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## Chapter 11

# **Developing a National Strategy for Rural and Regional Development in Mongolia**

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## **INTRODUCTION**

Mongolia covers an area of 1.5 million sq. km. and is thus a very large country with a small population of about 2.5 million inhabitants. The average population density is only about 1.6/km<sup>2</sup>. In 2002, the rural population was 38% and the urban population was 62%. Ulaanbaatar alone accounts for about one third of the country's population. The average annual growth rate of the population during the last decade was about 1.4%. Assuming the population growth will be as extrapolated by geometric function (Figure 1), Mongolia will have a population of about 2.7 million in the year 2020.

Mongolia is divided into 21 Aimags or regions, plus the capital Ulaanbaatar. The country stretches for about 2,600 km from East to West and about 1,200 km from north to south. Had the country been round, the average radius would be about 1,223 km. In some of the Aimags, the population density is as low as 0.5/km<sup>2</sup>. During the last 14-year transition phase, many people did migrate from the rural areas in the Soums, or districts, and Aimags to a few Aimag centres, and especially to Ulaanbaatar. In rural areas of the country, there are about 165,000 nomadic herdsman's households with a total population of about 640,000 (2004).

Mongolia urgently needs a clear concept for rural and regional development. The regional development policy must be very genuine, considering the unique geographical and demographic situation of the country. A certain degree of regional economic autonomy is essential, since, with the GDP of such a small population, a sophisticated communication infrastructure in such a large country is unaffordable.

The authors of this paper have developed methodologies to quantify and qualify the degree of regional development. The average Regional Development Indicator (RDI) is 0.71 (the optimum would be 1.0). The RDI takes into account the regional distribution of population and income, the distances of the regional capitals from the country's capital, the standard deviation and variance of population, and income in the different regions.

## Background to the approach

In Mongolia over the centuries, people believed that a large country of 1.5 million sq.km., most of it steppe land, could easily feed a small population of 2.5 million people. It now seems that, after 14 years of transition towards a market economy, this dream is over.

Any concept for regional development in Mongolia must consider that with a small population and a correspondingly small gross domestic product (GDP), a large country cannot afford a dense network for infrastructure and communications. A certain degree of regional autonomy is necessary.

Regional economic development should always be balanced with the conservation of nature, environment, and climate. In Mongolia it is being learned that such a balance is better maintained with relatively more intensive agricultural production in a smaller area, rather than with extensive production scattered all over the country.

The objective of a 'regional development policy' for any central government can be defined as follows – 'balanced regional development should involve all existing regions and their population in the economic, social, and cultural development process, based on local natural and human resources and an exchange of such resources and products among the different regions'.

Some important criteria for defining a region are:

- historical development of the territory and population,
- geographic and natural conditions of parts of the country,
- ethnic, cultural, and linguistic differences among the population,
- an efficient administration of the region and the whole country, and, finally,
- a region gives maximum security to the population in the region as well as in the country and guarantees territorial integrity.

Generally a region is a mix of these criteria, but one or the other aspect might be in the foreground.

The term 'rural development' is more difficult to define. In general, statistics simply determine urban and rural populations according to the number of persons living in 'a given area'. In other cases, areas are considered 'rural' if the major part of the population gets its income from agriculture or forestry or lives in an area of predominant agricultural production.<sup>1</sup> In today's economies and countries, it is frequent and usual that people live in rural areas but work in urban areas.

However, dividing a country into rural and urban areas is not enough. In fact, many countries in the world have huge areas of so-called 'pure nature land' where there is virtually no population and no economic activity. In the more developed countries in Europe, and also in very densely-populated countries like Korea and Japan, there is almost no 'pure nature land' such as deserts, steppes, untouched forests, and mountains, apart from national parks and others. In other countries 'pure nature land'<sup>2</sup> is a significant part of the country's territory. Such land is generally state<sup>3</sup> property.

## The regional development scenario of Mongolia today

The two basic criteria for rural and regional development are the distribution of population and income in a given territory. An evaluation of regional development in Mongolia is given in Table 1, the basic demographic data for Mongolia are given in Table 2, and the income data in Table 3.

The regional distribution is largely characterised by the section of the population living in urban areas. In Mongolia, the urban population in 2002 was about 62% and the rural population only 38%<sup>4</sup>.

