pensions? LSMS tabulations suggest that at present as many as 40 percent of male pension recipients and 74 percent of female pension recipients are less than 55 years of age (Table 1.12). Nearly 20 percent of individuals between the ages of 46 and 55 years collect pensions, and 13 percent of individuals between the ages of 36 and 45

(Table 1.13). What of older age groups? For women over 55 years of age, the incidence of receipt of pensions is under half of what it is for men in the same age group—an estimated 70 percent of men over 55 years of age report receiving a pension in comparison to only 25 percent of women in the same age group.

**TABLE 1.12: THE AGE DISTRIBUTION OF PENSION RECIPIENTS  
(Percent)**

		Age					
		<=35 years	36-45 years	46-55 years	56-65 years	>65 years	All
<i>Male</i>	<i>Pensioner status</i>						
	other	67.8	17.2	11.5	2.3	1.2	100.0
	pensioner	9.3	15.1	17.6	32.7	25.4	100.0
	All	60.9	17.0	12.2	5.9	4.0	100.0
<i>Female</i>	<i>Pensioner status</i>						
	other	65.7	18.7	8.1	4.0	3.4	100.0
	pensioner	17.7	30.2	22.7	15.9	13.4	100.0
	All	61.2	19.8	9.5	5.2	4.4	100.0

**TABLE 1.13: THE INCIDENCE OF RECEIPT OF PENSIONS  
(Percent)**

		26-35 years	36-45 years	46-55 years	56-65 years	>65 years	All
<i>Male</i>	<i>Pensioner status</i>						
	other	96.5	89.5	83.1	34.4	25.6	88.2
	pensioner	3.5	10.5	16.9	65.6	74.4	11.8
	All	100.0	100.0	100.0	100.0	100.0	100.0
<i>Female</i>	<i>Pensioner status</i>						
	other	93.9	85.4	77.1	70.6	70.6	90.4
	pensioner	6.1	14.6	22.9	29.4	29.4	9.6
	All	100.0	100.0	100.0	100.0	100.0	100.0

1.38 What evidence is there that pensioners comprise one of Mongolia's vulnerable groups? Not surprisingly, it depends very much on how pensioners are identified. Working-aged pension recipients are more likely to be poor than working-aged individuals who do not receive pensions (Table 1.14). And these findings are particularly marked for working-aged women: 56 percent of working-aged female pensioners were found to be poor in urban areas and 45 percent in rural areas. If these working-aged female pensioners are also heads of household, the poverty rate rises to 76 (56) percent in urban (rural) areas.<sup>15</sup> In contrast, if pensioners are defined as retirees (i.e., women over 55

<sup>15</sup> The comparative poverty rates for all female-headed households are 63 and 49 percent for urban and rural areas, respectively.

years of age, men over 60 years of age), the group is not particularly poor. However, if we go one step further and classify retirees into two groups—those who receive pensions and those who do not—there is evidence that pensioners (defined as old and receiving pensions) are more vulnerable (Table 1.14) than elderly individuals who do not receive pensions. These results are particularly striking for elderly female pensioners in urban areas.

1.39 While these results suggest some link between poverty, vulnerability, and pensioner status, pension recipients comprise a very heterogeneous group. Much of the pension income that is so important to Mongolia's poor is collected by working-aged individuals, many of them women, who were previously employed. Thus the fact that the poor depend heavily on income from pensions may be as much a function of their overall high levels of unemployment and low levels of human capital as a statement about the living standards of pensioners or inadequacy of pension amounts. Pensioners who live in poor households are often a primary source of support for other household members. Their economic position, and that of their household, is often tenuous.

1.40 In order to better understand the situation of the poor in Mongolia, case studies of vulnerable households were undertaken as a part of the preparation for the Poverty Assessment. Descriptions of several poor households dependent on pension incomes for survival are presented below and in the following section on female-headed households. These help to illustrate the complexity of the ongoing debate on pension levels and increases.

**A Pensioner and Head of Household**

D. Galsan is 67-years old and used to be a herder on a collective farm in Bayan Uul *Sum*, Dornod *Aimag*. He receives a pension of Tug. 2,069 per month, which is less than half of the food poverty line estimated for Dornod *Aimag*. He currently lives with one of his daughters—formerly a milker on a collective farm and unemployed since privatization—and her three young children, aged 1, 6, and 8 years. He provides the sole support for the household. They live in an unfenced *ger* in the *Sum* center, small and decaying and furnished with only two beds. Although of school age, his eldest grandson does not attend school due to staff shortages in the school.

After privatization, he received a total of 20 livestock—5 cattle and 15 sheep. The family is now without livestock; they found it necessary to supplement their meager income by either selling livestock or consuming them. The last two sheep were traded for only 50 kgs of flour: the family needs to consume an average of 300 kgs of flour each year. D. Galsan often supplements domestic meat consumption with wild game (feral swine and antelope). Despite this, the family is hard-pressed to make ends meet from year to year, and suffer real shortages of clothing and other essentials. Over time, the household has depleted its scant assets and the future looks uncertain and frightening.

D. Galsan receives some limited support from the local administration—in 1994, the family received 25 kg of flour and 2 kg of butter. He lives in close proximity to his eldest son who, while unemployed himself, tries to help his father as much as he can. In recent years, D. Galsan and his family has received considerable assistance from a neighboring family. This assistance has been particularly important over the last six months, when D. Galsan has been bedridden due to a broken leg and two of the younger children have had several (undiagnosed illnesses). The family practices traditional self-healing techniques because of lack of resources to purchase western medicines.

**TABLE 1.14: THE INCIDENCE OF POVERTY OF INDIVIDUALS, BY GENDER AND PENSIONER STATUS OF HOUSEHOLD HEAD (PERCENT)**

<i>Type of settlement</i>	<i>Pensioner status</i>	<i>Male household head</i>					<i>Female household head</i>					<i>All</i>	
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>		
Urban	young/not receiving	13.9	14.8	27.5	22.0	21.8	100.0	41.2	11.8	21.0	15.7	10.3	100.0
	young/receive	27.5	20.1	18.6	14.1	19.6	100.0	45.6	30.3	11.2	9.7	3.1	100.0
	old/not receiving	.	.	57.1	.	42.9	100.0	.	.	.	.	100.0	100.0
	old/receive	25.0	19.8	22.6	22.6	10.0	100.0	30.5	27.5	23.6	17.7	0.7	100.0
	All	16.5	15.7	26.3	20.7	20.8	100.0	41.7	21.3	17.1	13.3	6.6	100.0
Rural	young/not receiving	11.9	18.4	32.5	26.1	11.1	100.0	26.8	17.2	33.4	20.4	2.3	100.0
	young/receive	23.9	16.2	30.8	15.8	13.3	100.0	37.5	18.9	20.8	21.4	1.5	100.0
	old/not receiving	.	13.4	47.9	34.5	4.2	100.0	.	27.5	34.3	.	38.2	100.0
	old/receive	4.9	8.4	37.7	30.0	19.0	100.0	17.0	28.5	30.6	18.0	5.8	100.0
	All	12.9	17.6	32.7	25.2	11.6	100.0	29.3	19.9	27.6	20.1	3.1	100.0
Mongolia	young/not receiving	13.0	16.4	29.8	23.8	17.0	100.0	37.1	13.3	24.5	17.1	8.0	100.0
	young/receive	26.1	18.5	23.4	14.8	17.2	100.0	43.0	26.6	14.3	13.5	2.6	100.0
	old/not receiving	.	4.7	53.9	12.0	29.4	100.0	.	17.3	21.6	.	61.1	100.0
	old/receive	19.0	16.4	27.1	24.8	12.7	100.0	24.9	27.9	26.5	17.8	2.8	100.0
	All	14.9	16.6	29.0	22.6	16.8	100.0	37.7	20.8	20.5	15.5	5.5	100.0



**TABLE 1.16: THE INCIDENCE OF POVERTY, BY GENDER OF HOUSEHOLD HEAD  
(Percent)**

		Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
<i>Type of settlement</i>	<i>Gender of household head</i>						
	male	16.5	15.7	26.3	20.7	20.8	100.0
	female	41.7	21.3	17.1	13.3	6.6	100.0
	All	21.9	16.9	24.3	19.1	17.8	100.0
Rural	<i>Gender of household head</i>						
	male	12.9	17.8	32.7	25.2	11.5	100.0
	female	29.6	19.3	27.8	20.3	3.1	100.0
	All	15.3	18.0	32.0	24.5	10.3	100.0
Mongolia	<i>Gender of household head</i>						
	male	14.9	16.6	29.0	22.6	16.8	100.0
	female	37.8	20.6	20.5	15.6	5.5	100.0
	All	19.1	17.4	27.5	21.3	14.7	100.0

1.43 But it can be shown that the high levels of poverty found among female-headed households is less a function of the gender of the head than of demographic composition, employment patterns, and human capital endowments of the total household. A profile of female versus male-headed households by poverty group is presented below (Tables 1.17 and 1.18). Compared with male-headed households, poor female-headed households tend to have fewer workers and more unemployed members. They are less likely to have higher levels of education (i.e., secondary and higher) compared with male household heads (although note that that female heads are relatively more likely to have secondary education compared with their male counterparts). And, many are older and family members too look after—many of whom are themselves unemployed. Based on Poverty Assessment case studies, descriptions of two poor female-headed households—one urban, one rural—are provided below.

#### **A Rural Female-Headed Household**

M. Dolgorsuren is a 56-year old mother of nine children. She is currently sharing a *ger* with six of her children (ranging from 26 years of age to 13 years of age) and one grandchild. She has a secondary school education and worked as a milker in a *negdal* (collective farm). She is now retired and receives a pension of Tug. 3,600 each month.

Her pension is the family's primary source of income. Her 26-year old son, who lives with her, has been unemployed for five years, despite having finished secondary school and being trained as a locksmith. He recently served a two year prison term for stealing livestock and is currently under investigation by the police for a similar crime. Her oldest daughter is trained as a teacher, but cannot find employment. All of the younger children have been out of school for three years, and are functionally illiterate.

After privatization in 1991, M. Dolgorsuren received an estimated 65 head of livestock (30 horses, 10 cattle, 25 sheep, and some goats). By now, only one cow remains from the heard. Most of the livestock were given in reparation for the alleged thefts of her oldest son, and the remainder were sold or consumed.

Her *ger* is located in a *khot ail* (a traditional rural economic unit composed of more than one household). It is constructed of a traditional wood frame and has only a single felt covering, which is worn and inadequate. Their neighbors in the *khot ail* provide an important safety net—she said "All the children's clothes are worn and old. The neighbors give them some used clothing for tending livestock. We have remained close to these families since my son went to prison 3 years ago. Sometimes I help them milk cows and they give me some milk. They are not related to us, but I do not know what we would do without them."

M. Dolgorsuren currently receive no assistance from the local administration.

#### **An Urban Female-Headed Household**

C. Tumertogoo is a 45-year old widow, who is currently unemployed. She completed secondary school and used to work as a builder in the construction industry. She says there are few jobs available in her field of work. Her husband died in 1993, and his death was attributed to alcohol abuse.

She receives a pension of Tug. 5,600 and this is the primary source of income for her family. She lives in a *ger* in the Chingelti district of Ulaanbaatar with her mother (aged 62) and her six children, three young grandchildren, and a son-in-law. Her oldest daughter, who is 27-years old and has two young children, has completed secondary school but is currently unemployed. Her husband is serving a six-year jail sentence. Her second daughter is 19-years old, educated to a secondary level, and has a one-month old baby. Neither she nor her 22-year old husband are employed.

Only the 8-year old (C. Tumertogoo's youngest) is still in school. The older children have dropped out. C. Tumertogoo describes her life in stark terms: "My mother and the older children seem to take care of themselves. My mother drinks vodka and spend most of her time in the streets. The older children earn some money by selling coal in the winter, but in the summer months they spend most of their time drinking in the streets. My oldest daughters look after their young children, and my son in-law sometimes makes attempts at small business. But the children seem to grow thinner each year, they get ill frequently and stay ill for longer periods. Life might be better if we had family living in Ulaanbaatar to help us."

To supplement her pension, the family grows vegetables in the summer months. They also receive support from the local administration in the form of flour and clothing for the children. But they live without electricity because they cannot afford the tariffs and heating is never sufficient in the winter months.

**TABLE 1.17: KEY HOUSEHOLD CHARACTERISTICS, BY GENDER OF HOUSEHOLD HEAD AND POVERTY STATUS**

		<i>Male</i>						<i>Female</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>													
Urban	Age	43.5	44.0	43.3	40.8	43.9	43.0	42.0	47.9	40.2	44.5	41.7	43.3
	Household size	6.2	5.7	5.0	4.4	4.0	4.9	5.8	4.9	5.0	3.8	2.5	4.7
	Number of unemployed	0.9	0.4	0.3	0.3	0.1	0.3	0.7	0.9	0.7	0.5	0.0	0.6
	Number of employed	0.9	1.3	1.2	1.3	1.3	1.2	0.2	0.7	0.5	0.6	0.9	0.5
Rural	Age	38.9	40.7	40.3	41.8	44.1	41.2	42.0	48.2	48.5	48.3	53.1	47.1
	Household size	5.8	5.5	5.3	5.0	4.1	5.2	5.3	4.4	4.3	3.8	2.6	4.3
	Number of unemployed	0.6	0.3	0.2	0.1	0.2	0.2	1.0	0.3	0.2	0.0	0.0	0.3
	Number of employed	1.5	1.9	2.1	2.1	1.9	2.0	1.0	1.4	1.8	1.7	1.1	1.5

**TABLE 1.18: EDUCATION ACHIEVEMENT, BY GENDER OF HEAD AND POVERTY STATUS (PERCENT)**

<i>Education level</i>	<i>Male</i>						<i>Female</i>					
	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
none	12.	4	4	3	2	4	19.	18.	7	12.	2	13.
primary	62.2	51.7	48.0	39.4	27.3	43.9	52.0	46.5	63.3	45.0	23.7	49.0
secondary	12.8	16.5	15.5	12.6	12.2	13.9	14.4	22.5	9.0	11.3	6.8	13.6
higher	12.9	27.8	31.9	44.3	58.0	37.4	13.8	12.6	20.0	31.0	67.5	23.5
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**1.44 Human Capital.** In many low-income countries, education is an important predictor of employment, earnings, and overall poverty status of both individuals and households. Mongolia has high levels of human capital, particularly given its income levels, reflecting decades of investment in schools, health facilities, and training centers. Every *sum* center has at least one school that covers from grades 1 through 10, and, until 1990, education was virtually free. This has resulted in an adult literacy rate of over 95 percent. Despite these notable achievements, there is still a surprisingly strong relationship between levels of adult education (e.g., human capital) and poverty. The very poor are far more likely to be illiterate or have only a primary education than individuals in other groups (Table 1.19). Levels of education increase steadily with welfare levels—for example, 60 percent of the urban poor have either no education or have only completed primary school, in comparison to 30 percent of adults in the wealthiest group of households. In addition, nearly 60 percent of these (wealthy) adults have a university education as compared to only 11 percent of the very poor. Thus, while literacy may be near universal, the distribution of human capital (as measured in years of schooling) remains relatively unequal. And, low levels of education are clearly contributing to Mongolia's poverty problem via the labor market.

**TABLE 1.19: THE CONCENTRATION OF POVERTY, BY EDUCATION LEVEL  
(Percent)**

<i>Type of settlement</i>	<i>Education level</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	none	10.0	4.0	3.9	2.8	1.3	4.3
	primary	63.8	58.2	49.1	33.2	29.5	46.1
	secondary	14.1	14.1	16.2	14.5	11.0	14.1
	higher	12.1	23.6	30.7	49.5	58.1	35.5
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	none	11.3	6.5	6.0	5.9	5.6	6.7
	primary	77.2	75.2	72.8	73.6	58.3	72.1
	secondary	8.7	9.2	9.4	6.7	10.8	8.8
	higher	2.8	9.1	11.8	13.8	25.3	12.4
	All	100.0	100.0	100.0	100.0	100.0	100.0
Mongolia	none	10.4	5.0	4.8	4.2	2.6	5.2
	primary	68.3	64.9	59.6	51.5	38.1	56.4
	secondary	12.3	12.2	13.2	11.0	11.0	12.0
	higher	9.0	17.9	22.3	33.3	48.3	26.3
	All	100.0	100.0	100.0	100.0	100.0	100.0

**1.45** Current school enrollments have dropped dramatically since 1990: at present, only 76 percent of rural children and 85 percent of urban children in the primary-aged group (7 to 12 years of age) are enrolled in school (Table 1.20, and Annex 1C, Table 1.8). While children from poor families are clearly less likely to be enrolled than children from

wealthier families, and their likelihood of being in school falls dramatically with increasing age, there are also a substantial number of male children from middle income and wealthy rural households who are not even enrolled in primary school (an estimated 20 percent of the total in the relevant age group). The received wisdom is that these boys are needed to help with herding and other economic activities, while young girls—who help less with herding activities—are more likely to be enrolled in school.

**TABLE 1.20: SCHOOL ENROLLMENT RATES (7-12-YEAR OLDS), BY POVERTY STATUS (Percent)**

<i>Type of settlement</i>	<i>Poverty status</i>	<i>Male</i>	<i>Female</i>	<i>All</i>
Urban	Very poor	73.3	78.7	76.0
	Poor	84.8	96.2	89.8
	Not poor(l)	90.5	82.9	87.0
	Not poor(m)	83.3	92.6	87.3
	Not poor(u)	100.0	96.3	97.9
	All	83.8	86.9	85.3
Rural	<i>Poverty status</i>			
	Very poor	67.7	66.2	66.9
	Poor	81.0	73.4	77.2
	Not poor(l)	72.8	84.0	78.2
	Not poor(m)	74.4	82.8	78.7
	Not poor(u)	78.3	88.9	84.0
	All	74.3	78.9	76.6

1.46 The determinants of school enrollments are analyzed in Chapter 3. However, the tabulations presented here suggest a strong relationship between poverty and levels of human capital endowments. If current low levels of school enrollments persist, Mongolia will have a deteriorating stock of human capital, income inequalities are likely to increase, and what is currently primarily a problem of transition poverty could become a permanent part of the social landscape.

1.47 What evidence is there that the poor currently suffer from limited access to and utilization of basic health and family welfare services? Budget cuts have clearly affected the coverage and quality of education, health, and family welfare services in Mongolia. School enrollments have dropped dramatically. But what of health and other social indicators? Key findings are summarized in Table 1.21. Evidence suggests, for example, that maternal and infant mortality rates are rising, particularly for poor households in outlying areas, in large part due to deterioration in service coverage. The LSMS offers limited but supporting evidence of deterioration in health. For example, the urban poor have higher morbidity rates than other groups, and the effect is particularly marked for children and the elderly (Annex 1C, Table 1.12). Women from poor families have higher birth rates across the age distribution, although there is some suggestion that birth rates have fallen quite significantly since 1990 (Annex 1C, Table 1.13). But poor women are

far more likely to have had a baby in the two years preceding the survey; an estimated 15 percent of women aged 16 to 40 years living in very poor households had a baby in the two year period, in contrast to an estimated 6 percent of women living in non-poor households (Annex 1C, Table 1.14). The babies born to women from poor families had on average lower birth weights than babies born to women in wealthier families—for example, babies born to poor, rural women averaged 3.1 kgs at birth, in comparison to 3.6 kgs for women in the highest welfare group (Annex 1C, Table 1.15). However, it should be noted that 3.1 kgs. is a perfectly satisfactory birthweight, particularly if it represents an average for women from the poorest households.<sup>16</sup> Average birthweights are much lower in other low-income countries. Finally, the vast majority of women who had babies in the past two years—rich and poor alike—delivered in a maternity center or hospital. Only a few women living in poor rural households reported a home birth.

**TABLE 1.21: DEMOGRAPHIC AND SOCIAL WELFARE CHARACTERISTICS OF VERY POOR AND WEALTHIER HOUSEHOLDS**

	Very Poor		Wealthiest Group	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Percent Ill, last 30 days				
(1) Children	5.4%	1.8%	2.5%	0.0%
(2) Pensioners	24.2%	19.8%	12.1%	9.9%
Completed Fertility (births, women 41-50 years old)	-----	6.2%	-----	4.4%
Percent giving birth (16-30 years old) in last two years	-----	13.2%	-----	6.3%
Average birth weight, last child born in last 2 years (women 16-30 years old)	-----	3,039 gms	-----	3,386 gms

*Source:* LSMS tabulations

<sup>16</sup> The small size of the sample of recent births in the LSMS precludes us from estimating the percentage of low-birth weight babies born to poor women. This would be a more revealing statistic.

## **2. MACROECONOMIC DEVELOPMENTS AND POVERTY**

### **A. MAJOR CHALLENGES FOR POVERTY REDUCTION**

2.1 Mongolia faces major macroeconomic challenges to reduce poverty. First, it requires a sustained economic growth to absorb 25,000 new entrants to the labor market annually. In addition, over 100,000 unemployed workers and 30,000 public sector employees will be seeking new jobs due to ongoing civil service and enterprise restructuring. Second, it needs to raise labor productivity through economic growth and by removing the remaining distortions in the economy. Third, with pensions averaging only \$14 per month, gradual increases are needed for the 300,000 pensioners and social assistance recipients without threatening the social security system and the fiscal stability of the government. Finally, effective targeting and improving the efficiency of government resources in providing the basic social needs for the poor will remain a major challenge.

### **B. TRANSITION: EXTERNAL SHOCKS, ADJUSTMENT AND RECOVERY**

2.2 The collapse of the former Soviet Union in 1989 marked the beginning of the transition era for the Mongolian economy. With the establishment of the first freely-elected government in 1990, Mongolia began its reform process to shift from a centrally planned to a market economy. Privatization of agriculture, livestock, industry, and services, and the concomitant reduction of the role of government in economic activities have been the cornerstone of the reform agenda. During this transition period, the incidence of poverty has been rising. Prior to 1990, poverty was not reported in Mongolia since basic needs were met and access to a full range of social services guaranteed.

#### **External Shocks**

2.3 The difficulties in managing an economy in transition, together with the impact of external shocks resulted in a cumulative drop in real GDP of 20 percent between 1990 and 1993. The main external shocks were the withdrawal of assistance by the former Soviet Union (which accounted for 30 percent of GDP), and the collapse of the Council of Mutual Economic Assistance (CMEA), which led to disruption of external trade. These shocks had the effect of reducing both foreign direct investment and demand for Mongolian products. The cancellation of Soviet-financed projects and interruption in the supply of basic inputs such as fuel and cement had a formidable impact on industrial production and construction, which declined by 25 percent and 70 percent respectively, agriculture and livestock dropped by 17 percent, and services and other by 18 percent. While these external shocks were also experienced by other former socialist countries in

Eastern Europe and the Commonwealth of Independent States, their initial effects were more pronounced in Mongolia.

2.4 The poverty impact of the government's macroeconomic policy during the transition period can be assessed in terms of employment and wages, and the level of public expenditure and its composition. The poverty profile in Chapter 1 shows a relatively higher urban poverty incidence and a strong link between unemployment and poverty. A substantial contraction of economic activity, such as the one experienced in Mongolia in the early 1990s, would be expected to be accompanied by sharp declines in employment and/or wages. The changing role of the government in economic activity, together with the reduction of available resources, create a major shift in public expenditures.

2.5 In the initial stages (1990-1992) of the transition period, employment did not follow the downward trend in GDP, and even increased slightly by around 5 percent (Table 2.1).

**TABLE 2.1: EMPLOYMENT  
(Thousands: end of year)**

	1989	1990	1991	1992	1993	1994
Industry	123.1	131.6	132.2	133.9	124.1	100.9
Agriculture	244.3	256.1	274.9	294.2	302.2	326.6
Other	396.7	395.9	388.6	377.9	346.5	359.0
Total	764.1	783.6	795.7	806.0	772.8	786.5

*Source:* MPPL

2.6 This lag in employment adjustment occurred because of a strong expansionary monetary policy in 1992 and 1993 (Annex 2.1). A direct consequence of this policy, however, was hyperinflation in 1992 and 1993, which led to a marked reduction in real wages (Table 2.2). The downward adjustment of labor costs, was in turn a factor in preventing a large reduction in employment, although it had dramatic effects on household purchasing power.

**TABLE 2.2: REAL WAGES  
(1991 Tug Prices)**

	(Average/Month)	Industry	Agriculture/ Livestock	Services/Other
1990	557	587	466	507
1991	854	811	469	938
1992	426	426	247	480
1993	409	474	299	355
1994	702	1,119	434	636

*Source:* MPPL; and Mission Estimates.

