

Appendix-V
Socio-Rural Conditions

APPENDIX V
SOCIO-RURAL CONDITIONS

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APPENDIX V

SOCIO-RURAL CONDITONS

1. GENERAL

1.1 Herders Population and Herders' Households

The population of Mongolia is estimated at about 2,318 thousand at the end of 1995 with an average growth rate of 1.8% per annum since 1988, as shown in Table V-1.1. After the economic transform in 1990, the annual growth rate has decreased to about 1.5% in 1991 to 1995 from 2.5% in 1988 to 1990. The households increased, at higher growth rate than the population, at 4.5% per annum during 1988 to 1993, and reached at 512,000 in 1993. Consequently, the average family size decreased at 4.4 persons per household in 1993 from 5.0 persons in 1988, as shown below.

	1988	1989	1990	1991	1992	1993	1994	1995
Population (1,000)	2,044	2,096	2,149	2,187	2,215	2,250	2,280	2,318
Growth rate	(-)	(2.5%)	(2.6%)	(1.8%)	(1.3%)	(1.6%)	(1.3%)	(1.6%)
Household (1,000)	411	424	449	492	516	512	-	-
Growth rate	(-)	(3.2%)	(5.9%)	(9.6%)	(4.9%)	(-0.8%)	(-)	(-)
Family size (persons)	4.97	4.94	4.79	4.45	4.29	4.39	-	-

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office.

The herders population and number of herders' households from 1988 to 1995 are shown in Table V-1.1, and is summarized below. The herders population increased from 127,600 in 1988 to 390,500 (3.1 times of 1988) in 1995, and the number of herders' households also increased from 66,300 in 1988 to 169,300 (2.6 times) in 1995. The total population of the herders' families is estimated at about 740 thousand or 32% of the total population on the basis of the average family size and the number of herders' households, and their economy depends mainly on the nomadic herding activity in the rural area.

	1988	1989	1990	1991	1992	1993	1994	1995
Herders' Household	66,300	69,000	74,700	114,900	146,400	153,600	167,300	169,300
Growth Rate	(-)	(4.0%)	(8.3%)	(53.8%)	(27.4%)	(4.9%)	(8.9%)	(1.2%)
Herders Population (1,000)	127.6	135.4	147.5	245.0	330.0	347.9	377.1	390.5
Growth Rate	(-)	(6.2%)	(8.9%)	(66.1%)	(34.7%)	(5.4%)	(8.4%)	(3.6%)
Herders Population /Total Population	6.2%	6.5%	6.9%	11.2%	14.9%	15.5%	16.5%	16.9%

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office.

1.2 Number of Households Having Livestock

Table V-1.2 shows the number of households by holding size of livestock from, however, these households include all the households having livestock both of herders and non-herders. Out of the total households having livestock, the households less than 100 heads have been decreasing from 249,700 households (99.9% of the total households) in 1990 to

195,600 (69.2%) in 1995. On the other hand, the households having larger number of livestock have been steadily increasing, and the households with over 200 heads reached to 34,800 (12.3% of the total households) in 1995 from 500 (0.2%) in 1990.

Holding Size (heads per household)	1990	1991	1992	1993	1994	1995
0 to 50 heads	207,000 82.8%	185,100 65.9%	178,300 59.1%	149,000 51.4%	142,600 49.3%	134,500 47.4%
51 to 100 heads	42,600 17.0%	61,500 21.9%	66,300 22.0%	63,400 21.9%	62,900 21.8%	61,100 21.8%
101 to 200 heads	0 0.0%	29,600 10.5%	42,800 14.2%	51,400 17.7%	53,200 18.4%	53,600 18.9%
201 to 500 heads	500 0.2%	4,800 1.7%	13,700 4.5%	24,600 8.5%	28,200 9.8%	31,400 11.1%
500 heads and more	0 0.0%	0 0.0%	400 0.0%	1,300 0.4%	2,200 0.8%	3,400 1.2%

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office.

In 1996, 284,000 households own livestock, and these households consists of 169,300 (60%) of the herders' households and 114,700 (40.4%) of the non-herders' households, as shown in Table V-1.2. The herders' households have been increasing since 1990, however, non-herders' household have been decreasing. According to the officials concerned, most of the non-herders' households own smaller number of livestock, and they usually entrust their livestock to the herders.

	(Unit: 1,000 households)					
	1990	1991	1992	1993	1994	1995
Households own Livestock	250.2	281.0	301.5	289.7	289.1	284.0
Herders Households	74.7	114.9	146.4	153.6	167.3	169.3
Non-Herders Households	175.5	166.1	155.1	136.1	121.8	114.7

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office.

1.3 Livestock Size of Herders' Household

The average number of livestock raised by the herders' households is estimated on the basis of the number of herders' households and the number of private livestock during the period from 1990 to 1995, as shown Table V-1.3. The average livestock size increased from 110 heads in 1990 to 156 heads in 1995 with the annual growth rate of 7.2% per annum. The livestock size in "sheep unit (SU)" is also estimated at about 235 SU in 1990 and 335 in 1995. The increment in the average livestock size per household was far lower than the increment of private livestock, since the herders' households also increased.

Holding Size (heads per household)	1990	1991	1992	1993	1994	1995
Herders Households (1,000)	74.7	114.9	146.4	153.6	167.3	169.3
Total livestock (1,000 heads)	25,900	25,500	25,700	25,200	26,800	28,600
Private livestock (1,000 heads)	8,200	14,000	18,100	22,600	24,500	26,400
Holding Size (head per household)	110	122	126	147	147	156
Holding Size (SU per household)	235	259	264	306	310	335

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office.

1.4 Interview Survey of Household

The situation of the herders' life in the rural area has drastically changed after the economic transformation. In order to clarify the present living condition of the herders and farmers as well as their needs and request for agricultural cooperatives, the questionnaire survey was conducted for the rural households. The questionnaire contains such items as (i) general information about herder/farmer, (ii) demographic condition of family and "khot ail", (iii) livestock breeding practice and production, (iv) nomadic moving and winter facilities, (v) crop farming practice and production, (vi) farm equipment and home facilities, (vii) income and expenditure, (viii) work sharing and living utilities, and (ix) intention and needs for agricultural cooperatives.

After preparation of the draft questionnaire, the pre-test for questionnaire survey and training of enumerators were carried, then the questionnaire was finalized. The survey was carried out from mid-October to early November 1996, for 184 households in 60 sums covering 14 aimags, as shown in Table V-1.4.

For selection of the sample households, the following conditions were taken into account: (i) agro-ecological region, (ii) ethnic and tribe group, (iii) size of livestock number owned by the household, (iv) members or non-member of agricultural cooperatives. Such natural conditions as climate, soil, water regime, vegetation are closely related with the agricultural production, therefore, about 10 target sums were firstly selected in each agro-ecological region of Mongolian Altai, Khangai-Khüvsgol, Central & Eastern steppe (including part of Selenge-Onon region) and Gobi desert. At the selection of target sums, the ethnic and tribes were allocated to the target som.

Before visiting the sample households, the enumerators collected the statistical information from the som administration on (1) herding livestock size, (2) membership of agricultural cooperative, in order to adjust the samples. In this way, the survey was designed and conducted not statistically but purposefully due to the limited time and fund for the survey.

2. GENERAL INFORMATION OF SAMPLE HOUSEHOLDS

The total number of samples are 184 households consisting of 176 herders' households (which income is mainly derived from livestock rearing through moving natural pasture) and 8 farm households (which income is mainly generated by the crop production in the fixed land), however, all the farm households breed livestock. From the viewpoint of the agro-ecological characteristics of regions, 46 households (25% of the total sample households) were taken in Mongolian Altai region, 42 (23%) Khangai-Khüvsgol region, 58 (32%) in Central and Eastern Steppe region and 38 (20%) in Gobi Desert region.

Out of the total sample households, 79 households or 43% of the total sample households are the members of agricultural cooperatives, and 105 households or 57% are non-members. The samples by livestock holding size and membership of agricultural cooperatives are shown in the following table:

Size of Livestock	Number of Sample	Member of Agri. Cooperative	Non-member of Agri. Cooperative
less than 50	31 (17%)	8 (26%)	23 (74%)
51 to 100	38 (21%)	12 (32%)	26 (68%)
101 to 200	46 (25%)	26 (57%)	20 (43%)
201 to 300	28 (15%)	14 (50%)	14 (50%)
301 to 500	28 (15%)	12 (43%)	16 (57%)
501 to 1,000	10 (5%)	5 (50%)	5 (50%)
1,001 and more	3 (2%)	2 (67%)	1 (33%)
Total	184 (100%)	79 (43%)	105 (57%)

Remarks: Number of member households of the agricultural cooperatives.

According to the Statistical Yearbook 1995, the total breeders households is 169,300 with an average size of 156 heads per household in the country. The data from the NAMAC (refer to Appendix IV) shows that the member households are 51,100 in the 215 agricultural cooperatives at the end of 1995, therefore, about 30% of the herders' households is a member of agricultural cooperatives. The proportion of member households in the sample households is higher than the national average. The average size of livestock is calculated at 222 heads per sample household, and this is 40% larger than the national average.

3. SOCIO-ECONOMIC CONDITION OF HERDERS AND FARMERS

3.1 Demographic Condition of Family

The average family size is about 5.5 persons consisting of 2.8 males and 2.7 females in the sample households. The largest family size is 11 members, and the most frequent family size is 5 members. The family members in working age, who are 16 to 59 years for male and 16 to 54 years old for female, is 2.9 persons on average, and the maximum is 7 persons. Out of 184 household heads, 172 heads are males and 12 are female. Regarding the household head of 12 females, 5 households are raising less than 100 heads of livestock and others are more than 200 heads. There is no obvious difference about family size between the member households of the agricultural cooperatives and non-members. The average family size of sample households is shown in Table V-3.1, and is summarized in the following table.

	Under 15 Years Old	Working Age	Over Working Age	Total	National Average
Male	1.14	1.53	0.14	2.81	-
Female	1.20	1.35	0.13	2.68	-
Total	2.34	2.89	0.27	5.49	4.39

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

3.2 Education Level of Family

As for the education level of household heads, 16% of the total household heads did not graduated the elementary school, 38% graduated the elementary school, 36% graduated the secondary school, 6% graduated the high school, and 4% graduated the vocational school. For the family member in age between 8 to 15 years old, 43% does not attend the obligatory

education of the elementary and secondary school. According to the interviews to officials concerned, the enrollment rate in the obligatory education is lowered in the rural area. Some respondents mentioned that their income is not enough to pay the cost for education, particularly for boarding schools in the som center, and others mentioned that their children are working for herding practices because of shortage in the family labor force.

3.3 Previous Occupation of Household Head

The previous occupation of the respondents are shown in the below table. Out of 176 herders' households, 56 households or 32% of the total herder' households recently became herders' households from other occupation. The heads of all the crop cultivation households were formerly tractor operators or mechanics of Negdels.

	Herder	Negdel Accountant Brigade Chief	Tractor Operator Driver	Factory Worker and Others	Total
Herders' Households	120 (68%)	22 (13%)	12 (6%)	22 (13%)	176 (100%)
Crop Cultivation Households	-	-	8	-	8
Total	120 (65%)	22 (12%)	20 (11%)	22 (12%)	184 (100%)

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

3.4 Situation of "Khot Air"

In the Mongolian nomadic herding practices, the traditional custom of "Khot Air" plays an important role for the raising five types of livestock for sharing labor force within the several household. The khot air is also providing technical experience on herding practices for new herders who recently changed their occupation. For the sample households, 56% of the households are forming khot air with the average size of 2.73 households. The most frequent number of families in one khot air is 2 to 3 families, and the maximum 7 families. The situation of khot air is shown in Table V-3.2 and is summarized below.

	Mongolian Altai	Khangai- Khövsgol	Central and Eastern Steppe	Gobi Desert	Total
Total Households	46	42	50	38	176
Non-Khot Air (proportion)	35 (76%)	4 (10%)	15 (30%)	24 (63%)	79 (44%)
Khot Air (proportion)	11 (24%)	38 (90%)	35 (70%)	14 (37%)	98 (56%)
Average and Range	2.45 2 - 4	4.14 2 - 7	2.20 2 - 6	2.14 2 - 3	2.73 2 - 7

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The situation of khot air is different depending on the agro-ecological region, as shown in the above table. In Khangai-Khövsgol and Central & Eastern Steppe khot air is formed in 70 to 90% of herders' households. On the other hand, 24 to 37% of the households organizes khot air in Mongolian Altai and Gobi Desert.

3.5 House Keeping Work

The house keeping includes such various work as water taking, cooking, clearing, washing clothes, nursing infants, needlework, decision making on moving, shopping, fuel collection of cow dang and fire wood, and preparation for wintering. This survey included the

questionnaire on the main house keeping work and person in charge. The results are shown in the following table.

Item	Husband and Wife	Wife and Children	Husband and Children	Husband Wife and Children	Husband only	Wife only	Children only	Total
1. Water taking in Summer	18%	20%	4%	18%	6%	9%	25%	100%
2. Water taking in Winter	25%	14%	7%	10%	17%	4%	23%	100%
3. Cooking	5%	44%	1%	2%	0%	46%	3%	100%
4. Washing	2%	43%	2%	2%	1%	44%	6%	100%
5. Nursing Infants	79%	0%	0%	7%	6%	20%	0%	100%
6. Needlework	0%	31%	0%	0%	1%	67%	2%	100%
7. Decision on Moving	30%	0%	1%	3%	59%	4%	3%	100%
8. Shopping in Som Center	43%	1%	9%	8%	45%	5%	8%	100%
9. Fuel Collection	22%	8%	8%	25%	19%	4%	12%	100%
10. Preparation for Wintering	46%	3%	3%	34%	9%	9%	6%	100%

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The main water source is well and rivers (small streams) in the summer season, and well, snow and ice in the winter season. All the family members are involved in taking water from the source, and 25% of the household use the animal cart for transportation. About one third (1/3) of the respondents answered the water taking work is hard.

The main house keeping work of cooking, washing clothes and needle work are made mainly by wife and additionally by female children. Nursing infants is done by parents. The decision on moving grazing place and shopping in the som center is made by the husband as well as wife. Fuel collection work is done by all the family members. The wintering are prepared by the household heads and supported by wife and children.

The family members of the sample households wake up at 4:00 am to 8:00 am (6:00 am on average) in summer season and 6:00 am to 9:00 am (7:30 am) in winter, depending on the location. They go to sleep at 21:00 pm to 1:00 am (23:00 am on average) in summer season and 20:00 pm to 24:00 am (22:00 am) in winter, depending on the location. In about 60% of the sample households, the wife wakes up 30 minutes to 1 hour earlier than the husband, and the husband go to sleep 30 minutes to 1 hour after the wife. It is estimated that the husband's longer sleeping hour is because his intensive work for livestock as well as the traditional custom.

3.6 Social Services

Before the economic transformation, the major social services were provided for herders by the som administration and Negdels. Those services included medical & health (health post, hospital, ambulance), nursery & basic education, communication (mail post and telephone), veterinary services, grocery shop, power generation & distribution (electricity and heating system), cultural facilities (museum), bath house, hotel, restaurant, meeting houses, water points for livestock, fodder & feed for emergency, transportation services for changing pasture, etc. After corruption of Negdel system, these services were drastically diminished even essential for herders' life because no finance source has been adequately provided by the government.

The facilities for social services are usually located in or provided from the som centers and sometimes in the bagh centers. Therefore, the distance of herders' households from the center of som and bagh is one of the important factors. The sample households are located in 19 km from the bagh center and 32 km from the som center on average, ranging 1 to 80 km from the bagh center and 4 to 100 km from the som center. The most frequent distance from the bagh and som centers is 15 km from the bagh and 30 km from som.

In this survey, the questionnaire included the item on the situation of social services for the herders, and the results are compiled as follows;

Item	Well Use or Satisfy	Not Use or Unsatisfied	Required	Not So Required
1. Post Office	34%	55%	65%	2%
2. Telecommunication	37%	51%	70%	1%
3. Police & Social Security	71%	9%	57%	2%
4. Obligatory Education	46%	28%	63%	1%
5. Health Services	57%	21%	59%	1%
6. Medical Services	85%	2%	87%	0%
7. Official Announcement	44%	42%	76%	0%
8. Cultural Facilities	14%	46%	54%	1%

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The respondents almost satisfy or use the services of the police and medical services. However, it is considered that the some of medical services is not sufficient since it is happened during the field survey that the patient was not able to receive the medical treatment urgently due to no ambulance and means of communication. The post and telecommunication is not utilized. As for the announcement from the government, 44% of the respondents don't satisfy.

3.7 Home Facilities and Equipments

The facility and equipment owned by the herders' households are listed in the following table. The main transportation is animal cart which is owned by 68% of the sample households and utilized for shifting pasture. About 12% of the households have tractors, trucks and vehicles. Motor-cycles are also possessed by 24% of the sample households. Radio, binocular and sewing machine are popularly used by the herders. As for the power supply, 18% of the sample households have generators, solar batteries and wind mills and utilize such electronic goods as TV, radio, tape player, light. On the other hand, some herders stated that the don't have sufficient money to buy batteries for electric goods.

Item	Numbers	Proportion	Item	Numbers	Proportion
Tractor	6	3%	Motor-Cycle	42	24%
Truck	10	6%	Animal Cart	119	68%
Vehicle	6	3%	Storage	38	22%
TV	27	15%	Solar Battery	9	5%
Tape Player	35	20%	Wind Mill Generator	2	1%
Radio	125	71%	Light	26	15%
Binocular	147	84%	Video	2	1%
Generator	21	12%	Refrigerator	1	1%
Camera	1	1%	Sewing Machine	158	90%

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The list of equipment possessed by the farm households is shown in the below table. The households have tractor or vehicle or motor-cycle. The sample farm households are usually

located in the som or bagh centers, and they have houses and electric supply. Therefore, the goods are popularly utilized in the households.