Looking at Table 2, it can be concluded that a large part of the country is virtually 'unpopulated'. There are eight of 22 Aimags with a population density of less than one person per km<sup>2</sup> which means that about 80% of the total population live in about 40% of the area. A very large part of the country, in fact more than 75%, is actually populated by nomadic

<sup>1</sup> The term 'agriculture' is used by the authors to explicitly include crop and livestock production.

<sup>2</sup> ... which is not a 'national park' ...

<sup>3</sup> or communal

<sup>4</sup> The NSOM yearbook gives 42% : the authors estimated their figure of 38% by a different methodology based on herders' households and herders' family members.

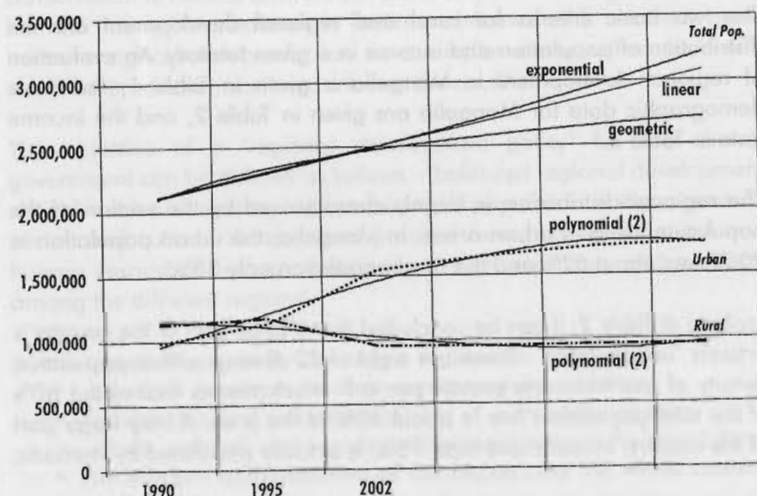


herdsmen only. However, the population density in these areas is less than 0.5 persons per km<sup>2</sup>.

In fact, nomadic herdsmen 'control' about 83% of Mongolia's territory, although the average population density in these areas is only 0.53/km<sup>2</sup>.

How will the urban and rural population develop during future decades? The average population growth at 1.40% is relatively low ( see Table 2). It also seems that migration from rural to urban, and from remote to more centrally-located areas will continue for some time. The average growth rate during the last 12 years was 3.83% for urban areas, mainly due to the average annual increase of the population of Ulaanbaatar of almost five per cent. On the other hand, the average growth rate of the rural population was 1.40% . The census of 2000 reveals that 25% of permanent residents had migrated to areas other than their place of birth.<sup>5</sup>

Figure 1 : Estimated future population growth in Mongolia  
This figure gives a projection of population growth in Mongolia towards the year 2020.



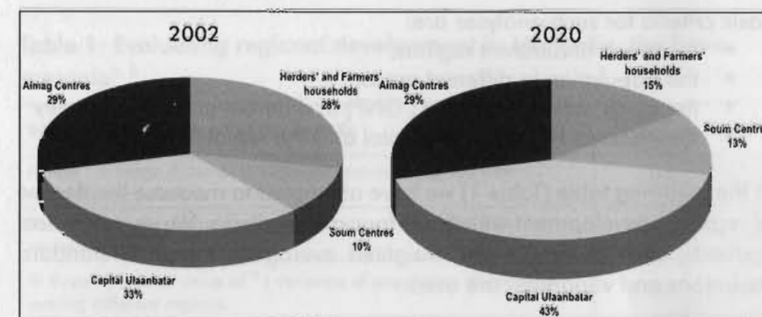
Source : NSOM 2002; projections after 2002 estimated by authors

<sup>5</sup> Economic growth support and poverty reduction strategy, Government of Mongolia, 2003

The projection for the total population for 2020 is approximately 2,750,000, using an extrapolation of the geometric function. Extrapolating the exponential function, the total population would reach about 3,200,000 in 2020, which seems rather unrealistic.

Extrapolating the polynomial functions, the urban population might reach about 1,750,000 in 2020, the rural population about 960,000. The urban population is still increasing but tends to stabilise below two million people. On the other hand, the rural population is further decreasing but tends to stabilise at a rather low level of about one million people. The change in the composition of the population is indicated in the following figure.