2.7 During 1990-1993, the reduction in current public expenditures was dramatic. Against the background of declining GDP, public expenditure was halved from 52 percent of GDP in 1990 to 28 percent in 1993, although the decline in total public expenditures (current plus capital) was less marked, declining from 64.4 percent of GDP in 1990 to 48.8 percent in 1993. Total social sector expenditures were also reduced as a share of total public expenditures, from 24.4 percent in 1990 to 14.3 percent in 1994 (See Annex 2.2).

2.8 Subsidies were sharply reduced from 21 percent of GDP in 1990 to 7.3 percent in 1993 and have been generally declining in real terms (Table 2.3). While these declining budgetary subsidies represent, to a large extent, the trend in public policies on subsidies, there are sizable implicit subsidies that should not be underestimated. For example, subsidies on electricity, estimated as the difference between tariffs and long-run marginal costs, are about \$38 million, or 4.5 percent of GDP. About 80 percent of total electricity subsidies are absorbed by industry and the balance by public and residential buildings. To the extent that only 36 percent of the central power supply benefits the poor, the non-poor are the main beneficiaries of residential subsidy. Similarly, 31 percent of central heating users are the poor residing mainly in urban areas. Targeting the poor to benefit from energy subsidy can be achieved through distribution of vouchers to pay for electricity and heating while raising the tariff on industry and high-volume consumers. The Consumer Price Index indicates that rents and utility tariffs are being adjusted slowly. The "benefits" of slow rental and tariff adjustments are concentrated in the urban areas since rental housing is largely used by urban residents and energy and transport tariffs affect urban dwellers. Rural residents, schools, and hospitals also benefit from low electricity tariffs resulting from the cross-subsidy of petroleum products.

**TABLE 2.3: MAIN BUDGETARY SUBSIDIES**  
(in millions of 1991 Tug.)

Year	Energy	Urban.Transp.	Fodder	Medicines	Social Safety Net
1990	166	32	179	73	0
1991	331	11	125	93	40
1992	20	37	58	66	34
1993	175	88	0	21	11
1994	76	43	0	33	24

Source: IMF and Mission Estimates

### **The Adjustment Program**

2.9 To stabilize its economy and fight hyperinflation, in 1992, the government started implementing a more stringent fiscal policy, and by the end of 1993, adopted a tight monetary policy. Since 1991, the government also introduced a series of structural reforms to liberalize the economy. It has implemented an aggressive program of privatization of small enterprises and livestock. A mass voucher privatization program

facilitated the transfer of 44 percent of state-owned enterprises to the private sector. By the end of 1992, 18 million of the country's 25 million livestock were privatized. Other policy reforms introduced in 1993 abolished price controls and allowed unrestricted labor mobility.

2.10 Strict control of public expenditure and, in particular, subsidies has had a positive impact on Mongolia's economy; it has triggered the resumption of growth and brought down inflation in 1994 and 1995. Budgetary restrictions started in 1992 and, for the first time in several years, savings were achieved in 1993. Budgetary savings accounted for 1.9 percent of GDP in 1993, 2.9 percent in 1994, and over 4 percent in 1995. Direct budgetary subsidies were sharply reduced in 1994 (Table 2.3), except for medicines and social safety subsidies, which were increased. In line with the decline in real wages and the constraints imposed by the fiscal adjustments, average real pensions declined sharply from 1990 until 1994. These stabilization and reform measures, however, had an impact on employment, which until then had been protected. Overall employment declined by 4 percent in 1993 and grew by 1.8 percent in 1994 as general economic activities recovered (Table 2.1). In 1993, surplus labor in the industrial sector was estimated at 35,000 workers and about 70 percent of the necessary reduction in industrial over-employment had already been carried out. According to MPPL data, the number of people able to work but without jobs increased from 89, 800 in 1993, to 118,000 in 1995.<sup>17</sup> According to the LSMS, among the rural population, 35 percent of the very poor and 14 percent of the poor are unemployed. The situation is even worse in urban areas where 55 percent and 34 percent are unemployed. Moreover, the rapid privatization of livestock also created a vast number of marginal herders constituting the bulk of the rural poor.

### **The Recovery**

2.11 The stabilization and reform program created the conditions for economic recovery. While the shock was the result of the withdrawal of Soviet assistance and the "jump" into a new system, the recovery resulted from liberalizing trade and economic activities. During 1993, modest recovery started in the service sector which grew by 1.7 percent. The number of new private shops in Ulaanbaatar increased from 260 in 1993 to 360 in 1994. In 1994, real GDP grew by 2.5 percent, and the economic recovery accelerated in 1995 to 6 percent growth rate in GDP. Mining, construction, new industries, and services are also showing signs of recovery. Private sector activity jumped sharply accounting for 60 percent of GDP.

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Information Provided by MPPL to the Poverty Assessment Mission. Job seekers registered at the labor exchange do not represent all the unemployed.. First, the benefits of registration are unclear and many people do not register. Second, there are registered unemployed that hold jobs in the informal sector but keep their registration to claim any emerging social benefit. The government cleaned the registration exchanges in 1995 and, as a result, the number declined from 75 thousand at the end of 1994 to 47,000 in early October 1995 casting doubt on the reliability of the unemployed data.

2.12 Employment started to increase in 1994, as general economic activities recovered, although sectoral imbalances persist. The increase is more evident in agriculture/livestock and “others” (including services and informal activities). Industrial employment declined from 124,000 to 100,000 as reforms are underway to restructure the industrial sector particularly in previously over-expanded areas. Unemployment may further deteriorate as several enterprises are restructured and/or privatized. About 15,000 workers or over 5 percent of the public enterprise employment may need to be reduced.<sup>18</sup> It is estimated that there are 15,000 redundant employees in the government, particularly in the social sector ministries and local governments.<sup>19</sup> Yet, some subsectors in industry are showing encouraging signs. In the garment sector, more than 2,000 new workers were employed in 1994. Employment increased by 3.7 percent for services and “other” in 1994. This increase reflects the expansion in private services, including informal activities, for which reliable statistics are unavailable.

2.13 A recovery in real wages started in 1993 in sectors such as agriculture/livestock and industry and was generalized in 1994. The large increase in real wages during 1994 may be related to the sharp decline in inflation after the introduction of the stabilization program in early 1993. The openness of the economy and the confidence in the new program resulted in the stability of the exchange rate during 1994 which only increased by about 5 percent while inflation was still running at over 60 percent. This relative stability of the exchange rate resulted in a relative decline in the price of “tradables” which, in turn, led to an increase in calculated wages. This development has been observed in other countries following stabilization policies.

2.14 The level of real pension also began to recover in 1995. There are several factors explaining the increase in pensions. First, pensioners who were given retirement in 1993, but were not supposed to receive such benefits were “eliminated” from the system. As a result, the number of pensioners declined from 342,800 thousands in 1993 to 305,900 in 1994, followed by a slight reduction in 1995. Second, the recovery in real wages in 1994 resulted in an increase in social insurance collections. Third, the strengthening of the Social Security System has resulted in a steady decline in budgetary subsidies. In 1993, 74 percent of the Social Security System was financed by budgetary subsidies compared to 27 percent in 1995.

### C. PROSPECTS FOR GROWTH

2.15 The key building blocks to sustainable economic growth include: accelerating the stabilization and reform program; improving infrastructure services—power, telecommunication and transport; investing in human resource development; and enhancing the capacity of government institutions to support the transition to a market

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<sup>18</sup> World Bank, Mongolia - Public Enterprise Review Mission - Aide Memoire, 1995.

<sup>19</sup> Tentative estimate based on information for 1994 included in *Country Assistance Strategy*, World Bank, June 1994.

economy. The government also recognizes that the key to long-term poverty alleviation is an environment conducive to broad-based growth through public and private sector partnership to foster employment opportunities. However, these conditions alone are insufficient to ensure a sustained resumption of economic growth in Mongolia; availability of external aid and expansion of market in its main trading partners, Russia and China are equally important.

2.16 It is estimated that to create a new permanent job in Mongolia requires an investment of \$10,000<sup>20</sup> compared to \$12,000 in China. The labor force in Mongolia increases by about 2.8 percent per year or 25,000 new workers. Therefore, new investments of the order of \$250 million (or over 25 percent of GDP) will be needed to produce an increase in employment matching that of the labor force. In 1994, total investment was only \$150 million. The share of investment in GDP is expected to rise from about 19 percent in 1993 to over 25 percent in the next five years. The main impetus is expected to come from renewed inflows of aid as donors respond to Mongolia's infrastructure needs. At the same time, limited increase in private (including foreign) investment is also expected. Prudent management of the public expenditure program to promote growth-oriented investments that are labor intensive will be a key factor in the government's effort to alleviating poverty. The bulk of the infrastructure rehabilitation and expansion, which is critical to growth and labor-demanding investments, are externally financed, and the government's role is to facilitate timely implementation by availing counterpart financing requirements estimated at about 33 percent of the total cost of projects. To secure adequate domestic financing, it is necessary to increase current savings by about 5 percent of GDP.

2.17 Several favorable conditions are required for a sustainable growth path. First, improvements in the allocation of resources are expected to be a major contributor to growth. The economy has undergone rapid reforms and fundamental changes in its incentive structure—elimination of price controls, realistic prices for fuel and other government-administered goods and services, market-determined exchange rates, the freedom of private enterprises to determine their labor requirements, and positive and real interest rates. Deepening these reforms will be necessary (e.g., eliminating price controls at local levels, attaining realistic prices for fuel, implementing the reform program in the agriculture and livestock sectors). Effective resolution of pending governance issues pertaining to newly-privatized enterprises should also spur higher productivity. Second, an inheritance from Mongolia's past is a relatively well-educated labor force. With an educated labor force, new skill formation will be faster, and adjustment to new systems, technologies, and production techniques will be less difficult.

2.18 Mongolia has the opportunity to exploit several growth sources. Mongolia has yet to fully exploit large and accessible overseas markets. Its vast and rapidly growing neighboring market, China, offers opportunities exports. Mongolia's most immediate

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<sup>20</sup>

This estimate is based on data included in the World Development Report, 1995.

advantage lies in the commercialization and processing activities in the livestock sector. Export of raw wool, hides and live animals could represent a steady source of growth. Manufacturing in agro-processing (especially meat and dairy), textiles (especially cashmere), garments, and leather is likely to be the most dynamic and competitive industrial in the next decade. It will, however, require substantial foreign direct investment and assistance in market-oriented entrepreneurship focusing on design, quality, efficiency and marketing facilities. The continued development of mining activities in copper, coal, and precious metal would remain central to Mongolia's comparative advantage, and similarly require substantial investments in technology. In the long run, Mongolia's unexploited resources in petroleum and other minerals should contribute to economic expansion and would sustain both exports and import substitution. Besides, the services sector is emerging as a key growth center, especially as increased international trade revitalizes the retail and wholesale sectors.<sup>21</sup> Current efforts to rehabilitate the banking system will eventually generate more and improved financial services, especially for microenterprise development. Priority investments in infrastructure-transport, communication and energy will be crucial to sustain the development of the economy, and will require the assistance of bilateral and multilateral donors.

2.19 It should be noted that not all segments of the society will be able to benefit from rising employment opportunities. The need for investing in human capital formation and protecting those unable to participate in the labor market will remain a major challenge for the government.

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<sup>21</sup> Services is expected to be a major source of growth in FSU. Mongolia can be equated with FSU in this regard but with some advantages: the service sector is more outward looking than in FSU, making growth in the sector more sustainable. See Easterly, de Melo and Ofer *Services as Major Source of Growth in Russia and Other Former Soviet States*, World Bank, Policy Research Working Paper #1292, 1994.

### **3. SOCIAL SECTORS AND THE POOR**

3.1 This chapter first provides some comparative discussion of how the overall performance of the social sector in Mongolia measures up against that of other Asian countries. It then analyzes the access to and utilization of social services—education and health—by the poor and the distributional impact of public spending in the social sector from the LSMS and other secondary data. Whether investments in the social sector have had any impact on household welfare is assessed by examining their outcomes in poor and non-poor regions. The last section maps access to social services using data on government spending to quantify its net incidence.

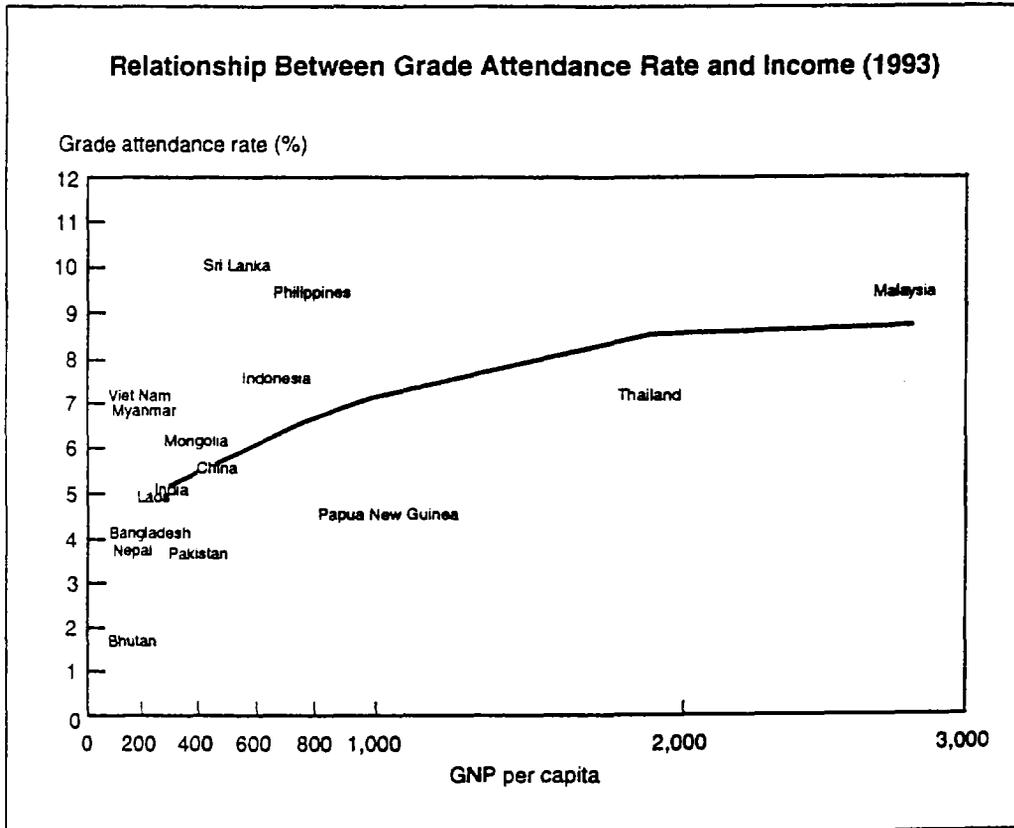
#### **A. EDUCATION**

##### **Overall Development**

3.2 Mongolia has made great strides in educational development since the 1960s. Its adult literacy rate, which stood at 60 percent in 1960, rose to 96 percent by 1993. The country had achieved virtually universal entry into primary education, a coverage rate that still surpasses the rates found in several Asian counterparts. Mongolia has also increased its enrollment in secondary and particularly in higher education, now outpacing both the average rate among all Asian countries and even the rates found in several upper middle-income countries, let alone its close comparators. Yet, progress on qualitative indicators of educational development has been modest. Although such measures as average grade attainment and cohort survival rate among the school-age population have improved steadily, they are now lower than those of Sri Lanka, Malaysia, and Thailand (Annex 3, Table 1). However, when income level is accounted for, the level of educational attainment in Mongolia is high relative to other countries (Figure 3.1).

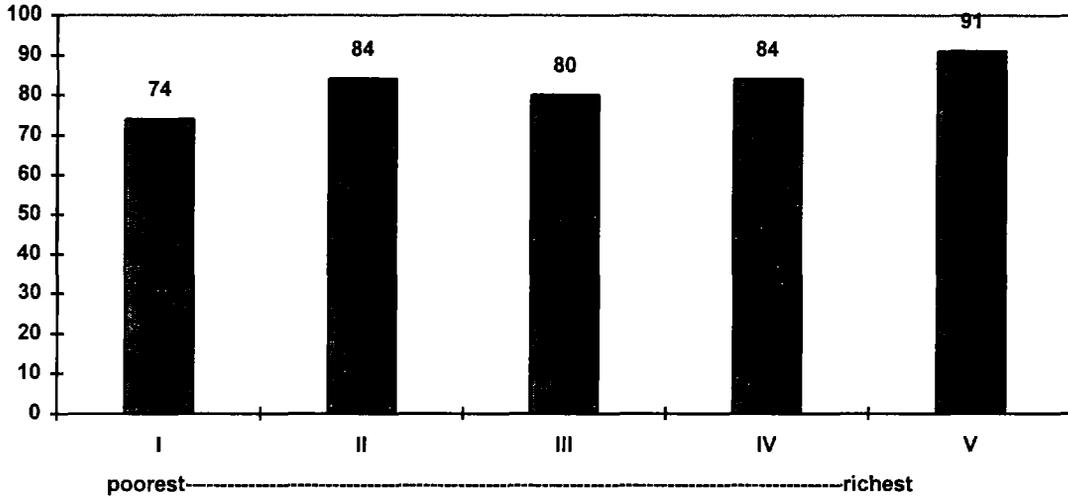
3.3 Since the country started a transition to a market-oriented economy in 1990, there has been a marked erosion in both quantity and quality indicators of schooling. From 1989 to 1995, gross enrollment rates fell from 98 to 84 percent in primary schools, and from 65 to 54 percent in secondary schools. Similarly, cohort survival rate at the end of the primary cycle has dropped from a peak of 87 to 80 percent. These declines stem from changes in such determinants of school enrollments as costs of access to schools, expected returns from education and various family background factors. Introduction of user fees in boarding schools has increased the direct costs of education, while privatization of herds led to greater demand for child labor, thus increasing opportunity costs. These changes in the factors influencing the private costs of education are most likely to affect the poor families disproportionately and may thus have contributed to the decline in their overall enrollments and ability to complete successive cycles of education.

**FIGURE 3.1: RELATIONSHIP BETWEEN GRADE ATTENDANCE RATE AND INCOME (1993)**



**FIGURE 3.2: ENROLLMENT RATE (%) BY QUINTILE, 1995**  
(continued on next page)

**PRIMARY**



**SECONDARY**

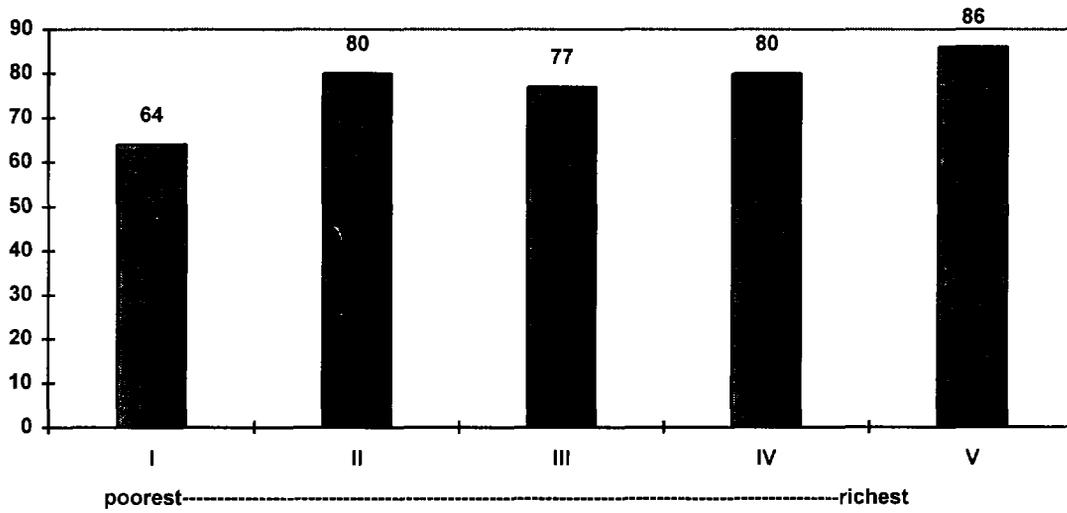
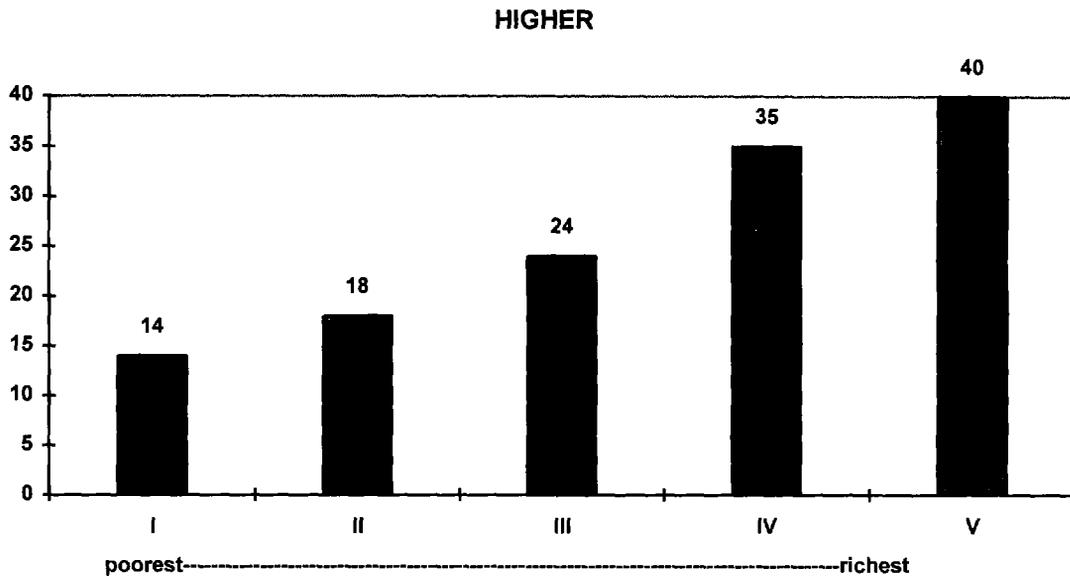


FIGURE 3.2 (CONTINUED)



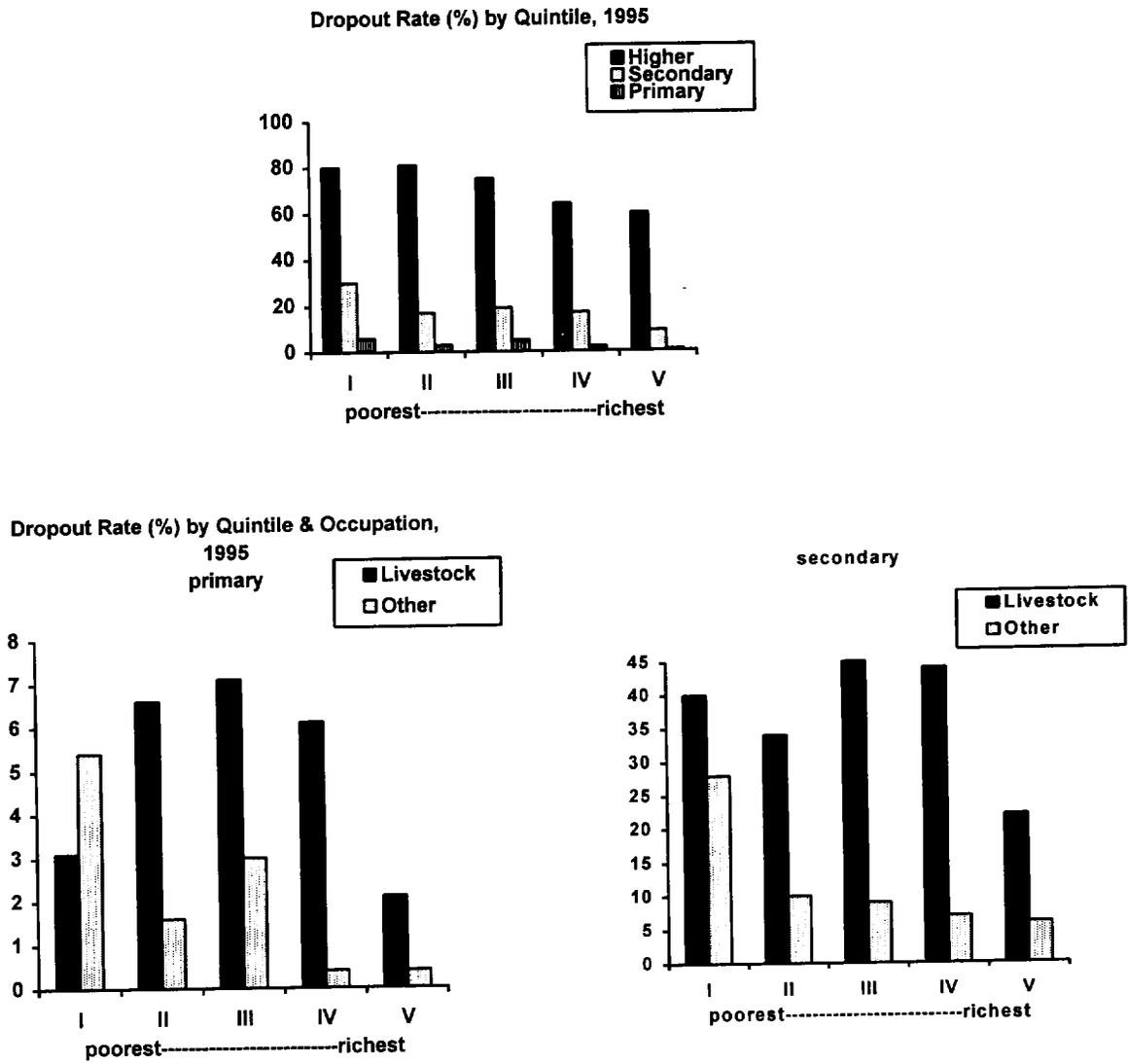
#### Access to Education by the Poor

3.4 Evidence from the LSMS shows that the disparity in school attendance increases with household living standard (Fig 3.2). Although primary education corresponding to age group 7-12 is compulsory, attendance rates are higher among the richest quintile than among the poorest counterparts, and the school attendance gap between the rich and the poor is even wider at post-primary levels of education. At the secondary level, corresponding to age range 13-16, the attendance rate among the poorest quintile is 64 percent compared to 86 percent in the richest quintile. A much greater dispersion in enrollment rate prevails in higher education—attendance among the wealthiest quintile is three times greater than among the poorest quintile.