Item	Numbers	Proportion	Item	Numbers	Proportion
Tractor	4	50%	Motor-Cycle	4	50%
Truck	1	13%	Animal Cart	2	25%
Vehicle	2	25%	Storage	1	13%
TV	8	100%	Solar Battery	0	0%
Tape Player	7	88%	Wind Mill Generator	0	0%
Radio	7	88%	Light	4	50%
Binocular	5	63%	Video	2	1%
Generator	0	0%	Refrigerator	6	1%
Camera	1	13%	Sewing Machine	7	88%

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

3.8 Nomadic Movement

The nomadic herders are shifting their livestock depending on the condition of pasture. The situation of nomadic movement is shown in Table V-3.3 and is summarized in the below table.

	Mongolian Altai	Khangai- Khövsgol	Central and Eastern Steppe	Gobi Desert	Total
No. of Mobilization	9.3 times	5.1 times	5.6 times	5.9 times	6.5 times
Average Distance	211 km/year	35 km/year	54 km/year	63 km/year	90 km/year
Transport. means					
- Vehicle	48%	13%	23%	43%	32%
- Tractor	2%	3%	2%	7%	3%
- Animal Cart	50%	84%	75%	50%	65%

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The average herders' household moves about 90 km of distance in 6.5 times in a year. In the winter season the herders' households stay in the winter shelter in order to minimize the damage by cold and snow, and move to spring pasture for delivery of offspring. Then, they move several summer camps to feed good grass for fattening livestock. The maximum mobilization is 31 times in a year and the longest distance is 545 km annually in the Mongolian Altai region. Under the better condition of pasture, some herders move only several km in 2 or 3 times only. The mobilization is carried out mainly by animal cart, and vehicle and tractors are utilized in some cases.

The existing facility and herders' demands for facilities on herding livestock are listed in Table V-3.4. About 50% of the herders owns shade, fence and water points. Some herders demand feed, fodder, fence and shelters for winter season in the Mongolian Altai and Khangai-Khövsgol regions

3.9 Livestock Holding Size

The livestock holding size of the sample households is shown both for own and entrusted livestock in Table V-3.5. The holding size of own livestock is 222 per household on an average ranging from 12 to 1,469 heads. In addition to this, 64 households or 36% of the sample households are raising livestock entrusted from other persons or organization, and the average holding size of entrusted livestock is 133 heads per household with the maximum number of 768 heads. As a result, the total holding size is about 270 heads per household including own and entrusted livestock, as shown below.

(Unit: heads per household)

	Mongolian Altai	Khangai- Khövsgol	Central and Eastern Steppe	Gobi Desert	Total
Own Livestock					
- Maximum Size	1,469	712	1,061	886	1,469
- Minimum Size	32	29	12	12	12
- Average Size	299	157	177	257	222
Entrusted Livestock					
- Maximum Size	470	257	768	460	768
- Minimum Size	22	20	2	7	2
- Average Size	35	34	69	54	48
Total Holding Size	334	191	246	312	270

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

The holding size of livestock varies on the agro-ecological region depending on the carrying capacity and grass quality of pasture. The holding size is the largest of 299 heads in Mongolian Altai and the smallest of 157 heads in Khangai-Khövsgol. However, the holding size includes various composition of large and small animals. In order to adjust the difference between large and small animals, the heads of livestock are converted in sheep unit, and the result is shown in Table V-3.6, and is summarized below. The below table shows that the differences of holding size in heads among the regions become smaller by converting the holding size into sheep unit. The number of household by holding size is presented in Tables V-3.7 and V-3.8.

(Unit: heads or sheep unit per household)

	Mongolian Altai	Khangai- Khövsgol	Central and Eastern Steppe	Gobi Desert	Total
Average in Heads					
- Own Livestock	299	157	177	257	222
- Entrusted Livestock	35	34	69	54	48
- Total Holding Size	334	191	246	312	270
Average in Sheep Unit					
- Own Livestock	511	461	457	539	490
- Entrusted Livestock	35	77	222	100	112
- Total Holding Size	545	540	679	639	602

Source: Household survey conducted by the JICA Study Team in October and November, 1996.

3.10 Livestock Production

Total number of livestock and its composition are given in Table V-3.9. Total number of livestock is about 39,950 heads owned by 184 sample household. In addition to this, entrusted animals of 9,000 heads are raised by 71 households. Composition of 5 type of livestock is nearly same as the national average. Same variations of livestock composition are shown by the agro-ecological region. Sheep is dominate at about 80% of the total livestock in Gobi Desert and Mongolian Altai regions, however, such large animals as horse and cattle are more than the national average in Khangai-Khövsgol and Steppe regions.

These animals are composed of 2% of breeding males, 37% of reproductive female animals, 27% of offspring, then other 34% of livestock are working animals or under fattening. The parturition rate of female animals are 75% on an average. The partition rate of cattle and sheep is about 79% to 83%, on the other hand, that of horse and goat is 63% to 67%. A limited households are raising the breeding males. Out of 86 households growing camels, only 9 households own the breeding males. In the same way, 132 households out of 179 for horse, 95 out of 180 for cattle, 118 out of 174 for sheep, 98 out of 176 for goat.

Livestock population in the previous year (1995) is estimated on the present population and the number of sales, consumption, and loss in this year (1996). Total population of

livestock decreased by 562 heads or at 1.4% in 1996, and this is mainly due to the decline of sheep population, which is the largest population occupying 46% of the total livestock of the sample household. The total number of livestock increased at 26.8% by off-springs, on the other hand, the reduction was made at 28.2% by sales (9.5%), self-consumption of herders' family (9.4%), gift (3.8%) and other loss of diseases and natural disaster (5.5%). The fluctuation of livestock population shows the same trend as the national level.

About 9,000 heads of livestock are entrusted to 71 herders' households, and 68% or 6,100 heads or 68% is entrusted by the relatives and friends. Agricultural cooperatives also entrusted 1,700 heads or 19% of livestock to the 12 herders' families. The remaining of 13% are entrusted by the public organizations. About 10% of entrusted livestock was returned to the owners, however, 2% was the loss caused by diseases and natural calamity.

3.11 Sales of Livestock Products

The situation of sales of livestock products are presented in Tables V-3.10 to V-3.13. The herders sold their products mainly to naimaachine (private traders), i. e. 67% for live animals and animal hair, 69% for skin and hide, 47% for dairy products. To the agricultural cooperatives, 15% of herders sold animal hair and 11% sold dairy products. Makha Impex is also larger channel mainly in selling live cattle.

As for live animal sales, 147 households or 80% of the sample households sold 25.7 heads on an average. The maximum sales amount of livestock per household is 300 heads for sheep, 80 heads for cattle, 46 heads for goats. Sheep, the largest livestock sold, is accounted for 77% of total animals sold, and 125 herders sold average number of 22 sheep. The price varies widely depending on age and weight of animal, distance from Ulaan Baatar, and negotiation capacity of herders. Main products of livestock hair are cashmere and wool. Cashmere is sold by 166 herders with average weight of 17.5 kg per household, and wool by 134 herders with 106 kg of average weight. Other livestock hair from horse and cattle is negligibly small value.

After the home consumption of livestock, hide and skin are utilized for home use, and remaining are sold. 96% of the herders' households sold skin and hides, the average quantity per household is 19.6 pieces. The households selling dairy products are mainly located in Khangai-Khövsgol region. The dairy products include various type of product. By converting dairy products into milk, the average sold amount is estimated at about 3,000 liters per year with maximum amount of 3,000 liters.

According to the herders and their family members, they sold their products and usually received not cash money but commodity goods at the same value of the products, since no shops is available near herders' households even they receive money. The private traders come to herders places by conveying commodities necessary for herders. The prices of products and commodities are decided through negotiation between traders and herders. This system is convenient for herders to take daily commodities, however the process of prices decision is not clear. The herders usually feel the prices are not fair because they have almost no information on marketing of products and commodities.

3.12 Constraints and Requirement on Livestock Production

The constraints and requirement on livestock production presented by the herders' households are listed on Table V-3.14. The items include 8 categories of (a) health and sanitation, (b) improvement of variety, (c) fodder, (d) drinking water, (e) sales of products, (f) nomadic mobilization, (g) damage by wolves, and (h) pasture condition.

Concerning about health and sanitation, 12% of the respondents answered the damages by diseases are serious. The loss of livestock due to diseases suffered 126 households or 68%

of the sample households. The average mortality rate by disease is 2.8%, ranging from the lowest rate of 2.2% for goat to the highest rate of 3.8% for camel. In case of sheep which is the largest population occupying 50% of total livestock population, the mortality is 3.0%. The largest loss in one household is 85 heads composed of 2 camel, 15 horses, 2 cattle, 40 sheep and 25 goats. The households with loss of over 10 heads are 32 households. In order to improve the loss by diseases, 68% of the respondents answered to require better veterinary services. Enough supply of medicine and improvement of sanitary condition are also requested.

Improved variety is not much concerned by the respondents, at this moment. Most of the herders understand that the improved variety would be effective for higher productivity and better quality of products, however, other aspects are also necessary to improve for feeding, higher price in marketing, health condition high production cost, etc. It is estimated that improvement of variety would be required in near future after improvement of other aspects, particularly higher prices of better quality of products.

As for feed and fodder, supplemental supply of feed and fodder is required in the case of natural calamity like heavy snow fall or dry spell. During last one year from October 1995, 38 households or 22% of the sample households lost 798 livestock, even under the condition that the natural calamity was not so serious. The respondents in Mongolian Altai and Khangai-Khövsgol regions answered that the main constraints are short of supply, high price and short of storage. The herders respond to require sufficient supply of fodder with lower and stable price. In Mongolian Altai region, lower price is concerned by 50% of the respondents, and sufficient supply is required by 87% of the respondents in Gobi desert region and 50% in Central and Eastern steppe region.

The water points are essential for grazing livestock, and 106 households (60% of the total) own their water points, which were sometimes developed by themselves. Other herders' households utilize natural rivers, streams, ponds and lakes. Some of the respondents answered that the water quantity of water points is not sufficient. The improvement of water source and better water quality are demanded by 30% of the respondents, mainly located in Gobi desert and Central & Eastern steppe regions.

In sales of products, 21% of households reopened the destination of sales is pointed as a constraint by 21% of total households or 54% in Mongolian Altai region. As mentioned in the preceding section, about 70% of herders sold their products to private traders, with no severe competition among other traders, and herders feel that this situation is not advantageous for them selves. The herders also mentioned that the market places is too far to go individually since it takes much time and cost. Only very large herders are able to go to market directly. Sales by cash is the highest requirement in Mongolian Altai and Gobi desert regions. Stable price is also highly requested in Gobi desert regions. In addition to this some herders suggested that the processing facility will be effective for selling products.

According to the herders, damage by harmful wild animal, mainly wolves, has been increasing in recent years. Before corruption of Negdel, systematic hunting was frequently organized by Negdels in order to diminish livestock damage by wolves. However, this kind of hunting has been rarely conducted after the economic reform, therefore, damages by wolves has been increasing. The damage during last one year was 320 animals owned by 38 households, this figure corresponds to 0.8% of livestock owned by the total sample households. According to the result of questionnaire survey, it is mentioned that damage by wolves is one of the constraints by 39% of respondents in Mongolian Altai region and 62% of respondents in Khangai-Khövsgol. Hunting is requested by 16% of total respondents, however, 43% in Mongolian Altai region stated hunting is necessary.

Low grazing capacity of pasture is mentioned by 28% of the respondents in Mongolian Altai and 17% in Khangai-Khövsgol regions. According to the interview with herders in Arkhangai, the density of grazing has been increasing recently, and they frequently shift their livestock with higher frequency than before. It is considered that higher density of

grazing is caused by increasing livestock as well as herders' households. In those area where grazing capacity is becoming low, the herders requested regulation by the government like scheduling of pasture utilization, demarcation of pasture, and discussion between herders.

3.13 Income and Expenditure

On the basis of the survey results, the average income and expenditure of sample households are estimated as shown in Tables V-3.15 to V-3.29 and summarized in the below tables. The commodity prices were fluctuated at the different point of time because of the high inflation rate as well as the balance of demand and supply. Therefore, the values are not exactly estimated and shows only the general trend of income and expenditure.

The average income including herders' and farmers' household is about Tg. 606,000, consisting of Tg. 431,000 of livestock sales, Tg. 56,000 of crop production and Tg. 119,000 of other income as shown in the below table. The average income in Khangai-Khövsgol region is lower than the other area, because the herders raise less goat and sold small amount of cashmere. On the other hand, the livestock income in Gobi Desert region is higher than the other regions since proportion of goat in livestock is higher and much cashmere is sold. Other income includes pension, wages and other sales than livestock and crops. In the Central and Eastern Steppe region, 58% of other income is generated from wage and remittance, then other income is much higher than other regions.

(Unit: Tg 1,000 per household)

Income	Herders in Altai	Herders in Khangai	Herders in Steppe	Herders in Gobi	Herders Total	Total
Livestock	494.1	261.2	430.9	586.2	440.4	431.4
Crop	26.6	0.0	0.0	0.0	7.0	56.0
Other income	19.8	46.8	139.3	75.9	70.4	118.5
Total	540.5	307.9	570.2	662.1	517.8	605.9

Note: Total includes crop production households.

The average expenditure is estimated at Tg. 630,000 per household, and Tg. 504,000 or about 80% is living cost, as shown below. In the average living cost, 45% is spent for food and 27% is used for clothes and shoes. In Mongolian Altai region, 47% of living cost is food and 31% is clothes and shoes.

(Unit: Tg 1,000 per household)

Expenditure	Herders in Altai	Herders in Khangai	Herders in Steppe	Herders in Gobi	Herders Total	Total
Livestock	96.5	22.9	60.6	67.7	58.7	60.6
Living cost	539.0	387.1	516.7	534.9	495.5	503.6
Other cost	3.9	18.8	3.2	60.7	19.5	19.0
Total	639.4	428.8	580.5	663.2	573.7	583.2

The balance of income and expenditure of the average household is shown in the following table. The household budgets in Mongolian Altai region and Khangai-Khövsgol region show deficit.

(Unit: Tg 1,000 per household)

	Herders in Altai	Herders in Khangai	Herders in Steppe	Herders in Gobi	Herders Total	Total
Income	540.5	307.9	570.2	662.1	517.8	605.9
Expenditure	639.4	428.8	580.5	663.2	573.7	583.2
Balance	-99.0	-120.9	-10.3	-1.1	-55.9	-22.7

4. REQUESTS AND DEMANDS OF HERDERS AND FARMERS FOR AGRICULTURAL COOPERATIVES

4.1 Situation of Members

4.1.1 Reasons of Membership

As mentioned in the preceding Chapter 2, 79 households are members of agricultural cooperatives out of total 184 sample household. The reason to participate the agricultural cooperatives is inquired for the members. Out of 79 member households, 42 members or 53% of members answered that they joined into the cooperatives because the cooperatives have been established based on the former Negdel system. In this regard, it is supposed that they expected the cooperatives to provide the same kind of services as Negdel provided, since the new government regime was not expected to secure the minimum support and social services for them.

The second largest reason, which is answered by the 46% of the respondents, is sales of their products. During the period of transition to the market economy, the majority of herders could not find the secured marketing channels and also expected the cooperatives to be one of the reliable market route. The results are shown in the following table:

Item (several or plural answers allowed)	Number of Respondent	Proportion
1. Friendship between members	18	23%
2. Sales of products	36	46%
3. Purchase of inputs and commodities	16	20%
4. Technical information	7	9%
5. Social information	3	4%
6. Request from others	4	5%
7. Inheritance of Negdel	42	53%
8. Total	79	100%

4.1.2 Activity Status of Cooperative

The members' opinions are collected on the present activities of cooperatives in the questionnaire. The positive answers (the activities are satisfactory or active) are obtained from 32 members or 41% of the total members. On the contrary, the negative opinions are also replied by the rest of respondents. Those opinions and answers indicate that the activities widely vary depending on the cooperatives, and the members also have various understanding on the activities of cooperative he participates. One fourth of the member sample households are thinking the activities are less active than they expect. The result is shown in the table below.

Item (single answer only)	Number of Respondent	Proportion
1. Satisfactory	10	13%
2. Active	22	28%
3. Not so active	19	24%
4. Unknown	13	16%
5. No answer	15	19%
6. Total	79	100%

4.1.3 Participation in Cooperative Activities

The members are inquired on their own situation for participation in cooperative activities. The result shows that only 32% of the members are positively participating by selling their products and purchasing daily commodities through the agricultural cooperatives. The remaining 68% of the members are negatively participating, i. e. selling their products and purchasing daily goods through other channels than the agricultural cooperatives. It is supposed that the activities of cooperatives reflect on the situation of participation by the members, since more participation of members are observed in the active cooperatives. The results is tabulated in the table below.

Item (single answer only)	Number of Respondent	Proportion
1. Always and positively participate	25	32%
2. Sometimes participate, not positively	21	27%
3. Rarely participate	22	28%
4. No answer	11	13%
5. Total	79	100%

4.1.4 Evaluation on Cooperative Activities by the Members

The opinions are collected from the member households on the evaluation of cooperatives' activities. Although 22% of the members satisfy the activities, about 60% of members do not satisfy even they receive the services and benefit from cooperatives.

Item (single answer only)	Number of Respondent	Proportion
1. Receiving services and benefit satisfactorily	17	22%
2. Not satisfactory, though receiving services and benefit	47	59%
3. Want to leave from cooperative since no service and benefit against contribution	10	13%
4. No answer	5	6%
5. Total	79	100%

According to the preliminary results mentioned in the above, the members households are expecting the cooperatives to provide the same level of services that Negdels provided as well as marketing of their products. However, 70% to 80% of members don't satisfy the activities of cooperatives, and also don't participate in their activities. This indicates that the only limited cooperatives have built the reliable relationship with the members. In this regard, it is necessary to build the confidence between the cooperatives and members. On the other hand, the members are necessary to understand the situation of the cooperatives and to make their efforts for improvement of the cooperatives activities.