Figure 2: Changing distribution of the population in Mongolia



The projection for the year 2020 is based partially on the results of Figure 1. In addition, The authors assume the following.

- In 2002, the herders' households included about 30,000 people living in crop brigades, which of course maintain subsistence herding. There was no significant development at that time of small farmers' enterprises.
- It is assumed that in 2020 the herders and the upcoming small farmers' households will stabilise at about 100,000: the average household will consist of four family members.
- The decreasing number of herders' family members leaving the rural areas will be settling down equally at Soum Centres, Aimag Centres, and in Ulaanbaatar.

It is difficult to project the future development of Aimags, since it depends so much on government policy. During the period from 1990 to 2002, there was an absolute decrease in population in nine of the 22 Aimags. However, assuming that the natural growth rate of the population is 1.4%, there were only three Aimags above this level in 2002: Ulaanbaatar, Erdenet, and Govisumber. The last one is still rather unimportant in

relation to the total population of the country. It is remarkable that even the total population of Darjan was decreasing during that period. All these figures indicate that there is an unbroken migration of people not only from rural to urban areas but also from the regions to Ulanbataar. Careful estimations by the authors indicate that, in 10 years' time, one third of the Aimag population will consist of the family members of herdsman's households, one third will live at Soum centres, and one third at the Aimag centre.

## Quantifying and evaluating regional development in Mongolia

Few methods of quantifying regional development in a country are known.

Basic criteria for such analyses are:

- the areas of different regions,
- the population in different areas,
- the gross national product (GNP) in different areas, and finally
- the distance between the capital and the regional centres.

In the following table (Table 1) we have attempted to measure the degree of regional development with these four main criteria. Various statistical methods, such as simple and weighted averages as well as standard deviations and variances, are used.

Four 'Indicators of Regionalisation' (IR) are being used in this evaluation. The first one is the average distance between the regional centres and the capital, which is weighed with the population living in the respective regional centre.<sup>6</sup> The IR can fluctuate between zero and two. A value closer to zero would mean a concentration of the population in the regions closer to the capital. A value closer to two would mean an increasing concentration of the population in the more distant regions. A value around one means a more equal distribution of the population between the more distant and the closer regions.

IR two indicates whether a larger number of the Aimags with larger areas are located near to or far from the capital comparatively. Also in this case, the value can fluctuate between 0 and two. A value close to one would be the best relationship, indicating a more balanced distribution of regions within the country. This IR is of course a given geographical value to which the regional development policy has to adjust – unless the individual regions are redefined.

<sup>6</sup> The weighted average distance is related to the simple average distance between the capital and the regions. It is obvious that the maximum relationship is 2.

IR three is the standard deviation and the concluding variance for the populations of the regions. IR four is the standard deviation and the concluding variance of the gross domestic product (GDP) per capita in the different regions.

For IR3 and IR4, the inverse value of the double variance goes from zero to two. A value close to zero indicates strong deviations from the average of the population or the GDP of the regions, a value close to two is a rather homogeneous distribution of population and GDP between the different regions.

Finally we tried to combine the four IRs into one Regional Development Indicator. This can be a simple arithmetic average of the four IRs, or a weighed average with variable importance being given to the individual IRs.<sup>7</sup>

Table 1: Evaluating regional development in Mongolia, the basic scenario<sup>a, b</sup>

RDI : Weighted average of the four IRs		0.71	Relative weight	Value
IR one : average distance to regional centres, weighted with respective populations			2.0	0.72
IR two : average distance to regional centres, weighted with respective areas			0.5	1.25
IR three : ( inverse value of <sup>a</sup> ) variance of population distribution among different regions			3.0	0.81
IR four : ( inverse value of <sup>a</sup> ) variance of GDP per capita among different regions			0.5	1.48

Item	km <sup>2</sup>	Persons /km <sup>2</sup>	Population	GDP/capita 2002 (Euro <sup>c</sup> )	Distance
Total	1,564,160		2,498,700		
Arithmetic average	71,098	1.60	113,577	362	586
Average, weighted with population					422
Average, weighted with Aimag territories (km <sup>2</sup> )					732
Variance			0.59	0.26	
Number of regions	22	22	22	22	22

<sup>a</sup> Inversion of variance done in order to get a comparable IR

<sup>b</sup> All basic data for this calculation appear in the worksheet population plus territory

<sup>c</sup> Including any budget transfer from the Central Government to the Aimag

Source : Calculations by the authors, based on NSOM basic data

<sup>7</sup> The relative weight in this table is just the authors' assumption: it can be changed according to priorities set.