3.5 Urban-rural differences in enrollment rates exist at all levels of education, but the disparity is much wider at higher levels of education. Enrollment rates also differ by gender when considered with other characteristics. Particularly striking are the gender differences in school enrollment by quintile in rural areas. For example, rural female students in the top quintile are about 1.2 times more likely to attend secondary schools than rural male students. Conversely, gender differences in school participation are negligible in urban areas. Given the enrollment disparities that exist among the 7-12 and 13-16 age groups, access to education is becoming progressively biased toward the urban population, and gender differences are clearly narrowing here (Annex 3, Tables 4 and 5).

3.6 Overall, the enrollment gap between the poor and the better off is the widest at the secondary and higher levels of schooling; male students from poorest quintile, in both rural and urban areas, have the lowest attendance rates. Much of the reason is that while schooling is in theory free, in practice households incur costs for supplies, clothing, and transportation (Annex 3, Table 8). And in rural areas, the main disincentive to educational participation among the poorest male students is indirect costs of labor foregone. Their labor time is an important source of family income—male labor force participation rates among 10-14 year olds have increased from 0.25 percent in 1989 to 0.56 in 1994. They provide domestic labor for tending livestock thereby freeing older family members to engage in other essential off-farm activities. Male children also work during harvesting when parents cannot free them for schools. As evidenced by Table 6 in Annex 3 the incidence of dropping out is much greater among poorer male students whose parents belong to livestock and farming activities as compared with those from other occupations.

**FIGURE 3.3: DROPOUT RATES (%) 1995**



source: LSMS 1995

## **Cost of Education to the Poor**

3.7 The LSMS data show the private out-of-pocket costs borne by poorer students are high enough to prevent them from schooling. The main components of private costs are books, supplies and clothing, and they impose heavy burdens for poorer households (Annex 3, Table 9). For example, as a percentage of nonfood household expenditure, parents in the poorest quintile spend four times more on these items than those in the top quintile. The full private cost of school attendance would raise the cost-nonfood expenditure ratio—a measure of the affordability—further if the opportunity cost of time in school is considered.

## **Outcomes and Efficiency**

3.8 **Drop-out rates by quintile.** The incidence of dropping out from all levels of schooling is greater among students in the poorest quintile than among the top quintile (Figure 3.3). In primary education, except in the bottom quintile, the drop-out rates among all quintiles are three times higher among children from livestock families than from other occupations. In secondary schooling, the picture is even more disturbing. Drop-out rates in all quintiles are three to four times higher among students from families headed by parents engaged in livestock activities than among students belonging to families with other occupations. Youths in rural areas are even more at risk of dropping out of secondary schools. The older the student, the greater the opportunity cost of continued schooling to parents.

3.9 **Probit estimates of transition rates.** A low probability of attending primary and particularly secondary schools among poorer students is associated with fees and livestock occupation (Technical Annex 3A). When fees are interacted with household expenditure, elasticity of demand for schooling is greater at bottom quintiles, indicating that policies affecting fees are more likely to influence shifts in enrollments at the margin among the poor than among the rich. Further, greater cost recovery in the top quintile is likely to generate more revenues without reducing their enrollment probabilities. Controlling for other factors, children from a family with a household head who had higher education are less likely to drop-out from schools.

3.10 Simulations from probit estimates in Technical Annex 3A yield the following important results. *First*, elimination of fees will increase the likelihood of primary school attendance by 6 percent and secondary schools by 7 percent relative to the base case among the poorest quintile. *Second*, introduction of vouchers, covering fees plus costs related to school attendance, will raise enrollment probabilities even further. *Third*, introduction of augmented subsidy that covers fees, related costs for school attendance plus opportunity costs will definitely improve enrollment prospects among the poorest students. In primary education enrollment rates among the poor are likely to increase by 12 percent and in secondary schools by 16 percent.

3.11 **Cohort Survival rates by region.** Another important educational outcome is cohort survival rate. The LSMS does not provide any information on this vital outcome,

so provincial data are used. To unravel determinants of cohort survival rates, regressions are used with provincial data on income, public educational expenditures, and standard scores (Technical Annex 3A). The empirical results basically indicate that two variables are crucial to enhancing students' survival prospects in primary schooling. First, income is significantly associated with the cohort survival rate—the wealthier a region, the greater the number of grade 1 entrants who reach the end of the primary cycle. Second, public expenditures have complementary effect on student performance. For example, recurrent expenditures consist of material inputs—textbooks, teachers, guides, classroom equipment, blackboards, chalks, slates, heating and so forth—that provide congenial learning environments and help keep students in schools. The LSMS data show that about 45 percent of the poor quintiles of the school-age range live in areas where both primary and secondary schools have inadequate textbooks and learning materials in contrast with 25 percent of the top quintile.

3.12 But when livestock earnings are used to measure the opportunity cost of children's time and to the extent possible the expected value of education, the results clearly indicate that survival rate falls with increasing livestock income. This is reflected by the negative value of the livestock earnings variable. Although primary education is compulsory and supposed to be supply-driven, yet household choice for extending education is predicated on the opportunity costs to parents of pupils' time. Survival rates to the end of primary cycle are lower in poor and more pastoral provinces than in wealthy provinces that are less pastoral. The results further suggest that the demand for primary education is not weak overall, as cohort survival rate is positively associated with per capita household income—an indicator of the strength of private demand. Further, mean achievement test score—an indicator of the quality of education—is positively associated with higher survival rates. Thus, improving the quality of primary schools—an outcome that can be influenced by government budgetary decisions—would foster continuation of education to post-primary levels.

## **B. HEALTH**

### **Overall Development**

3.13 As with education, Mongolia has made considerable progress in the health status of its population in the past thirty years. Its infant mortality rate declined from 110 per 1,000 live births in 1960 to 51 in 1994, during the same period average life expectancy at birth rose from 45 to 64 years. Maternal mortality rate and child malnutrition also dropped. When compared with other Asian countries with similar economic structure, Mongolia's performance has been impressive until 1993. Infant mortality rate and life expectancy at birth are favorable even when compared with health indicators for countries having considerably higher per capita income (Annex 3, Table 10). These improvements were associated with dramatic expansion in coverage with government financed community and preventive health programs that took place during 1960-90. The government's pronatal policies had even provided incentives to women, both in terms of free health care and daycare, and financial benefits, to bear four or more children. The

fact that public spending has captured a comparatively large share of GNP indicates that Mongolia has made health a high priority and that the government has maintained its overall “fiscal effort” to invest in human capital.

3.14 However, these positive indicators mask more recent trends. In fact, as the transition to a market economy began in the early 1990s, the government was forced to slash budgetary allocations to the social sector including health, in turn dampening prospects for sustaining the rate of progress attained during the previous decades. Health services in poor areas have since deteriorated, fewer people are now able to afford services, and preventive programs are plummeting. As a result, progress in several indicators of health status have slowed steadily in recent years. Improvement in infant mortality rate has stagnated, and maternal mortality rate increased from 12 per 10,000 pregnancies in 1990 to 21 in 1994, with particularly adverse impacts on the health status of the population from rural and other less developed areas.

#### Access to health services

3.15 **Access by province.** For the health care system to have an impact on health, individuals and households need to utilize health services effectively, which indicate the demand for these services. One important measure of overall utilization is the average number of visits to health facilities. It is noteworthy that the number of visits depends on age pattern of mortality and morbidity and access to the health system. A summary of annual number of visits by province, ranked by the incidence of poverty, from poor to rich is presented in Table 3.1. The usage data indicate how public health expenditure has been targeted. They show that the redistributive impact of public health spending was the highest for users in the poorest provinces during mid-1980s, but these indicators have now become unfavorable in the poor provinces. Introduction of patients’ fees led costs of access to government health services to rise among the poor. Another reason is the deterioration in quality of public health services due to reduced real government spending since 1991.

**TABLE 3.1: ANNUAL AVERAGE NUMBER OF INPATIENT AND OUTPATIENT VISITS IN PROVINCES BY INCIDENCE OF POVERTY**

Quintiles of provinces	1985		1994	
	Inpatient	Outpatient	Inpatient	Outpatient
I	2.0	3.1	1.1	2.6
II	2.6	3.3	1.7	3.2
III	2.7	3.4	1.8	3.4
IV	2.2	2.8	2.0	2.7
V	2.8	2.6	1.5	2.1

*Source:* Mission Estimates from MOH data, and Incidence of poverty from MPPL

3.16 This is particularly true in richest provinces (quintile V) where utilization of public health facilities declined much more rapidly than in poorer provinces due to the provision of employment-based health insurance and liberalization of private sector

curative services. Thus rich patients shifted out of the public sector and opted for better quality, but more costly, private health facilities. The corresponding rise in the usage of private health clinics in Ulanbaatar support this assertion.

**3.17 Utilization and access by households.** Table 3.2 shows how households, ranked into quintiles of per capita expenditures, responded to illness episodes. Access rates, expressed as the average number of visits monthly to public and private providers, are low among the poorest quintile. Average number of visits to provincial public hospitals is an increasing function of per capita expenditures, ranging from just three visits per person for the poorest 20 percent to more than six visits per person for the richest 20 percent. Likewise, utilization of special hospitals and medical clinics varies positively with per capita expenditure. Conversely, visits to district public hospitals—which the poorest quintiles use to a greater extent—vary negatively with per capita expenditures. But the dispersion in access to these hospitals narrows among the middle quintiles. Among the top quintiles, private health facilities are becoming a popular option, the top 40 percent making an average of three visits per month for treatment, whereas the bottom 40 percent not making any visit at all. Finally, the poor must travel an average of 12 kilometers to reach some hospitals and *feldshers*, a distance that normally takes more than three hours—twice as long as it takes the wealthy quintiles from rural areas.

**TABLE 3.2: AVERAGE NUMBER OF VISITS PER MONTH TO HEALTH FACILITY BY QUINTILE OF HOUSEHOLDS, 1995**

Quintile	Public Provincial Hospital	District Hospital	Special Hospital	Health Clinic	Private Hospital	All Facilities
I	3.1	6.6	3.0	0.0	0.0	2.5
II	2.0	2.1	0.0	0.0	0.0	0.8
III	1.8	3.1	9.0	0.0	0.0	2.8
IV	2.5	4.2	7.7	0.0	3.0	3.5
V	6.5	2.4	1.3	4.0	3.0	3.6

Source: LSMS 1995

**3.18** The use of health facilities does not vary widely by differences in the area of residence, urban or rural. Of all treatments in 1995, the bulk of the Mongolian households consulted *sum* level public hospitals (49 percent), followed by *aimag* hospitals (40 percent) and special hospitals (6 percent). Given the recent emergence of private health care development, 94 percent of visits were to public health facilities, but the poor have much less access to such high-quality providers as provincial public hospitals, special hospitals and private physicians than the better off. It is clear that the rate at which illnesses are treated varies across quintiles, generally rising with consumption, reflecting that the usage of health services in Mongolia is correlated with living standards.

### **Cost of Health Services to the poor**

3.19 The average private out-of-pocket costs per visit to public health services vary significantly across quintiles. Although the rich pay larger absolute amounts on health care items, as a share of household expenditure, the bottom quintile pay about 24 percent on medical care compared to 18 percent among the richest quintile (Annex 3, Table 12). Drugs and medicine consume a disproportionate share among the poorest 40 percent. User fees-household expenditure ratio—a measure of affordability—is much larger for the poorest 40 percent (26 percent) than for the richest 40 percent (7.2 percent). Among the poorest quintile, the most important reasons for not consulting a health care facility are distance, expensive treatment and inattention to quality care.

### **Outcomes and Efficiency**

3.20 Two health outcomes are examined against per capita public health expenditure by provinces, ranked by poverty incidence from poor to rich. Generally, Table 3.3 demonstrates how the maximum final outcomes—a reduction in infant and maternal mortality rates—has been achieved with lower cost interventions. Quintile V comprising rich provinces like Selenge, Tov, Orkhon have achieved reduced infant mortality with less per capita health expenditures. But contrary to pro-health risk targeting, poor and high infant mortality provinces in quintile I—Arkhangai, Bayan Hongor, Bulgan received comparatively less government resources. Other important outliers are Dornod and Ovorhangay that have high per capita income, a low infant mortality rate and higher per capita health spending. With regard to reducing maternal mortality, similar conclusions apply except that the most inefficient provinces are the rich, which received greater public money but suffered an increase in maternal mortality of 16 percent in 1994.

3.21 To assess how health expenditures have translated into greater access to basic health services and facilities, the data on the coverage of immunization, sanitation and safe water in all provinces are examined. Table 3.3 shows the percentage change in the proportion of one-year-olds receiving three shots of diphtheria-pertussis-tetanus (DPT3) immunizations by provinces ranked by incidence of poverty, from poor to rich. It appears that the access to this service has deteriorated in the poorer provinces, as the coverage declined much more rapidly in quintiles I and II. In previous years, large improvements in DPT3 coverage were a result of greater motivation and logistical support. Since the coverage has already reached 100 percent in many provinces, further expanding and then sustaining it for new cohorts of infants would be difficult. If this rate is maintained, particularly in poor provinces, it should have salutary effects on childhood mortality and morbidity in the future.

3.22 Table 3.3 also displays coverage of safe water by provinces. Except poorer provinces in quintile II, coverage generally varies directly with income, that is, the richer the province, the wider the coverage. The coverage of sanitation has been slightly regressive in 1994, although it varied inversely with income in 1990. Thus, except for safe water, there is significant variation in the access to sanitation and DPT3 in poor provinces and the distribution of these services has been uneven across provinces in 1994,

suggesting that progressivity in the access to these basic health services has diminished since 1990.

**TABLE 3.3: HEALTH INDICATORS IN PROVINCES, 1990-1994  
(Ranked by incidence of poverty)**

Quintile of Provinces	Average per capita Health Expenditure (Tug.)	Percent Change				Coverage of Sanitation DPT3	
		Infant Mortality Rate	Maternal Mortality Rate	Safe Water			
Poorest	I	4,053	-4.9	21	-7.1	-7.3	-3.1
	II	3,220	-2.7	12	6.0	-11.2	-4.7
	III	3,477	-5.5	8	-5.1	-2.8	-1.5
	IV	4,729	-6.0	10	2.0	-5.5	-1.5
Richest	V	4,125	-5.6	16	3.7	-5.0	-0.9

Source: MOH, and incidence of poverty from MPPL

3.23 For better policy intervention Annex 3, Table 13, shows the *marginal* impact of a central government Tug. 1,000 increase on infant mortality rates by quintile of provinces. An increase of Tug. 1,000 in per capita central government health spending in rich provinces is associated with drops in infant mortality of only 0.95 percent. In contrast, similar increase in per capita health spending is associated with a decline of infant mortality by nearly 4.0 percent in poorer provinces. Thus, health expenditures yield faster drops in infant and maternal mortality in poorer provinces than their richer counterparts. Because central government allocates resources mainly for non-salary programmatic health services, a strategy of redistribution of central government health expenditure from richer to poorer provinces will generate larger *overall* decline in infant and maternal mortality.

### C. NET INCIDENCE OF SOCIAL SERVICES

3.24 What effect will the government's attempts to maintain fiscal discipline by raising taxes and reducing spending have on poverty? The answer lies in the incidence of fiscal policy. However, an analysis of the incidence of fiscal policy typically examines either the distribution of the tax burden or the incidence of public expenditures. Here, however, the central issue for policy intervention is the *combined* or *net* incidence of both fiscal activities, because, even if a tax is regressive, the overall impact of increasing that tax may not be significant if the revenue it raises is spent progressively. Conversely, while the beneficiaries of government spending on social services may be the poor, financing this spending with highly regressive taxes may negate any positive effect on the poor.

#### Tax Incidence

3.25 The analysis of tax incidence captures the effects of both direct and indirect taxes. Since Mongolia has low collection rates, the effective tax rate—tax revenue divided by the base—rather than the statutory rates is the point of focus. Accordingly, income taxes paid by households in the LSMS 1995 constitute the basis for tax incidence analysis.

*Indirect* taxes include taxes on sales, customs duties, excise duties, and constitute about 50 percent of total revenues. Since indirect taxes are levied on transactions, for instance sales taxes on books, medical supplies, equipment, they have a greater impact on the poor than on the rich, to the extent that the poor spend a larger proportion of their income on these items.

3.26 Two effects are important for determining the incidence of indirect taxes. One is the “cascading” or interindustry effect and the other is the effect of taxes on the prices of substitutes for the taxed goods. For instance, an import tariff raises the price of import substitutes. Ideally, these effects are determined by a multi-sector computable general equilibrium (CGE) analysis of taxation. But such a model is not available for Mongolia.<sup>22</sup> Alternatively, indirect tax rates by quintile can be calculated, some say heroically, by applying relevant tax rates from the Tax Law for household expenditures on all food and nonfood items in the LSMS.

3.27 Table 3.4 shows the consolidated tax burden in Mongolia. While direct taxes are progressive, indirect taxes are slightly regressive. However, by increasing revenue predominantly from indirect taxes, a country may be rendering its overall tax system regressive even if its direct taxes are progressive. But the difference in the tax rate paid by the poorest and richest quintiles in Mongolia is minimum, rendering the overall system basically proportional.

### **Expenditure Incidence**

3.28 In Mongolia, two components of the budget that have significant distributional effects include education and health. Together, these account for about 30 percent of government expenditures, representing about 11 percent of GDP. The share of education and health in total government expenditures and GDP remained basically the same for more than a decade, and this pattern will continue for the next few years unless the private sector develops rapidly.

### **Education**

3.29 Quintile-specific per capita public educational subsidies are shown in Figure 3.4. Per capita subsidies for all levels of education are regressive. In primary education, per capita governmental subsidy is the highest for the rich groups—Tug. 652 in the top quintile and then declines to Tug. 326 in the poorest quintile. Similarly, in secondary education the poorest quintile receives Tug. 4,442, about 23 percent less than the top quintile, and in higher education, the top quintile receives 25 percent more in per capita subsidy than does the poorest quintile.

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<sup>22</sup> Tax-incidence analysis is very rare because of lack of detailed tax data. Studies using a CGE model for tax-incidence analysis include Shantanayan Devarajan, Don Fullerton and Richard Musgrave, “Estimating the Distribution of Tax Burdens: A Comparison of Different Approaches,” 1980., *Journal of Public Economics* 13, and Shantanayan Devarajan and Shaikh I. Hossain, “Combined Incidence of Tax and Government Expenditure in the Philippines” 1995, *Policy Research Working Paper* 1543 World Bank.

3.30 Once aggregated, education subsidies become larger for the richest group, increasing to about Tug. 12,000 among the richest quintile. Figure 3.5 analyzes the *efficiency* of targeting education subsidies at the poor as a proportion of their share in total subsidies. The first criterion for assessing the efficiency of targeting is whether the poor receive a larger share of educational subsidies than their share in national consumption. A stronger test is whether the poor receive a greater share of total subsidy than their share in the *national* population that is, the absolute size of per capita subsidy is larger for the poor.

3.31 It is clear that education subsidy is more egalitarian than personal consumption since they are situated above the consumption distribution curve. But public education expenditure, including primary education, still lies below the diagonal 45 degree Lorenz curve, indicating that the poor receive a smaller share of the education subsidy than their share in the overall population. Subsidies to secondary and higher education also show the similar pattern (not shown), reflecting that subsidies to education are *weakly pro-poor* as their distribution curves lie below the Lorenz curve. Thus, overall educational spending still favors the rich in *absolute* terms.

## **Health**

3.32 Figure 3.6 presents the quintile-specific distribution of public subsidies for health derived from government health expenditure and utilization patterns observed in the LSMS 1995. Overall government health spending is regressive—the wealthiest group receives 34 percent more per capita health subsidy (Tug. 1,381) than does the poorest group (Tug. 1,033); but disparity is less significant among the second and third quintiles. This is due mainly to higher hospital spending which usually favors the wealthy.

3.33 The *efficiency* of targeting health subsidies to the poor, expressed in terms of the percentage shares they receive from the total health subsidy, shows that subsidies are *weakly pro-poor* since the distribution of health subsidy lies above per capita consumption distribution line, but below the 45 degree line of equal share (Fig 3.5). Like education, overall health spending still favors the wealthiest quintile in *absolute* terms. But interestingly, while absolute subsidy levels rise as per capita expenditures increase, they decline as a percentage of per capita household expenditures, suggesting that subsidies to education and health are inequality-reducing. In conclusion, public expenditures on social services have a salutary effect on the distribution of income. Although *absolute* levels of subsidies for all levels of education, and health are regressive and weakly pro-poor, yet as a percentage of household expenditure, the total expenditure incidence is egalitarian—the lowest quintile receives 23.8 percent of their expenditure in benefits, while the corresponding share for the top quintile is only 6.4 percent (Table 3.4).