4.2 Reasons not to Participate in Cooperative

Out of the total sample households of 184, 105 households or 57% are not participating in the cooperatives, and their reasons not to participate are collected in the questionnaire. According the result, more than half (53% of total sample households) of the respondents answered that they didn't have a cooperative to participate within the same som, however, they don't have enough fund or financial source to establish a cooperative as well as knowledge experience.

About one fourth of the respondents don't participate to agricultural cooperative even they have the cooperatives within the same som. Those respondents could be classified further into two categories. The first category, representing about 10% of the respondents, is the respondents who have enough economic activities and can procure necessary services by themselves. The second group is the respondents left from the cooperatives, and they feel that it is hard to join again. The results is shown in the following table.

Item	Number of Respondent	Proportion
1. No cooperatives near the respondent	56	53%
1-1 Not necessary to establish by themselves	6	
1-2 Do not want to establish by themselves	10	
1-3 No enough fund necessary to establish	31	
1-4 No specific reason	9	
2. Unable to join, though a cooperative exists	14	13%
2-1 Physically long distance to join	1	
2-2 Hard to join again, because once resigned	12	
2-3 No specific reason	1	
3. Doesn't want to join, though a cooperative exists	14	13%
3-1 Dislike to be tied by rules and regulations	1	
3-2 Not necessary for nomadic and rural life	13	
4. No answer	21	20%
5. Total	105	100%

4.3 Knowledge about Cooperative Principles

The respondents are inquired about knowledge and understanding on the cooperative principles. During the survey, the enumerators explained the six principles defined in the Mongolian cooperative law, and then collected the answers from the respondents. Before the survey, 112 respondents or 61% had already known the principles, and 63 respondents or 34% had understood the meaning of principles. Although 53 respondents (29%) did not know the principles before the survey, 31 respondents (17%) have understood the principles by the survey, as shown below.

Item (single answer only allowed)	Number of Respondent	Proportion
1. Knows the principles	112	61%
1-1 Understand the meanings before	63	
1-2 Not understand meanings	45	
1-3 Others	4	
2. Didn't know the principles	53	29%
2-1 Now, understand the meanings	31	
2-2 Still not understand the meanings	7	
2-3 Not interested in	12	
2-4 Others	3	
3. No response	19	10%
4. Total	184	100%

4.4 Necessity of Cooperatives

The opinion on the necessity of cooperatives is collected from the respondents. The result shows that about 80% of the respondents answered that the non-profit organization functioning for helping each other like cooperative is necessary to support their production and daily life. At present, the basic social services can not be obtained from the government administration services, and the people in the rural area expects those services from the agricultural cooperatives.

The respondents, who clearly answered "a cooperative is not necessary", are only 6 respondents out of 184 sample households. Most of those respondents have enough livestock production as well as ability to manage business like sales, purchase and negotiation. The result is shown below.

Item	Number of Respondent	Proportion
1. Necessary	148	80%
2. Not necessary	7	4%
2-1 Not necessary for his business and life	6	
2-2 Others	1	
3. Unable to answer	11	6%
3-1 Not understand the cooperatives	4	
3-2 Not interested in	5	
3-3 Others	2	
4. No response	18	10%
5. Total	184	100%

4.5 Cooperative Activities Requested by the Respondents

The most preferable activities of cooperatives desired by the respondents are interviewed during the survey. The majority of respondents are interested in the sales and supply activities of the cooperatives, since the respondents usually have the difficulty to sell their products and purchase daily consumer goods. They also selected a banking and credit function as the second probable activities, and this is reflected that their cash income is seriously short to procure inputs for production and consumer goods for daily life.

Other activities such as processing, insurance and collective contracts are also desired by more than half of the respondents. Out of these activities, the processing activities will contribute to increase the value of products, stabilize the supply of daily goods, and create employment opportunity. It is also supposed that the present social insurance is not sufficient for pension and health, because of high inflation rate. In this case, the cooperative activities would include other insurance like supplemental pension and health as well as insurance for products on damages by the natural calamity. At the moment, the herders and farmers are not familiar with the business procedure in the marketing economy. In order to improve this situation, the collective contracts would help the members to obtain the knowledge and experience about business process. The result is presented in the following table.

Item (several or plural answers allowed)	Number of Respondent	Proportion
1. Collective sales or consignment of members' products	159	86%
2. Purchase and supply of inputs and daily goods	159	86%
3. Enlightenment, extension and training in terms of technical, management and living aspects	96	52%
4. Banking and credit function	142	77%
5. Collective contract with other organizations for the members	106	57%
6. Processing of products as well as daily commodities	119	65%
7. Insurance in addition to social insurance (additional pension, life insurance, damage insurance)	114	62%
8. Social services such medical/health services, scholarship, cultural services, etc.	98	53%
9. Facilities and utilities like storage, transportation, machinery repair	85	46%
10. Total	184	

4.6 Data and Information

Data and information on socio-rural conditions are shown in Table V-4.1 to Table V-4.21.

Tables

Table V-1.1 Herders Population and Number of Herders' Households

Item	1988	1989	1990	1991	1992	1993	1994	1995
1. Total Population*	2,044,000	2,095,600	2,149,300	2,187,200	2,215,000	2,250,000	2,280,000	2,317,500
Annual growth rate		2.5%	2.6%	1.8%	1.3%	1.6%	1.3%	1.6%
Average annual growth rate (1988 - 1995)								1.8%
2. Total Household*	411,000	424,000	449,000	492,000	516,000	512,000	-	-
Annual growth rate		3.2%	5.9%	9.6%	4.9%	-0.8%	-	-
Average annual growth rate (1988 - 1995)						4.5%		
3. Average Family Size (1 + 2)	4.97	4.94	4.79	4.45	4.29	4.39	-	-
4. Herders' Household*	66,323	68,963	74,710	114,938	146,440	153,647	167,260 **	169,308 **
Annual growth rate		4.0%	8.3%	53.8%	27.4%	4.9%	8.9%	1.2%
5. Herder' Family Population (3 x 4)	329,800	340,800	357,600	511,000	628,600	675,200	735,000	744,000
Annual growth rate		3.3%	4.9%	42.9%	23.0%	7.4%	8.9%	1.2%
(proportion to total population)	16%	16%	17%	23%	28%	30%	32%	32%
6. Number of Herders*	127,557	135,420	147,508	244,976	330,076	347,921	377,148	390,539
Annual growth rate		6.2%	8.9%	66.1%	34.7%	5.4%	8.4%	3.6%
(proportion to total population)	6.2%	6.5%	6.9%	11.2%	14.9%	15.5%	16.5%	16.9%
7. Herders per Household (6 + 4)	1.92	1.96	1.97	2.13	2.25	2.26	2.25	2.31

Note: *: Figures are quoted from the source.

** : Figures are estimated based on the past trend, since no data is available in the source.

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office of Mongolia.

Table V-1.2 Number of Households Owning Livestock*

Holding Size	Number of Household											
	1990		1991		1992		1993		1994		1995	
1. 0 to 50 heads per household												
0 to 10	76,400	30.5%	64,800	23.1%	58,900	19.5%	48,300	16.7%	46,800	16.2%	43,700	15.4%
11 to 30	88,100	35.2%	70,800	25.2%	69,200	23.0%	57,000	19.7%	53,800	18.6%	50,600	17.8%
31 to 50	42,600	17.0%	49,500	17.6%	50,200	16.7%	43,700	15.1%	42,000	14.5%	49,200	14.2%
Sub-total	207,100	82.8%	185,100	65.9%	178,300	59.1%	149,000	51.4%	142,600	49.3%	134,500	47.4%
2. 51 to 100 heads per household												
51 to 100	42,600	17.0%	61,500	21.9%	66,300	22.0%	63,400	21.9%	62,900	21.8%	61,100	21.5%
3. 101 to 200 heads per household												
101 to 200	-	-	29,600	10.5%	42,800	14.2%	51,400	17.7%	53,200	18.4%	53,600	18.9%
4. 201 to 500 heads per household												
201 to 500	500	0.2%	4,800	1.7%	13,700	4.5%	24,600	8.5%	28,200	9.8%	31,400	11.1%
5. More than 501 heads per household												
501 to 1,000	-	-	-	-	400	0.1%	1,300	0.4%	2,100	0.7%	3,100	1.1%
1,001 to 1,500	-	-	-	-	-	-	-	-	100	0.0%	300	0.1%
1,501 and more	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	0	0.0%	0	0.0%	400	0.1%	1,300	0.4%	2,200	0.8%	3,400	1.2%
Total household	250,200	100.0%	281,000	100.0%	301,500	100.0%	289,700	100.0%	289,100	100.0%	284,000	100.0%
Herders household	74,700	29.9%	114,900	40.9%	146,400	48.6%	153,600	53.0%	167,300	57.9%	169,300	59.6%
Non-herders household	175,500	70.1%	166,100	59.1%	155,100	51.4%	136,100	47.0%	121,800	42.1%	114,700	40.4%

Note: * "Households owning livestock" includes not only herders households, but also non-herders households owning livestock.

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office of Mongolia.

Table V-1.3 Average Livestock Size of Herders' Households

Item	1988	1989	1990	1991	1992	1993	1994	1995
1. Number of Herders' Household	66,300	69,000	74,700	114,900	143,400	153,600	167,300	169,300
								average annual growth rate = 17.8%
2. Total Number of Private Livestock (1,000 heads)	-	-	8,243	14,003	18,081	22,565	24,527	26,447
								average annual growth rate = 26.3%
3. Number of Private Livestock per Household (heads per household)	-	-	110	122	126	147	147	156
								average annual growth rate = 7.2%
4. Number of Livestock (1,000 household)								
Camel	553	558	537	476	415	368	366	368
Horse	2,103	2,200	2,262	2,259	2,200	2,190	2,409	2,648
Cattle	2,541	2,693	2,849	2,822	2,819	2,730	3,005	3,317
Sheep	13,451	14,265	15,083	14,721	14,657	13,779	13,787	13,719
Goat	4,474	4,959	5,126	5,250	5,603	6,107	7,241	8,521
Total	23,122	24,675	25,857	25,528	25,694	25,175	26,808	28,572
5. Total Sheep Unit of Livestock (1,000 SU)								
Case (1)								
Camel	2,765	2,792	2,687	2,380	2,076	1,839	1,831	1,838
Horse	14,720	15,397	15,834	15,815	15,401	15,332	16,862	18,539
Cattle	15,248	16,158	17,092	16,932	16,915	16,382	18,031	19,903
Sheep	13,451	14,265	15,083	14,721	14,657	13,779	13,787	13,719
Goat	4,027	4,463	4,613	4,725	5,042	5,496	6,517	7,669
Total	50,210	53,075	55,309	54,573	54,092	52,829	57,028	61,666
Case (2)								
Camel	3,152	3,182	3,063	2,713	2,367	2,096	2,087	2,095
Horse	13,879	14,517	14,929	14,911	14,521	14,456	15,899	17,479
Cattle	15,248	16,158	17,092	16,932	16,915	16,382	18,031	19,903
Sheep	13,451	14,265	15,083	14,721	14,657	13,779	13,787	13,719
Goat	4,027	4,463	4,613	4,725	5,042	5,496	6,517	7,669
Total	49,756	52,586	54,781	54,002	53,502	52,210	56,320	60,864
6. Sheep Unit of Livestock per Household (SU per household)								
Case (1)	757	769	740	475	377	344	341	364
Case (2)	750	762	733	470	373	340	337	360
7. Proportion of Private Livestock to Total Livestock			32%	55%	70%	90%	91%	93%
8. Sheep Unit of Private Livestock per Household (SU per household)								
Case (1)	-	-	236	261	265	308	312	337
Case (2)	-	-	234	258	263	305	308	333
Average	-	-	235	259	264	306	310	335

Note: SU: sheep unit

Case (1) Sheep unit is converted at 5.0 for camel, 7.0 for horse, 6.0 for cattle, and 0.9 for goat (Research & Teaching Institute of Animal Husbandry).

Case (2) Sheep unit is converted at 5.7 for camel, 6.6 for horse, 6.0 for cattle, and 0.9 for goat (Institute of Agricultural Economy).

Source: Mongolian Economy and Society in 1995, Statistical Yearbook, State Statistical Office of Mongolia.

Table V-1.4 List of Sums Included in the Household Interviews (1/2)

Aimags	code	name	(Region)	code	name	Som	No. of Household	Agro-ecological Region																																								
01 Arkhangai	38083	Tarial	(Northern)	37923	Bulgan	Khangai-Khuvsgul	4	Khangai-Khuvsgul																																								
									37915	Khangai	Khangai-Khuvsgul	4	Khangai-Khuvsgul																																			
														38099	Tsakhir	Khangai-Khuvsgul	2	Khangai-Khuvsgul																														
																			37974	Tsetserleg	Khangai-Khuvsgul	5	Khangai-Khuvsgul																									
																								38067	Tsenkher	Khangai-Khuvsgul	5	Khangai-Khuvsgul																				
																													38008	Bai-Tsengel	Khangai-Khuvsgul	4	Khangai-Khuvsgul															
																																		37893	Ikh-Tamir	Khangai-Khuvsgul	3	Khangai-Khuvsgul										
																																							37958	Erdeneemandal	Khangai-Khuvsgul	2	Khangai-Khuvsgul					
																																												Total	9	33		
38164	Bayan-nuur	Mongolian Altai	1																																													
					Total	2	5																																									
										(Southern)	38407	Jinst	4	Govi Desert																																		
															38415	Bogd	Govi Desert	4	Govi Desert																													
																				38377	Bayan-Ovoo	Govi Desert	3	Govi Desert																								
																									38504	Bömbögör	Govi Desert	6	Govi Desert																			
																														38393	Ölzit	Govi Desert	4	Govi Desert														
																																			38282	Baltagaan	Govi Desert	2	Govi Desert									
																																								Total	6	23						
																																													(Northern)	38741	Saykhan	1
38679	Bayan-Agi	Khangai-Khuvsgul	2	Khangai-Khuvsgul																																												
					38709	Curvanbulag	Central and eastern steppe	3	Central and eastern steppe																																							
										38717	Dashirchilen	Central and eastern steppe	3	Central and eastern steppe																																		
															Total	4	9																															
																				(Eastern)	39152	Altanshree	2	Govi Desert																								
																									39195	Ikh Khier	Govi Desert	4	Govi Desert																			
																														39187	Dejjereth	Govi Desert	4	Govi Desert														
																																			Total	3	10											
																																								(Eastern)	39411	Tsaagan-Ovoo	1	Central and eastern steppe				
																																													39527	Bayantumen	Central and eastern steppe	2
39497	Hölonbur	Central and eastern steppe	4	Central and eastern steppe																																												
					39462	Matad	Central and eastern steppe	8	Central and eastern steppe																																							
										Total	4	15																																				
															(Southern)	39799	Erdeneodalay	4	Govi Desert																													
																				39772	Saykhan-Ovoo	Govi Desert	1	Govi Desert																								
																									Total	2	5																					
																														Sub-total	30	100																

Note: Aimag code and som code defined by the State Statistical Office in Mongolia. The interviews were conducted from October 17 to November 14, 1996. Central and eastern steppe includes "Selenge-Onon" region.

Table V-1.4 List of Sums Included in the Household Interviews (2/2)

Aimags	code	name	(Region)	code	name	Som	No. of Household	Agro-ecological Region																																								
10 Ovörkhanga	40347	Zui	(Southern)	40258	Bayan-Öndör	Central and eastern steppe	2	Central and eastern steppe																																								
									40479	Khujirt	Khangai-Khuvsgul	2	Khangai-Khuvsgul																																			
														40304	Bayangol	Central and eastern steppe	1	Central and eastern steppe																														
																			40401	Sant	Central and eastern steppe	2	Central and eastern steppe																									
																								40355	Ölzit	Central and eastern steppe	2	Central and eastern steppe																				
																													40398	Narinicol	Central and eastern steppe	2	Central and eastern steppe															
																																		40363	Zuinbayan-Ulaan	Central and eastern steppe	1	Central and eastern steppe										
																																							Total	8	15							
																																												(Eastern)	40916	Erdeneisayaan	5	Central and eastern steppe
40819	Danganga	Central and eastern steppe	1	Central and eastern steppe																																												
					Total	3	11																																									
										(Northern)	41459	Zaamar	2	Central and eastern steppe																																		
															Total	1	2																															
																				(Western)	41807	Örnögbi	6	Mongolian Altai																								
																									41793	Ölgii	Mongolian Altai	3	Mongolian Altai																			
																														41831	Trialan	Mongolian Altai	3	Mongolian Altai														
																																			41874	Hovd	Mongolian Altai	4	Mongolian Altai									
																																								Total	4	16						
																																													(Western)	42013	Buyant	1
42129	Most	Mongolian Altai	4	Mongolian Altai																																												
					42102	Myangan	Mongolian Altai	4	Mongolian Altai																																							
										42145	Erdene Buren	Mongolian Altai	4	Mongolian Altai																																		
															42072	Duut	Mongolian Altai	1	Mongolian Altai																													
																				42153	Hovd	Mongolian Altai	9	Mongolian Altai																								
																									42064	Mankhan	Mongolian Altai	2	Mongolian Altai																			
																														Total	7	25																
																																			(Northern)	42463	Tsaagan nuur	1	Khangai-Khuvsgul									
																																								42358	Rashaant	Khangai-Khuvsgul	4	Khangai-Khuvsgul				
																																													Total	2	5	
(Eastern)	42803	Kherlen	1	Central and eastern steppe																																												
					42773	Bayan-Ovoo	Central and eastern steppe	2	Central and eastern steppe																																							
										42765	Bainorov	Central and eastern steppe	1	Central and eastern steppe																																		
															42633	Darkhan	Central and eastern steppe	4	Central and eastern steppe																													
																				42609	Galxhar	Central and eastern steppe	2	Central and eastern steppe																								
																									Total	5	10																					
																														Sub-total	30	84																

Note: Aimag code and som code defined by the State Statistical Office in Mongolia. The interviews were conducted from October 17 to November 14, 1996. Central and eastern steppe includes "Selenge-Onon" region.