The results of this table are interpreted as follows.

IR 1=0.72: The population seems to be too concentrated in the more central areas. The population-weighted average distance to the Aimag centres is 422 km, whereas the simple arithmetic average of the distances is 586 km.<sup>8</sup>

IR 2=1.25: This indicates that a major part of the Aimags with large areas is actually located in remote areas. This is, in principle, a given situation unless the government decides to redefine the borders and sizes of the Aimags.

IR 3=0.81: Indicates a rather unequal distribution of the population among the Aimags, some of which have a rather large population, others a very small population only. The low figure also is an indicator of the concentration of the population in the capital Ulaanbaatar where about one third of the total population lives.

IR 4=1.60: This means that with the given figures of the per capita GDP in the Aimags<sup>9</sup>, the differences between Aimags are not so great and the distribution homogeneous. But rather than drawing a positive conclusion, these phenomena could be called a 'uniform distribution of poverty'.

RDI=0.72: Assuming that an RDI of 'one' would be an optimum achievement, the present situation of Mongolia with an RDI of 0.72 is a sign of unsatisfactory regional development. The government policy should aim to shift resources, population, and employment to the relatively remote Aimags and to restrict the population growth of Ulaanbaatar.

Regional development is also determined and limited by the shape of the country, its natural resources, and natural conditions. The basic shape of a country is generally rather irregular. An indicator for this is the difference between the given average distance from the capital to the regional centres and the radius of an assumed round-shaped country territory.

However, there are limitations to reaching a statistically balanced regionalisation with an equal distribution of population and GNP. Those regions with less population and income should not live and survive with permanent budget subsidies from other regions. Both population

<sup>8</sup> In fact, if the weighted average was 586 km, the population would be equally distributed between the nearer and the further located Aimags.

<sup>9</sup> ... which are only a rough estimate of the authors ...

and income can only be increased up to a certain level, based on the local natural and human resources. However, a central government may decide that, for strategic reasons, some territories of a country should be permanently subsidised. Any central government has an understandable interest in maintaining administrative and political control over the whole territory of the country. This can be achieved only if small, marginalised populations can be helped to live in areas that are less favoured with natural resources.

## The government policy for regional development

The government and the parliament of Mongolia adopted 'the concept of regional development in Mongolia' in the year 2001. In addition the government's Policy on Food and Agriculture, which was adopted by the government and parliament in 2003, constitutes an important part of the legal framework for regional and rural development. The government also considers that minimising the disparities in socioeconomic development among the Aimags of the country is one of the prerequisites of movement towards sustainable development in the 21<sup>st</sup> century.

Besides promoting advanced agriculture and industrial production in the country, the government has an obligation to integrate the existing population of nomadic herdsman into a modern social and economic system, considering that this sector still constitutes about 30% of the total population.

Within the aforementioned 'concept of regional development in Mongolia' the government has created five major development regions: the Western, Hangai, and Central Regions have approximately around one fifth of the population each; the Eastern Region about one tenth; and Ulaanbaatar alone one third of the total population

The Eastern Region has only about five per cent of the national GDP, whereas the other three Regions have between 10 and 15%, compared to the share of Ulaanbaatar which is about 50%. All this indicates that there is still a lot of work to be done to achieve more equal development among the five regions and to maintain a basic core of population in each of the regions.

There is a Regional Centre in each region, but, at present, these regional centres do not have a major political and administrative role in regional development. These regional centres are at the same time considered to be 'economic development centres'. In addition, each region has one, alternative 'economic development centre.' Finally, three cities—Erdenet,



Darjan, and Ulaanbaatar—have the status of 'industrial development parks'. There is no doubt that this definition of 'regional points of emphasis,' as they are called, is of importance for the future of regional development in Mongolia. Such points include the four categories: Aimag Centres, Regional Centres, Regional Development Centres, and the 'industrial parks'. It is a world-wide experience that 'development takes place around development centres'. In Mongolia the distribution of development centres covers the whole country equally.