**FIGURE 3.4: PER CAPITA EDUCATION SUBSIDY BY QUINTILE, 1995 (Tug.)**  
(continued on next page)

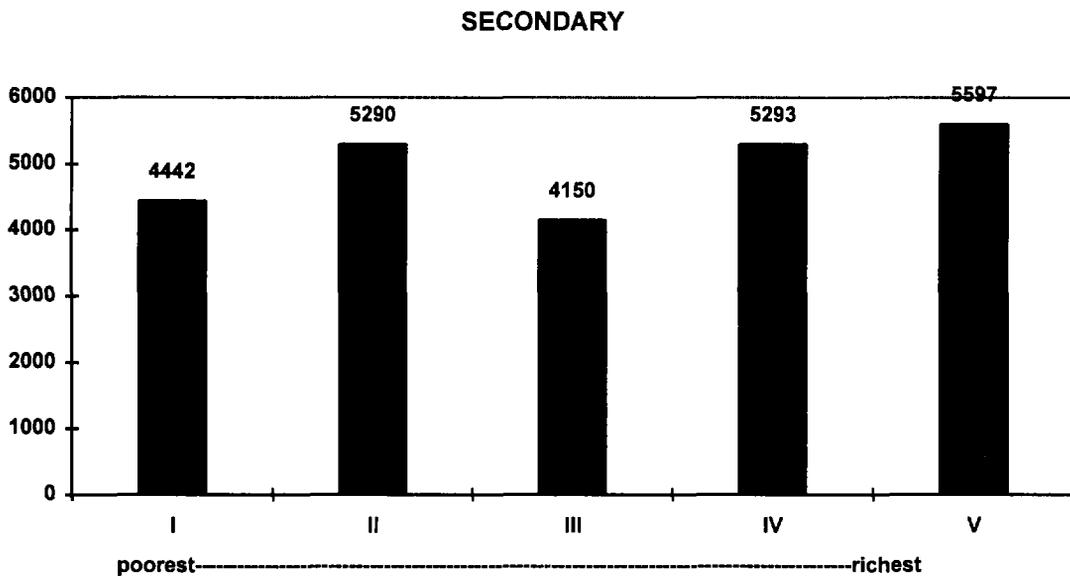
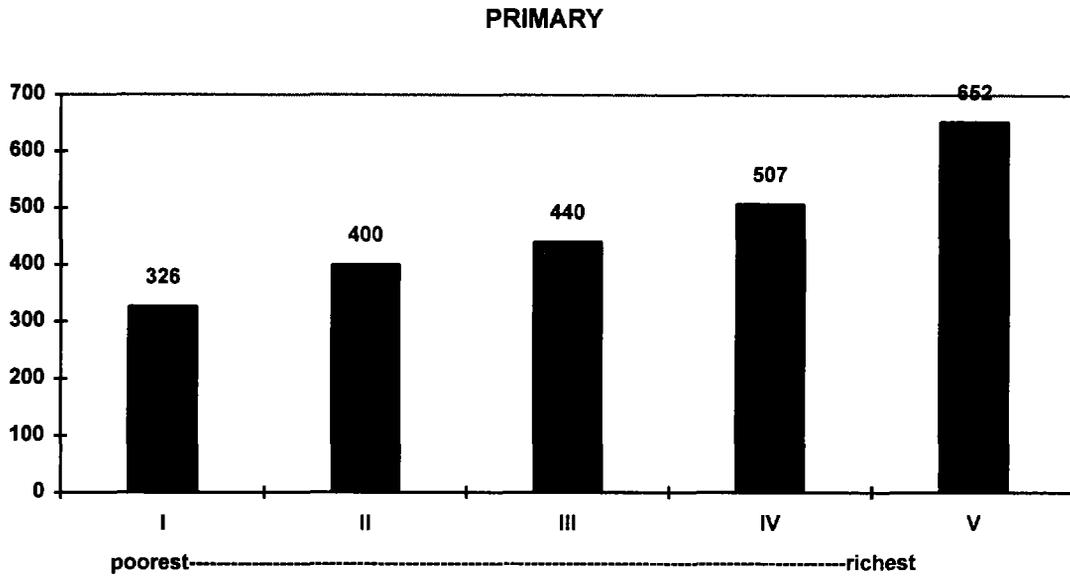


FIGURE 3.4 (CONTINUED)

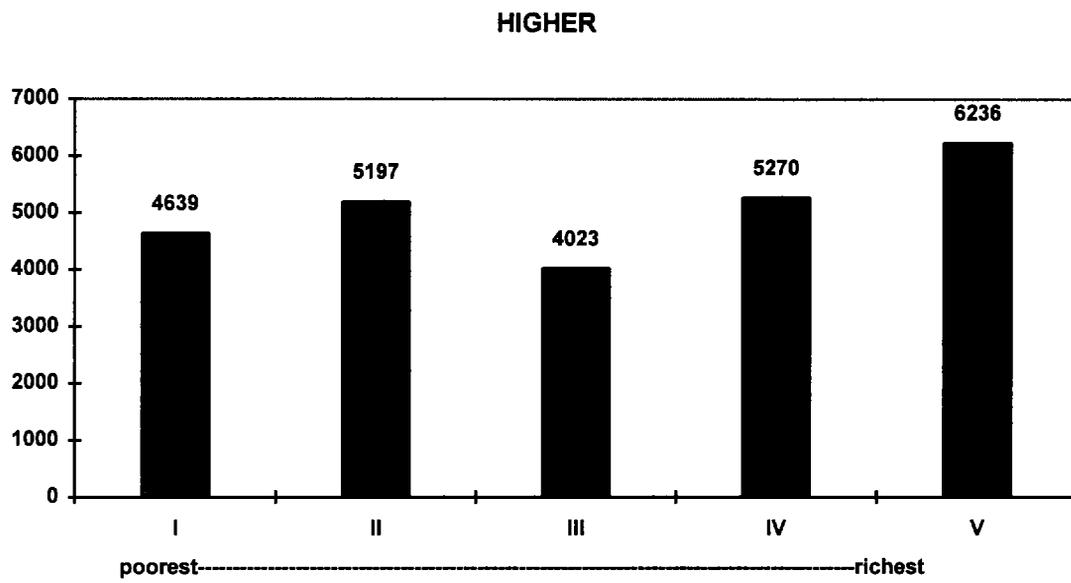
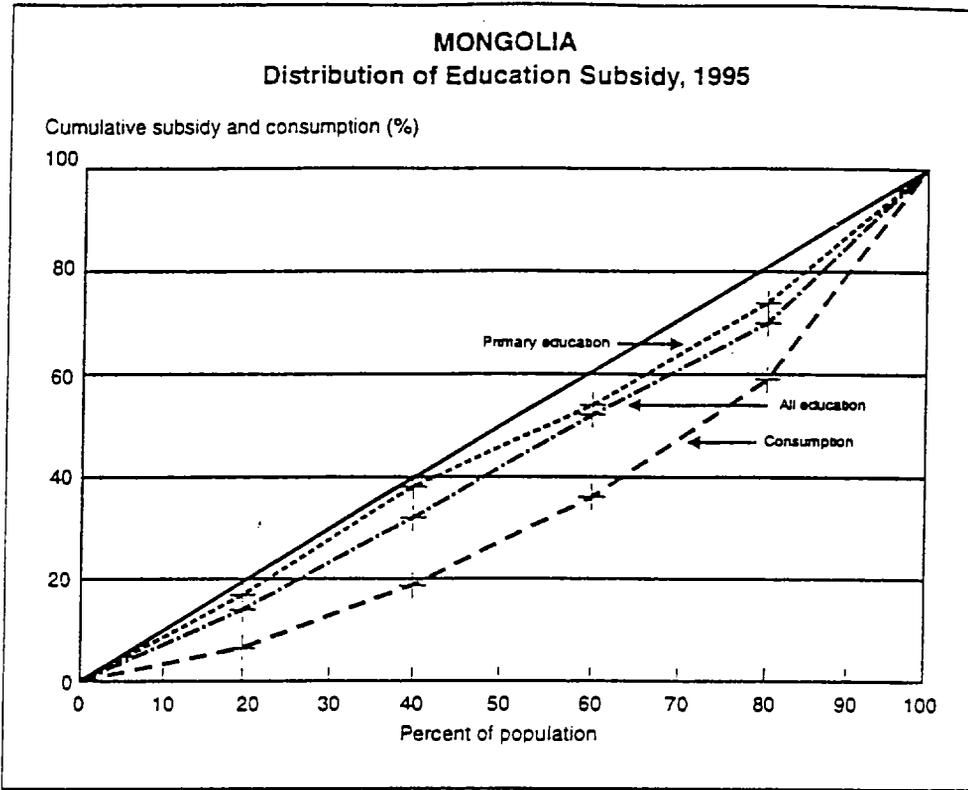
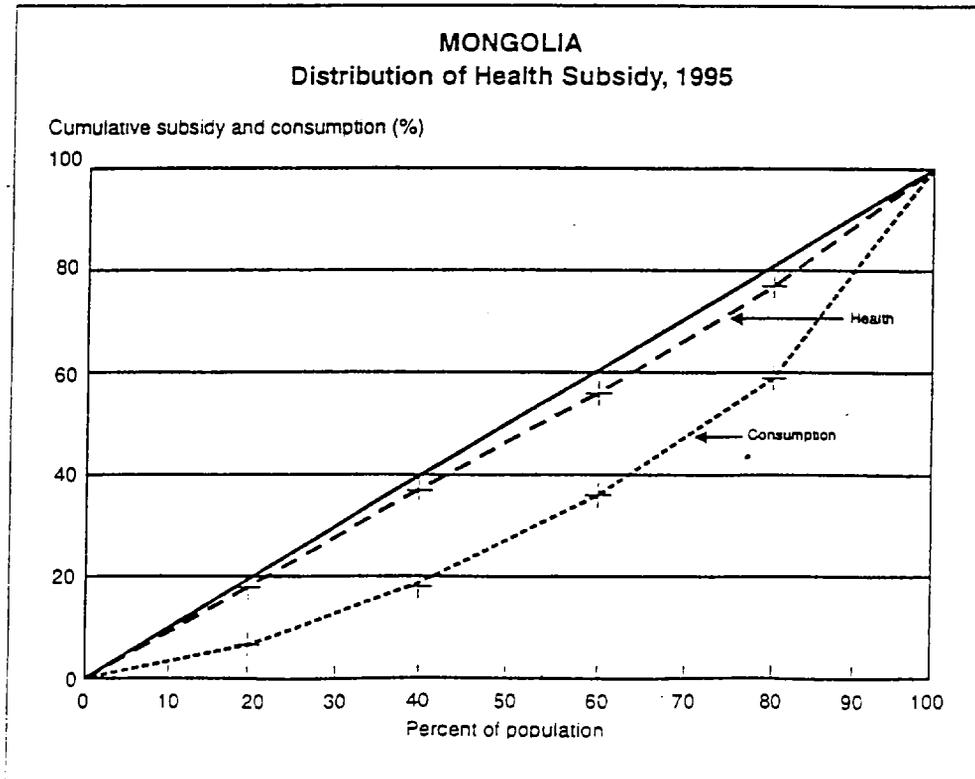


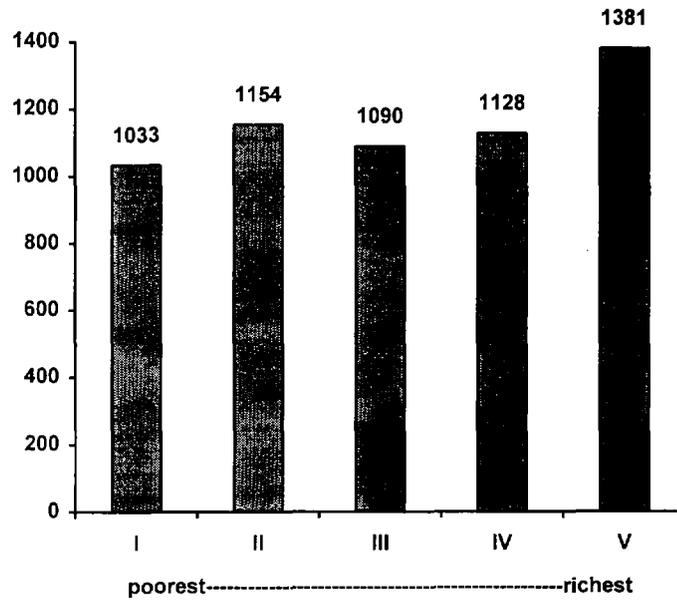
FIGURE 3.5: DISTRIBUTION OF EDUCATION/HEALTH SUBSIDY



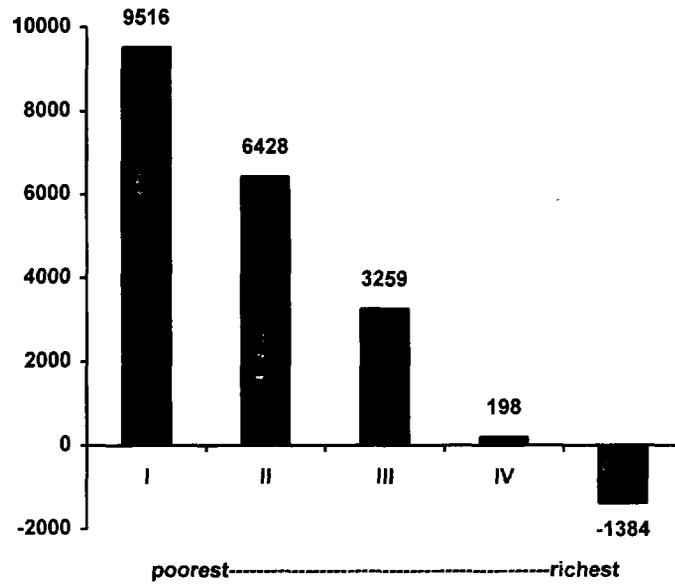
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**FIGURE 3.6: HEALTH SUBSIDY BY QUINTILE, 1995 (Tug.)**



**FIGURE 3.7: (POST-TAX) EDUCATION & HEALTH (NET) SUBSIDY BY QUINTILE, 1995 (Tug.)**



source: LSMS 1995

### Combined or Net Incidence

3.34 The last column of Table 3.4 presents the consolidated incidence of tax and social sector expenditures. Surprisingly, while the tax incidence is basically proportional, the expenditure incidence is what makes the combined or net incidence progressive. The proportionality of taxes is due to the regressivity of indirect taxes. The poor consume taxed goods directly (for example, energy, tobacco), while the rich consume them indirectly with the purchase of goods whose production requires energy and other taxed goods. While some assumptions were required to reach this conclusion, further refinement of the data would not reverse the central message significantly.

**TABLE 3.4: NET INCIDENCE OF TAXES AND SOCIAL SECTOR EXPENDITURES, 1995**  
(As a proportion of per capita household expenditure)

Quintile	Expenditures			Taxes			Combined Incidence
	Education	Health	Total	Direct	Indirect	Total	
I	0.215	.024	0.238	.020	.060	.080	0.160
II	0.152	.016	0.168	.070	.020	.090	0.080
III	0.089	.011	0.100	.060	.010	.070	0.030
IV	0.084	.009	0.092	.071	.030	.100	-0.008
V	0.058	.006	0.064	.080	.020	.100	-0.036

Source: Staff Calculation from LSMS 1995

## 4. SAFETY NETS AND THE POOR

### A. OVERVIEW

4.1 The long-term solution to poverty in Mongolia is resumption of the growth process. Evidence reviewed in previous chapters indicates that, following macroeconomic stabilization measures, labor absorption is picking up in some of the export-oriented industries and in the livestock sector. However, not all segments of the population may be in a position to benefit from a resumption of growth and increased incomes. Also, some segments of the population may continue to suffer from the shock of transition to a market economy, following the dramatic contraction of most elements of the welfare state prior to the transition. In addition to the traditional poor—the elderly, pensioners and the disabled—new vulnerable groups have emerged, the most significant being destitute children, single-parent families with large numbers of children, and herding families with very few animals.

4.2 The poor have three sources to fall back upon in times of need. First, Mongolia has a long tradition of self-help: traditional safety nets continue to be important in the country. Second, the government provides allowances to different categories of the poor, especially the traditional poor. Third, Red Cross and other non-governmental agencies (including some bilaterals) provide direct help to the indigent.

### B. TRADITIONAL SAFETY NETS

4.3 Extended families constitute the principal traditional safety net in Mongolia. Evidence from the LSMS suggests that in that sample while only about 82 families (107 individuals) received assistance from the government, as much as 621 households (1,400 individuals) received assistance from friends and relatives. Private assistance took the form of not only cash remittances but also exchange of animals (for consumption) in times of need.

4.4 The distribution of households receiving private remittances and as a share of recipients' household expenditure, are shown in Table 4.1. The percentage of households receiving remittances increases from 27 percent for the poorest quintile to 55 percent for the richest quintile. The absolute amount of private transfers rises with income. However, as a percent of household expenditure, private remittances are very important for the poorest quintile—nearly one fifth of household expenditure is financed from such remittances. Interestingly, even households in the poorest decile give *out* some gifts, though to a very small extent. As such, even after netting out the gifts given out, private remittances, continue to be critical for the poorest decile. Clearly, without these remittances, the condition of the very poor in the country would have been much worse.

Moreover, private remittances are an important source of income for many households in Ulaanbaatar as well as in other urban and rural areas.<sup>23</sup>

**TABLE 4.1: DISTRIBUTION OF HOUSEHOLDS RECEIVING PRIVATE TRANSFERS (REMITTANCES) BY QUINTILE, LOCATION, AND POVERTY**

Expenditure Quintile	Percent of Households Receiving Remittances	For the Households Receiving Remittances		
		Remittances as a Percent of Total Expenditure		Average Annual Remittance Received (Tug)
		Gross	Net	
1 (poorest)	27.4	19.3	18.5	49,640
2	35.6	14.3	12.3	45,964
3	44.0	12.0	9.0	62,050
4	44.4	10.2	6.1	56,453
5 (richest)	55.2	13.1	7.8	113,463
Ulaanbaatar	50.0	14.8	11.2	92,224
Other Urban	37.4	7.3	4.8	48,889
Rural	33.7	11.2	7.3	42,612
Very Poor	33.5	21.0	19.9	55,326
Others	44.2	12.0	8.0	76,078
Total	42.5	13.1	9.5	73,463

Source: Mongolia LSMS

Note: Very poor are defined as households with expenditures less than 75 percent of the poverty line (7,471.4 Tug. per month). Gross is defined as total remittance received. Net is defined as remittance received less remittance given.

4.5 Though private transfers and traditional safety nets are important, their adequacy or effectiveness should not be overemphasized as they are subject to many limitations. For example, if a whole *aimag* is subjected to common shocks such as the closure of a major factory or a *dzud* (freezing snowstorm), *all* families sustain losses, restricting the scope for sharing. Moreover, as facilities and homes for the mentally-retarded and the disabled contracted, there has been a dramatic increase of children in need, stretching the traditional support system to its limit. The emergence of new vulnerable groups has exacerbated the support system. Thus, the need for publicly-supported social assistance is strong during the current difficult transition period.

<sup>23</sup> Mongolia also has a tradition of exchanging animals in times of need. The LSMS does report this phenomenon; unfortunately the information is not recorded in a form that can lend itself to analysis.

### C. SOCIAL INSURANCE AND SOCIAL ASSISTANCE

4.6 Two categories of social security benefits are provided by the government in Mongolia: (a) social insurance, and (b) social assistance. Social insurance has five components: retirement pension, unemployment insurance, allowance for injuries in the workplace, health insurance, and special benefits. Social assistance comprises of allowances to different categories of women and children in need, and to the disabled and the ultrapoor (indigent) families. Both social insurance and social assistance provision fall under the jurisdiction of MPPL. The social security system is financed by three major sources: the revenue budgets of central and local governments, the budgets of state owned enterprises, and employee contributions. However, under special circumstances, the financing of social insurance is also shared by other organs of the government. Publicly funded social assistance is supplemented by donor contributions (especially Red Cross).

4.7 From the perspective of the very poor following the transition to a market economy, social assistance is critical. Social assistance provided by the government has declined in real terms since 1994. Thus, in real terms, the total assistance for all vulnerable groups *budgeted* for 1996, and the *actual* spending in 1995, were about 60 and 80 percent respectively of the level in 1994. Moreover, based on the LSMS estimate of the ultrapoor to be about 19 percent of the total population, the total assistance provided in per capita terms amounted to no more than \$0.8 and \$0.6 a month in 1994 and 1995 respectively.

4.8 The allowances and assistance to various groups are consolidated and presented for four categories: mothers and children, the disabled, the very poor (indigent families) and other (unspecified category). Of these, the second category may be regarded as the “traditional poor” who were “perceived” to be poor even prior to the transition, and were provided with generous allowances. Women and children and the very poor (which include the unemployed) constitute new vulnerable groups. Table 4.2 presents the data for these categories for 1994-96. Assistance for all categories has been steadily declining. However, the decline was the least for the traditional poor, whereas the assistance for the new vulnerable groups has contracted sharply. This is not surprising, given the contraction in the overall provision for social assistance in successive budgets. Moreover, from 1994 to 1995, numbers of recipients (mothers and children) fell. That the traditionally “perceived” poor (pensioners) are better protected is also evident from the fact that the total spending on social *insurance* as a percent of GNP *increased* from 4.2 in 1993 to 7.2 in 1995 (as a percent of public expenditure from 9.3 in 1992 to 18.2 in 1995), whereas the spending on social *assistance* fell from 0.18 percent of GNP in 1992 to 0.15 percent in 1995 (the corresponding figures as a percent of public expenditure being 0.41 and 0.39 respectively)—see also Figure 4.1.

**TABLE 4.2: PUBLIC EXPENDITURES ON SOCIAL ASSISTANCE, 1994-96**  
(in million Tugriks, at 1994 prices)

	1994			1995			1996	
	No. of Beneficiaries	Amount (Actual)	Percent Share	No. of Beneficiaries	Amount (Actual)	Percent Share	(Planned Budget)	Percent Share
Mother/Child Disabled <sup>1</sup>	356,841	884.8	42.9	257,918	779.6	50.1	532.0	40.1
Very Poor <sup>2</sup>	27,530	600.3	29.1	23,841	534.3	34.3	381.7	28.8
Other (unspecified)	NA	560.0	27.1	NA	206.1	13.3	150.5	11.3
	NA	18.6	0.9	NA	35.2	2.3	263.4	19.8
<b>Total</b>	<b>384,371</b>	<b>2,063.7</b>	<b>100.00</b>	<b>281,759</b>	<b>1,555.2</b>	<b>100.0</b>	<b>1,327.6</b>	<b>100.0</b>

\* Assumes a 50 percent inflation rate over 1995.

NA = Not Available

<sup>1</sup> This includes pensions for the disabled, social assistance pensions, and care centers for the elderly.

<sup>2</sup> This comes from the fund set up to grant loans to poor people; so it is not strictly assistance. The number of beneficiaries is not known.

Source: M.P.P.L.

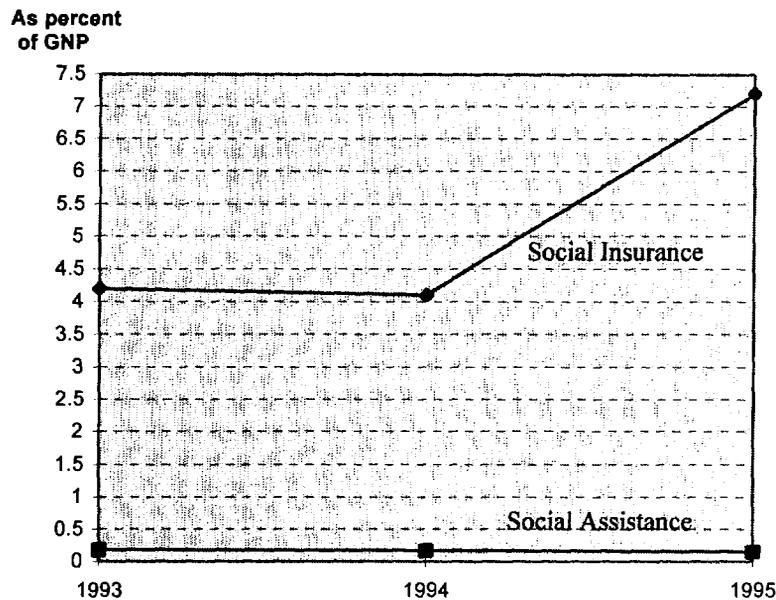
4.9 Has the meager public assistance been distributed among the *aimags* in an equitable manner? The shares of each *aimag* in total social assistance (pensions and benefits together) provided by the government in 1994 and 1995 are shown in Annex 4.1, along with the shares of each *aimag* in the country's ultrapoor population and presented in Table 4.3. In 1995, Ulaanbaatar, which houses 13.7 percent of the country's ultrapoor, received 30.7 of governmental assistance, whereas four *aimags* (Dzarkhan, Overhangai, Arhangai and Bayanhongor) which account for 28.4 percent of the ultrapoor received about 15 percent of assistance, and the three outlying provinces of Gobi Altai, Hovd and Bayanolgai which account for 14.2 percent of the ultrapoor received only 6.6 percent of total assistance.

**TABLE 4.3: BENEFITS AS PERCENT OF HOUSEHOLD INCOME AND EXPENDITURE**

	(Household Income Survey, SSO, 1995)		LSMS, 1995 Expenditure
	Income		
	First 8 months of 95	August 95	
Ulaanbaatar	0.9	0.5	4.8
<i>Aimag</i> centers	1.5	1.0	6.7
<i>Sum</i> centers	0.9	0.6	3.7
Rural areas	0.4	0.1	2.2

Source: Monthly Bulletin of Statistics, SSO, October 1995, LSMS, June 1995.

FIGURE 4.1: SOCIAL INSURANCE AND SOCIAL ASSISTANCE IN MONGOLIA, 1993-95



4.10 In general, assistance as percent of income/expenditure declines as one moves from the capital city to rural areas. In Mongolia, where the poor live reflects how they are doing, at least as far as publicly-supported social assistance is concerned.

4.11 Several non-governmental agencies and bilateral donors have been providing social assistance to indigent groups in Mongolia, the most prominent being the Red Cross. However, donor assistance has not resulted in a more even distribution of assistance across the *aimags*. In fact, donor assistance is even more concentrated in Ulaanbaatar. Thus in 1994, Ulaanbaatar received a third of government assistance and three-fourths of assistance from the Red Cross. Though the data with respect to *sum*-wise distribution of social assistance is unavailable, it is possible that inter-*aimag* inequity in social assistance is transmitted into inter-*sum* inequity.<sup>24</sup> However, the important question is: who is actually receiving the assistance? What are the household characteristics of the recipients of social assistance? To what extent are undeserving (nonpoor) households

<sup>24</sup>

An isolated *sum* such as Alag Erdene, with 62 poor and 22 ultrapoor families (owning no livestock) received no assistance at all in 1994, whereas one of the 12 *sums* in Ulaabaatar (Gachuurt *sum*) which hosts 34 ultrapoor families received several kinds of assistance from the Poverty Alleviation Fund including cash, flour, meat, financing of children's kindergarten expenses and loans to poor families.

included, and deserving households are excluded? These questions can be answered with the LSMS.