Table V-3.1 Family Member Status of Household

Agro-Ecological Region Membership Status	Under 15 Years Old		Working Age*		Over Working Age		Total Average		
	Male	Female	Male	Female	Male	Female	Male	Female	
	Total	Total	Total	Total	Total	Total	Total	Total	
(1) Mongolian Altai									
Non-Member	1.36	1.00	1.56	1.24	0.04	0.04	2.96	2.28	5.24
Member	1.29	1.33	1.71	1.29	0.14	0.24	3.14	2.86	6.00
Average	1.33	1.15	1.63	1.26	0.09	0.13	3.04	2.54	5.59
(2) Khabgai-Khuvsgul									
Non-Member	1.05	0.95	1.58	1.42	0.11	0.11	2.74	2.47	5.21
Member	0.83	1.04	1.48	1.30	0.17	0.17	2.48	2.52	5.00
Average	0.93	1.00	1.52	1.36	0.14	0.14	2.60	2.50	5.10
(3) Central & Eastern Steppe									
Non-Member	0.83	1.07	1.59	1.59	0.17	0.17	2.59	2.83	5.41
Member	1.29	1.38	1.43	1.29	0.24	0.10	2.95	2.76	5.71
Average	1.04	1.22	1.55	1.49	0.20	0.14	2.79	2.86	5.65
(4) Gobi Desert									
Non-Member	1.39	1.43	1.36	1.21	0.18	0.11	2.93	2.75	5.68
Member	0.90	1.70	1.40	1.40	0.10	0.20	2.40	3.30	5.70
Average	1.26	1.50	1.37	1.26	0.16	0.13	2.79	2.89	5.68
(5) Total Average	1.14	1.20	1.53	1.35	0.14	0.13	2.81	2.68	5.49

Note: 8: Working age is 16 to 59 years old for male and 16 to 54 years old for female.

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.2 Situation of Khot Air

(Unit: households)

Agro-Ecological Region Item	Member of of Cooperative	Non-Member of of Cooperative	Total
1. Mongolian Altai			
(1) Total Households	21	25	46
(2) Household without Khot Air	19 (90%)	16 (64%)	35 (76%)
(3) Households with Khot Air	2 (10%)	9 (36%)	11 (24%)
(4) Households in 1 Khot Air	1 to 2	1 to 3	1 to 3
(5) Average Households in 1 Khot Air	1.50	1.44	1.45
2. Khangai-Khuvsgul			
(1) Total Households	23	19	42
(2) Household without Khot Air	2 (9%)	2 (11%)	4 (10%)
(3) Households with Khot Air	21 (91%)	17 (89%)	38 (90%)
(4) Households in 1 Khot Air	1 to 6	1 to 6	1 to 6
(5) Average Households in 1 Khot Air	3.14	3.12	3.14
3. Central & Eastern Steppe			
(1) Total Households	18	32	50
(2) Household without Khot Air	11 (61%)	4 (13%)	15 (30%)
(3) Households with Khot Air	7 (39%)	28 (88%)	35 (70%)
(4) Households in 1 Khot Air	1 to 5	1 to 2	1 to 5
(5) Average Households in 1 Khot Air	1.57	1.11	1.20
4. Gobi Desert			
(1) Total Households	10	28	38
(2) Household without Khot Air	3 (30%)	21 (75%)	24 (63%)
(3) Households with Khot Air	7 (70%)	7 (25%)	14 (37%)
(4) Households in 1 Khot Air	1 to 2	1 to 2	1 to 2
(5) Average Households in 1 Khot Air	1.14	1.14	1.14
5. Total			
(1) Total Households	72	104	176
(2) Household without Khot Air	35 (49%)	43 (41%)	78 (44%)
(3) Households with Khot Air	37 (51%)	61 (59%)	98 (56%)
(4) Households in 1 Khot Air	1 to 6	1 to 6	1 to 6
(5) Average Households in 1 Khot Air	2.38	1.72	1.73

Note: 1) Out of total household (184), 8 crop production households are not included in the this Table. Therefore, herders household are counted at 176 household

2) The figures of "(3) Households with Khot Air" show the number of households which are forming "Khot Air", out of interviewed household,

Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.3 Nomadic Mobilization (1/2)

	Mongolian			Central & Eastern Steppe			Cobi Desert		Total Average
	Altai	Khovsgul	Altai	Central & Eastern Steppe	Eastern Steppe	Cobi Desert	Cobi Desert		
Total Household	46 100%	42 100%	50 100%	38 100%	176 100%				
(1) Winter Season (including late autumn and early spring)									
Average Mobilization	1.3 times	1.2 times	1.1 times	1.4 times	1.2 times	1.3 times	1.3 times	1.2 times	
Maximum	4 times	6 times	3 times	13 times	13 times	1 times	1 times	13 times	
Minimum	130 km	60 km	45 km	156 km	156 km	1 km	1 km	156 km	
Longest Distance	2 km	1 km	1 km	2 km	1 km	1 km	1 km	2 km	
Shortest Distance	30 km	10 km	13 km	16 km	17 km	16 km	16 km	17 km	
Average Distance	17 37%	3 7%	10 20%	13 34%	43 24%	3 8%	3 8%	43 24%	
Transportation Vehicle	1 2%	1 2%	1 2%	3 8%	6 3%	3 8%	3 8%	6 3%	
Tractor	25 54%	40 95%	37 74%	16 42%	118 67%				
Animal									
(2) Spring Season									
Average Mobilization	2.9 times	1.2 times	1.6 times	1.2 times	1.8 times	2.0 times	1.8 times	1.8 times	
Maximum	20 times	6 times	1 times	5 times	20 times	1 times	1 times	20 times	
Minimum	310 km	25 km	60 km	54 km	310 km	1 km	1 km	310 km	
Longest Distance	3 km	1 km	1 km	2 km	1 km	1 km	1 km	3 km	
Shortest Distance	50 km	7 km	13 km	14 km	22 km	14 km	14 km	22 km	
Average Distance	18 39%	2 5%	7 14%	7 18%	34 19%	3 8%	3 8%	34 19%	
Transportation Vehicle	2 4%	1 2%	1 2%	3 8%	6 3%	3 8%	3 8%	6 3%	
Tractor	23 50%	34 81%	34 68%	18 47%	109 62%				
Animal									
(3) Summer Season									
Average Mobilization	2.8 times	1.8 times	1.8 times	2.8 times	2.3 times	1.1 times	1.1 times	2.3 times	
Maximum	8 times	5 times	1 times	11 times	11 times	1 times	1 times	11 times	
Minimum	170 km	50 km	180 km	100 km	180 km	1 km	1 km	180 km	
Longest Distance	5 km	1 km	1 km	3 km	1 km	1 km	1 km	5 km	
Shortest Distance	65 km	11 km	19 km	28 km	31 km	28 km	28 km	31 km	
Average Distance	22 48%	4 10%	6 12%	17 45%	49 28%	3 8%	3 8%	49 28%	
Transportation Vehicle	1 2%	1 2%	1 2%	3 8%	6 3%	3 8%	3 8%	6 3%	
Tractor	19 41%	38 90%	37 74%	13 34%	107 61%				
Animal									

Note: Mobilization in winter season includes mobilization in late autumn and early spring.
Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.3 Nomadic Mobilization (2/2)

	Mongolian			Central & Eastern Steppe			Cobi Desert		Total Average
	Altai	Khovsgul	Altai	Central & Eastern Steppe	Eastern Steppe	Cobi Desert	Cobi Desert		
(4) Summer Season									
Average Mobilization	2.9 times	1.4 times	2.0 times	2.0 times	1.7 times	2.0 times	2.0 times	2.0 times	
Maximum	12 times	6.1 times	5 times	5 times	4 times	5 times	5 times	12 times	
Minimum	170 km	35 km	100 km	100 km	46 km	100 km	100 km	170 km	
Longest Distance	3 km	0.5 km	1 km	1 km	2 km	1 km	1 km	3 km	
Shortest Distance	73 km	10 km	15 km	15 km	16 km	16 km	16 km	73 km	
Average Distance	22 48%	4 10%	7 14%	7 14%	9 24%	7 14%	7 14%	22 48%	
Transportation Vehicle	1 2%	1 2%	1 2%	1 2%	2 5%	1 2%	1 2%	2 5%	
Tractor	20 43%	34 81%	33 66%	33 66%	16 42%	33 66%	33 66%	34 81%	
Animal									
(5) Total									
Average Mobilization	9.3 times	5.1 times	5.6 times	5.6 times	5.9 times	5.6 times	5.6 times	9.3 times	
Maximum	31 times	23 times	14 times	14 times	21 times	21 times	21 times	31 times	
Minimum	545 km	122 km	245 km	245 km	181 km	245 km	245 km	545 km	
Longest Distance	18 km	2 km	4 km	4 km	1 km	1 km	1 km	18 km	
Shortest Distance	211 km	35 km	54 km	54 km	63 km	63 km	63 km	211 km	
Average Distance	29 63%	6 14%	12 24%	12 24%	19 50%	12 24%	12 24%	29 63%	
Transportation Vehicle	1 2%	1 2%	1 2%	1 2%	3 8%	1 2%	1 2%	3 8%	
Tractor	30 65%	41 98%	39 78%	39 78%	22 58%	39 78%	39 78%	41 98%	
Animal									

Note: Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.4 Facility for Wintering or Herding

	Mongolian			Central & Eastern Steppe			Total
	Altai	Khovsgul	Altai	Central & Eastern Steppe	Eastern Steppe	Cobi Desert	
Total Household	46 100%	42 100%	58 116%	58 116%	38 100%	184 105%	
1. Existing Facilities							
(1) Winter House	10 22%	3 7%	5 9%	5 9%	4 11%	22 12%	
(2) Livestock Shade	11 24%	37 88%	33 57%	33 57%	14 37%	95 52%	
(3) Livestock Fence	32 70%	17 40%	24 41%	24 41%	29 76%	102 55%	
(4) Water Point	28 61%	6 14%	38 66%	38 66%	34 89%	106 58%	
(5) Others (Storage etc.)	0 0%	11 26%	2 3%	2 3%	2 5%	15 8%	
2. Request and Desire of Facility							
(1) Heating	6 13%	4 10%	1 2%	1 2%	1 3%	12 7%	
(2) Feed and Fodder	14 30%	4 10%	2 3%	2 3%	2 5%	22 12%	
(3) Fencing and Shade	15 33%	4 10%	3 5%	3 5%	1 3%	23 13%	
(4) Others (electricity etc.)	1 2%	6 14%	1 2%	1 2%	0 0%	8 4%	

Note: Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.5 Livestock Holding Size of Household

Item	(Unit: heads per household)																
	Own Livestock								Entrusted Livestock								Grand Total
	Camel	Horse	Cattle	Yak	Sheep	Goat	Others	Total	Camel	Horse	Cattle	Yak	Sheep	Goat	Others	Total	
I. Mongolian Altai																	
(1) Maximum	32	60	60	132	780	1,200	-	1,469	-	-	13	-	290	180	-	470	1,469
(2) Minimum	1	1	3	3	12	7	-	32	-	-	13	-	10	10	-	22	32
(3) Average	3.9	15.3	10.0	13.6	132.9	123.3	-	299.0	-	-	0.3	-	20.7	13.8	-	34.8	333.8
(4) Median	2.8	8.6	10.7	17.3	95.7	101.9	-	207.5	-	-	-	-	64.9	41.1	-	98.5	210.2
2. Khangai-Khuvsgul																	
(1) Maximum	2	92	63	100	414	162	25	712	-	38	45	30	140	50	-	257	774
(2) Minimum	2	3	4	3	11	4	25	29	-	2	15	17	9	4	-	20	29
(3) Average	-	22.9	15.0	19.8	73.7	25.2	0.6	157.3	-	2.6	3.2	2.6	19.1	6.3	-	33.8	191.1
(4) Median	-	14.1	12.2	20.7	56.6	17.9	-	95.0	-	10.7	11.5	3.6	29.6	11.9	-	33.8	125.0
3. Central & Eastern Steppe																	
(1) Maximum	45	241	79	55	800	150	-	1,061	-	768	176	-	400	127	-	768	1,325
(2) Minimum	1	2	1	23	4	2	-	12	-	1	1	-	14	1	-	2	18
(3) Average	3.2	28.3	19.3	1.6	88.9	36.1	-	177.4	-	18.8	10.1	-	32.3	7.4	-	68.6	246.0
(4) Median	5.1	17.5	13.4	16.0	76.3	28.0	-	123.7	-	100.1	31.7	-	82.4	24.7	-	137.7	175.6
4. Gobi-Desert																	
(1) Maximum	40	230	61	16	335	360	-	886	8	24	60	-	274	118	-	460	893
(2) Minimum	1	1	2	1	9	4	-	12	2	1	5	-	20	2	-	7	12
(3) Average	4.4	31.2	17.2	0.9	109.3	94.3	-	257.3	0.8	2.8	5.7	-	30.8	14.2	-	54.4	311.7
(4) Median	4.7	25.5	11.8	4.0	84.6	67.1	-	176.6	2.4	6.0	15.2	-	53.5	35.5	-	94.2	185.5
5. Total																	
(1) Maximum	45	241	79	132	800	1,200	25	1,469	8	768	176	30	400	180	-	768	1,469
(2) Minimum	1	1	1	1	4	2	25	12	2	1	1	17	9	1	-	2	12
(3) Average	2.9	24.2	15.4	8.9	101.2	68.8	0.1	221.5	0.2	6.6	4.9	0.6	25.8	10.3	-	48.4	269.9
(4) Median	4.0	18.0	14.5	27.0	67.5	35.5	25.0	142.0	3.0	11.5	16.0	20.0	60.0	26.0	-	87.0	186.0

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.6 Livestock Size per Household in Sheep Unit

	(Unit: head or sheep unit)																
	Owned Livestock								Entrusted Livestock								Grand Total
	Camel	Horse	Cattle	Yak	Sheep	Goat	Others	Total	Camel	Horse	Cattle	Yak	Sheep	Goat	Others	Total	
Total Number of Livestock in All the Household																	
Mongolian Altai	180	703	461	626	6,114	5,670	-	13,754	-	-	13	-	954	636	-	1,603	15,357
Khangai-Khuvsgul	2	961	632	833	3,096	1,058	25	6,607	-	109	133	110	803	263	-	1,418	8,025
Central & Eastern Steppe	162	1,416	966	78	4,446	1,807	-	8,875	-	940	504	-	1,615	371	-	3,430	12,305
Gobi desert	168	1,187	655	36	4,154	3,582	-	9,782	32	108	218	-	1,170	539	-	2,067	11,849
Total	512	4,267	2,714	1,573	17,810	12,117	25	39,018	32	1,157	868	110	4,542	1,809	-	8,518	47,536
Heads per Household																	
Mongolian Altai	3.9	15.3	10.0	13.6	132.9	123.3	-	299.0	-	-	0.3	-	20.7	13.8	-	34.8	333.8
Khangai-Khuvsgul	-	22.9	15.0	19.8	73.7	25.2	0.6	157.3	-	2.6	3.2	2.6	19.1	6.3	-	33.8	191.1
Central & Eastern Steppe	3.2	28.3	19.3	1.6	88.9	36.1	-	177.5	-	18.8	10.1	-	32.3	7.4	-	68.6	246.1
Gobi desert	4.4	31.2	17.2	0.9	109.3	94.3	-	257.4	0.8	2.8	5.7	-	30.8	14.2	-	54.4	311.8
Average	2.9	24.2	15.4	8.9	101.2	68.8	0.1	221.7	0.2	6.6	4.9	0.6	25.8	10.3	-	48.4	270.1
Sheep Unit per Household: Average of (1) and (2)																	
Mongolian Altai	20.9	103.9	60.1	81.7	132.9	110.9	-	510.5	-	-	1.8	-	20.7	12.4	-	35.0	545.5
Khangai-Khuvsgul	-	155.6	90.3	119.0	73.7	22.7	4.0	461.3	-	16.5	20.0	15.7	19.1	5.6	-	76.9	538.2
Central & Eastern Steppe	17.3	192.6	115.9	9.4	88.9	32.5	-	456.6	-	119.4	63.5	-	32.3	6.7	-	221.9	678.5
Gobi desert	23.7	212.4	103.4	5.7	109.3	84.8	-	539.3	2.5	18.0	36.1	-	30.8	12.8	-	100.3	639.6
Average	15.6	164.9	92.5	53.6	101.2	62.0	1.0	489.7	0.5	41.7	31.1	3.8	25.8	9.3	-	112.2	601.9

Note: (1) Sheep unit is converted at 5.0 for camel, 7.0 for horse, 6.0 for cattle and yak, and 0.9 for goat (Research & Teaching Institute of Animal Husbandry).

(2) Sheep unit is converted at 5.7 for camel, 6.6 for horse, 6.0 for cattle and yak, 1.0 for sheep, and 0.9 for goat (Institute of Agricultural Economy).

Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.7 Number of Herders' Households by Livestock Holding Size (Own Livestock Only)

Holding Size	Total Household		Member of Agr. Coop.		Non-member of Agr. Coop.	
	Herder*	Others**	Herder*	Others**	Herder*	Others**
(1) Mongolian Altai						
0 to 50	2	0	0	0	0	0
51 to 100	4	3	1	2	3	1
101 to 200	9	7	3	6	6	4
201 to 500	11	4	5	2	6	2
501 and more	6	0	5	0	1	0
Total	32	14	14	7	18	7
(2) Khangai-Khuvsgul						
0 to 50	4	1	1	0	3	1
51 to 100	9	3	1	4	6	2
101 to 200	8	3	3	9	2	0
201 to 500	9	4	3	9	3	1
501 & more	1	0	0	0	1	0
Total	31	11	7	23	15	4
(3) Central & Eastern Steppe						
0 to 50	10	5	2	2	10	3
51 to 100	7	2	1	3	6	0
101 to 200	6	5	4	5	2	4
201 to 500	8	5	3	7	5	1
501 & more	1	1	0	1	0	1
Total	32	18	9	18	23	9
(4) Gobi Desert						
0 to 50	3	2	1	0	2	2
51 to 100	4	4	0	0	4	4
101 to 200	4	1	3	0	1	1
201 to 500	10	3	1	3	8	2
501 & more	6	1	2	1	4	0
Total	27	11	8	2	19	9
(5) Total						
0 to 50	19	8	2	2	17	6
51 to 100	24	12	5	5	19	7
101 to 200	27	16	7	7	11	9
201 to 500	38	16	16	10	22	6
501 & more	14	2	8	1	6	1
Total	122	54	47	25	75	29

Note: Out of total household (184), 8 crop production households are not included in the this Table.
 Remarks: * Original herder, they were herders before the economic transformation.
 ** New herders, they had other occupations before economic transformation.
 Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.8 Number of Herders' Households by Livestock Holding Size (Both Own and Entrusted Livestock)

Holding Size	Total Household		Member of Agr. Coop.		Non-member of Agr. Coop.	
	Herder*	Others**	Herder*	Others**	Herder*	Others**
(1) Mongolian Altai						
0 to 50	1	0	0	0	1	0
51 to 100	4	1	1	2	3	0
101 to 200	7	6	2	2	5	4
201 to 500	12	7	5	4	7	3
501 and more	8	0	6	0	2	0
Total	32	14	14	7	18	7
(2) Khangai-Khuvsgul						
0 to 50	4	1	1	0	3	1
51 to 100	8	3	2	1	6	2
101 to 200	8	2	2	8	2	0
201 to 500	10	3	7	2	3	1
501 & more	1	2	0	2	1	0
Total	31	11	16	7	15	4
(3) Central & Eastern Steppe						
0 to 50	8	3	0	2	8	1
51 to 100	6	2	1	1	5	1
101 to 200	5	6	3	2	2	4
201 to 500	11	4	4	2	7	2
501 & more	2	3	1	2	1	2
Total	32	18	9	9	23	9
(4) Gobi Desert						
0 to 50	1	1	0	0	1	1
51 to 100	4	4	0	0	4	4
101 to 200	5	1	3	0	2	1
201 to 500	11	4	3	1	8	3
501 & more	7	1	3	1	4	0
Total	28	11	9	2	19	9
(5) Total						
0 to 50	14	5	1	2	13	3
51 to 100	22	10	4	3	18	7
101 to 200	25	15	6	6	19	9
201 to 500	44	18	9	9	35	9
501 & more	18	6	10	5	8	1
Total	123	54	48	25	73	29

Note: Out of total household (184), 8 crop production households are not included in the this Table.
 Remarks: * Original herder, they were herders before the economic transformation.
 ** New herders, they had other occupations before economic transformation.
 Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.9 General Situation of Livestock Population Owned by Herder's Households

	Camel	Horse	Cattle/Yak	Sheep	Goat	Others	Total
(Unit: head)							
A. Livestock Population in 1996							
1. Breeding Male	9 (2%)	169 (4%)	116 (3%)	214 (1%)	138 (1%)	1 (4%)	647 (2%)
2. Working	211 (42%)	1,162 (27%)	234 (5%)	-	-	-	1,608 (4%)
3. Female	137 (27%)	1,073 (25%)	1,395 (31%)	7,142 (39%)	4,828 (39%)	7 (28%)	14,584 (37%)
4. Offspring	58 (11%)	722 (17%)	1,102 (25%)	5,917 (32%)	3,057 (25%)	10 (40%)	10,867 (27%)
5. Others	92 (18%)	1,214 (28%)	1,621 (36%)	5,045 (28%)	4,260 (35%)	7 (28%)	12,240 (31%)
6. Total	507 (100%)	4,340 (100%)	4,468 (100%)	18,318 (100%)	12,283 (100%)	25 (100%)	39,946 (100%)
B. Sales, Consumption and Loss of Livestock in 1996							
1. Sale	29 (6%)	140 (3%)	282 (7%)	2,952 (15%)	432 (4%)	-	3,835 (9%)
2. Gift	9 (2%)	157 (4%)	185 (4%)	895 (4%)	304 (3%)	-	1,550 (4%)
3. Consumption	12 (2%)	119 (3%)	291 (7%)	2,436 (12%)	938 (8%)	6 (19%)	3,802 (9%)
4. Disease	20 (4%)	107 (3%)	134 (3%)	600 (3%)	251 (2%)	11 (34%)	1,123 (3%)
5. Disaster	-	78 (2%)	31 (1%)	507 (3%)	182 (2%)	-	798 (2%)
6. Wolves Damag.	5 (1%)	47 (1%)	22 (1%)	211 (1%)	35 (0%)	-	320 (1%)
7. Total	75 (14%)	648 (15%)	945 (22%)	7,601 (38%)	2,142 (19%)	17 (53%)	11,429 (28%)
C. Livestock Population in 1995							
(A.6)-(A.4)+(B.7)	524	4,266	4,311	20,002	11,368	32	40,503
D. Change in 1996							
(A.4)-(B.7)	-17 (-3.2%)	74 1.7%	157 3.6%	-1,684 (-8.4%)	915 8.0%	-7 (-22%)	-562 (-1.4%)
E. Female/Beeding							
	15.2	6.3	12.0	33.4	35.0	7.0	22.5
F. Parturition Rate							
	42%	67%	79%	83%	63%	-	75%

Source: Household Survey conducted by the JICA Study Team in October and November, 1996.

Table V-3.10 Sales Status of Livestock Product: Live Animal

Item	Camel	Horse	Cattle	Sheep	Goat	Total
1. Sales Destination (household)						
(1) Makh Impex	-	1 2%	17 19%	2 2%	-	17 12%
(2) Railway Company	-	-	2 2%	-	-	2 1%
(3) Army	-	-	1 1%	1 1%	-	1 1%
(4) Coal Mining	-	-	1 1%	1 1%	-	2 1%
(5) Private Company	-	5 9%	5 6%	2 2%	1 2%	7 5%
(6) Agricultural Cooperative	-	1 2%	2 2%	-	-	3 2%
(7) Naimaachin	7 50%	28 52%	38 43%	85 68%	36 61%	99 67%
(8) Others	-	1 2%	2 2%	1 1%	1 2%	4 3%
(9) Unknown	7 50%	18 33%	20 23%	33 26%	21 36%	12 8%
Total	14 100%	54 100%	88 100%	125 100%	59 100%	147 100%
2. Livestock sold (head per household)						
(1) Maximum	6 head	10 head	80 head	300 head	46 head	316 head
(2) Minimum	1 head	1 head	1 head	1 head	1 head	1 head
(3) Average	2.1 head	2.6 head	4.6 head	22.3 head	7.0 head	25.7 head
(4) Median	1.5 head	2.0 head	2.0 head	10.0 head	5.0 head	11.5 head
3. Price (Tg per head)						
(1) Highest Price	120,000 Tg/head	100,000 Tg/head	140,000 Tg/head	18,000 Tg/head	15,000 Tg/head	-
(2) Lowest Price	30,000 Tg/head	20,000 Tg/head	5,000 Tg/head	1,000 Tg/head	2,000 Tg/head	-
(3) Average Price	68,400 Tg/head	38,800 Tg/head	50,600 Tg/head	10,100 Tg/head	7,300 Tg/head	-
(4) Median	63,400 Tg/head	40,000 Tg/head	47,250 Tg/head	10,000 Tg/head	7,000 Tg/head	-
4. Sales Amount (Tg per household)						
(1) Largest	420,000 Tg	500,000 Tg	880,000 Tg	2,600,000 Tg	450,000 Tg	3,265,000 Tg
(2) Smallest	50,000 Tg	20,000 Tg	5,000 Tg	4,000 Tg	2,000 Tg	4,000 Tg
(3) Average	131,300 Tg	97,300 Tg	149,300 Tg	203,100 Tg	52,000 Tg	331,300 Tg
(4) Median	92,500 Tg	80,000 Tg	120,000 Tg	99,000 Tg	28,000 Tg	206,000 Tg

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.11 Sales Status of Livestock Product: Animal Hair

Item	Camel	Horse	Cattle	Sheep	Goat	Total
	Soft & Hard Hair					
1. Sales Destination (household)						
(1) Makh Impex	-	-	-	-	-	1 1%
(2) Army	-	-	-	2 1%	2 1%	2 1%
(3) Coal Mining	1 2%	1 -	-	2 1%	2 1%	3 2%
(4) Private Company	-	-	1 6%	1 1%	1 1%	2 1%
(5) Agricultural Cooperative	8 14%	5 -	4 22%	22 16%	11 7%	27 15%
(6) Naimaachin	28 50%	14 -	11 61%	82 61%	106 64%	117 67%
(7) Gobi	-	-	-	1 1%	4 2%	4 2%
(8) Others	-	1 -	-	-	1 1%	2 1%
(9) Unknown	19 34%	0 0%	2 11%	24 18%	39 23%	17 10%
Total	56 100%	21 100%	18 100%	134 100%	166 100%	175 100%
2. Livestock sold (kg per household)						
(1) Maximum	260 kg	60 kg	100 kg	800 kg	200 kg	850 kg
(2) Minimum	2 kg	4 kg	1 kg	7 kg	1 kg	1 kg
(3) Average	24.8 kg	14.6 kg	23.6 kg	105.9 kg	17.5 kg	114.5 kg
(4) Median	15.0 kg	12.0 kg	20.0 kg	60.0 kg	10.0 kg	64.0 kg
3. Price (Tg per kg)						
(1) Highest Price	700 Tg/kg	200 Tg/kg	400 Tg/kg	350 Tg/kg	11,500 Tg/kg	-
(2) Lowest Price	50 Tg/kg	30 Tg/kg	40 Tg/kg	40 Tg/kg	1,200 Tg/kg	-
(3) Average Price	300 Tg/kg	100 Tg/kg	200 Tg/kg	200 Tg/kg	6,000 Tg/kg	-
(4) Median	325 Tg/kg	80 Tg/kg	133 Tg/kg	193 Tg/kg	6,000 Tg/kg	-
4. Sales Amount (Tg per household)						
(1) Largest	130,000 Tg	3,090 Tg	16,000 Tg	146,300 Tg	1,600,000 Tg	1,600,000 Tg
(2) Smallest	600 Tg	360 Tg	50 Tg	720 Tg	4,500 Tg	600 Tg
(3) Average	8,800 Tg	1,000 Tg	3,600 Tg	20,900 Tg	104,800 Tg	118,800 Tg
(4) Median	4,500 Tg	900 Tg	2,400 Tg	120,000 Tg	54,500 Tg	61,380 Tg

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.12 Sales Status of Livestock Product: Hide and Skin

Item	Camel	Horse	Cattle	Sheep	Goat	Total
1. Sales Destination (household)						
(1) Railway Company	-	-	-	-	1 1%	1 1%
(2) Army	-	-	1 1%	1 1%	1 1%	1 1%
(3) Private Company	-	1 1%	-	-	-	1 1%
(4) Agricultural Cooperative	-	2 3%	4 5%	7 4%	4 3%	9 5%
(5) Naimaachin	-	44 63%	53 62%	110 66%	78 62%	122 69%
(6) Unknown	2 100%	23 33%	28 33%	48 29%	41 33%	42 24%
Total	2 100%	70 100%	86 100%	166 100%	125 100%	176 100%
2. Livestock sold (pcs. per household)						
(1) Maximum	1 pcs.	12 pcs.	11 pcs.	95 pcs.	31 pcs.	119 pcs.
(2) Minimum	1 pcs.	1 pcs.	1 pcs.	1 pcs.	1 pcs.	1 pcs.
(3) Average	1.0 pcs.	1.5 pcs.	1.9 pcs.	13.6 pcs.	7.1 pcs.	19.6 pcs.
(4) Median	1.0 pcs.	1.0 pcs.	1.0 pcs.	10.0 pcs.	5.0 pcs.	16.0 pcs.
3. Price (Tg per pcs.)						
(1) Highest Price	1,000 Tg/pc.	8,000 Tg/pc.	30,000 Tg/pc.	7,000 Tg/pc.	5,000 Tg/pc.	-
(2) Lowest Price	150 Tg/pc.	200 Tg/pc.	900 Tg/pc.	600 Tg/pc.	200 Tg/pc.	-
(3) Average Price	600 Tg/pc.	2,400 Tg/pc.	5,700 Tg/pc.	3,100 Tg/pc.	1,600 Tg/pc.	-
(4) Median	575 Tg/pc.	2,000 Tg/pc.	5,650 Tg/pc.	3,000 Tg/pc.	1,500 Tg/pc.	-
4. Sales Amount (Tg per household)						
(1) Largest	1,000 Tg	16,000 Tg	89,100 Tg	261,250 Tg	93,000 Tg	282,450 Tg
(2) Smallest	150 Tg	200 Tg	1,500 Tg	2,500 Tg	300 Tg	1,300 Tg
(3) Average	600 Tg	3,200 Tg	10,200 Tg	40,900 Tg	12,000 Tg	54,200 Tg
(4) Median	575 Tg	2,000 Tg	7,000 Tg	31,500 Tg	6,700 Tg	40,000 Tg

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V.3.13 Sales Status of Livestock Product: Dairy Products

Item	Camel	Horse	Cattle	Sheep	Goat	Total
1. Sales Destination (household)						
(1) Private Company	-	-	1 6%	-	-	1 5%
(2) Agricultural Cooperative	-	-	2 11%	-	-	2 11%
(3) Naimaachin	-	1 25%	8 44%	-	-	9 47%
(4) Others	-	-	1 6%	-	-	-
(5) Unknown	-	3 75%	6 33%	-	-	1 5%
Total	0	4 100%	18 100%	0	0	19 100%
2. Livestock sold (lit. per household)						
(1) Maximum	- lit.	1,500 lit.	3,000 lit.	- lit.	- lit.	3,000 lit.
(2) Minimum	- lit.	200 lit.	2 lit.	- lit.	- lit.	2 lit.
(3) Average	- lit.	650 lit.	1,653 lit.	- lit.	- lit.	1,703 lit.
(4) Median	- lit.	450 lit.	2,000 lit.	- lit.	- lit.	2,000 lit.
3. Price (Tg per kg)						
(1) Highest Price	- Tg/lit.	250 Tg/lit.	800 Tg/lit.	- Tg/lit.	- Tg/lit.	-
(2) Lowest Price	- Tg/lit.	150 Tg/lit.	40 Tg/lit.	- Tg/lit.	- Tg/lit.	-
(3) Average Price	- Tg/lit.	200 Tg/lit.	100 Tg/lit.	- Tg/lit.	- Tg/lit.	-
(4) Median	- Tg/lit.	175 Tg/lit.	70 Tg/lit.	- Tg/lit.	- Tg/lit.	-
4. Sales Amount (Tg per household)						
(1) Largest	- Tg	375,000 Tg	500,000 Tg	- Tg	- Tg	510,000 Tg
(2) Smallest	- Tg	30,000 Tg	1,600 Tg	- Tg	- Tg	1,600 Tg
(3) Average	- Tg	138,800 Tg	140,200 Tg	- Tg	- Tg	170,300 Tg
(4) Median	- Tg	75,000 Tg	137,500 Tg	- Tg	- Tg	140,000 Tg

Source: Household survey conducted by the JICA Study Team in October to November 1996.