The concept behind this distribution of centres is the continuity of a historically evolved social, political, and administrative structure which has not been disrupted by artificial regions. The second criterion for distribution was optimum communication between different Aimags and regions of Mongolia. The most important facts are (a) a rail and road connection between Sukhbaatar City in the north at the Russian border and Zamin Ud in the south at the Chinese border, via Ulaanbaatar, and (b) the millennium road from Choibalsan in the east to Bayan Ulgi in the west, also via Ulaanbaatar. In addition, there is a short secondary rail connection from Darhan to Erdenet. The railway line from Choibalsan in Dornod Aimag to the Russian border in the north is still operating: it is doubtful, however, whether it will continue to work in future.

The road from Ulanbataar to the Russian border is completely paved. The road down to the Chinese border is still a track in the steppes. Of the 'millennium road' category, so far (2004) only about ten per cent is paved, 15% gravelled, and the rest is still a steppe track, although improvements are planned. The existing and planned strategic north-south and east-west communications<sup>10</sup> do touch 14 of the 20 Aimags<sup>11</sup>. There are only five Aimags in the southern part of the country that await connection by secondary roads<sup>12</sup>. One of these is an existing road (mostly steppe tracks, although small sectors have been gravelled) from Ulanbatarr down to Omnigovi and Dundgovi. Another road travels southwest to Overhangai, Bayanhongor, and Altai. Finally, Sukhbaatar Aimag is connected through Dornod and Henti Aimags (still steppe tracks).

### Final considerations and conclusions

No doubt for better regional development in Mongolia, a clear concept, more attention to government policy, more support, and better services are needed. The establishment of development regions was a step in the

right direction; however, more emphasis has to be given especially to the development of Soum centres which are the core of regional and rural development.

Besides the aforementioned road communications, which serve, especially, the movement of people and goods, regional development needs a constant flow of information to and from the rural and remote areas. In the 19<sup>th</sup> century, such information was brought by messengers on horseback and, in the 20<sup>th</sup> century, it was mainly brought by road. No doubt in the 21<sup>st</sup> century the main medium will be the Internet. In 1999, email and mobile phones only worked in Ulaanbaatar, in June 2004 they are already working in 19 of the 21 Aimags in the country.

Soum development can be promoted through many means. There should be well-functioning social services, especially for education, health, and security in all Soums. Another critical issue is local energy supply. Many Soum centres have no permanent electricity supply. There is a great potential in Mongolia for making extensive use of solar and wind energy. There is also modest scope for promoting tourism at Soum level, involving herders' settlements in 'Hot Ails'.<sup>13</sup>

An important instrument of the government's for promoting regional development is taxation and budget management. A differentiation of taxes and subsidies according to the level of economic development and, also, the social importance of the Aimags is essential.

There is no doubt that the number of herders' households in rural areas will decrease. Numbers might consolidate finally at a level of around 100,000. However, attempts should be made to keep former herders' family members in rural areas, especially at the Soum centres, to limit their migration to Aimag centres and especially Ulaanbaatar. Since Mongolia has such abundant land resources, the government should consider granting long-term user rights of today's state pastureland to local people at Soum level to be used for small-scale potato and vegetable production (if water is available) and for small but intensive livestock production, including pigs and poultry. Herders who can no longer make a living from the traditional, extensive, nomadic livestock production show willingness to change their way of life, become small farmers, and remain in the rural areas.

<sup>10</sup> ... including the Darhan-Erdenet railway ...

<sup>11</sup> ... in most cases even the Aimag centre ...

<sup>12</sup> ... although all of them are already connected by steppe tracks ...

<sup>13</sup> A Hot Ail is an informal group of herders' households living close together, sharing labour and pastureland.

Finally, the Soums and Aimags in remote areas must develop a certain degree of economic independence and autonomy. In most cases, it is more economical to establish small-scale marketing and processing facilities in rural areas, rather than bringing them over long distances from far away.

Although the Aimag capitals are counted as urban centres, development in them needs to be promoted, especially in the remoter areas. During the last decade, the population of 15 of the 21 Aimags has significantly decreased.

The basic principle of the new agricultural policy, adopted by the government in 2003, is that more intensive agricultural production in small areas on good lands is more economical, better for regional development, and also better for maintaining a healthy environment than extensive production scattered over a large territory.