#### D. TARGETING SOCIAL ASSISTANCE

4.12 The quintile-wise distribution of households receiving social assistance is shown in Table 4.4. Only about 15 percent of the poorest households in the poorest quintile have received social assistance transfers. For this quintile, social assistance accounted for about 8 percent of household expenditure. A small percentage of households in the richer quintiles are also receiving transfers. Moreover, the absolute amount of assistance is no doubt highest for the poorest group; however, the richest group also received assistance equal to about half of the poorest group. It suggests, that the system is not entirely free from leakages of assistance to the nonpoor. The small number of recipients and low contribution of social assistance to household expenditure is not surprising, given the small and declining character of public social assistance in the country.

**TABLE 4.4: DISTRIBUTION OF HOUSEHOLDS RECEIVING SOCIAL ASSISTANCE  
(by Quintile, Location, and Poverty)**

Quintile	Percent of Households Receiving Social Assistance	For the Household Receiving Social Assistance	
		Social Assistance as Percent of Total Expenditure	Average Annual Social Assistance Received (Tug.)
I (poorest)	14.7	7.9	11,305
II	5.5	2.3	7,207
III	4.0	1.7	9,428
IV	3.4	0.8	7,275
V (richest)	1.3	0.6	6,794
Ulaanbaatar	3.6	4.8	14,868
Other Urban	15.9	6.9	7,213
Rural	5.4	3.2	5,998
Very Poor	16.4	7.7	11,118
Others	3.2	1.5	7,782
Total	5.3	4.6	9,439

Source: Mongolia LSMS, 1995.

4.13 In Mongolia, *public* social assistance is supplemented by social assistance provided by NGOs and other donors. What is the distributional incidence of social assistance when both public and NGO sources are combined? The distribution of

recipients of social assistance received from *both* the government and the donors (Red Cross) by income quintiles is show in Table 4.5. While only 17 percent of *all* households belong to the poorest quintile, nearly a half of the recipients of social assistance were from the poorest quintile; their share in total quantum of assistance was also about half. About 18 percent of all households were from the second (moderately poor) quintile, whereas 19 percent of recipients were from this quintile; their share in total assistance was 18 percent. While about 35 percent of all households were from the bottom two quintiles, as much as 67 percent of recipients of social assistance were from these two quintiles; these households accounted for 60 percent of total assistance. About 40 percent of social assistance was received by the top three (nonpoor) quintiles. By the standards of other transition economies, this is not altogether a bad targeting outcome, although there appears to be scope for improved targeting.<sup>25</sup>

**TABLE 4.5: DISTRIBUTION OF HOUSEHOLDS RECEIVING SOCIAL ASSISTANCE**

Per capita Expenditure Quintile	Percentage Distribution of All Households	Percentage Distribution of Households Receiving Social Assistance (%)	Average Household Size of Recipient Households	Share of Recipient Households in Social Assistance (%)
1(poorest)	17.0	47.4	6.1	49.9
2	18.7	19.4	5.0	18.1
3	18.3	13.8	6.0	13.7
4	21.3	13.6	5.9	13.1
5 (richest)	24.7	5.9	4.6	5.2
Total	100.0	100.0	5.8	100.0
Share of				
Ulaanbaatar	52.1	35.7	5.9	43.7
Other Urban	7.5	22.7	6.4	21.5
Rural	40.4	41.6	5.3	31.8
Total	100.0	100.0	5.9	100.0

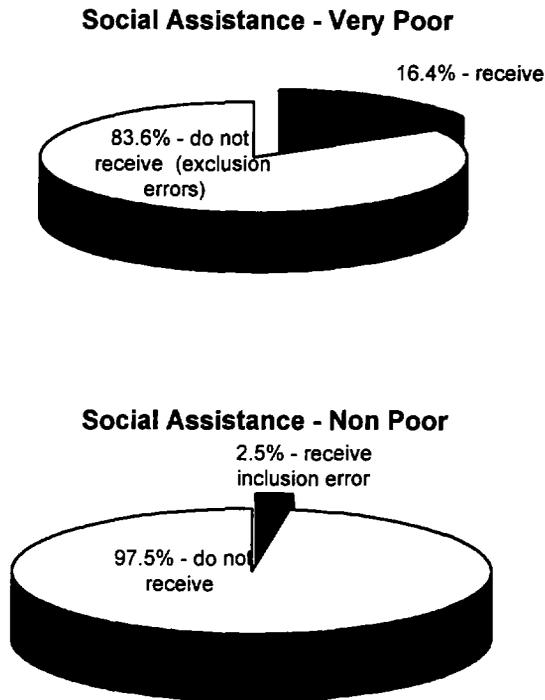
Source: Mongolia LSMS, 1995.

4.14 The inclusion and exclusion errors are shown in Figure 4.2. It suggests that “inclusion” errors (i.e., inclusion of nonpoor households for assistance) are not high, but the exclusion errors—deserving households not being served by social assistance—are high. This finding again confirms the overall inadequacy of social assistance in the country.

<sup>25</sup>

See, for example, Poland: Poverty Assessment (World Bank, 1995a); The Kyrgyz Republic: Poverty Assessment (World Bank, 1995b); K. Subbarao and Kalpana Mehra, “Social Assistance and the Poor in Romania,” Discussion Paper No. 79.

**FIGURE 4.2: SOCIAL ASSISTANCE: EXCLUSION AND INCLUSION ERRORS**



#### **E. TRANSFERS AND POVERTY REDUCTION**

4.15 How much are current transfers (social assistance, government-funded, donor-funded and private transfers) contributing to a reduction in poverty? To measure accurately, the impact of transfers on poverty, it is important to know how individuals/households adjust their behavior to transfers. In general, it is reasonable to expect that as transfers become available, individuals/households may reduce their work effort. Conversely, in the absence of transfers individuals may actually work and earn more than when transfers are present. Information on behavioral responses to transfers is not available in Mongolia. For simplicity, we assume that there are no behavioral responses, so that the pre-transfer income is equal to actual income minus transfer received. Based on this assumption, and using LSMS data, we simulated the impact of transfers on poverty. It is worth stressing that the results obtained overstate the impact of transfers on poverty. The results are shown in Table 4.6.

**TABLE 4.6: TRANSFERS AND POVERTY**

	Actual	Without Social Assistance (government + donors)	Without Private Transfers
Head-count poverty ratio	36.5	36.6	45.9
Poverty Gap (PG1)	10.9	11.5	17.3
Severity (PG2)	4.9	5.5	9.3
Gini Coefficients	0.31	0.31	0.34

4.16 While current social assistance is not making any difference to the head-count poverty index, it is making some difference to the depth and severity of poverty, implying that assistance is indeed reaching some of the poorest sections of society. It is clear, however, that the contribution of government- and donor-supported transfers to a reduction of poverty and inequality is very small indeed, compared with the impact of private transfers. The reduction in inequality with private transfers suggests that such transfers are also taking place from the nonpoor to the poor.<sup>26</sup>

4.16 The poverty gap ratio is not high in Mongolia by comparison with neighboring countries such as the Kyrgyz Republic, where the poverty gap is twice the level in Mongolia. Incremental growth in incomes via expansion of opportunities for employment in such activities as public works and micro enterprises may be expected to “pull up” the households to at least the food-poverty threshold. Therefore, a combination of targeted transfers and income generating programs is the best short-run policy response for Mongolia. However, the amounts budgeted for pure social assistance (i.e., row 3 in Table 4.2) are perhaps not adequate. There appears to be a strong case for increasing the share of transfers for the very poor who are unable to participate in the labor market. At the same time, clearly more reliance has to be placed on income-generating programs rather than pure social assistance transfers.

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<sup>26</sup> This contrasts with the experience of countries such as the Philippines, where remittances are found to be from the poor to the poor, and from the nonpoor to the nonpoor, so that the impact of private transfers on inequality has been minimal (K.Subbarao, A. Ahmed and T. Teklu, 1996).

## **5. PROSPECTS FOR POVERTY REDUCTION**

### **A. GROWTH AND POVERTY REDUCTION**

5.1 Continued implementation of the stabilization and reform program is a determinant factor for growth and poverty reduction. Specifically, a public expenditure program aimed at poverty reduction should comprise: (a) job creation investments and training programs to meet new skill requirements-in view of the importance of the link between unemployment and poverty; (b) maintenance of the present level of social expenditures while adjusting the composition coupled with improving efficiency, access and targeting; (c) support for small herders through the promotion of productivity enhancing measures including pasture improvements based on the traditional herding groups, provision of veterinary services, and sectorwide policy changes to remove non-market interventions in meat pricing and barriers to live animal exports, and provision of market information; (d) protection of real pensions and improved management of social security administration; and (e) targeted energy price subsidy for urban and rural poor.

5.2 Public sector investment, of which nearly 90 percent is financed by donor assistance, is concentrated on major infrastructure sectors-transport, energy rehabilitation and communication-critical to private sector development. The government also sets a national minimum wage rate (which is below the market wage rate) and has adopted liberal investment policies aimed at attracting foreign direct investments. With the closure and downsizing of state enterprises throughout the country, there is an abundant supply of skilled manpower and newly trained graduates entering the labor market to meet the new demands.

5.3 The sectoral sources of growth identified in Chapter 2 point to the growing potential for labor absorption. The unemployed poor would be the primary beneficiaries from new job openings and the continued expansion of the informal sector. In particular, the expansion of the textile and garment industries, which have traditionally attracted female workers throughout the world will tap the skilled female labor. The recent government policy on pre-school also calls for the reopening of pre-school education facilities and will have the added incentive for female heads of households to return to the labor market.

5.4 To complement public expenditure programs, a restructured financial sector is critical for the development of small scale labor intensive enterprises and other credit programs for the poor. While efforts are underway to restructure the financial sector, and due to the absence of rural credit programs, the government is piloting various modes of

subsidized credit facilities to promote job-creating micro-enterprises. These programs were initiated to provide employment opportunities to the urban and rural poor including female heads of households as a special target. However, further expansion of such financing mechanisms should not undermine the future development of market-based financial sector and should be subject to an evaluation of the efficiency and effectiveness in targeting the poor.

5.5 The government has placed a special focus on poverty reduction. In June 1994, the six-year NPAP was launched with an estimated cost of \$83.0 million with a view to reduce the poverty rate to 10 percent by 2000. The NPAP has a three-pronged strategy including: (a) growth-oriented and employment-creating economic policy; (b) development of human resources through provision of basic education and health services; and (c) targeted social safety net for those who would not benefit from new employment opportunities. As of May 1996, donor assistance in the pipeline and committed amounts to \$69.4 million. Annex 5 presents a summary of the NPAP and the funding status.

5.6 The deepening of the reform program, improvement in the efficiency of public expenditures and the growth of the private sector would ensure continued growth of GDP of 6 percent achieved in 1995. Under this growth scenario poverty is likely to decline. An increase in per capita consumption of 4 percent, would result in an annual reduction of 7 percent in the incidence of poverty, based on the estimated “elasticity” of 1.8.<sup>27</sup>

## **B. IMPROVING ACCESS, QUALITY AND TARGETING OF SOCIAL SERVICES**

### **Education**

5.7 Enabling the poor to become well-educated, requires not only that they have access to primary education, but also that they survive through primary education and make the transition to post-primary education. At each stage, poverty poses a barrier, and the government’s policy interventions should endeavor to overcome this barrier if it wishes to ensure “education for all.” The government has given priority to enhance and equalize opportunities in basic education, primary and secondary, in its “Education Laws.” Much of the recommendations of the Master Plan and the government’s objectives concerning equity, efficiency and quality of educational services could be attained by further improvements in the following key areas.

5.8 **Enhancing Retention.** In the long run, as a vital income equalizer, reduction in dropouts—especially at the primary level among poorer groups—would reduce poverty

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<sup>27</sup> For a cross section of countries, elasticities have been found in the range of -1 to -4 (see World Bank, *Implementing the World Bank’s Strategy to Reduce Poverty, Progress and Challenges*, 1993). Based on the LSMS data, the estimate for Mongolia is -1.76.

and make a significant difference in rates of return to investments in education. Enhancing retention rates at the primary level should be the first priority. The reason being that a sizable group, comprising as much as 32 percent of each school-age cohort fail to complete the primary cycle, and these children disproportionately represent the poor. Of lesser, though still important, priority is complementary action to improve transition from primary to secondary education. Policies to reduce disparities in the access to higher education are also important.

5.9 To enhance retention rates, several specific interventions might be considered. Subsidies that compensate families for foregone opportunity costs should be promoted as they enhance the likelihood of enrollment among the poorest students in primary and especially in secondary schools. Indeed, the provision of local government subsidies for students of the poor herders under the "Education Law 1995" should be enforced. Also distance learning through *Khot-ail* and *ger* schools should be supported.

5.10 For higher education, retention among the poor can be augmented mainly by improving access to student finance and more distance learning. Currently, nominal fees are charged in public universities. Tuition and fees comprise less than 5 percent of total household nonfood expenditure among the top quintile, so increased fees along with need-based scholarship and loan scheme would be more egalitarian, and would both balance long-term employment prospects and create a larger pool of well-educated workers to meet future labor market demand.

5.11 **Improving Quality.** The amount of private expenditure on each category of educational items with respect to total per capita consumption expenditures sheds light on the extent of quality differentials. One indicator of quality gaps is the availability of textbooks and teaching materials in schools. Ample scope exists for improving quality of schools through compositional shifts in public budgets from non-teaching staff to learning and teaching materials. As a compensatory financing mechanism, an equalization fund could be established where rich provinces can contribute and subsequently assist poor quality schools in disadvantaged areas.

5.12 **Improving Efficiency:** Using province level data, regressions on the correlates of student achievement across poor and non-poor *aimags* show that class size and non-teaching staff are not correlated with achievement outcomes, reflecting that raising pupil-teacher ratios and reducing non-teaching staff in poor *aimags* would be a viable option for improving internal efficiency in the use of public resources. Further, estimates of the ROR confirm that improved internal efficiency would also result in improved external efficiency in basic education in poorer areas.

5.13 **Linkages to Labor Market.** To improve the match between educational output and labor market demand among the poor and generate even higher returns, the government should expand access to post primary education through allocation of funds

in science, technical and vocational education away from the traditional academic programs, scaling tuition fees by fields of study and accrediting private training providers on the basis of labor demand and improved quality standards. For the educated unemployed in the poorest quintile, the government can provide job training and retraining in collaboration with employers to acquire new skills.

### **Basic Health Services**

5.14 Health status indicators by provinces and by quintiles clearly show that the poor and less educated are at greater risk of diseases and mortality, because they have less access to either curative or preventive health services, and because public resources are targeted inefficiently. Reducing the gap in health status across quintiles and regions requires improving the access, selective user fees, delivery of quality services and better targeting of health resources.

5.15 **Improving Access.** In poor provinces, the closure of maternity hostels and limited transport facilities due to inadequate resources has led to higher morbidity and mortality among mothers and children. There is a need for selective investments to improve the services in existing maternal and child health care centers in rural areas. Specific investments in medical equipment, essential drugs and supplies, outreach activities with staffed ambulance services, transport and vehicle maintenance would be essential to improve access to such services as routine preventive, prenatal and delivery services offered by these facilities. To enhance access of the poorest households to health facilities, reducing user costs associated with medical care and drugs, and improving the quality of care for those who actually gain access are critical.

5.16 As the LSMS data show, there is a weak relationship between household expenditure and average price paid for medical treatment. Access by the poor to health services is thus hindered by direct and indirect (traveling) costs. Improving access for them would require selective subsidies for essential services. The usage of health facilities is reduced if user fees are raised beyond certain levels. In Mongolia, price elasticities of demand by quintile show that if outpatient fees increase more than 6 percent of nonfood household expenditures, demand becomes elastic. Fee exemptions can be compensated for by redirecting savings from efficiency gains in government expenditures and surpluses from insurance fees.

5.17 **Better Targeting.** Coverage of water, sanitation, immunization and public health expenditures increase more favorably with changes in GDP in high-income provinces than in low-income provinces. These findings imply that even with equitable growth in income across provinces—an unlikely prospect—the distribution of provincial government health expenditure will become more unequal. If economic growth during the post-transition period in the provinces alone is less likely to reduce the imbalance in

provincial health expenditures, a strong case can be advanced for the central government to target an increasing share of resources to the poorest provinces.

**5.18 Improving Quality.** Two indicators of quality gap—the variation of private out-of-pocket spending by quintile for similar services and reasons for not using health facilities—show that the government can improve quality of services available to the poor by redeploying more trained health personnel to poor areas. This would require bonus and hardship allowances particularly for rural health personnel. Another step would be to provide district hospitals and sub-district (*bag*) *feldshers* with basic medical equipment, drugs, medical supplies, beds and transport.

**5.19 Improving Efficiency.** An analysis of the efficiency of health expenditures shows faster drops in infant and maternal mortality in poorest provinces than their richer counterparts. Since central government allocates resources mainly for non-salary health service programs, a strategy of redistribution of central government health expenditure from richer to poorer provinces will generate larger overall decline in infant and maternal mortality and improve efficiency of government health resources.

### **Social Assistance**

**5.20 Financing Social Assistance.** Social assistance provided by the government and donors is currently reaching the poorest groups, but both the quantum and regional distribution are lacking. If the objective of public policy is to fill at least about 20-25 percent of the expenditure gap between the actual and the level required to reach food-poverty threshold, the amount planned for 1996 for pure social assistance (i.e., other than benefits for mothers, loans, etc.) needs to be enhanced.

**5.21 Social Assistance Targeting.** Targeting of assistance can also be improved. Increasing the allocation for social assistance does not automatically ensure that the poorest across the country would benefit. The prevailing inter-regional inequity in the distribution of assistance needs to be corrected. A disproportionate share of social assistance is currently allocated to Ulaanbaatar. Indeed, the farther a very poor household is located from the capital city, the lower the probability of receiving any assistance. This scenario has to change if the poor in far-flung areas are to benefit from social assistance. The level of education of household head, and the number of animals owned (per capita) appear to be good indicators of poverty. Thus in *sums* or rural areas, a more equitable option would be target assistance on the bottom 10 percent of the households owning the lowest animal stock per capita. Women and children are clearly vulnerable groups. However, finer targeting would also be necessary, considering that of the very poor, over a third are female-headed. Linking female-headed with other indicators such as number of children or number of animals owned would be useful for purposes of targeting.

**5.22 Streamlining Social Assistance.** At present, social assistance is provided to various categories (e.g., women with children, multiple births, etc.) In all 11 categories

of benefits and 4 categories of pensions are to be found in the country. There is clearly a need to consolidate and streamline the system of benefit categorization and save on administrative costs per dollar of transfer. Considering that the poverty gap ratio is not very high in Mongolia, more efforts should be focused on income generating programs which are well-complemented with growth-promoting activities. One important element of such a policy would be to augment the size of and composition of livestock coupled with productivity enhancing support services among the very poor households.

**5.23 Delivery of Social Assistance.** Increasingly, with the progress of decentralization, local governments are being entrusted with the responsibility to finance and deliver social assistance. The main advantage of such a policy is that the nature of assistance provided would be more in conformity with the wishes of the poor than if it were channeled from the center. However, experience from a number of countries suggests that as local authorities begin assuming responsibilities, the relatively poorer *aimags* with low tax revenue potential, which also house large numbers of the very poor, are likely to be at a disadvantage in delivering the desired quantum of assistance to the poor. To protect the very poor located in such disadvantaged *aimags*, there is a need for richer *aimags* to cross-subsidize the poorer *aimags*, with the center taking an active role in achieving such a redistribution of revenues.

### C. FOCUS ON POVERTY

5.24 An understanding of the dynamics of poverty is a key to effective program interventions. Toward this end, it is critical for the government to enhance its poverty monitoring—household survey and analysis—capacity. Integrating many of the elements of the government's Household survey and the Living Standard Measurement Survey would enrich the data base on the poor. Analysis of such data would be a critical input for policy-making and resource allocation. Statistical surveys and analysis should be supplemented by in-depth studies of traditional pastoral institutions and coping mechanisms and the scope for promoting the roles of communities and NGOs in poverty alleviation programs.

5.25 The National Poverty Alleviation Committee (NPAC), chaired by the first Deputy Prime Minister, comprising sectoral ministries and NGOs, and its related national and local program councils and management offices, is the appropriate focal point for poverty programs. Ensuring poverty issues are adequately reflected in policy-making, resource allocation and program choices, and monitoring poverty trends and implementation of poverty related programs constitute the key tasks for the NPAC and its network. However, to support the NPAC, the Poverty Alleviation Program Office and the Local Poverty Alleviation Councils should be strengthened with suitable staff, resources and training.

## **ANNEX 1A: AGGREGATION OF HOUSEHOLD CONSUMPTION EXPENDITURE**

1. This note describes the derivation of the household welfare measure using consumption expenditure data from the 1995 Mongolia Living Standards Measurement Survey (LSMS). In poverty analysis, a consumption expenditure is often preferred to household income as measure of household welfare. One reason for this is that consumption expenditures reflect not only the standard of living afforded by the household's current income, but also the extent to which it can access credit markets and run down its assets in difficult economic times. Consumption expenditure therefore more accurately reflect a household's longer run standard of living than does current income. This is particularly relevant both for countries where many households derive their income from agricultural activities (and are thus subject to seasonal variation in expenditures) and also countries undergoing economic transition. Mongolia fits into both of these categories.

### **Expenditure Components**

2. This section describes the derivation of the different consumption expenditure components. The "summary" components that are later used in the aggregation of total expenditures are starred.

3. Consumption of home produced animal products (section 12c):

- milkhc home consumption of milk and related products
- meathc home consumption of meat and related products
- eggshc home consumption of eggs
- anprfdhc\* milkhc+meathc+eggshc
- anprnfhc\* home consumption of non-food animal products (e.g., hides, wool)

4. Consumption of home produced crops (section 11b):

- grainhc home consumption of grains
- veghc home consumption of vegetables
- fruithc home consumption of fruit

- crophc\* grainhc+veghc+fruihc.

5. The calculations required the use of prices for the individual items that were obtained either from SSO's Monthly Household Survey or using the median of prices reported by households in the LSMS survey who sold the respective crops (question 7b, section 11b).

#### **Expenditure on purchased foods (section 14a)**

6. Expenditures on purchased foods included the value of gifts of food received by the household. Twelve expenditure components were calculated: meat, milk, eggs, bread, ograins(other grains), veg(vegetables), oil, fruit, sweets(candy, pastries etc.), teacof(tea and coffee), other, eatout(eating out).

7. Two summary variables were also created:

- fdexbuy\* total value of food purchased
- fdgift\* total value of food received as gifts.

8. Expenditure on alcohol and tobacco (alctab) was separated out from expenditures on foods. Distinction is made between alcohol and tobacco purchased by the household (alctbbuy\*) and alcohol and tobacco received as gifts (alctbgift\*).

#### **Housing expenditures (section 14d)**

9. Five types of housing expenditures (excluding rent) were identified:

- utility electricity, heating, water (including hot water)
- sewgarb sewerage and garbage removal, other cleaning costs
- fuels coal, wood, kerosene and other fuels
- repairs repair services
- other other housing expenditures

10. The total of these expenditures is the variable livexp\*.

11. Annual expenses (section 14e):

- clothx\* expenditure on clothing (including cost of dry cleaning and repairs)
- educx1\* education fees

- medexp\* medical expenditures including doctors fees and medical insurance costs
- transpx\* transport and communications (does not include cost of car)
- otherx\* other annual expenses.

### **Education expenses**

12. Two education expenditure variables were calculated using information from section 3:

- educx2\* education expenses (including tuition fees, books, clothing and transport). As described below, this variable is compared with educx1 and the greater of the two is used in the total household expenditure measure.
- othsocy\* value of scholarships received by the household.

### **Imputed expenditures from ownership of durables (section 14f)**

13. An attempt was made to impute expenditures that reflect the flow of services from durables owned by the household. For durable  $i$ , the estimated flow of services over the past year ( $durserv_i$ ) is:

$$durserv_i = \frac{1}{(ma_i \times 2)} \times cv_i$$

where  $ma_i$  is the mean age of durables of type  $i$  and  $cv_i$  is the current market value of durable  $i$  (as estimated by the household). The variable  $durserv^*$  is the estimated flow of services from all durables owned by the household.

### **Expenditure on rent (section 2b)**

14. Three types of imputation were used to obtain as accurate a measure of the value to the household of different types of housing arrangements. First, households living in owner occupied dwellings were asked to estimate the amount they could receive if their dwelling was rented to a third party. Second, households that were living in rented dwellings were asked to estimate what they could receive if they rented their dwelling to a third party. This was an attempt to account for the fact that many households are probably paying minimal rent because of subsidies or other arrangements and thus the value of their housing arrangement is not fully reflected in what they pay. Finally, those households (both owners and renters) that did not report the rents as described above (i.e., there were missing values in survey) were attributed an imputed value of rent which was

derived on the basis of dwelling characteristics (urban/rural location, housing style and number of rooms).