Table V-3.14 Constraints and Requirement on Livestock Production (1/2)

	Mongolian Altai	Khangai- Khovsgul	Central and Eastern Steppe	Gobi Desert	Total
Total Household	46 100%	42 100%	58 100%	38 100%	184 100%
(1) Health and Sanitary Services Constraint					
Damage by Disease	13 28%	9 21%	0 0%	0 0%	22 12%
Requirement	1 2%	0 0%	25 43%	14 37%	40 22%
Improved Sanitary Condition	42 91%	17 40%	35 60%	32 84%	126 68%
Veterinary Services	6 13%	15 36%	20 34%	22 58%	63 34%
Supply of Medicine					
(2) Improvement of Variety Requirement	0 0%	0 0%	2 3%	1 3%	3 2%
Artificial Insemination	6 13%	2 5%	1 2%	1 3%	10 5%
Quality of Products	0 0%	1 2%	0 0%	1 3%	2 1%
Improvement of Productivity					
(3) Fodder Constraint					
High Price	21 46%	3 7%	0 0%	0 0%	24 13%
Short Supply	13 28%	7 17%	0 0%	0 0%	20 11%
Short Storage	4 9%	3 7%	0 0%	0 0%	7 4%
Requirement	22 48%	3 7%	21 36%	17 45%	63 34%
Lower Price	13 28%	3 7%	20 34%	32 84%	68 37%
Stable Price	13 28%	8 19%	29 50%	33 87%	83 45%
Supply Quantity					
(4) Drinking Water for Livestock Constraints					
Short Source	0 0%	0 0%	0 0%	0 0%	0 0%
Small Quantity	5 11%	2 5%	0 0%	1 3%	8 4%
Low Quality	0 0%	0 0%	0 0%	1 3%	1 1%
Requirement	2 4%	1 2%	21 36%	11 29%	35 19%
Improvement of Source	4 9%	1 2%	7 12%	3 8%	15 8%
Enough Quantity	0 0%	0 0%	10 17%	11 29%	21 11%
Better Quality					

Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.14 Constraints and Requirement on Livestock Production (2/2)

	Mongolian Altai	Khangai- Khovsgul	Central & Eastern Steppe	Gobi Desert	Total
Total Household	46 100%	42 100%	58 100%	38 100%	184 100%
(5) Sales of Products Constraints					
Destination to Sell	25 54%	11 26%	1 2%	2 5%	39 21%
Competition with Others	11 24%	5 12%	0 0%	0 0%	16 9%
Payment by Buyer	0 0%	2 5%	0 0%	0 0%	2 1%
Over-production	0 0%	2 5%	0 0%	0 0%	2 1%
Requirement	6 13%	9 21%	24 41%	32 84%	71 39%
Stable Price	37 80%	5 12%	30 52%	29 76%	101 55%
Cash Sales	2 4%	6 14%	6 10%	9 24%	23 13%
Production Adjustment					
(6) Nomadic Mobilization Requirement	3 7%	2 5%	1 2%	1 3%	7 4%
Better Transportation Means	2 4%	1 2%	1 2%	1 3%	5 3%
Lower Transportation Cost					
(7) Damage by Animals Constraints					
By Wolves	18 39%	26 62%	0 0%	1 3%	45 24%
Requirement	20 43%	3 7%	6 10%	1 3%	30 16%
Hunting	0 0%	2 5%	0 0%	0 0%	2 1%
Others					
(8) Pasture Constraints					
Low Grazing Capacity	13 28%	7 17%	1 2%	0 0%	21 11%
High Herding Density	3 7%	4 10%	0 0%	0 0%	7 4%
Requirement	8 17%	6 14%	0 0%	0 0%	14 8%
Improvement by Regulation					

Source: Household survey conducted by the JICA Study Team in October to December 1996.

Table V-3.15 Average Household Income of Total Sample Households

Item	Number of Households	Maximum Case	Minimum Case	Average in	
				Total Sample Households	Average in Total Sample Households
1. Livestock Income					
(1) Live Camel	14	420,000	50,000	131,400	10,100
(2) Live Horse	54	500,000	20,000	97,400	28,900
(3) Live Cattle	90	880,000	5,000	150,100	74,200
(4) Live Sheep	128	2,600,000	4,000	212,900	149,700
(5) Live Goat	58	450,000	2,000	52,700	16,800
Live Animal Total	150	3,265,000	4,000	339,400	279,200
(6) Cattle Block Meat	3	200,000	32,000	90,700	1,500
(7) Sheep Block Meat	5	510,000	40,000	169,200	4,600
Block Meat Total	8	710,000	72,000	260,000	6,100
(8) Camel Hard Hair	57	200,000	600	12,300	3,800
(9) Horse Hair	21	3,090	360	1,000	100
(10) Cattle Hair	20	16,000	50	4,100	500
(11) Wool	138	146,300	720	20,600	15,600
(12) Cashmere	166	1,600,000	4,500	104,800	95,600
Animal Hair Total	173	1,600,000	600	120,300	115,600
(13) Camel Hide	2	42,400	3,000	21,100	0
(14) Horse Hide	70	16,000	200	3,200	1,200
(15) Cattle Hide	87	89,100	800	10,100	4,800
(16) Sheep Skin	167	261,250	2,500	41,700	38,300
(17) Goat Skin	126	93,000	300	12,000	8,300
Skin & Hide Total	176	287,500	1,300	54,400	52,600
(18) Horse Milk	4	375,000	30,000	136,800	3,000
(19) Cattle Milk	23	950,000	1,600	156,500	19,800
(20) Sheep Milk	1	20,000	-	20,000	100
Milk & Dairy Total	28	950,000	1,600	181,500	22,900
Total or Average	180	3,614,500	14,800	482,400	476,900
2. Crop Income					
(1) Wheat	3	5,650,000	24,000	2,911,300	48,000
(2) Potatoes	3	250,000	100,000	183,300	3,000
(3) Vegetable (Carrots)	3	200,000	6,000	102,000	1,700
(4) Vegetable (Beet)	3	200,000	80,000	126,700	2,100
(5) Vegetable (Cucumber)	3	200,000	25,000	108,300	1,800
Total or Average	182	1,989,700	78,450	2,911,300	56,600
3. Other Income					
(1) Other Sales	5	5,600,000	20,000	1,174,000	32,300
(2) Wage	25	1,240,000	2,000	267,100	36,700
(3) Remittance	38	350,000	5,000	82,800	17,300
(4) Loan and Credit	0	0	0	0	0
(5) Pension and Insurance	64	200,000	1,000	94,200	33,100
(6) Others	14	300,000	10,000	68,400	5,300
Total or Average	106	7,035,000	1,000	2,144,000	124,700
4. Total Income	182	13,677,500	1,000	658,500	658,200

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.16 Average Household Income of Herder's Households

Item	Number of Households	Maximum Case	Minimum Case	Average in	
				Total Sample Households	Average in Total Sample Households
1. Livestock Income					
(1) Live Camel	14	420,000	50,000	131,400	10,600
(2) Live Horse	54	500,000	20,000	97,400	30,200
(3) Live Cattle	88	880,000	5,000	151,400	76,600
(4) Live Sheep	122	2,600,000	4,000	212,500	149,000
(5) Live Goat	58	450,000	2,000	52,700	17,600
Live Animal Total	144	3,265,000	4,000	434,100	283,900
(6) Cattle Block Meat	3	200,000	32,000	90,700	1,600
(7) Sheep Block Meat	5	510,000	40,000	169,200	4,900
Block Meat Total	8	710,000	72,000	260,000	6,500
(8) Camel Hard Hair	57	200,000	600	12,300	3,900
(9) Horse Hair	21	3,090	360	1,000	100
(10) Cattle Hair	20	16,000	50	4,100	500
(11) Wool	133	146,300	720	20,700	15,800
(12) Cashmere	161	1,600,000	4,500	106,500	98,500
Animal Hair Total	169	1,600,000	600	122,500	118,900
(13) Camel Hide	2	42,400	3,000	21,100	0
(14) Horse Hide	69	16,000	200	3,100	1,200
(15) Cattle Hide	81	89,100	800	9,400	4,400
(16) Sheep Skin	160	261,250	2,500	39,400	36,300
(17) Goat Skin	121	93,000	300	11,900	8,300
Skin & Hide Total	169	287,500	1,700	54,400	50,200
(18) Horse Milk	4	375,000	30,000	136,800	3,200
(19) Cattle Milk	23	950,000	1,600	156,500	20,700
(20) Sheep Milk	1	20,000	-	20,000	100
Milk & Dairy Total	28	950,000	1,600	181,500	24,000
Total or Average	173	3,614,500	14,800	486,300	483,400
2. Crop Income					
(1) Wheat	3	24,000	24,000	24,000	100
(2) Potatoes	2	200,000	100,000	150,000	1,700
(3) Vegetable (Carrots)	2	200,000	100,000	150,000	1,700
(4) Vegetable (Beet)	2	200,000	100,000	150,000	1,700
(5) Vegetable (Cucumber)	2	200,000	100,000	150,000	1,700
Total or Average	3	600,000	24,000	308,000	6,900
3. Other Income					
(1) Other Sales	4	150,000	20,000	67,500	1,600
(2) Wage	19	919,500	2,000	180,400	19,700
(3) Remittance	34	350,000	5,000	79,300	15,500
(4) Loan and Credit	0	0	0	0	0
(5) Pension and Insurance	62	200,000	1,000	95,500	34,000
(6) Others	14	300,000	10,000	64,400	5,500
Total or Average	100	1,074,500	1,000	132,700	76,300
4. Total Income	182	2,730,100	82,400	592,600	566,600

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.17 Average Household Income of Mongolian Altai

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Income					
(1) Live Camel	8	240,000	60,000	129,300	22,500 4%
(2) Live Horse	8	125,000	40,000	81,900	14,200 2%
(3) Live Cattle	17	420,000	44,800	183,600	67,800 12%
(4) Live Sheep	21	2,600,000	10,000	378,800	172,900 29%
(5) Live Goat	12	195,000	14,000	58,200	15,200 3%
Live Animal Total	28	2,265,000	16,000	480,800	292,600 50%
(6) Cattle Block Meat	3	200,000	32,000	90,700	5,900 1%
(7) Sheep Block Meat	4	120,000	40,000	84,000	7,300 1%
Block Meat Total	5	320,000	40,000	121,600	13,200 2%
(8) Camel Hard Hair	7	14,000	2,000	7,800	2,900 0%
(9) Horse Hair	3	960	500	800	100 0%
(10) Cattle Hair	7	16,000	210	5,000	800 0%
(11) Wool	34	128,000	720	19,900	14,700 2%
(12) Cashmere	46	1,600,000	7,200	164,500	164,500 28%
Animal Hair Total	46	1,600,000	20,920	182,900	183,000 31%
(13) Camel Hide	1	150	150	150	0 0%
(14) Horse Hide	11	5,000	650	2,200	500 0%
(15) Cattle Hide	11	18,000	1,500	7,500	1,800 0%
(16) Sheep Skin	43	135,000	4,200	44,800	41,900 7%
(17) Goat Skin	39	75,000	1,200	18,100	15,300 3%
Skin & Hide Total	44	215,000	3,000	62,300	59,500 10%
(18) Horse Milk	0	0	0	0	0 0%
(19) Cattle Milk	0	0	0	0	0 0%
(20) Sheep Milk	0	0	0	0	0 0%
Milk & Dairy Total	0	0	0	0	0 0%
Total or Average	46	3,614,500	42,500	548,300	548,300 93%
2. Crop Income					
(1) Wheat	1	24,000	24,000	24,000	500 0%
(2) Potatoes	2	200,000	100,000	150,000	6,500 1%
(3) Vegetable (Carrots)	2	200,000	100,000	150,000	6,500 1%
(4) Vegetable (Beet)	2	200,000	100,000	150,000	6,500 1%
(5) Vegetable (Cucumber)	3	200,000	100,000	150,000	6,500 1%
Total or Average	3	600,000	24,000	308,000	20,100 3%
3. Other Income					
(1) Other Sales	1	200,000	200,000	200,000	400 0%
(2) Wage	2	200,000	80,000	140,000	6,100 1%
(3) Remittance	0	0	0	0	0 0%
(4) Loan and Credit	0	0	0	0	0 0%
(5) Pension and Insurance	8	120,000	42,000	76,500	13,300 2%
(6) Others	0	0	0	0	0 0%
Total or Average	46	3,814,500	64,500	588,200	588,200 100%
4. Total Income	46	3,814,500	64,500	588,200	588,200 100%

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.18 Average Household Income of Khangai Khövvsgrul

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Income					
(1) Live Camel	0	0	0	0	0 0%
(2) Live Horse	11	160,000	30,000	72,000	19,800 3%
(3) Live Cattle	23	300,000	20,000	107,000	61,500 17%
(4) Live Sheep	26	480,000	10,000	101,700	66,100 18%
(5) Live Goat	7	120,000	9,000	29,700	5,200 1%
Live Animal Total	24	547,000	11,000	190,800	152,600 42%
(6) Cattle Block Meat	0	0	0	0	0 0%
(7) Sheep Block Meat	1	510,000	510,000	510,000	12,800 3%
Block Meat Total	1	510,000	510,000	510,000	12,800 3%
(8) Camel Hard Hair	0	0	0	0	0 0%
(9) Horse Hair	9	1,600	360	800	200 0%
(10) Cattle Hair	8	5,330	600	2,400	500 0%
(11) Wool	29	146,300	1,360	21,700	15,700 4%
(12) Cashmere	34	220,000	5,000	41,600	35,400 10%
Animal Hair Total	39	314,200	2,500	53,100	51,800 14%
(13) Camel Hide	0	0	0	0	0 0%
(14) Horse Hide	13	8,000	500	3,400	1,100 0%
(15) Cattle Hide	13	30,000	800	9,800	3,200 1%
(16) Sheep Skin	35	100,000	5,500	30,900	27,000 7%
(17) Goat Skin	17	12,800	700	4,500	1,900 1%
Skin & Hide Total	37	108,000	1,200	35,900	33,200 9%
(18) Horse Milk	1	30,000	30,000	30,000	800 0%
(19) Cattle Milk	17	500,000	1,600	132,500	56,300 15%
(20) Sheep Milk	0	0	0	0	0 0%
Milk & Dairy Total	17	500,000	1,600	134,300	57,100 16%
Total or Average	39	1,210,800	14,800	315,400	307,500 84%
2. Crop Income					
(1) Wheat	0	0	0	0	0 0%
(2) Potatoes	0	0	0	0	0 0%
(3) Vegetable (Carrots)	0	0	0	0	0 0%
(4) Vegetable (Beet)	0	0	0	0	0 0%
(5) Vegetable (Cucumber)	0	0	0	0	0 0%
Total or Average	0	0	0	0	0 0%
3. Other Income					
(1) Other Sales	1	20,000	20,000	20,000	500 0%
(2) Wage	4	130,000	2,000	70,000	7,000 2%
(3) Remittance	0	0	0	0	0 0%
(4) Loan and Credit	0	0	0	0	0 0%
(5) Pension and Insurance	16	192,000	1,000	98,800	39,500 11%
(6) Others	5	300,000	24,000	104,400	13,100 4%
Total or Average	24	300,000	10,000	100,100	60,100 16%
4. Total Income	40	1,210,800	1,000	367,500	367,600 100%

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.19 Average Household Income of Central & Eastern

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in	
					Total Sample	Households
1. Livestock Income						
(1) Live Camel	2	420,000	50,000	235,000	9,400	2%
(2) Live Horse	24	175,000	20,000	76,800	36,900	6%
(3) Live Cattle	33	880,000	5,000	156,600	103,400	17%
(4) Live Sheep	45	1,500,000	20,000	175,800	158,200	26%
(5) Live Goat	20	60,000	8,000	23,700	9,500	2%
Live Animal Total	49	1,553,000	54,000	223,700	217,400	52%
(6) Cattle Block Meat	0	0	0	0	0	0%
(7) Sheep Block Meat	0	0	0	0	0	0%
Block Meat Total	0	0	0	0	0	0%
(8) Camel Hard Hair	21	130,000	600	9,500	4,000	1%
(9) Horse Hair	3	3,090	750	1,500	100	0%
(10) Cattle Hair	4	8,250	50	4,300	300	0%
(11) Wool	35	90,000	1,440	16,600	11,600	2%
(12) Cashmere	44	390,000	4,500	57,900	51,000	8%
Animal Hair Total	46	543,000	600	72,900	67,000	11%
(13) Camel Hide	1	1,000	1,000	1,000	20	0%
(14) Horse Hide	31	16,000	200	3,300	2,000	0%
(15) Cattle Hide	36	36,000	2,000	8,500	6,100	1%
(16) Sheep Skin	44	261,700	2,500	41,100	36,200	6%
(17) Goat Skin	34	93,000	300	7,600	5,200	1%
Skin & Hide Total	50	282,500	4,500	49,500	49,520	8%
(18) Horse Milk	3	375,000	60,000	175,000	10,500	2%
(19) Cattle Milk	6	950,000	20,000	224,500	26,900	4%
(20) Sheep Milk	1	20,000	20,000	20,000	400	0%
Milk & Dairy Total	6	950,000	20,000	215,300	27,800	5%
Total or Average	50	2,769,400	26,200	471,600	471,720	77%
2. Crop Income						
(1) Wheat	0	0	0	0	0	0%
(2) Potatoes	0	0	0	0	0	0%
(3) Vegetable (Carrots)	0	0	0	0	0	0%
(4) Vegetable (Beet)	0	0	0	0	0	0%
(5) Vegetable (Cucumber)	0	0	0	0	0	0%
Total or Average	0	0	0	0	0	0%
3. Other Income						
(1) Other Sales	2	150,000	80,000	115,000	4,600	1%
(2) Wage	8	919,500	72,000	259,100	41,400	7%
(3) Remittance	25	350,000	5,000	77,400	38,700	6%
(4) Loan and Credit	0	0	0	0	0	0%
(5) Pension and Insurance	23	200,000	1,800	104,100	47,900	8%
(6) Others	7	168,000	10,000	47,300	6,600	1%
Total or Average	42	1,074,511	5,000	165,800	139,200	23%
4. Total Income	50	2,730,100	82,400	592,600	610,920	100%

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.20 Average Household Income of Gobi Desert