So far, not only government, scientists but also private people conclude from the statistics of natural regions in Mongolia that 83% of the territory is 'agricultural land', which means mainly steppe lands suitable for grazing. The authors very much disagree with such an interpretation. It makes better economic sense and is also better for regional development to consider 40% of the country's territory, at least, as 'pure nature land' where in principle economic activities neither take place nor are promoted.<sup>14</sup>

It is finally important for the government development policies in future to consider that regional development comes first and globalisation comes second. Precipitous moves towards globalisation will just bring poverty to the remote and rural areas if there is no sound local, economic and social development.

<sup>14</sup> ... except for modest tourism and recreation

Table 2: Evaluation of population in Aimags and in rural and urban areas in Mongolia

Aimags	Total population of Mongolia		Aimag Centre	Total population of UB and Aimag		Rural population <sup>a</sup>				Aimag territory km <sup>2</sup>	Inhabitants per km <sup>2</sup> 2002	Road distance from UB to Aimag Centre, kms
	2002	Growth rate 1990-2000		2002	Growth rate 1990-2002	2002	Growth rate 1990-2002	Population at Soum Centres <sup>b</sup> 2002	Herders' households 2002	Population at herders' households, 2002 <sup>c</sup>		
Total/Average	2,498,700	1.40		1,543,200	3.83	955,500	-1.40	250,580	185,546	705,075	1,564,160	1.60
Western Region	418,200	-0.23	Khovd	139,800	1.34	278,400	-0.92	67,804	49,748	189,042	501,800	0.83
Bayan-Olgii	98,900	-0.03	Olgi	30,200	0.22	68,700	-0.13	10,318	6,952	26,418	165,400	0.60
Govi-Altai	62,700	-0.31	Altai	29,500	3.64	33,200	-2.66	13,266	13,698	52,052	116,000	0.54
Zavkhan	84,500	-0.84	Uliasai	19,900	-0.41	64,600	-0.97	17,688	8,077	30,693	74,700	1.13
Uvs	83,600	-0.75	Ulaangom	27,600	0.66	56,000	-1.36	14,003	10,551	40,094	69,600	1.20
Khovd	88,500	0.76	Khovd	32,600	2.51	55,900	-0.10	12,529	10,470	39,786	76,100	1.16
Hangai Region	558,600	1.25	Tsetserleg	184,100	2.38	374,500	0.74	73,700	68,364	259,783	426,340	1.31
Akhkhargai	97,500	0.74	Tsetserleg	18,600	-1.46	78,900	1.37	14,003	18,006	68,423	55,300	1.76
Bayankhongor	84,400	0.60	Bayankhongor	27,200	1.82	57,200	0.07	14,740	9,289	35,298	141,400	0.60
Bulgan	63,500	0.95	Bulgan	26,300	5.52	37,200	-1.18	11,792	11,122	42,264	45,700	1.39
Orkhon	77,400	3.71	Erdenet	65,000	3.71	12,400	3.72	1,474	1,161	4,412	840	92.14
Ovorkhangai	113,900	1.07	Arvaikheer	18,300	0.87	95,600	1.10	14,003	11,081	42,108	82,500	1.38
Khovsgol	121,900	1.12	Murun	28,700	2.09	93,200	0.85	17,688	17,705	67,279	100,600	1.21
Central Region	472,700	0.54	Darkhan <sup>d</sup>	275,800	3.98	196,900	-2.61	70,015	45,844	174,207	359,220	1.32
Goviumber	36,000	10.38	Choir	32,000	10.18	4,000	12.25	2,211	471	1,790	5,540	6.50



Table 2 cont...