15. The variable summarizing rent expenditure is *rentsum\**.

#### **Gifts given by the household (section 8b)**

16. It was decided to include in the expenditure measure gifts of food and money made by the household to third parties (*giftgiv\**). One reason for this is that households may well derive utility of welfare from providing assistance to others. Another argument for the inclusion of gifts is that they may contribute to or reflect informal support networks between households and thus a more accurate picture of the long term welfare of the household is gained by their inclusion. On a practical level, it seems appropriate that if one household can afford to assist others then it should be deemed to have a higher welfare level than another similar household that has not made such gifts.

17. Note that if a gift was to be repaid by the recipient, then it more resembled a loan and its value was not included in the expenditure measure.

#### **Aggregation of Expenditures**

18. The following expenditure sub-aggregates were created:

- $\text{food}^*(\text{purchased food expenditure}) = \text{fdexbuy} + \text{fdgift}$
- $\text{foodhc}^*(\text{consumption of home produced food}) = \text{anprfdhc} + \text{crophc}$
- $\text{educatx}^*(\text{education expenses}) = \text{maximum of educx1 and educx2}$
- $\text{othtot}^*(\text{other expenses}) = \text{alctbbuy} + \text{alctbgft} + \text{livexp} + \text{durserv} + \text{otherx} + \text{othsocy} + \text{giftgiv}$

19. Total household expenditures (***totexp***) was created as:

- (1)  $\text{totexp} = \text{food} + \text{foodhc} + \text{anprnfhc} + \text{educatx} + \text{othtot} + \text{rentsum} + \text{clothx} + \text{transpx} + \text{medexp}$

#### **Other Data Issues**

20. There are three other data issues that need to be mentioned.

#### **Time units adjustment for purchased foods**

21. The Mongolia LSMS was used to estimate average per capita daily calorie consumption. The LSMS only reports expenditures on purchased foods and home

produced animal products, and hence it was necessary to divide these expenditures by an appropriate price to obtain quantities, and then to convert the quantities into calories using WHO conversion tables. The estimate average per capita daily calorie consumption was approximately 1,400 for urban individuals and 1,800 for those living in rural areas. This was considered an unrealistic estimate as it implied that the average calories consumed by the bottom 30-40 percent of individuals would be below subsistence levels.

22. Observation of individual household records suggested that certain interviewers mis-interpreted how to record the number of times each food item was purchased and the time period within which these purchases had occurred and this mis-interpretation led to unrealistically low estimates of calories consumed for certain households. For those households with per capita daily calories less than 1,000, a correction was made to the time units variable and this raised average per capita daily calorie consumption to 2,044 for urban individuals and 2,016 for those living in rural areas. As this adjustment to the purchased food data corrected for an apparent error, it was seen as being preferable to shifting down the food component of the poverty line.

#### **Correction for outliers in expenditure data**

23. Observation of the constructed expenditure sub-aggregates (those expenditure components summing to total expenditure in equation 1 above) suggested that there was a problem with outliers or overly influential observations. It is generally desirable to minimize the influence of outliers as their presence will affect both means and regression coefficients and hence the analysis of poverty.

24. An adjustment was made for outliers in the following way. All variables were measured at the household level and in annual per capita terms. The sample was divided into three localities (capital city, other urban and rural) and outlier identification and replacement was done within these localities. This division of the sample was necessary otherwise the majority of outliers identified would be for households residing in the capital. For each sub-aggregate, the outlier observations were identified (where an outlier is here defined as those observations that deviated by more than 5 standard deviations from the mean). These outliers were then plotted and a decision was made as to whether they could potentially be the result of interviewer or coding error or else whether they were correct, but just very high. Those observations that appeared to be result of error were replaced with means using a two-stage procedure.

#### **Calculation of statistical weights**

25. Evidence suggests that weights are required to ensure the Mongolia LSMS is representative of the population. While there is not a great deal of information on how the sample was drawn, the following is known. Government authorities at the *sum* level maintain (and update) lists of all households living in the *sum*, further subdivided by

urban (*sum* or *aimag* center) and rural residence. In the LSMS, six *aimags* were selected as being 'representative' of the five major regions in the country. Within each *aimag*, a number of *sums* were selected—the exact basis of this selection is not clear—and in each *sum* households were drawn at random from urban areas and rural areas. The number of households actually interviewed in each *aimag* is not proportional to the share of that *aimag*'s population in the total population of Mongolia. Similarly with the *sum* sample and *aimag* population.

26. There was not sufficient time, nor information, to properly develop a set of statistical weights. However, the weights that were used ensure that the number of households sampled from a particular type of settlement (urban or rural) in a particular *aimag* is proportional to the number of households of this type in the total "population" of the six selected *aimags*. Thus, the weights replicate the population, disaggregated by urban/rural, only for the *aimags* actually included in the LSMS. The success of the weighting scheme therefore rests on the initial assumption that the six selected *aimags* are in fact representative of the regions in which they are located.

## ANNEX 1B: ESTIMATION OF POVERTY LINES

1. A new poverty line has been derived using a very similar approach to that used by SSO for estimating the official poverty lines. Key modifications include: (a) re-definition of the minimum-needs food basket; (b) the use of *aimag*-level prices for food commodities in order to develop Laspeyres price indices that are sensitive to regional price variations; and (c) a different approach to estimating the non-food component of the poverty line.
2. **Definition of the Minimum-Needs Food Basket.** SSO's minimum-needs food basket was defined normatively, but also with reference to overall consumption patterns reported in the Monthly Household Survey. In using this information, Government assumed that poor households would need to consume two-thirds of the average caloric consumption reported in the survey, or an average of 2,100 calories per person per day. Different food baskets were used for urban and rural areas, although it is not clear how the different baskets were derived. The official minimum needs basket(s) include a limited set of food commodities—meat, milk and milk products, flour, rice vegetables, and sweets, which in total are claimed to provide for minimal nutrition needs.
3. As an alternative, the Poverty Assessment uses a single, national minimum-needs food basket that is defined based on the actual food consumption patterns of the poorest 40 percent of households in the December 1994, and June 1995 Monthly Household Survey. The baskets so-derived from each survey were averaged across surveys in order to estimate the annual minimum-needs food basket for the poor. This basket was then adjusted and scaled up to represent an average caloric intake of 2,100 calories per person per day.
4. The official SSO minimum-needs food basket, original food basket for the poorest 40 percent of households (not scaled) and the scaled up food basket for the poorest 40 percent of households are presented in Annex 1B, Table 1.
5. In the new minimum needs food basket, an estimated 20 percent of calories come from meat and meat products, and an additional 12 percent from milk, butter, and eggs. The final list of food items and actual caloric equivalents are described in Annex 1B, Table 2. Based on this basket, 2,093 kcals per person are consumed on average.
6. **Derivation of Region-specific Prices.** Food prices were obtained, or in some cases, derived for three *aimags* covered in the LSMS survey—Arhangai, Dornod, and Hovd—both for urban and for rural areas, and for Ulaan Baatar city. There was not sufficient information to develop a food price vector for either Omnogov or Tov *Aimag* (both rural only).

TABLE 1: MINIMUM NEEDS FOOD BASKETS

<i>Food Item</i>	<i>Official Lines (Urban)</i>	<i>Household Survey Estimates (Not Scaled)</i>	<i>Scaled Household Survey Estimates (2,100 kcals)</i>
Total Meat	66.0 kg	38.3 kg	72.6 kg
Beef	2.6 kg	9.8 kg	9.8 kg
Lamb			16.9 kg
Goat	10.6 kg		
Horse	13.2 kg		
Camel	6.6 kg		
Other Meats <sup>1</sup>		9.6 kg	9.6 kg
Subproducts	33.0 kg	2.3 kg	36.3 kg
Milk	143.5 liters	36.3 liters	80.9 liters
Butter		1.1 kg	2.4 kg
Eggs		0.4 dozen	0.9 dozen
Flour <sup>2</sup>	92.0 kg	63.3 kg	141.2 kg
Rice	16.0 kg	4.8 kg	10.7 kg
Bread		17.0 pieces	37.9 pieces
Potatoes		4.0 kg	8.9 kg
Other Veg.		1.1 kg	2.6 kg
All Veg. <sup>3</sup>	41.0 kg		
Sugar		2.0 kg	4.6 kg
Sweets, Fruits	19.0 kg	0.5 kg	1.1 kg
Tea		0.8 kg	1.9 kg
Salt		2.1 kg	4.6 kg

<sup>1</sup> Other meat for new estimates includes goat, horse, camel, and other meats

<sup>2</sup> Includes flour and flour products for the official line basket

<sup>3</sup> Includes potatoes and other vegetables

TABLE 2: COMPOSITION OF MINIMUM NEEDS FOOD BASKET AND CALORIE EQUIVALENTS

<i>Food Item</i>	<i>Annual Quantity Consumed</i>	<i>Total Kcals per Person per Day</i>
Beef (kg)	9.77	58.9
Lamb (kg)	16.95	102.2
Meat Sub-products (kg)	36.30	174.0
Other meat (kg)	9.35	57.6
Total Meat (kg)	72.57	392.7
Milk (liters)	80.98	171.9
Butter (kgs)	2.44	49.1
Eggs (pieces)	0.85	--
Flour (kg)	141.19	1,288.9
Rice (kg)	10.66	96.4
Bread (pieces)	37.87	10.4
Potatoes (kg)	8.87	21.8
Other Vegetables (kg)	2.59	1.5
Sugar (kg)	4.56	48.9
Sweets, Fruits (kg)	1.09	11.7
Tea (kg)	1.85	--
Salt (kg)	4.61	--
Total		2,093.3

7. The price derivations were described in detail in a memo left with SSO during the Bank's December mission. To summarize briefly, all prices were either taken from the LSMS Price Survey (June 1995) or estimated based on LSMS prices and reported prices in the June 1995 Monthly Household Survey. In the case of urban areas, prices for beef, lamb, milk, butter, eggs, flour, rice, bread, potatoes, sugar, sweets, tea and salt are reported in the LSMS Price Survey. The rural LSMS price questionnaire includes fewer food items—viz, flour, rice, sugar, sweets, tea, and salt. The general approach in estimating other prices was to apply a ratio derived from the Monthly Household Survey to an available LSMS price. For example, the price of beef in a rural *aimag* was estimated based on the ratio of the rural-to-urban reported beef prices from the Monthly Household Survey multiplied by the urban beef price reported in the LSMS Price Survey.

8. The full list of regional prices for those *aimags* where sufficient price information is available is included as Annex 1B, Table 3. Note that prices are all indexed to June 1995.

**TABLE 3: REGIONAL PRICES USED TO ESTIMATE MINIMUM NEEDS FOOD BASKET**

Food Item	Arhangai		Dornod		HOVD		UB
	Urban	Rural	Urban	Rural	Urban	Rural	
Beef (kg)	480	430.08	550	492.8	550	492.8	750
Lamb (kg)	520	475.8	650	585	690	625.83	760
Meat Sub-products (kg)	317	317	308	308	327	327	361
Other Meat (kg)	480	430.08	550	492.8	550	492.8	750
Milk (liters)	120	96	110	88	180	144	180
Butter (kg)	950	575.7	130	588	650	243.75	700
Eggs (pieces)	50	50	80	80	80	80	65
Flour (kg)	140	120	110	115	165	165	116
Rice (kg)	340	375	350	310	380	380	360
Bread (pieces)	120	63.84	100	103.4	140	109.62	90
Potatoes (kg)	180	180	180	180	160	160	120
Other Vegetables (kg)	484	484	823	823	1,097	1,097	741
Sugar (kg)	400	600	600	565	600	600	350
Sweets, Fruits (kg)	900	1,250	1,600	1,450	850	850	1,400
Tea (kg)	1,700	800	1,150	1,275	1,300	1,300	950
Salt (kg)	75	80	60	70	30	30	100

9. **Estimation of Poverty Lines.** Food and non-food components of the poverty line are estimated separately. For food, the cost of the new minimum-needs food basket (for an average adult) in each region is estimated based on the matrix of prices in Annex 1B, Table 3. This represents the cost of purchasing 2,100 kcals, which has been identified as the minimum needed for an average adult person in Mongolia. Next, the age-specific adult equivalency coefficients used in estimating the official poverty line were applied, and the costs of purchasing the adjusted minimum needs food basket for persons in different age groups were estimated. Finally, a weighted average cost of purchasing the

minimum-needs food basket was estimated for each region—the weighting was done using the number of people (by region) in each age group multiplied by the cost of purchasing the age-specific food basket, summed across all age groups in the region and divided by the total number of persons living in the region. The actual calculations are the same as those used by the Expert's Group in estimating the official lines—only the minimum needs basket and matrix of prices used are different.

10. The new estimates of the cost of purchasing a minimum-needs food basket (effectively regional food poverty lines) were indexed to December 1994<sup>28</sup> prices using the urban and rural food CPI deflators from Tables III-4 and III-6 in the June 1995, *Monthly Bulletin of Statistics*. (State Statistical Office, Government of Mongolia). These new lines are somewhat higher than the food poverty lines estimated by SSO in developing the official urban and rural poverty lines.

11. Calculating the non-food component of the poverty line is more problematic. The Expert's Group used a normatively bundle of non-food items, defined for different age levels. The main problem with this approach is the lack of consistent information on market prices for some important non-food items (i.e., housing and some basic services). The necessary prices were imputed in estimating the welfare indicator (e.g., per capita expenditures). It is important to ensure that the welfare indicator and poverty line treats the valuation of consumer goods in a consistent fashion. However, rather than using imputed values, actual consumer spending patterns in the household data were used to estimate the non-food component of the poverty line.

12. There is no biologically determined requirement for consumption of non-food items. Instead, to obtain non-food spending requirements, we estimate the value of non-food spending for households who were just capable of meeting food consumption requirements—that is, the value of non-food consumption for households whose spending on total consumption was just equal to the food poverty line. Clearly this is a lower bound on non-food spending; for these households, some (necessary) food purchases are being displaced by non-food purchases.

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<sup>28</sup> To be consistent with the September 1994, official estimates of poverty lines.

13. Non-food spending requirements were estimated by regressing the food share on the log of the ratio of total consumer expenditures to the food poverty line and other variables related to household composition and geographic location:

$$S_i = \alpha + \beta \log (\text{EXP}/\text{FP}) + \varepsilon_i$$

where:

- $S_i$  is the share of spending on food for the  $i$ th household;
- EXP is total household expenditures for the  $i$ th household;
- FP is the food poverty line specific to the region where the household resides.

14. The intercept of the regression ( $\alpha$ ) represents the average share of spending on food for households whose total spending just equals the food poverty line (e.g., where  $\text{EXP}=\text{FP}$ ). Since the total poverty line is the sum of the food poverty line and the non-food poverty line, it can be obtained by multiplying the food poverty line by  $2-\alpha$ .<sup>29</sup>

15. For estimating non-food needs, a single regression was run across all regions, and region-specific (e.g., *aimag*, urban/rural) total poverty lines were obtained using regression results applied to the average values of independent variables for each region. Regression results are reported in Annex 1B, Table 4. The implied food and total poverty lines by region are presented in Annex 1B, Table 5. These figures are used to estimate Laspeyres price indices, as presented in text Table 1.2, and the indices applied to reported household expenditure levels. The poverty measures obtained from using regional poverty lines (as derived here) and a single population-weighted national average poverty line applied to priced-adjusted household expenditures are the same.

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<sup>29</sup> The total poverty line is equal to food spending (FP) and non-food spending (NFP). Based on the regression, non-food requirements equal  $\text{FP}(1-\alpha)$ . Thus the total poverty line equals  $\text{FP} + \text{FP}(1-\alpha)$ , or,  $\text{FP}(2-\alpha)$

**TABLE 4: REGRESSION PARAMETERS USED TO ESTIMATE  
NON-FOOD SPENDING IN POVERTY LINE**

	<i>Coefficients (t-statistics)</i>	
log(HH Exp/Food Poverty Line)	-.0071	(9.3)
Size of Household (persons)	.0153	(6.2)
Female Head Dummy (1 = female)	.0269	(2.1)
Household Composition Variables		
% children 0 - 5 years		
% children 6 - 10 years	-.0416	(1.2)
% children 11 - 15 years	-.0816	(2.4)
% adult females 16 - 59 years	-.1292	(3.6)
% adult males 16 - 54 years	-.1022	(3.1)
% adult females 55 + years	-.0204	(0.5)
% adult males 60 + years	-.0393	(0.9)
Dummy for <i>Sum</i> Center (1 = <i>sum</i> center)	-.0694	(6.4)
Regional/strata dummy variables (UB=0)		
Arhangai, urban	.1418	(5.8)
Arhangai, rural	.1525	(12.7)
Dornod, urban	.0513	(2.2)
Dornod, rural	.1009	(5.0)
Omnogov	.0477	(2.7)
Tov, rural	.0841	(4.6)
Hovd, urban	-.0136	(0.5)
Hovd, rural	.0387	(3.0)
Intercept	.5572	(20.3)

**TABLE 5: FOOD AND TOTAL POVERTY LINES (TUGRIKS PER PERSON PER MONTH)**

<i>Aimag</i>	Food Poverty Lines		Total Poverty Lines	
	(Cost of reference food basket)		(Cost of food and estimated non-food)	
	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
Arhangai	4,907	3,904	6,415	5,146
Dornod	4,731	4,105	6,519	5,730
Omnogov		4,105		5,760
Tov		4,278		6,010
Hovd	5,798	4,854	8,323	6,842
UB	5,564		8,053	

## ANNEX 1C: ADDITIONAL POVERTY PROFILE TABLES

**TABLE 1.1A: THE CONCENTRATION OF POVERTY, BY SOURCE OF DRINKING WATER  
(PERCENT)**

<i>Type of settlement</i>	<i>Water source</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	indoor faucet	42.9	58.3	57.2	66.4	85.5	61.2
	outdoor faucet	10.0	2.8	7.8	7.6	1.8	6.3
	water vendor	32.2	31.1	25.7	24.1	11.2	25.1
	well	5.2	3.6	5.8	1.8	1.4	3.7
	river/lake/spring	9.8	4.1	9.3	0.1	0.1	3.7
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Water source</i>						
	indoor faucet	1.9	0.5	1.6	.	.	0.9
	outdoor faucet	4.5	1.6	2.9	3.7	4.6	3.3
	water vendor	10.5	9.3	4.7	3.1	7.1	6.3
	well	23.5	30.2	27.4	35.0	43.5	30.8
	river/lake/spring	59.7	58.5	63.3	58.2	44.7	58.7
All	100.0	100.0	100.0	100.0	100.0	100.0	
Mongolia	<i>Water source</i>						
	indoor faucet	29.1	33.7	30.6	35.3	61.0	36.4
	outdoor faucet	8.1	2.3	5.4	5.8	2.6	5.1
	water vendor	24.9	21.8	15.6	14.3	10.1	17.3
	well	11.3	14.9	16.2	17.3	13.5	14.9
	river/lake/spring	26.5	27.2	32.2	27.2	12.9	26.4
All	100.0	100.0	100.0	100.0	100.0	100.0	

**TABLE 1.1B: THE INCIDENCE OF POVERTY, BY SOURCE OF DRINKING WATER  
(PERCENT)**

<i>Type of settlement</i>	<i>Water source</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	indoor faucet	14.8	16.3	23.1	20.7	25.1	100.0
	outdoor faucet	33.5	7.7	30.5	23.1	5.2	100.0
	water vendor	27.1	21.2	25.3	18.4	8.1	100.0
	well	29.2	16.3	38.4	9.4	6.7	100.0
	river/lake/spring	56.0	19.2	23.9	0.4	0.4	100.0
	All	21.1	17.1	24.7	19.1	18.0	100.0
Rural	<i>Water source</i>						
	indoor faucet	31.7	9.3	59.0	.	.	100.0
	outdoor faucet	20.8	9.0	28.4	27.3	14.6	100.0
	water vendor	25.4	26.5	24.4	12.0	11.7	100.0
	well	11.6	17.6	28.9	27.2	14.6	100.0
	river/lake/spring	15.5	17.9	35.0	23.7	7.9	100.0
All	15.2	18.0	32.5	24.0	10.3	100.0	
Mongolia	<i>Water source</i>						
	indoor faucet	15.0	16.2	23.5	20.5	24.9	100.0
	outdoor faucet	30.1	8.0	29.9	24.2	7.7	100.0
	water vendor	26.8	22.0	25.2	17.4	8.6	100.0
	well	14.2	17.4	30.3	24.6	13.4	100.0
	river/lake/spring	18.8	18.0	34.1	21.8	7.3	100.0
All	18.7	17.4	27.9	21.1	14.8	100.0	

**TABLE 1.2A: THE CONCENTRATION OF POVERTY, BY TOILET SYSTEM (PERCENT)**

		Poverty status					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>	<i>Toilet system</i>						
Urban	inside house	41.7	54.7	57.9	66.0	85.5	60.5
	outside house	58.3	44.2	42.1	32.8	14.5	39.1
	other	.	1.1	.	1.2	.	0.4
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Toilet system</i>						
	inside house	1.4	0.6	2.5	3.3	2.4	2.2
	outside house	85.7	85.9	81.9	87.7	83.1	84.7
	other	12.9	13.5	15.6	9.0	14.4	13.1
All	100.0	100.0	100.0	100.0	100.0	100.0	
Mongolia	<i>Toilet system</i>						
	inside house	28.1	31.5	31.3	36.2	61.3	36.2
	outside house	67.5	62.1	61.2	58.9	34.5	58.1
	other	4.4	6.4	7.5	4.9	4.2	5.7
All	100.0	100.0	100.0	100.0	100.0	100.0	

**TABLE 1.2B: THE INCIDENCE OF POVERTY, BY TOILET SYSTEM (PERCENT)**

		Poverty status					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>	<i>Toilet system</i>						
Urban	inside house	14.5	15.4	23.6	21.0	25.4	100.0
	outside house	31.4	19.2	26.5	16.2	6.7	100.0
	other	.	44.4	.	55.6	.	100.0
	All	21.1	17.0	24.7	19.3	18.0	100.0
Rural	<i>Toilet system</i>						
	inside house	9.5	5.3	36.9	36.8	11.5	100.0
	outside house	15.2	18.3	31.0	25.4	10.2	100.0
	other	14.9	18.6	38.2	16.8	11.5	100.0
All	15.1	18.1	32.0	24.5	10.4	100.0	
Mongolia	<i>Toilet system</i>						
	inside house	14.4	15.2	24.0	21.4	25.0	100.0
	outside house	21.6	18.7	29.2	21.7	8.8	100.0
	other	14.3	19.7	36.5	18.5	11.0	100.0
All	18.6	17.5	27.7	21.4	14.8	100.0	

TABLE 1.3A: THE CONCENTRATION OF POVERTY, BY LIGHTING SOURCE (PERCENT)

<i>Type of settlement</i>	<i>Lighting source</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	central power	90.5	95.2	97.2	96.8	96.5	95.2
	other power	.	0.3	.	0.5	0.3	0.2
	candles/kerosene	7.1	4.6	2.8	2.7	3.2	4.1
	no lighting	2.4	.	.	.	.	0.5
	All	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Lighting source</i>						
	central power	53.7	41.4	40.4	45.9	61.5	46.1
	other power	0.3	0.9	2.2	2.5	0.6	1.6
	candles/kerosene	39.2	54.4	56.4	49.6	37.9	49.8
	no lighting	6.8	3.3	1.0	2.0	.	2.4
All	100.0	100.0	100.0	100.0	100.0	100.0	
Mongolia	<i>Lighting source</i>						
	central power	78.1	72.0	69.9	72.7	86.3	74.8
	other power	0.1	0.6	1.1	1.4	0.4	0.8
	candles/kerosene	17.9	26.0	28.5	24.9	13.3	23.1
	no lighting	3.9	1.4	0.5	1.0	.	1.3
All	100.0	100.0	100.0	100.0	100.0	100.0	

TABLE 1.3B: THE INCIDENCE OF POVERTY, BY LIGHTING SOURCE (PERCENT)

<i>Type of settlement</i>	<i>Lighting source</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	central power	20.0	17.0	25.2	19.6	18.2	100.0
	other power	.	25.7	.	49.5	24.8	100.0
	candles/kerosene	36.8	19.1	17.0	12.7	14.3	100.0
	no lighting	100.0	.	.	.	.	100.0
	All	21.1	17.0	24.7	19.3	18.0	100.0
Rural	<i>Lighting source</i>						
	central power	17.6	16.2	28.1	24.4	13.8	100.0
	other power	2.9	10.6	44.7	38.1	3.7	100.0
	candles/kerosene	11.8	19.7	36.2	24.3	7.9	100.0
	no lighting	41.9	24.8	12.8	20.6	.	100.0
All	15.1	18.1	32.0	24.5	10.4	100.0	
Mongolia	<i>Lighting source</i>						
	central power	19.4	16.8	25.9	20.8	17.1	100.0
	other power	2.5	12.8	38.3	39.7	6.7	100.0
	candles/kerosene	14.4	19.6	34.3	23.2	8.5	100.0
	no lighting	55.1	19.1	9.9	15.9	.	100.0
All	18.6	17.5	27.7	21.4	14.8	100.0	