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in	
					Total Sample	Households
1. Livestock Income						
(1) Live Camel	4	100,000	70,000	83,800	8,800	1%
(2) Live Horse	11	500,000	30,000	178,900	51,800	8%
(3) Live Cattle	15	560,000	20,000	171,900	67,800	10%
(4) Live Sheep	30	1,400,000	4,000	247,100	195,100	28%
(5) Live Goat	19	450,000	2,000	88,300	44,100	6%
Live Animal Total	35	2,300,000	4,000	389,200	267,600	52%
(6) Cattle Block Meat	0	0	0	0	0	0%
(7) Sheep Block Meat	0	0	0	0	0	0%
Block Meat Total	0	0	0	0	0	0%
(8) Camel Hard Hair	19	200,000	1,100	19,600	9,400	1%
(9) Horse Hair	6	1,800	700	1,100	200	0%
(10) Cattle Hair	1	11,700	11,700	11,700	300	0%
(11) Wool	35	105,000	2,000	24,800	22,900	3%
(12) Cashmere	37	455,000	6,000	151,800	147,800	22%
Animal Hair Total	38	666,200	9,200	180,600	180,600	26%
(13) Camel Hide	0	0	0	0	0	0%
(14) Horse Hide	14	10,000	1,200	3,300	1,200	0%
(15) Cattle Hide	21	89,100	2,000	11,800	6,500	1%
(16) Sheep Skin	38	84,000	6,000	39,300	39,300	6%
(17) Goat Skin	31	75,000	800	13,100	10,700	2%
Skin & Hide Total	38	220,200	10,200	57,200	57,200	8%
(18) Horse Milk	0	0	0	0	0	0%
(19) Cattle Milk	0	0	0	0	0	0%
(20) Sheep Milk	0	0	0	0	0	0%
Milk & Dairy Total	0	0	0	0	0	0%
Total or Average	38	3,067,400	30,800	605,900	605,900	89%
2. Crop Income						
(1) Wheat	0	0	0	0	0	0%
(2) Potatoes	0	0	0	0	0	0%
(3) Vegetable (Carrots)	0	0	0	0	0	0%
(4) Vegetable (Beet)	0	0	0	0	0	0%
(5) Vegetable (Cucumber)	0	0	0	0	0	0%
Total or Average	0	0	0	0	0	0%
3. Other Income						
(1) Other Sales	0	0	0	0	0	0%
(2) Wage	5	444,000	2,000	159,000	20,900	3%
(3) Remittance	9	150,000	30,000	84,300	20,000	3%
(4) Loan and Credit	0	0	0	0	0	0%
(5) Pension and Insurance	15	156,000	38,000	88,700	35,000	5%
(6) Others	2	80,000	25,000	52,500	2,800	0%
Total or Average	23	494,000	25,000	130,000	78,700	11%
4. Total Income	38	3,194,600	64,500	684,600	684,600	100%

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.21 Average Household Income of Crop Households

Item	(Unit: Tg. per household)				Average in Total Sample Households
	Number of Households	Maximum Case	Minimum Case	Average	
1. Livestock Income					
(1) Live Camel	0	0	0	0	0%
(2) Live Horse	0	0	0	0	0%
(3) Live Cattle	2	140,000	40,000	90,000	1%
(4) Live Sheep	6	800,000	40,000	221,300	6%
(5) Live Goat	0	0	0	0	0%
Livestock Total	8	800,000	40,000	251,300	7%
(6) Cattle Block Meat	0	0	0	0	0%
(7) Sheep Block Meat	0	0	0	0	0%
Block Meat Total	0	0	0	0	0%
(8) Camel Hair	0	0	0	0	0%
(9) Horse Hair	0	0	0	0	0%
(10) Cattle Hair	5	40,000	6,000	18,600	0%
(11) Wool	5	90,000	14,000	51,300	0%
(12) Cashmere	5	108,000	20,000	58,200	2%
Animal Hair Total	10	108,000	20,000	68,100	0%
(13) Camel Hide	0	0	0	0	0%
(14) Horse Hide	1	8,000	8,000	8,000	0%
(15) Cattle Hide	6	75%	5,000	18,800	1%
(16) Sheep Skin	7	196,000	18,000	93,700	3%
(17) Goat Skin	5	25,000	5,000	13,400	0%
Skin & Hide Total	13	218,000	23,000	120,500	4%
(18) Horse Milk	0	0	0	0	0%
(19) Cattle Milk	0	0	0	0	0%
(20) Sheep Milk	0	0	0	0	0%
Milk & Dairy Total	0	0	0	0	0%
Total or Average	28	950,000	1,600	197,100	0%
	7	992,500	45,000	345,800	13%
2. Crop Income					
(1) Wheat	2	5,650,000	3,060,000	4,355,000	41%
(2) Potatoes	1	250,000	250,000	250,000	1%
(3) Vegetable (Carrots)	1	6,000	6,000	6,000	0%
(4) Vegetable (Beet)	1	80,000	80,000	80,000	0%
(5) Vegetable (Cucumber)	1	25,000	25,000	25,000	0%
Total or Average	3	5,650,000	336,000	3,015,300	43%
3. Other Income					
(1) Other Sales	1	5,600,000	5,600,000	5,600,000	26%
(2) Wage	6	1,240,000	190,000	541,700	15%
(3) Remittance	4	1,500,000	100,000	112,500	2%
(4) Loan and Credit	0	0	0	0	0%
(5) Pension and Insurance	2	68,400	45,000	56,700	1%
(6) Others	0	0	0	0	0%
Total or Average	6	7,035,000	290,000	1,568,900	44%
4. Total Income	8	13,677,500	173,000	2,645,000	100%

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.22 Income Distribution of Sample Households

Income Size	(Unit: number of household)							
	Mongolian Altai	Khangaic Khuisigul	Central Eastern Steppe	Gobi Desert	Crop Household	Total		
Sample Household	46	40	50	38	8	182		
1. Total Income (Tg. per household)								
0 to 100,000	2	4	2	4	1	13		9
100,001 to 200,000	7	6	5	5	5	28		23
200,001 to 300,000	6	5	7	5	5	28		23
300,001 to 400,000	8	8	11	4	3	34		28
400,001 to 500,000	8	7	9	4	4	32		24
500,001 to 600,000	5	4	2	2	5	18		13
600,001 to 800,000	1	4	8	7	3	23		13
800,001 to 1,000,000	2	4	2	2	5	15		6
1,000,001 to 1,500,000	1	3	1	5	1	11		6
1,500,001 to 2,000,000	2	4	3	1	3	13		6
2,000,001 and more	4	1	3	2	5	15		8
Total	46	40	50	38	8	182	100%	100%
2. Livestock Income (Tg. per household)								
0 to 100,000	8	8	4	3	1	24		13
100,001 to 200,000	7	7	7	7	1	29		16
200,001 to 300,000	10	7	8	8	2	35		18
300,001 to 400,000	6	10	9	5	5	35		16
400,001 to 500,000	5	3	10	2	2	22		12
500,001 to 600,000	2	5	5	4	1	17		7
600,001 to 800,000	1	3	3	1	3	10		5
800,001 to 1,000,000	1	1	1	2	1	6		3
1,000,001 to 1,500,000	2	1	3	4	1	11		4
1,500,001 to 2,000,000	2	4	3	1	3	13		6
2,000,001 and more	2	4	3	2	5	16		8
Total	46	40	50	38	8	182	100%	100%
3. Other Income (Tg. per household)								
0 to 100,000	25	30	37	24	4	120		66
100,001 to 200,000	16	6	8	10	3	43		24
200,001 to 300,000	1	2	5	5	5	18		8
300,001 to 400,000	1	1	3	2	2	9		4
400,001 to 500,000	1	2	1	1	3	7		2
500,001 to 600,000	2	4	2	2	2	12		6
600,001 to 800,000	1	1	1	1	1	5		2
800,001 to 1,000,000	1	1	1	1	1	5		2
1,000,001 to 1,500,000	1	1	1	1	1	5		2
1,500,001 to 2,000,000	2	4	3	4	1	14		7
2,000,001 and more	2	4	3	2	5	16		8
Total	46	40	50	38	8	182	100%	100%

Source: Household Survey conducted by the JICA Study Team during October to December, 1996.

Table V-3.23 Average Household Expenditure and Food Consumption of Total Sample Households

Item	(Unit: Tg per household)				Average in Total Sample Households
	Number of Households	Maximum Case	Minimum Case	Average	
1. Livestock Production Cost					
(1) Hired labor	3	120,000	40,000	73,300	1,200 0%
(2) Shade Repairing	43	370,000	1,900	37,200	8,800 1%
(3) Moving	68	110,000	3,500	38,400	14,300 2%
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	-	-	-	-	-
(6) Feed & Fodder	60	156,000	2,000	26,700	8,800 1%
(7) Water supply	3	34,000	2,100	13,500	200 0%
(8) Fuel	45	630,000	1,400	55,200	13,600 2%
(9) Rope & strings	36	45,000	500	7,000	1,400 0%
(10) Transportation	145	85,000	200	12,800	10,200 2%
(11) Veterinary	161	25,400	45	4,000	3,600 1%
(12) Animal tax	11	230,000	1,350	26,700	1,600 0%
(13) Animal Insurance	5	42,400	3,000	21,100	600 0%
Total or Average	182	1,989,700	-	-	64,300 11%
2. Living Expense					
(1) Food	182	767,700	37,800	229,100	229,100 39%
(2) Daily goods	181	139,040	1,440	30,500	30,300 5%
(3) Books & press	30	30,240	360	8,500	1,400 0%
(4) Furniture	133	747,000	1,200	60,400	44,100 7%
(5) Clothes & Shoes	178	1,039,000	2,000	138,100	135,100 23%
(6) Health & Medical	141	300,000	200	16,200	12,500 2%
(7) Education	69	800,000	600	57,000	21,600 4%
(8) Transport	37	130,000	550	16,300	3,300 1%
(9) Communication	51	60,000	200	15,100	4,200 1%
(10) Remittance to Others	88	183,000	1,000	35,800	17,300 3%
(11) Repayment of credit	24	560,000	500	76,900	10,100 2%
Total or Average	182	1,989,700	78,450	-	509,000 86%
3. Other Expense					
	105	1,500,000	200	33,300	19,200 3%
4. Total Expenditure					
	182	2,730,100	82,400	592,600	592,500 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	182	6,000	120	538	538
(2) Rice	156	501	2	59	50
(3) Millet	50	600	2	37	10
(4) Potatoes	56	430	3	70	21
(5) Vegetables	26	150	1	33	5
(6) Salts	170	200	6	42	45
(7) Sugar	150	180	1	19	16

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.24 Average Household Expenditure and Food Consumption of Herder's Households

Item	(Unit: Tg per household)				Average in Total Sample Households
	Number of Households	Maximum Case	Minimum Case	Average	
1. Livestock Production Cost					
(1) Hired labor	2	60,000	40,000	50,000	600 0%
(2) Shade Repairing	43	370,000	1,900	37,200	9,200 2%
(3) Moving	66	110,000	3,500	39,000	14,800 3%
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	-	-	-	-	-
(6) Feed & Fodder	55	156,000	2,000	28,500	9,000 2%
(7) Water supply	3	34,000	2,100	13,500	200 0%
(8) Fuel	43	630,000	1,400	48,700	12,000 2%
(9) Rope & strings	36	45,000	500	7,000	1,400 0%
(10) Transportation	141	85,000	200	12,400	10,100 2%
(11) Veterinary	154	25,400	45	4,100	3,600 1%
(12) Animal tax	10	230,000	1,350	24,900	1,700 0%
(13) Animal Insurance	5	42,400	3,000	21,100	600 0%
Total or Average	169	729,400	300	65,200	63,200 11%
2. Living Expense					
(1) Food	182	767,700	37,800	229,100	229,100 39%
(2) Daily goods	181	139,040	1,440	30,500	30,300 5%
(3) Books & press	30	30,240	360	8,500	1,400 0%
(4) Furniture	133	747,000	1,200	60,400	44,100 7%
(5) Clothes & Shoes	178	1,039,000	2,000	138,100	135,100 23%
(6) Health & Medical	141	300,000	200	16,200	12,500 2%
(7) Education	69	800,000	600	57,000	21,600 4%
(8) Transport	37	130,000	550	16,300	3,300 1%
(9) Communication	51	60,000	200	15,100	4,200 1%
(10) Remittance to Others	88	183,000	1,000	35,800	17,300 3%
(11) Repayment of credit	24	560,000	500	76,900	10,100 2%
Total or Average	174	1,989,700	78,500	501,300	501,100 86%
3. Other Expense					
	101	1,500,000	200	34,000	19,700 3%
4. Total Expenditure					
	174	2,730,100	82,400	584,300	584,000 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	174	6,000	120	540	540
(2) Rice	149	501	2	60	51
(3) Millet	47	600	2	39	11
(4) Potatoes	51	430	3	66	19
(5) Vegetables	23	150	1	35	5
(6) Salts	162	200	6	46	43
(7) Sugar	143	180	1	19	15

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.25 Average Household Expenditure and Food Consumption in Mongolian Altai

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Production Cost					
(1) Hired labor	1	60,000	-	60,000	1,300 0%
(2) Shade Repairing	26	370,000	3,500	40,600	22,900 4%
(3) Moving	34	110,000	10,000	50,000	37,000 6%
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	-	-	-	-	-
(6) Feed & Fodder	23	150,000	3,500	38,900	19,500 3%
(7) Water supply	6	60,000	9,600	32,400	4,200 1%
(8) Fuel	1	4,000	-	4,000	100 0%
(9) Rope & strings	37	80,000	600	15,100	12,100 2%
(10) Transportation	37-80%	16,000	1,100	4,500	3,600 1%
(11) Veterinary	4	7,350	1,350	3,700	300 0%
(12) Animal tax	1	3,000	-	3,000	100 0%
(13) Animal Insurance	46	729,400	-	-	101,100 16%
Total or Average					
2. Living Expense					
(1) Food	46	470,200	66,100	254,800	254,800 40%
(2) Daily goods	46	69,800	5,000	26,900	26,900 4%
(3) Books & press	8	30,240	2,500	13,700	2,400 0%
(4) Furniture	38	295,000	2,500	48,000	39,600 6%
(5) Clothes & Shes	46	1,039,000	2,000	166,900	166,900 26%
(6) Health & Medical	36	300,000	200	28,300	22,100 3%
(7) Education	8	150,000	6,000	73,300	12,700 2%
(8) Transport	7	130,000	5,000	45,300	6,900 1%
(9) Communication	5	50,000	200	15,800	1,700 0%
(10) Remittance to Others	4	80,000	10,000	55,000	4,800 1%
(11) Repayment of credit	2	4,200	2,500	3,400	100 0%
Total or Average	46	1,867,425	134,000	-	538,900 84%
3. Other Expense					
	34	36,000	1,200	5,300	3,900 1%
4. Total Expenditure					
	46	1,943,200	15,200	644,100	643,900 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	46	900	145	578	578
(2) Rice	37	100	5	51	41
(3) Millet	5	30	2	14	2
(4) Potatoes	25	430	3	93	51
(5) Vegetables	7	150	20	64	10
(6) Salts	46	200	10	59	59
(7) Sugar	40	100	1	19	17

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.26 Average Household Expenditure and Food Consumption of Khangai Khovsgul

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Production Cost					
(1) Hired labor	8	100,000	1,900	19,000	3,800 1%
(2) Shade Repairing	7	36,000	6,300	18,300	3,200 1%
(3) Moving	-	-	-	-	-
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	-	-	-	-	-
(6) Feed & Fodder	8	25,000	2,000	12,100	2,400 1%
(7) Water supply	1	4,500	-	4,500	100 0%
(8) Fuel	8	60,000	1,400	21,700	4,300 1%
(9) Rope & strings	-	-	-	-	-
(10) Transportation	39	60,000	290	8,700	8,500 2%
(11) Veterinary	39	16,000	450	3,900	3,800 1%
(12) Animal tax	1	4,000	-	4,000	100 0%
(13) Animal Insurance	3	42,400	9,050	21,500	1,600 0%
Total or Average	40	153,700	500	-	27,800 6%
2. Living Expense					
(1) Food	40	659,700	37,800	175,400	175,400 38%
(2) Daily goods	40	66,850	8,300	28,200	28,200 6%
(3) Books & press	8	16,000	480	6,300	1,300 0%
(4) Furniture	28	282,000	3,000	54,500	38,200 8%
(5) Clothes & Shes	38	428,000	20,000	112,900	107,200 23%
(6) Health & Medical	34	257,000	600	18,900	16,100 3%
(7) Education	12	800,000	2,000	85,500	25,600 6%
(8) Transport	13	10,000	550	3,300	1,100 0%
(9) Communication	23	60,000	1,000	19,000	10,900 2%
(10) Remittance to Others	5	50,000	5,000	15,400	1,900 0%
(11) Repayment of credit	2	12,000	10,000	11,000	600 0%
Total or Average	40	1,876,550	78,450	406,500	406,500 88%
3. Other Expense					
	40	153,700	500	27,900	26,400 6%
4. Total Expenditure					
	40	1,944,900	82,400	453,900	460,700 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	40	4,000	120	539	513
(2) Rice	32	501	3	45	34
(3) Millet	8	50	3	16	3
(4) Potatoes	7	100	10	35	6
(5) Vegetables	1	12	-	12	0
(6) Salts	39	200	6	52	48
(7) Sugar	30	50	2	13	10

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.27 Average Household Expenditure and Food Consumption in Central & Eastern

(Unit: Tg per household)

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Production Cost					
(1) Hired labor	1	40,000	-	40,000	800 0%
(2) Shade Repairing	6	165,000	2,500	37,100	4,500 1%
(3) Moving	10	105,000	3,500	28,400	5,700 1%
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	14	78,600	3,000	20,900	5,900 1%
(6) Feed & Fodder	1	2,100	-	2,100	-
(7) Water supply	17	114,000	1,400	37,600	12,800 2%
(8) Fuel	8	45,000	500	6,300	3,400 1%
(9) Rope & strings	43	85,000	300	13,400	11,500 2%
(10) Transportation	50	25,400	45	3,900	3,900 1%
(11) Veterinary	2	230,000	21,000	125,500	5,000 1%
(12) Animal tax	-	-	-	-	-
(13) Animal Insurance	50	386,300	300	-	53,500 9%
Total or Average					
2. Living Expense					
(1) Food	50	767,700	60,140	249,200	249,200 43%
(2) Daily goods	49	90,975	1,440	35,900	35,100 6%
(3) Books & press	5	15,600	2,000	6,200	600 0%
(4) Furniture	38	496,900	1,200	63,000	47,900 8%
(5) Clothes & Shoes	49	524,710	20,000	116,500	114,200 20%
(6) Health & Medical	40	35,000	1,000	8,200	6,500 1%
(7) Education	25	150,000	600	41,300	20,600 4%
(8) Transport	7	20,000	1,000	5,300	700 0%
(9) Communication	10	40,000	1,800	12,700	2,500 0%
(10) Remittance to Others	41	100,000	1,000	29,800	24,400 4%
(11) Repayment of credit	6	560,000	500	124,100	14,900 3%
Total or Average	50	1,640,000	138,090	-	516,600 90%
3. Other Expense					
	17	50,000	300	9,400	3,200 1%
4. Total Expenditure	50	1,791,900	142,600	573,400	573,300 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	50	6,000	150	562	562
(2) Rice	45	360	2	69	62
(3) Millet	23	600	3	59	27
(4) Potatoes	10	100	5	38	8
(5) Vegetables	6	50	1	14	2
(6) Salts	44	84	10	30	26
(7) Sugar	40	70	1	18	15