Darkhan-Uul	87,800	0.55	Darkhan	80,100	-0.20	7,700	35.56	2,948	1,319	5,012	3,280	26.77	219
Darkhan-Uul	52,000	-0.85	Sainshand	51,000	14.17	1,000	-27.47	10,318	7,808	29,670	48,700	1.07	463
Dundgovi	51,200	-0.11	Mendalgobi	19,900	1.37	31,300	-0.93	11,055	4,959	18,844	123,600	0.41	260
Omngovi	47,200	0.66	Dalanzadgad	28,400	5.82	18,800	-3.60	11,055	18,721	71,140	62,900	0.75	553
Selenge	102,000	0.94	Sukhbaatar	49,300	7.46	52,700	-2.38	12,529	2,762	10,496	41,200	2.48	311
Tov	96,500	-0.76	zummod	15,100	-1.54	81,400	-0.61	19,899	9,804	37,255	74,000	1.30	43
Eastern Region*	202,700	-0.07	Chobalsan	113,500	3.79	89,200	-3.19	32,428	19,575	74,385	272,100	0.74	655
Kheritii	72,000	-0.25	Undurkhaan	42,300	8.00	92,700	-5.34	12,529	8,016	30,461	80,300	0.90	331
Dornod	74,600	-0.22	Chobalsan	50,500	2.26	24,100	-3.72	10,318	4,105	15,599	109,500	0.68	655
Sukhbaatar	56,100	0.40	Barunurt	20,700	1.56	35,400	-0.21	9,581	7,454	28,325	82,300	0.68	560
Ulaanbaatar	846,500	3.58	Ulaanbaatar	830,000	4.67	16,500	-11.87	6,633	2,015	7,657	4,700	180.11	

\* Which includes population of Soum Centres, nomadic herdsmen and a minor percentage of people living at brigades and a few non-herders at bag level

b Estimated average populations 737

c People per herder's household 3.8

d Final place not yet determined

e Excluding Ulaanbaatar

Note UB = urban area

Source: NSOM 2002 and 1999, and calculation of authors

Table 3: GDP, revenue, and population in Aimag of Mongolia

Aimags	Total Population of Mongolia	GDP 2002 Euro		Revenue of Aimag Government 2002 Euro		Subsidy from Central Government 2002 Euro	
		Total <sup>a</sup>	Per Capita	Total	Per Capita	Total	Per Capita
Total/Average	2,498,700	1,239,601,556	496	114,005,333	46	54,708,000	138
Western Region	418,200	125,199,757	299	11,003,667	26	16,518,000	39
Bayan-Oligi	98,900	24,792,031	251	2,231,778	23	3,476,111	35
Govi-Altai	62,700	22,312,828	356	1,708,000	27	3,621,889	58
Zavkhan	84,500	27,271,234	323	2,308,444	27	3,107,556	37
Uvs	38,600	23,552,430	282	2,260,667	27	3,179,778	38
Khovd	88,500	27,271,234	308	2,494,778	28	3,132,667	35
Hangai Region	558,600	192,138,241	344	21,006,333	38	14,255,222	26
Arkhangai	97,500	32,229,640	331	2,995,111	31	2,487,667	26
Bayankhongor	84,400	30,990,039	367	2,274,556	27	3,065,222	36
Bulgan	63,500	24,792,031	390	2,473,889	39	2,448,222	39
Orkhon	77,400	48,344,461	625	6,433,444	83	-	-
Overkhongai	113,900	23,552,430	207	3,466,333	30	2,816,556	25
Khovsgol	121,900	32,229,640	264	3,363,000	28	3,437,556	28
Central Region	472,700	179,742,226	380	21,301,111	45	15,874,778	34
Govisumber	36,000	6,198,008	172	622,667	17	855,667	24
Darkhan-Uul	87,800	34,708,844	395	5,470,778	62	2,298,333	26



Table 3 cont...

Dornogovi	52,000	16,114,820	310	2,800,889	54	2,154,000	41
Dundgovi	51,200	18,594,023	363	1,658,556	32	1,738,667	34
Omngovi	47,200	19,833,625	420	1,728,000	37	2,323,333	49
Selenge	102,000	40,906,851	401	4,407,000	43	3,774,000	37
Tov	96,500	43,386,054	450	4,613,222	48	2,730,778	28
Eastern Region	202,700	61,980,078	306	6,521,222	32	8,060,000	40
Khovd	72,000	17,354,422	241	2,392,000	33	2,614,444	36
Dornod	74,600	19,833,625	266	1,668,000	22	2,736,889	37
Sukhbaatar	56,100	24,792,031	442	2,461,222	44	2,708,667	48
Ulaanbaatar	846,500	680,541,254	804	54,173,000	64	-	-

<sup>a</sup> Exchange rate in 2002 approximately 900 Tgs/Euro

Source: NSOM 2002 and 1999, and calculation of authors

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