TABLE 1.4B: THE INCIDENCE OF POVERTY, BY SOURCE OF HEAT (PERCENT)

<i>Type of settlement</i>	<i>Heating source</i>	Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	
Urban	centralized	16.2	14.9	23.1	20.9	24.8	100.0
	gas	.	19.2	38.8	29.1	12.9	100.0
	wood	28.7	19.0	32.4	17.0	2.9	100.0
	coal	29.0	20.8	24.1	15.4	10.7	100.0
	manure	55.6	22.2	.	17.3	4.9	100.0
	other	.	100.0	.	.	.	100.0
	All	21.1	17.0	24.7	19.3	18.0	100.0
Rural	<i>Heating source</i>						
	centralized	18.3	22.9	23.5	35.4	.	100.0
	gas	24.8	36.2	24.8	9.5	4.8	100.0
	wood	13.3	16.7	33.3	24.9	11.8	100.0
	coal	26.8	18.2	27.7	18.9	8.5	100.0
	manure	17.1	20.8	29.3	24.7	8.1	100.0
	other	7.4	12.2	53.0	13.2	14.2	100.0
All	15.1	18.1	32.0	24.4	10.4	100.0	
Mongolia	<i>Heating source</i>						
	centralized	16.3	15.1	23.1	21.2	24.3	100.0
	gas	8.0	24.7	34.3	22.8	10.3	100.0
	wood	17.6	17.4	33.0	22.7	9.3	100.0
	coal	28.6	20.3	24.7	16.1	10.3	100.0
	manure	20.6	20.9	26.6	24.0	7.9	100.0
	other	6.2	27.2	43.9	10.9	11.8	100.0
All	18.6	17.5	27.7	21.4	14.8	100.0	

**TABLE 1.5: DEMOGRAPHIC CHARACTERISTICS, BY LABOR FORCE STATUS AND POVERTY STATUS (PERCENT)**

		<i>Employed</i>						<i>Unemployed</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>													
<i>Urban</i>	Age	32.9	33.8	36.7	36.1	37.9	36.0	28.4	26.4	26.4	30.5	27.4	27.9
	household size	6.8	6.2	5.4	4.9	4.2	5.2	6.9	6.0	6.4	5.3	5.2	6.2
	Number of children	2.7	2.1	1.9	1.6	1.2	1.8	2.9	1.6	1.7	1.7	1.0	2.1
	Number of pensioners	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.5	0.1	0.3
	Number of unemployed	0.6	0.5	0.2	0.1	0.1	0.2	2.4	1.9	2.0	1.9	1.4	2.1
	Number of employed	2.2	2.5	1.9	2.1	1.9	2.1	0.5	0.9	0.6	0.5	1.2	0.7
<i>Rural</i>	Age	33.1	32.6	32.3	33.1	35.5	33.1	27.6	30.0	27.6	30.0	29.9	28.5
	household size	6.0	6.0	5.7	5.6	4.5	5.6	6.3	5.7	6.4	5.2	4.7	6.0
	Number of children	2.9	2.6	2.3	2.0	1.2	2.2	2.8	2.4	2.6	1.6	0.8	2.4
	Number of pensioners	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.4	0.1
	Number of unemployed	0.3	0.1	0.1	0.1	0.1	0.1	2.2	1.8	1.7	1.5	1.8	1.9
	Number of employed	2.3	2.8	2.8	2.8	2.5	2.7	0.5	0.5	1.1	1.5	0.6	0.7
<i>Mongolia</i>	Age	33.0	33.1	34.0	34.3	37.0	34.4	28.1	27.4	26.8	30.4	28.3	28.0
	household size	6.4	6.1	5.6	5.3	4.3	5.4	6.7	5.9	6.4	5.3	5.0	6.2
	Number of children	2.8	2.4	2.1	1.8	1.2	2.0	2.9	1.8	1.9	1.7	0.9	2.2
	Number of pensioners	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.2	0.2
	Number of unemployed	0.4	0.3	0.1	0.1	0.1	0.2	2.3	1.9	1.9	1.8	1.6	2.0
	Number of employed	2.3	2.6	2.5	2.5	2.1	2.4	0.5	0.8	0.8	0.7	1.0	0.7
	Number of invalids	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1

**TABLE 1.6: EDUCATION LEVEL, BY LABOR FORCE STATUS AND POVERTY STATUS (PERCENT)**

		<i>Employed</i>						<i>Unemployed</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>	<i>Education level</i>												
Urban	none	1.0	.	0.9	.	.	0.3	4.2	5.1	.	3.3	.	3.1
	primary	48.8	56.7	35.7	25.8	13.2	32.0	68.0	58.5	63.6	41.6	44.5	59.2
	secondary	22.9	12.1	22.5	12.9	13.8	16.4	16.0	26.5	25.5	21.7	16.6	21.4
	higher	27.3	31.3	41.0	61.2	73.0	51.3	11.8	9.8	10.9	33.3	38.9	16.3
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Education level</i>												
	none	10.1	5.5	2.6	3.9	2.3	4.1	8.4	.	.	5.1	.	4.0
	primary	78.7	77.0	75.4	71.8	59.2	72.9	76.6	66.3	76.0	69.3	40.4	70.7
	secondary	8.4	8.1	9.1	6.4	10.4	8.3	14.5	21.6	24.0	20.5	41.5	20.6
	higher	2.8	9.4	12.9	17.9	28.1	14.7	0.5	12.1	.	5.1	18.1	4.7
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mongolia	<i>Education level</i>												
	none	5.8	3.0	1.9	2.3	0.8	2.4	5.6	3.7	.	3.7	.	3.4
	primary	64.7	67.9	60.3	52.8	29.9	54.2	70.9	60.7	67.2	46.8	42.9	62.6
	secondary	15.2	9.9	14.2	9.1	12.6	12.0	15.5	25.2	25.1	21.4	26.4	21.2
	higher	14.3	19.3	23.6	35.8	56.7	31.4	8.0	10.5	7.8	28.1	30.7	12.9
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



TABLE 1.7B: THE INCIDENCE OF POVERTY, BY SECTOR OF EMPLOYMENT (PERCENT)

		Poverty status					All
		Very poor	Poor	Not poor(l)	Not poor(m)	Not poor(u)	
Urban	<i>Sector of employment</i>						
	breeding/farming	6.8	10.9	43.9	16.2	22.2	100.0
	mining/construct	12.1	23.7	19.9	17.7	26.6	100.0
	trade&sales	10.4	11.7	22.0	24.0	31.8	100.0
	transport	2.6	14.0	18.3	34.4	30.6	100.0
	health&educat.	20.4	24.0	18.1	18.6	18.9	100.0
	administration	7.6	16.8	21.7	30.3	23.6	100.0
	factory worker	13.5	17.7	33.7	14.3	20.8	100.0
	other	8.6	11.2	21.9	23.3	35.0	100.0
	All	10.4	15.6	24.4	22.8	26.8	100.0
Rural	<i>Sector of employment</i>						
	breeding/farming	10.7	15.8	35.2	27.2	11.1	100.0
	mining/construct	13.6	29.4	50.9	6.1	.	100.0
	trade&sales	5.4	9.7	26.6	29.1	29.3	100.0
	transport	12.2	35.6	23.7	28.5	.	100.0
	health&educat.	8.9	20.4	30.2	23.6	16.9	100.0
	administration	6.7	9.6	26.4	40.2	17.2	100.0
	factory worker	14.4	4.3	45.0	5.0	31.3	100.0
	other	5.4	20.5	25.7	30.3	18.2	100.0
	All	9.9	16.2	33.5	27.5	12.9	100.0
Mongolia	<i>Sector of employment</i>						
	breeding/farming	10.4	15.5	35.8	26.5	11.8	100.0
	mining/construct	12.3	24.2	23.1	16.5	23.9	100.0
	trade&sales	9.7	11.4	22.7	24.8	31.4	100.0
	transport	3.7	16.5	19.0	33.8	27.1	100.0
	health&educat.	15.1	22.3	23.6	20.9	18.0	100.0
	administration	7.4	14.9	22.9	32.9	21.9	100.0
	factory worker	13.6	16.6	34.6	13.6	21.7	100.0
	other	7.6	14.0	23.0	25.4	29.9	100.0
	All	10.1	15.9	29.3	25.4	19.3	100.0

**TABLE 1.8: SCHOOL ENROLLMENT RATES (7-24 YEAR OLDS), BY GENDER AND POVERTY STATUS (PERCENT)**

		<i>Male</i>				<i>Female</i>				<i>All</i>			
		<i>7-12</i>	<i>13-16</i>	<i>17-24</i>	<i>All</i>	<i>7-12</i>	<i>13-16</i>	<i>17-24</i>	<i>All</i>	<i>7-12</i>	<i>13-16</i>	<i>17-24</i>	<i>All</i>
<i>Type of settlement</i>	<i>Poverty status</i>												
Urban	Very poor	73.3	62.8	19.5	54.9	78.7	71.0	17.6	55.2	76.0	66.2	18.5	55.1
	Poor	84.8	93.5	11.1	61.0	96.2	89.3	24.3	64.8	89.8	91.5	17.8	62.8
	Not poor(l)	90.5	88.6	45.7	73.2	82.9	95.7	32.7	68.5	87.0	92.6	38.9	70.8
	Not poor(m)	83.3	95.7	41.7	74.7	92.6	100.0	45.0	72.7	87.3	97.7	43.8	73.7
	Not poor(u)	100.0	100.0	50.0	79.4	96.3	90.0	64.0	83.3	97.9	94.6	56.9	81.5
	All	83.8	84.6	32.4	66.7	86.9	89.0	33.7	67.0	85.3	86.8	33.1	66.8
Rural	<i>Poverty status</i>												
	Very poor	67.7	41.3	8.8	40.0	66.2	48.8	15.3	43.6	66.9	44.8	12.1	41.8
	Poor	81.0	57.4	3.3	50.5	73.4	70.5	10.0	49.7	77.2	62.9	6.9	50.1
	Not poor(l)	72.8	43.4	12.0	42.9	84.0	67.6	17.5	57.0	78.2	55.9	14.6	49.7
	Not poor(m)	74.4	56.9	11.8	45.7	82.8	69.6	21.3	56.0	78.7	63.1	16.6	50.9
	Not poor(u)	78.3	66.7	15.2	50.6	88.9	81.0	32.6	60.4	84.0	72.2	25.0	55.6
All	74.3	51.4	10.4	45.2	78.9	66.8	18.4	53.6	76.6	58.7	14.4	49.3	
Mongolia	<i>Poverty status</i>												
	Very poor	70.5	51.7	13.3	46.9	72.2	58.3	16.4	49.0	71.4	54.7	14.9	48.0
	Poor	82.1	69.6	6.3	54.0	79.0	77.8	15.0	54.6	80.6	73.2	10.8	54.3
	Not poor(l)	77.0	55.2	20.7	50.5	83.8	76.2	22.1	60.1	80.2	66.3	21.3	55.2
	Not poor(m)	77.1	66.3	17.9	53.0	85.1	76.7	28.4	60.4	81.0	71.4	23.5	56.7
	Not poor(u)	88.4	78.0	30.5	62.5	92.6	85.4	44.1	70.6	90.7	81.3	37.8	66.7
All	77.5	62.2	17.3	52.1	81.4	74.4	23.7	58.1	79.4	68.1	20.6	55.1	

**TABLE 1.9: COMPOSITION OF HOUSEHOLD INCOME, BY TYPE OF INCOME AND POVERTY STATUS (PERCENT)**

		Poverty status					<i>All</i>
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor (l) -</i>	<i>Not poor (m)</i>	<i>Not poor (u)</i>	
<i>Type of settlement</i>							
Urban	pensions	33.2%	24.2%	12.5%	11.9%	7.4	17.2%
	other unearned income	18.6	12.9	16.6	15.9	16.7	16.2
	self emp.-ag.	1.0	0.4	1.6	2.0	3.3	1.8
	self emp.-nonag.	4.2	5.7	11.0	12.9	14.4	9.9
	self cons.-ag.	1.3	0.5	2.9	0.5	3.2	1.8
	self cons.-nonag.	0.2	1.5	1.0	0.7	1.8	1.1
	wages	41.5	54.8	54.4	56.1	53.2	52.0
Rural	pensions	22.9	12.4	9.1	6.9	7.4	10.8
	other unearned income	14.3	11.4	7.3	5.7	8.3	8.7
	self emp.-ag.	29.4	37.0	44.9	42.9	37.2	40.0
	self emp.-nonag.	0.7	1.0	1.7	7.0	9.1	3.6
	self cons.-ag.	13.5	13.8	15.5	16.6	18.6	15.5
	self cons.-nonag.	0.0	0.0	0.3	0.9	1.6	0.5
	wages	19.2	24.3	21.2	20.1	17.7	20.8
Mongolia	pensions	27.3	16.2	10.0	8.4	7.4	13.0
	other unearned income	16.2	11.9	9.8	8.8	12.5	11.3
	self emp.-ag.	17.1	25.4	33.4	30.5	20.3	26.8
	self emp.-nonag.	2.2	2.5	4.2	8.7	11.8	5.8
	self cons.-ag.	8.2	9.5	12.2	11.7	10.9	10.8
	self cons.-nonag.	0.1	0.5	0.5	0.8	1.7	0.7
	wages	28.9	34.0	30.0	31.0	35.4	31.6

**TABLE 1.10: DEMOGRAPHIC CHARACTERISTICS, BY GENDER OF HOUSEHOLD HEAD AND POVERTY STATUS (PERCENT)**

		<i>Male</i>						<i>Female</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>													
Urban	Age	43.5	44.0	43.3	40.8	43.9	43.0	42.0	47.9	40.2	44.5	41.7	43.3
	Household size	6.2	5.7	5.0	4.4	4.0	4.9	5.8	4.9	5.0	3.8	2.5	4.7
	Number of children	2.6	2.2	1.7	1.5	1.2	1.7	3.2	1.7	1.7	1.3	0.7	2.0
	Number of pensioners	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.1	0.3
	Number of unemployed	0.9	0.4	0.3	0.3	0.1	0.3	0.7	0.9	0.7	0.5	0.0	0.6
	Number of employed	0.9	1.3	1.2	1.3	1.3	1.2	0.2	0.7	0.5	0.6	0.9	0.5
	Number of invalids	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1
Rural	Age	38.9	40.7	40.3	41.8	44.1	41.2	42.0	48.2	48.5	48.3	53.1	47.1
	Household size	5.8	5.5	5.3	5.0	4.1	5.2	5.3	4.4	4.3	3.8	2.6	4.3
	Number of children	3.0	2.6	2.4	1.9	1.2	2.2	2.2	1.8	1.5	1.5	0.7	1.7
	Number of pensioners	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.3	0.3	0.3	0.6	0.3
	Number of unemployed	0.6	0.3	0.2	0.1	0.2	0.2	1.0	0.3	0.2	0.0	0.0	0.3
	Number of employed	1.5	1.9	2.1	2.1	1.9	2.0	1.0	1.4	1.8	1.7	1.1	1.5
	Number of invalids	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Mongolia	Age	41.7	42.5	41.9	41.2	44.0	42.2	42.0	48.0	44.2	46.1	43.7	44.6
	Household size	6.0	5.6	5.2	4.7	4.0	5.0	5.6	4.7	4.7	3.8	2.5	4.6
	Number of children	2.8	2.4	2.0	1.7	1.2	1.9	2.9	1.7	1.6	1.4	0.7	1.9
	Number of pensioners	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.3
	Number of unemployed	0.8	0.4	0.2	0.2	0.1	0.3	0.8	0.7	0.4	0.3	0.0	0.5
	Number of employed	1.2	1.6	1.6	1.7	1.5	1.6	0.4	0.9	1.1	1.1	0.9	0.8
	Number of invalids	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1

**TABLE 1.11: COMPLETED EDUCATION OF HOUSEHOLD HEADS (PERCENT)**

		<i>Male</i>						<i>Female</i>					
		<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>	<i>Very poor</i>	<i>Poor</i>	<i>Not poor(l)</i>	<i>Not poor(m)</i>	<i>Not poor(u)</i>	<i>All</i>
<i>Type of settlement</i>	<i>Education level</i>												
Urban	none	10.1	2.3	3.4	2.5	1.2	3.4	20.6	17.6	.	.	.	10.6
	primary	52.8	35.5	32.1	18.5	15.5	27.9	42.3	37.0	58.1	47.2	13.9	40.9
	secondary	17.5	21.8	18.9	15.1	12.2	16.5	18.1	30.3	9.7	16.8	8.2	17.8
	higher	19.6	40.4	45.5	63.9	71.2	52.3	19.1	15.1	32.3	36.0	77.9	30.7
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rural	<i>Education level</i>												
	none	15.3	5.9	5.9	5.0	5.9	6.8	17.7	20.0	16.1	29.3	11.4	20.0
	primary	76.7	68.8	65.7	65.8	55.7	66.1	77.6	66.3	69.0	42.3	69.3	64.5
	secondary	5.5	10.8	11.6	9.4	12.2	10.3	4.8	6.2	8.3	4.0	.	5.6
	higher	2.5	14.5	16.8	19.7	26.2	16.9	.	7.5	6.5	24.4	19.3	9.9
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mongolia	<i>Education level</i>												
	none	12.2	4.0	4.6	3.6	2.6	4.8	19.8	18.4	7.7	12.7	2.0	13.9
	primary	62.2	51.7	48.0	39.4	27.3	43.9	52.0	46.5	63.3	45.0	23.7	49.0
	secondary	12.8	16.5	15.5	12.6	12.2	13.9	14.4	22.5	9.0	11.3	6.8	13.6
	higher	12.9	27.8	31.9	44.3	58.0	37.4	13.8	12.6	20.0	31.0	67.5	23.5
	All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**TABLE 1.12: MORBIDITY RATES, BY GENDER, AGE, AND POVERTY STATUS (PERCENT)**

<i>Type of settlement</i>	<i>Poverty status</i>	<i>Male</i>					<i>Female</i>					<i>All</i>				
		<i>&lt;15</i>	<i>15-24</i>	<i>25-54</i>	<i>55+</i>	<i>All</i>	<i>&lt;15</i>	<i>15-24</i>	<i>25-54</i>	<i>55+</i>	<i>All</i>	<i>&lt;15</i>	<i>15-24</i>	<i>25-54</i>	<i>55+</i>	<i>All</i>
Urban	Very poor	6.2	1.2	3.2	28.3	5.6	1.7	1.0	4.3	23.1	3.3	4.3	1.1	3.9	25.5	4.4
	Poor	1.6	2.3	7.2	7.6	3.7	1.5	3.3	3.1	15.1	3.4	1.5	2.8	4.6	11.4	3.5
	Not poor(l)	3.4	1.7	1.9	9.4	3.1	2.3	0.0	3.3	8.4	2.6	2.8	0.8	2.6	8.9	2.8
	Not poor(m)	2.9	3.0	7.2	11.9	5.3	2.3	3.4	5.0	14.6	4.8	2.6	3.3	6.1	13.5	5.0
	Not poor(u)	2.2	8.7	5.9	4.4	5.3	0.0	0.0	7.8	8.4	4.1	0.9	4.7	6.9	5.8	4.7
	All	3.7	3.1	5.0	10.2	4.5	1.6	1.5	4.8	13.0	3.6	2.7	2.2	4.9	11.6	4.0
Rural	Very poor	3.5	1.5	5.2	11.9	3.7	1.9	0.8	7.6	9.3	3.7	2.7	1.1	6.6	10.5	3.7
	Poor	2.8	2.4	1.9	0.0	2.3	2.9	0.0	12.1	13.4	5.8	2.9	1.2	7.4	6.8	4.1
	Not poor(l)	1.7	1.2	6.2	2.8	3.1	3.1	3.1	5.0	16.9	4.4	2.4	2.2	5.6	10.3	3.8
	Not poor(m)	4.2	0.4	6.4	11.0	4.4	3.0	2.6	10.1	17.0	6.1	3.6	1.5	8.4	13.8	5.3
	Not poor(u)	3.4	0.0	5.4	31.6	6.5	0.0	0.0	6.5	12.1	3.6	1.6	0.0	5.9	22.5	5.1
	All	2.9	1.1	5.3	11.5	3.7	2.6	1.8	8.1	14.9	4.9	2.8	1.4	6.8	13.2	4.3
Mongolia	Very poor	5.4	1.3	4.0	24.2	4.9	1.8	0.9	5.4	19.8	3.5	3.7	1.1	4.8	21.8	4.2
	Poor	2.2	2.3	4.7	5.0	3.1	2.2	2.0	6.6	14.5	4.4	2.2	2.2	5.8	9.8	3.8
	Not poor(l)	2.5	1.5	4.0	7.2	3.1	2.7	1.4	4.1	11.3	3.5	2.6	1.4	4.0	9.4	3.3
	Not poor(m)	3.6	1.5	6.9	11.5	4.9	2.7	3.0	7.2	15.5	5.4	3.1	2.3	7.1	13.7	5.2
	Not poor(u)	2.5	5.6	5.7	12.1	5.7	0.0	0.0	7.5	9.9	4.0	1.1	3.0	6.7	11.2	4.8
	All	3.4	2.2	5.1	10.7	4.2	2.1	1.6	6.0	13.6	4.1	2.7	1.9	5.6	12.1	4.2

**TABLE 1.13: AVERAGE NUMBER OF BIRTHS, BY AGE OF MOTHER AND POVERTY STATUS**

<i>Type of settlement</i>	<i>Poverty status</i>	Age of woman				<i>All</i>
		<i>16-30</i>	<i>31-40</i>	<i>41-50</i>	<i>51+</i>	
Urban	Very poor	0.9	5.2	6.0	4.6	3.3
	Poor	1.0	3.6	5.4	4.7	3.1
	Not poor(l)	1.0	3.6	4.3	4.8	3.1
	Not poor(m)	0.9	2.6	4.2	5.1	2.9
	Not poor(u)	0.9	2.2	4.1	4.6	2.5
	All	1.0	3.4	4.8	4.8	3.0
Rural	<i>Poverty status</i>					
	Very poor	1.5	4.8	6.7	7.2	3.9
	Poor	1.5	5.0	6.9	5.6	3.9
	Not poor(l)	1.3	4.3	6.4	5.9	3.7
	Not poor(m)	0.9	4.4	6.6	7.1	3.7
	Not poor(u)	0.8	3.4	5.2	5.3	3.1
Mongolia	<i>Poverty status</i>					
	Very poor	1.1	5.0	6.2	5.4	3.5
	Poor	1.2	4.2	6.0	5.0	3.4
	Not poor(l)	1.1	3.9	5.4	5.2	3.4
	Not poor(m)	0.9	3.4	5.2	5.9	3.2
	Not poor(u)	0.8	2.4	4.4	4.9	2.7
	All	1.1	3.8	5.4	5.3	3.3

**TABLE 1.14: PERCENTAGE OF WOMEN GIVING BIRTH IN LAST TWO YEARS, BY AGE AND POVERTY STATUS (PERCENT)**

<i>Type of settlement</i>	<i>Poverty status</i>	Age				<i>All</i>
		<i>16-30</i>	<i>31-40</i>	<i>41-50</i>	<i>51+</i>	
Urban	Very poor	14.3	20.8	5.6	0.0	12.7
	Poor	7.3	4.9	0.0	0.0	4.6
	Not poor(l)	11.0	3.1	2.3	0.0	6.0
	Not poor(m)	5.4	2.7	0.0	2.3	3.5
	Not poor(u)	6.2	0.7	0.0	0.0	2.5
	All	9.1	5.4	1.6	0.5	5.7
Rural	<i>Poverty status</i>					
	Very poor	10.9	10.2	1.0	0.0	8.5
	Poor	12.0	11.6	3.0	0.0	9.1
	Not poor(l)	9.2	8.9	3.2	0.0	7.1
	Not poor(m)	6.6	10.6	1.1	0.0	5.7
	Not poor(u)	6.6	1.7	6.9	0.0	4.4
Mongolia	<i>Poverty status</i>					
	Very poor	13.2	16.7	4.3	0.0	11.3
	Poor	9.0	8.0	1.0	0.0	6.4
	Not poor(l)	10.1	5.7	2.7	0.0	6.5
	Not poor(m)	6.0	5.7	0.5	1.3	4.5
	Not poor(u)	6.3	0.9	2.0	0.0	3.0
	All	9.0	6.9	2.1	0.3	6.2

**TABLE 1.15: AVERAGE BIRTHWEIGHT (GMS), BY AGE OF MOTHER AND POVERTY STATUS (BIRTHS IN LAST TWO YEARS)**

<i>Type of settlement</i>	<i>Poverty status</i>	Age of woman				<i>All</i>
		<i>16-30</i>	<i>31-40</i>	<i>41-50</i>	<i>51+</i>	
Urban	Very poor	3,045	2,920	2,950	.	2,994
	Poor	3,242	3,500	.	.	3,270
	Not poor(l)	3,201	3,000	3,700	.	3,201
	Not poor(m)	2,934	3,200	.	3,500	3,056
	Not poor(u)	3,375	3,000	.	.	3,346
	All	3,147	3,005	3,200	3,500	3,122
Rural	<i>Poverty status</i>					
	Very poor	3,023	3,016	3,000	.	3,020
	Poor	3,133	3,262	3,523	.	3,190
	Not poor(l)	3,298	3,051	3,345	.	3,229
	Not poor(m)	3,118	3,344	3,000	.	3,209
	Not poor(u)	3,415	3,800	3,900	.	3,603
	All	3,185	3,189	3,572	.	3,206
Mongolia	<i>Poverty status</i>					
	Very poor	3,039	2,942	2,954	.	3,001
	Poor	3,188	3,309	3,523	.	3,224
	Not poor(l)	3,243	3,035	3,536	.	3,214
	Not poor(m)	3,030	3,301	3,000	3,500	3,142
	Not poor(u)	3,386	3,331	3,900	.	3,442
	All	3,162	3,099	3,383	3,500	3,159

## ANNEX 2: MONETARY VARIABLES AND GOVERNMENT BUDGETARY OPERATIONS

**TABLE 1: MONETARY VARIABLES  
(Annual Percentage Change)**

	1991	1992	1993	1994
Net Int. Reserves	N/A	25.9	2134.0	21.1
Domestic Credit	68.0	47.8	47.4	121.1
To Government	-14.6	-53.9	-152.7	N/A
To Public Enterprises	27.6	24.2	73.6	-35.6
To Private Sector	543.3	125.2	42.6	294.5
Broad Money (M2)	53.5	31.7	227.6	79.5
GDP Deflator	100.6	146.6	330.9	62.4

*Source:* Mongolbank; IMF.

**TABLE 2: GOVERNMENT BUDGETARY OPERATIONS  
(As % of GDP)**

	1990	1991	1992	1993	1994
Current Revenue	50.6	47.4	30.0	30.2	27.9
Current Expenditures	51.9	51.7	31.1	28.3	25.0
O w:Subsidies & Tran	24.9	29.0	11.0	9.6	7.8
Social Expenditures	24.4	27.1	16.6	13.3	14.3
Savings	-1.3	-4.3	-1.1	1.9	2.9
Capital and Net Lend	12.2	5.4	11.6	16.5	23.8
Total Deficit	-13.5	-9.7	-12.7	-14.6	-20.9

*Source:* Ministry of Finance.

## ANNEX 3: SOCIAL SECTORS

TABLE 1: BASIC INDICATORS OF OVERALL EDUCATIONAL DEVELOPMENT,  
1993

	Public Expenditure in Education as a Percentage of:		Gross Enrollment Ratio (Percent)			Grade Attendance	Cohort Survival Rate <sup>/a</sup>
	GNP	Public Spending	Primary	Secondary	Higher	(Year)	(%)
Bangladesh	1.9	11.3	59	18	5	4.0	25
Bhutan	3.8	8.6	31	5	0.1	1.6	16
China	2.0	12.1	104	51	2	5.6	68
India	3.3	13.9	99	41	10	5.2	39
Indonesia	3.6	14.8	119	48	9	7.5	61
Korea	3.4	16.7	105	87	38	11.8	97
Lao PDR	9.6	9.5	110	27	2	4.9	41
Malaysia	7.4	18.5	102	58	7	9.5	97
Mongolia	5.3	11.8	82	50	15	6.5	80
Myanmar	2.1	11.0	103	24	6	6.8	NA
Nepal	1.6	10.4	86	31	5	3.7	35
Pakistan	2.8						
Philippines	1.8	13.2	101	70	28	9.4	67
Papua New Guinea	7.0	15.3	72	14	3	4.5	67
Sri Lanka	3.2	10.7	107	71	6	10.0	87
Thailand	3.9	16.6	87	28	16	7.2	83
Viet Nam	1.3	5.6	105	40	5	7.1	60
Mean	3.6	12.6	93.1	41	10	6.4	60.2

<sup>/a</sup> End of primary level.

Source: World Bank Data Base, UNESCO.

**TABLE 2: STRUCTURE OF ENROLLMENT AND PUBLIC EXPENDITURE ON EDUCATION**

	1990	1992	1994
<b>Gross enrollment ratio (percentage)</b>			
Primary	94	73	84
Secondary	67	53	52
Higher	15	11	12
<b>Public expenditure on education</b>			
<b>As a percentage of GNP</b>			
Primary	5.9	3.0	1.8
Secondary	4.2	3.4	3.9
Higher	1.2	1.0	0.6
<b>As a percentage of public expenditure</b>			
Primary	9.3	7.1	4.6
Secondary	6.6	7.9	10.0
Higher	1.9	2.4	1.5
<b>As a percentage of education expenditure</b>			
Primary	52	40	28
Secondary	38	45	62
Higher	10	14	9
Percentage of cumulative public spending received by best educated decile <sup>/a</sup>			14

<sup>/a</sup> Staff estimates

Source: Ministry of Science and Education.

**TABLE 3: GROSS ENROLLMENT AND COHORT SURVIVAL RATE BY PROVINCE  
(RANKED BY INCIDENCE OF POVERTY)**

Quintile of Province	Government Rate percent change		Cohort Survival Rate <sup>/a</sup> 1994
	Primary Schools	Secondary Schools	
I	-6.1	-6.3	68
II	-7.0	-6.8	73
III	-1.0	-0.8	83
IV	-4.5	-4.6	81
V	-4.3	-4.0	84

<sup>/a</sup> End of primary cycle 1994

Source: MOSE

**TABLE 4: ENROLLMENT RATE BY AGE AND QUINTILE, 1995  
(Percent)**

Quintile		Male				Female				Ratio <i>a</i>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)/(4)
		7-12	13-16	17-24	Total	7-12	13-16	17-24	Total	
Urban Area	I	71	68	21	56	84	74	17	58	1.04
	II	88	94	19	63	98	93	29	68	1.08
	III	87	87	37	67	76	97	30	65	0.97
	IV	86	96	56	79	90	95	50	74	0.93
	V	90	95	42	73	97	93	61	83	1.14
Rural Area	I	71	49	7	42	67	53	11	43	1.02
	II	76	56	6	50	79	71	13	54	1.08
	III	75	45	11	45	82	68	12	56	1.24
	IV	83	51	14	45	87	76	23	60	1.33
	V	73	73	11	52	86	79	34	59	1.13

Source: LSMS, 1995.

**TABLE 5: ENROLLMENT RATE BY AGE AND HOUSEHOLD HEAD OCCUPATION, 1995  
(Percent)**

Quintile		(1)			(2)			(3)
		Breeding/Farming			Other			Ratio
		7-12	13-16	17-24	7-12	13-16	17-24	(2)/(1)
Male	I	65	45	3	77	60	13	1.33
	II	74	45	5	83	82	22	1.51
	III	61	27	6	84	83	27	2.06
	IV	63	39	9	89	87	34	1.89
	V	68	48	9	91	96	39	1.81
Female	I	65	47	7	74	67	13	1.29
	II	84	52	17	91	86	25	1.32
	III	67	54	9	95	95	26	1.66
	IV	81	60	17	85	96	35	1.37
	V	91	69	21	91	91	66	1.37

Source: LSMS, 1995.

**TABLE 6: DROP-OUT RATE (%) BY AGE, SEX AND PARENT'S OCCUPATION, 1995  
(Percent)**

		(1) Breeding/Farming			(2) Other			(3) Ratio
Quintile		7-12	13-16	17-24	7-12	13-16	17-24	(2)(1)
Male	I	4	47	96	9	31	74	0.81
	II	7	43	81	1	9	85	0.74
	III	6	51	96	3	11	63	0.53
	IV	10	52	94	1	12	54	0.72
	V	0	26	89	1	4	65	0.51
Mongolia		8	48	91	3	19	75	0.67
Female	I	3	32	80	2	26	82	1.04
	II	6	25	78	2	10	77	0.79
	III	7	38	84	3	7	74	0.66
	IV	2	35	85	0	3	52	0.44
	V	3	19	83	0	9	40	0.37
Mongolia		5	38	86	2	12	68	0.66

Source: LSMS, 1995

**TABLE 7: DROP-OUT RATE (%) BY AGE AND HOUSEHOLD HEAD OCCUPATION, 1995  
(Percent)**

		(1) Breeding/Farming			(2) Other		
Quintile		7-12	13-16	17-24	7-12	13-16	17-24
I		3	40	88	5	29	79
II		7	34	79	2	10	82
III		7	44	90	4	9	69
IV		6	43	89	0	7	52
V		2	22	85	0	7	53
Mongolia		6	39	87	2	13	68

Source: LSMS, 1995.

**TABLE 8: PER CAPITA HOUSEHOLD EXPENDITURES ON EDUCATION BY QUINTILE, 1995**  
(Tug. per month)

Quintile	Tuition & Fees	Books Supplies	Clothing	Transport	Rooms Meals	Other	Total
I	1.3	20.7	70.6	2.6	4.4	3.9	103.5
II	1.9	29.6	90.2	0.8	12.6	7.2	142.3
III	11.7	38.3	127.0	14.0	30.7	12.2	233.9
IV	43	37.9	145.8	13.0	44.8	16.9	301.4
V	212.3	65.1	176.8	29.2	51.9	52.4	587.7
Mongolia	54.0	38.3	122.1	11.9	28.9	18.5	273.8

Source: LSMS, 1995

**TABLE 9: PER CAPITA HOUSEHOLD EXPENDITURE ON EDUCATION BY QUINTILE**  
(As percent of per capita nonfood expenditure)

Quintile	Tuition & Fees	Books Supplies	Clothing	Transport	Rooms Meals	Other	Total
I	0.09	1.49	5.08	0.19	0.32	0.28	7.45
II	0.08	1.19	3.63	0.03	0.51	0.29	5.73
III	0.31	1.02	3.37	0.37	0.81	0.32	6.21
IV	0.80	0.71	2.73	0.24	0.84	0.32	5.64
V	1.93	0.59	1.61	0.27	0.47	0.48	5.34
Mongolia	0.64	1.00	3.28	0.22	0.59	0.34	6.07

Source: LSMS, 1995.

**TABLE 10: BASIC INDICATORS OF OVERALL HEALTH DEVELOPMENT, 1993**

	Public Health Expenditure as a percent of:		Mortality Rate (per 1,000)		Life Expectancy at Birth (Years)	% Change in Infant Mortality Rate (1965-93)
	of GNP	public expenditure	Infant	Maternal		
Bangladesh	0.8	4.5	92	3.5	55	-21
Bhutan	1.7	2.6	127	NA	48	NA
China	0.5	2.7	34	0.1	70	-61
India	2.0	6.7	80	2.5	61	-43
Indonesia	1.0	3.8	66	3.3	61	-37
Korea	0.8	2.2	13	0.1	71	-60
Lao PDR	2.8	4.9	125	6.6	50	NA
Malaysia	2.9	6.8	15	0.3	71	-51
Mongolia	3.5	7.9	50	2.6	62	-48
Myanmar	2.1	6.8	72	0.7	60	-49
Nepal	1.2	4.3	101	5.8	53	-29
Philippines	1.2	4.9	51	0.9	64	-36
Papua New Guinea	3.6	10.1	61	6.0	54	-54
Sri Lanka	1.7	4.5	20	0.3	72	-54
Thailand	1.6	6.1	26	1.0	69	-53
Viet Nam	0.8	3.3	45	1.2	65	-50
Mean	1.6	5.0	62	2.3	62	-46
Population Weighted Mean			56	1.4	65	-50

**TABLE 11: PER CAPITA HOUSEHOLD EXPENDITURES ON HEALTH BY QUINTILE, 1995**  
(Tug. per month)

Quintile	Medical Fees	Drugs & Medicine	Total
I	264	706	970
II	1,337	2,153	3,491
III	950	820	1,770
IV	423	1,609	2,032
V	813	3,141	3,954
Mongolia	757	1,686	10,659

Source: LSMS, 1995.

**TABLE 12: PER CAPITA HOUSEHOLD EXPENDITURE ON HEALTH BY QUINTILE**  
(As percent of per capita household expenditure)

Quintile	Medical Fees	Drugs & Medicine	Total
I	6.4	17.3	23.7
II	19.5	31.5	51.0
III	10.3	8.9	19.2
IV	3.3	12.7	16.0
V	3.9	15.2	19.1
Mongolia	8.6	17.1	25.7

Source: LSMS, 1995.

**TABLE 13: MARGINAL IMPACT OF 1,000 TUG. ON HEALTH STATUS, 1995**

Quintile of Provinces	Percentage of Population	Infant Mortality	Maternal Mortality
I	19	-3.98	-2.03
II	17	-4.10	-3.22
III	13	-2.12	1.86
IV	35	-1.18	-1.92
V	16	-0.95	-0.45

Source: Staff calculation from MOH data.

**TECHNICAL ANNEX 3A: PROBIT ESTIMATES OF  
PROBABILITY OF BEING ENROLLED**

	Primary			Secondary		
	Estimate	Standard Error		Estimate	Standard Error	
Intercept	-15.133	2.178	(*)	-9.812	11.25	
Urban residency	0.086	0.129		0.392	0.177	(*)
Per capita real expenditure	0.046	0.011	(*)	0.036	0.072	
Female HH	0.066	0.126		-0.042	0.127	
Age of HHH	-0.005	0.005		-0.004	0.005	
HHH education						
No education	-0.674	0.183	(*)	-0.326	0.221	
secondary	0.272	0.159	(*)	0.831	0.212	(*)
higher	0.449	0.157	(*)	0.751	0.163	(*)
HHH as breeder	-0.479	0.115	(*)	-0.573	0.125	(*)
Female youth	0.180	0.093		0.281	0.105	(*)
Age of youth	3.092	0.443	(*)	1.743	1.547	
Age of youth Squared	-0.145	0.022	(*)	-0.068	0.053	
Fees	----	----		-0.139	0.019	(*)
Fees*HH Expenditure		----		0.009	0.001	(*)
Log Likelihood	-472.73			-376.419		

Notes: HHH=Household Head

(\*) Statistically significant

Source: LSMS, 1995.

**REGRESSION ESTIMATES OF COHORT SURVIVAL RATE, 1995**

Dependent variable: Cohort survival rate  
(End of primary cycle)

Right Hand Side Variables	OLS Estimates	T-Statistics
Constant	1.122	(12.09) *
log income per capita	0.261	(3.60) *
log education expenditure (primary, per pupil)	0.113	(2.19) *
Deviation of grade 6 Achievement score from national mean	0.072	(1.95) *
log livestock earnings	-0.104	(2.13)*
N	22	
Adj R2	0.45	

(\*) significant at 5 percent level

**IMPACT OF PRICING REFORM ON THE POOR**

Options	Coverage	Probability of Transition (%)	
Eliminate Fees	I. Tuition	Q1 +5.5	+8.2
	II. Fees	Q5 +6.0	+6.5
Introduce Voucher	(I) + (II) +	Q1 +8.0	+11.0
	III. Books, Uniform, Supplies	Q5 +7.2	+6.8
Introduce Extended Subsidy <sup>a/</sup>	(I) + (II) + (III) +	Q1 +12	+16
	Opportunity Costs	Q5 +7	+8

Q1= Poorest quintile

Q5= Wealthiest quintile

<sup>a/</sup> Assumes opportunity cost equals to average wage.

Source: Probit results from the LSMS, 1995.

**ANNEX 4.1: DISTRIBUTION OF *AIMAGS* BY SHARES IN THE  
PROPORTION OF THE ULTRAPOOR, AND IN SOCIAL  
ASSISTANCE**

<i>Aimag</i>	Percentage (shares)	
	Contribution to National Ultrapoverty	Percentage (share) in Social Assistance
	<u>1994</u>	<u>1994</u> <u>1995</u>
Arkhangai	7.5	3.7      3.2
Bayan-Ulgii	4.8	2.7      2.6
Bayankhongor	6.9	3.1      3.3
Bulgan	3.6	1.0      1.1
Govi-Altai	3.9	4.6      1.7
Dornogovi	0.4	1.6      1.2
Dornod	4.5	5.5      3.5
Dundgovi	2.0	3.0      2.4
Zavkhan	6.8	4.7      4.0
Ovorkhangai	7.2	3.9      4.3
Omnogovi	4.5	1.2      1.6
Sukhbaatar	4.1	2.8      2.6
Selenge	2.7	3.8      4.8
Tov	5.1	6.0      5.6
Uvs	3.8	4.6      5.0
Khovd	5.5	2.3      1.7
Khubagul	4.1	4.6      5.7
Khentii	3.4	4.3      4.6
Ulaanbaatar	13.7	29.3      30.7
Darkhan-Uul	4.3	3.7      4.0
Orkhon	0.7	3.3      5.5
Sumber-Uul	0.4	0.4      0.9
		0.0
National	100.0	100.0      100.0

*Source:* M.P.P.L, and K. Subbarao and Kene Ezemenari (1995).

## ANNEX 4.2: PROBIT ESTIMATES CHARACTERISTICS OF VERY POOR

1. The LSMS data allows the delineation of the household characteristics of the very poor, defined as those below 75 percent of the poverty line. Households with four characteristics are vulnerable: (a) female-headed households, (b) households headed by persons with no education, (c) households with four or more children under age 15, and (d) households with less than 5 animals<sup>1</sup> per capita. In order to know which of these characteristics better predict a household being very poor, two probit equations were estimated; the results are reported in Table 1. In equation 1, three types of household headships were specified: male-headed, female-headed with 3 or less children, and female-headed with 4+ children (dummy 2). In the second equation, the gender of the head was dropped; instead households were divided into categories: those with less than three children, and those with 4+ children.<sup>2</sup>

2. Two findings are worth noting. Equation 1 shows that controlling for other factors, the marginal effects of ownership of animals, and the level of education of the head of the household, are much higher than female-headedness. The gender of the household head is substituted by the children in the household (equation 2). The marginal effect of households with 4+ children to a household being very poor is the highest, suggesting that, in general, households with large number of children tend to be poor. Interestingly, controlling for children, gender of household head, and the level of education of head of household, the contribution of employment status, *per se*, to a household being very poor is not high.

3. From the perspective of targeting social assistance, the level of education of the head of the household appears to be a very good predictor of a household being very poor to target social assistance. In the case of as many as 70 percent of the very poor households, the head's level of education is either nil or less than primary. The second best predictor appears to be the ownership of livestock—households owning less than 5 animals per capita clearly tend to be the very poor.

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<sup>1</sup> The animals included are cattle, horses, goats and sheep.

<sup>2</sup> See notes to Tables for exact specification of variables.

**TABLE 1. PROBIT ESTIMATES OF CHARACTERISTICS OF VERY POOR**

	Co-efficient	Asymptotic t - value	Marginal Effect at Mean of X
Dependent Variable: Very Poor Household = 1; Others = 0			
1. Constant	- 1.415	- 166.3	
Urban	- 0.15	- 18.56	- 0.07
Headship (gender)	0.51	84.38	0.28
Education of Household Head	0.57	99.7	0.36
Livestock Ownership	-1.05	- 89.1	- 0.42
Employed/Unemployed	0.18	59.2	0.09
Log - Likelihood = - 88,177.0			
2. Constant	- 1.58	- 177.4	
Urban	- 0.019	- 2.4	- 0.009
Children	0.817	99.85	0.447
Education of Household Head	0.626	109.8	0.40
Livestock Ownership	- 1.00	- 85.01	- 0.40
Employed/Unemployed	0.22	71.77	0.122
Log - Likelihood = - 86,879.0			

**Independent Variables**

- Urban = 1; Rural = 0
- Headship = Female-headed with 4 + children = 2
- Female-headed with 0 - 3 children = 1
- Male headed = 0
- Education of head = No education = 2
- Primary = 1
- Post-primary = 0
- Livestock = Per capita animals owned = > 5 = 1
- Per capita animals owned = < 6 = 0
- Employment Status = Employed = 0
- Not in labor force = 1
- Pensioners = 2
- Unemployed = 3
- Children = Households with 4 + children = 1
- Others = 0

## ANNEX 5.1: NATIONAL POVERTY ALLEVIATION PROGRAM

### COMPONENT 1: Policy Management

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Strengthening PMU	UNDP	583	Ongoing	1996-97
	IDA	100	Ongoing	1996-97
	UNV	125	Ongoing	1996-97
2 Undertake Special Program to increase knowledge & skills of other organizations				
3 Upgrade the methodology and systems and processing information and data on the different aspects of poverty	ADB	400	Pipeline	1997-98
	Japan	105	Completed	1994-96
	UNDP	30	Pipeline	1996-97
4 Establish operational and other linkages between PAP and other Government programs addressing poverty				
5 Review existing regulations, legislation or practices with respect to NGO	UNDP	100	Pipeline	1997-98
	<b>TOTAL</b>	<b>1,443</b>		

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**COMPONENT 2: Employment Promotion Tasks**

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Introduce special credit aimed at providing employment opportunities for the poor	ADB	3,000	Ongoing	1994-97
	IDA	5,700	Ongoing	1995-98
2 Improve the system of training in business and of providing business knowledge	UNDP	125	Ongoing	1996-97
	ADB	5,000	Pipeline	1998-01
3 Strengthen the system of technical and vocational training through integrating adult training into existing structures				
4 Introduce small and medium scale labor intensive job creation schemes aimed at improving economic and social infrastructure at the local level	UNV	150	Pipeline	1997-98
5 Integrate the disabled into productive society through greater opportunity for skill training and equipment supply	ILO	40	Pipeline	1997-98
	IDA	200	Ongoing	1995-98
6 Improve the functioning of employment offices	TACIS	1,000	Ongoing	1995-97
	TOTAL	15,215		

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**COMPONENT 3: Human Capital**

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Improve the delivery of primary health assistance to rural poor. Special emphasis on maternal and child health	UNFPA	2,629	Ongoing	1993-96
	IDA	2,000	Ongoing	1995-98
	ADB	10,000	Pipeline	1997-01
	UNDP	2,000	Pipeline	1997-98
	WHO	1,000	Pipeline	1997-98
	UNICEF	1,000	Pipeline	1997-98
2 Provide assistance to maintain the system of rural schools	IDA	7,000	Pipeline	1998-02
	IDA	2,000	Ongoing	1995-98
3 Expand the viability of pre-school education through introduction of new cost-effective delivery system				
4 Integrate, to the extent possible, disabled children into mainstream education				
5 Enable the poor to get access to medical services	ADB	500	Ongoing	1996-98
6 Finance vocational education to children of poor families	ADB	10,000	Pipeline	1997-01
	<b>TOTAL</b>	<b>38,129</b>		

**COMPONENT 4: Women's Poverty Tasks**

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Introduce special schemes to allow women greater access to business and employment opportunities through greater access to credit, training and information to women	UNFPA	2,600	Ongoing	1994-97
	UNDP	700	Pipeline	1996-98
2 Establish Women's Development and training centers				
3 Improve the capacity of government organization and NGO responsible for the protection of women's interest and prepare a national policy on women				
	<b>TOTAL</b>	<b>3,300</b>		

**COMPONENT 5: Rural Poverty Tasks**

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Strengthen formal, informal and customary organizations through legal and organizational reforms and training	ILO	NA		
2 Tenure reform for rural households, groups and organizations				
3 Livestock marketing reform				
4 Restock poor rural households with sufficient livestock & improve their living standards	FAO IFAD	300 5,000	Ongoing Ongoing	1995-96 1996-98
5 Establish new risk management to help poor herding households				
	TOTAL	5,300		

**COMPONENT 6: Social Safety Net Tasks**

<u>Tasks</u>	<u>Donor</u>	<u>(000 USD)</u>	<u>Status</u>	<u>Duration</u>
1 Provide necessary TA to ensure implement the newly social insurance scheme	ADB	1,000	Ongoing	1995-97
2 Ensure adequate living standards of pensioners fully dependent on fixed prior to the implementation of the new regime	ADB	5,000	Pipeline	1998-01
3 Expand and strengthen social assistance services to ensure the provision of basic needs for all				
4 Expand, reform and strengthen social assistance fund				
5 Social assistance fund to children in difficult circumstances				
	TOTAL	6,000		

**MAP SECTION**









IMAGING

Report No: 15723 MOG  
Type: SR