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.28 Average Household Expenditure and Food Consumption in Gobi Desert

(Unit: Tg per household)

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Production Cost					
(1) Hired labor	3	112,800	2,000	56,900	4,500 1%
(2) Shade Repairing	15	72,000	7,560	30,800	12,200 2%
(3) Moving	-	-	-	-	-
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	10	156,000	5,400	28,500	7,500 1%
(6) Feed & Fodder	1	34,020	34,020	34,000	900 0%
(7) Water supply	12	630,000	3,000	90,700	28,600 4%
(8) Fuel	8	32,450	1,250	9,800	2,100 0%
(9) Rope & strings	22	60,000	200	12,500	7,200 1%
(10) Transportation	28	18,000	250	4,200	3,100 0%
(11) Veterinary	3	8,350	4,200	6,400	500 0%
(12) Animal tax	1	37,800	-	37,800	1,000 0%
(13) Animal Insurance	38	729,400	-	-	67,600 10%
Total or Average					
2. Living Expense					
(1) Food	38	576,300	79,850	229,600	229,600 35%
(2) Daily goods	38	139,040	6,750	33,000	33,000 5%
(3) Books & press	6	17,000	360	7,500	1,200 0%
(4) Furniture	23	747,000	1,500	81,100	49,100 7%
(5) Clothes & Shoes	37	884,000	9,300	144,200	140,400 21%
(6) Health & Medical	25	30,000	1,200	7,700	5,100 1%
(7) Education	18	180,000	4,000	46,700	22,100 3%
(8) Transport	9	40,000	3,000	20,800	4,900 1%
(9) Communication	8	30,000	3,000	11,400	2,400 0%
(10) Remittance to Others	33	183,000	1,000	38,900	33,800 5%
(11) Repayment of credit	12	130,000	1,800	42,300	13,400 2%
Total or Average	38	1,989,700	135,450	-	535,000 81%
3. Other Expense					
	15	1,500,000	200	153,800	60,700 9%
4. Total Expenditure	38	2,720,100	135,500	663,300	663,300 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	38	1,000	170	466	466
(2) Rice	35	350	4	72	67
(3) Millet	11	70	10	26	8
(4) Potatoes	9	200	10	43	10
(5) Vegetables	9	150	3	28	7
(6) Salts	33	80	10	41	39
(7) Sugar	33	180	1	23	20

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-3.29 Average Household Expenditure and Food Consumption of Crop Households

(Unit: Jg per household)

Item	Number of Households	Maximum Case	Minimum Case	Average	Average in Total Sample Households
1. Livestock Production Cost					
(1) Hired labor	1	120,000	-	120,000	15,000 2%
(2) Shade Repairing	-	-	-	-	-
(3) Mowing	2	30,000	6,000	18,000	4,500 1%
(4) Frozen semen	-	-	-	-	-
(5) Artificial Insemination	-	-	-	-	-
(6) Feed & Fodder	5	12,000	2,000	6,100	3,800 0%
(7) Water supply	-	-	-	-	-
(8) Fuel	2	350,000	37,500	193,800	48,400 6%
(9) Rope & strings	-	-	-	-	-
(10) Transportation	4	51,500	1,000	25,200	12,600 2%
(11) Veterinary	7	5,800	650	2,600	2,300 0%
(12) Animal tax	1	1,500	1,500	1,500	200 0%
(13) Animal Insurance	-	-	-	-	-
Total or Average	8	399,000	3,500	-	86,800 11%
2. Living Expense					
(1) Food	8	291,000	102,400	221,300	221,300 29%
(2) Daily goods	8	25,200	7,130	17,500	17,500 2%
(3) Books & press	3	15,000	2,400	6,600	2,500 0%
(4) Furniture	6	142,500	7,500	69,900	52,400 7%
(5) Clothes & Shoes	8	355,000	50,000	196,900	196,900 25%
(6) Health & Medical	6	40,000	2,000	15,800	11,900 2%
(7) Education	6	180,000	10,000	75,000	56,300 7%
(8) Transport	1	20,000	20,000	-	2,500 0%
(9) Communication	5	20,000	800	7,300	4,500 1%
(10) Remittance to Others	5	120,000	30,000	70,000	43,800 6%
(11) Repayment of credit	2	450,000	113,400	281,700	70,400 9%
Total or Average	8	1,032,340	291,350	-	680,000 88%
3. Other Expense					
	4	36,800	4,800	14,500	7,200 1%
4. Total Expenditure	8	1,153,100	305,300	774,100	774,100 100%
5. Consumption of Foods (kg/household)					
(1) Wheat Flour	8	800	250	488	488
(2) Rice	7	70	5	31	27
(3) Miller	3	20	5	12	4
(4) Potatoes	5	200	50	110	69
(5) Vegetables	5	50	5	21	8
(6) Salts	8	50	20	31	31
(7) Sugar	8	60	10	29	29

Source: Household Survey conducted by the JICA Study Team in October to November, 1996.

Table V-4.1 Results of Herders & Farmers Interview: 1&2 General Information (1/2)

Serial No.	Sample Code	Location		Agro-Ecological Region	Previous Occupation	No. of Livestock			Membership	Family Members						Total	No. of Khot Ad.	
		Amag	Sum			Own	En-trust	Total		≤15	16-60	61+	≤15	16-55	56+			
1	N-01	Oundgobi	Erdene-day	Gobi Desert	Herder	233	0	333	member								3	
2	N-02	Oundgobi	Erdene-day	Gobi Desert	Brigade Chief	525	0	525	member								9	
3	N-03	Oundgobi	Erdene-day	Gobi Desert	Driver	95	0	95	-	2	2	0	3	2			6	
4	N-04	Oundgobi	Erdene-day	Gobi Desert	Herder	515	0	515	-	2	2		1	3			6	
5	N-05	Oundgobi	Salkhan-Ovoo	Gobi Desert	Herder	630	230	860	member	2	2		2	1	1		8	2
6	N-06	Ovukhangai	Sant	Steppe	Accountant	340	370	713	member	1	2						5	
7	N-07	Ovukhangai	Sant	Steppe	Herder from 1989	213	162	375	member	1	1	1		1			4	
8	N-08	Ovukhangai	Bayangol	Steppe	Construction worker	77	0	77	member	1	1		5	1			8	
9	N-09	Ovukhangai	Zuunbayan-Ulaan	Steppe	Herder	129	0	129	member	1	1		2	1			4	
10	N-10	Ovukhangai	Ozot	Steppe	Herder	121	121	242	member	1	1		2	1			5	
11	N-11	Ovukhangai	Ozot	Steppe	Brigade Chief	46	0	46	member	3	1		2	1			7	
12	N-12	Ovukhangai	Bayan-Onor	Steppe	Herder	230	79	309	member	1	2		2	4	1		10	
13	N-13	Ovukhangai	Bayan-Onor	Steppe	Mundus-Herder	113	0	113	member	1	2	1		2			6	
14	N-14	Ovukhangai	Bayan-Onor	Steppe	Driver	195	0	195	-	1	3		3	2			8	
15	N-15	Ovukhangai	Zuf	Steppe	Herder	179	0	179	member	1	3		2	2			8	
16	N-16	Ovukhangai	Zuf	Steppe	Tractor operator	41	0	41	member	2	1		2	1			6	
17	N-17	Ovukhangai	Khujir	Khargai	Herder	388	0	388	member		3				1		4	
18	N-18	Ovukhangai	Khujir	Khargai	Herder	123	0	123	member		1		1				2	
19	N-19	Bayankhongor	Bombogor	Gobi Desert	Airport worker	82	237	319	-		1		3	1			5	
20	N-20	Bayankhongor	Bombogor	Gobi Desert	Herder	89	0	89	-	1	1			1			3	
21	N-21	Bayankhongor	Bombogor	Gobi Desert	Tractor operator	164	28	192	-	2	1		1	1			5	
22	N-22	Bayankhongor	Bombogor	Gobi Desert	Herder	12	0	12	-	1	1	1		1	2		6	
23	N-23	Bayankhongor	Bombogor	Gobi Desert	Construction worker	58	0	58	-	2	1			1			4	
24	N-24	Bayankhongor	Bombogor	Gobi Desert	Herder	58	0	58	-		1		1	1			3	
25	N-25	Bayankhongor	Bayan-Ovoo	Gobi Desert	Herder	319	153	472	-		3				1		4	
26	N-26	Bayankhongor	Bayan-Ovoo	Gobi Desert	Herder	60	0	60	-	3	1		3	1			8	
27	N-27	Bayankhongor	Bayan-Ovoo	Gobi Desert	Herder	309	135	344	-	4	2	1	1	2			10	
28	N-28	Bayankhongor	Baatsagaan	Gobi Desert	Herder	240	0	240	-	2	1		4	1			8	
29	N-29	Bayankhongor	Baatsagaan	Gobi Desert	Construction worker	60	0	60	-	2	1		1	1			5	
30	N-30	Bayankhongor	Ozot	Gobi Desert	Herder	270	0	270	-	4	1			3			8	
31	N-31	Bayankhongor	Ozot	Gobi Desert	Skin processing	28	0	28	-	1	3		1	1			6	
32	N-32	Bayankhongor	Ozot	Gobi Desert	Herder	501	0	501	member		3		1	1	1		6	
33	N-33	Bayankhongor	Ozot	Gobi Desert	Herder	119	13	132	member		1		4	1			6	1
34	N-34	Bayankhongor	Jinst	Gobi Desert	Herder	762	0	762	-	1	2		3	1			7	
35	N-35	Bayankhongor	Jinst	Gobi Desert	Brigade Chief	279	0	279	-	1	1		5	1			8	
36	N-36	Bayankhongor	Jinst	Gobi Desert	Herder	369	0	369	-		1		1	1			3	
37	N-37	Bayankhongor	Jinst	Gobi Desert	Accountant	367	0	367	member	2	1		1	3			7	1
38	N-38	Bayankhongor	Boyd	Gobi Desert	Herder	83	0	83	-	1	1		2	1	1		6	
39	N-39	Bayankhongor	Boyd	Gobi Desert	Herder	896	7	893	-	2	4		3	1			10	2
40	N-40	Bayankhongor	Boyd	Gobi Desert	Herder	236	41	277	-		1	2		1			4	
41	N-41	Bayankhongor	Boyd	Gobi Desert	Herder	317	70	387	-	1	1		2	1			5	
42	N-42	Ovukhangai	Nanintel	Steppe	Herder	350	0	350	-	1	2			3			6	
43	N-43	Ovukhangai	Nanintel	Steppe	Herder	381	0	381	member	1	1			1			3	
44	N-44	Khovsgol	Tsagaan-Ovoo	Khargai	Tsaran	31	0	31	-	1	2		1	1			5	
45	Lk-01	Sukhbaatar	Erdenebagaan	Steppe	Herder	177	11	188	member	3	2		2	1			8	1
46	Lk-02	Khanly	Gashar	Steppe	Herder	86	0	86	member	1	1		1	1			4	1
47	Lk-03	Domod	Tsagaan-Ovoo	Steppe	Herder	29	37	66	-	1	2		1	1			4	1
48	Lk-04	Khanly	Gashar	Steppe	Herder	87	0	87	-	1	1		1	1			4	1
49	Lk-05	Khanly	Bayan-Ovoo	Steppe	Herder	33	0	33	-	2	1		1	1			4	1
50	Lk-06	Khanly	Bayan-Ovoo	Steppe	Brigade Chief at 87	290	20	310	member	1	1	1	1	2			6	
51	Lk-07	Khanly	Hafan	Steppe	Driver at 1990	508	0	508	-	2	1			4			7	1
52	Lk-08	Khanly	Dankhan	Steppe	Accountant/Nagool	172	241	413	-	1	3		2	1			7	1
53	Lk-09	Khanly	Dankhan	Steppe	Herder	300	67	367	-		1		3	1	1		6	1
54	Lk-10	Khanly	Dankhan	Steppe	Herder	35	0	35	-	2	2			2			6	1
55	Lk-11	Khanly	Dankhan	Steppe	Herder	58	0	58	-	3	1		2	1			7	1
56	Lk-12	Khanly	Bainorov	Steppe	Herder	211	0	211	-		1				1	2	2	
57	Lk-13	Sukhbaatar	Dangang	Steppe	Herder	425	0	425	-	2				1	1	4	1	
58	Lk-14	Sukhbaatar	Tumentsogi	Steppe	Animal Breeder	159	0	159	-		1		3	1			5	1
59	Lk-15	Sukhbaatar	Tumentsogi	Steppe	Herder	34	37	71	-	1	2	1	1	3			8	2
60	Lk-16	Sukhbaatar	Tumentsogi	Steppe	Herder	78	35	113	-	1	1		1	1			4	2
61	Lk-17	Sukhbaatar	Tumentsogi	Steppe	Herder	85	0	85	-	1	2			1			4	1
62	Lk-18	Sukhbaatar	Tumentsogi	Steppe	Herder	25	115	140	-		2	1			1	5	1	
63	Lk-19	Sukhbaatar	Erdenebagaan	Steppe	Herder	293	179	472	member	3	1		1	1			5	1
64	Lk-20	Sukhbaatar	Erdenebagaan	Steppe	Herder	128	198	326	-		1		2	1			4	1
65	Lk-21	Domogovi	Artanshibee	Gobi Desert	Electrician at 1994	280	47	327	-	2	1			1			4	1
66	Lk-22	Domogovi	Delgerakh	Gobi Desert	Herder	273	450	723	member	1	1		1	1			4	1
67	Lk-23	Domogovi	Delgerakh	Gobi Desert	Herder	101	7	108	member	1	1		2	2			6	1
68	Lk-24	Domogovi	Delgerakh	Gobi Desert	Driver	223	120	343	-	2	1		2	1			6	1
69	Lk-25	Domogovi	Ikh Khat	Gobi Desert	?? at 1975	25	60	85	-			1					1	1
70	Lk-26	Domogovi	Ikh Khat	Gobi Desert	Herder	126	45	171	member	1	1		1	1			4	1
71	Lk-27	Domogovi	Ikh Khat	Gobi Desert	Herder	24	93	117	-		1				1	2	1	
72	Lk-28	Sukhbaatar	Erdenebagaan	Steppe	Herder	1,511	264	1,775	member		1	1			1	3	5	
73	Lk-29	Sukhbaatar	Erdenebagaan	Steppe	Herder	92	768	860	-		1		1	5			8	1
74	Lk-30	Domod	Bayanlumen	Steppe	Farm operator	19	472	491	-	1	1		2	1			5	1
75	Lk-31	Domod	Bayanlumen	Steppe	Well Technician	48	17	63	-	1	1		1	1			4	1
76	Lk-32	Domogovi	Artanshibee	Gobi Desert	Herder	15	317	332	member	2	2		1	1			4	1
77	Lk-33	Domogovi	Delgerakh	Gobi Desert	Herder	445	42	487	-	2	1		1	1			5	1
78	Lk-34	Domod	Valad	Steppe	Herder	62	0	62	-	2	3		3	1			7	1
79	Lk-35	Domod	Hobobuk	Steppe	Herder	40	2	42	-	1	1			1			3	1
80	Lk-36	Domod	Hobobuk	Steppe	Agent	387	71	458	-	2	2	1	1	1			5	1
81	Lk-37	Domod	Hobobuk	Steppe	Tractor Operator	98	17	115	member	1	1		1	1			4	1
82	Lk-38	Domod	Hobobuk	Steppe	Construction Worker	193	0	193	-	1	2	1	2	5			9	1
83	Lk-39	Domogovi	Ikh Khat	Gobi Desert	Herder	630	32	722	-		2		2	1			7	1
84	Lk-40	Domod	Valad	Steppe	Herder	46	29	75	-		2		2	1			5	1
85	Lk-41	Domod	Valad	Steppe	Brigade worker	252	210	462	member	2	2			2			5	1
86	Lk-42	Domod	Valad	Steppe	Accountant	47	0	47	-		1		2	2			5	1
87	Lk-43	Domod	Valad	Steppe	Herder	12	31	43	-		1	1	1	1			3	1
88	Lk-44	Domod	Valad	Steppe	Herder	33	0	33	-	1	3		4	2			10	1
89	Lk-45	Domod	Valad	Steppe	Herder	132	290	422	-	3	1		1	2			7	1
90	Lk-46	Domod	Valad	Steppe	Herder	49	0	49	-		2	1		1	2		6	1
91	G-01	Khovd	Mst	Mongolian Atay	Herder	1,151	0	1,151	-	2	3			1			6	
92	G-02	Khovd	Mst	Mongolian Atay	Herder	315	300	615	member	2	1		4	1			8	
93	G-03	Khovd	Mst	Mongolian Atay	Accountant	305	0	305	member	1	3		2	2			8	
94	G-04	Khovd	Mst	Mongolian Atay	Herder	417	0	417	-	2	3		4	2			11	
95	G-05	Khovd	Mankhan	Mongolian Atay	Herder	324	0	324	member	2	1		2	1			6	

Table V-4.1 Results of Herders & Farmers Interview: 1&2 General Information (2/2)

Serial No.	Sample Code	Aimags	Location Sum	Agro Ecological Region	Previous Occupation	No of Livestock			Member ship	Family Members					Total	No. of Khol Ap	
						Own	En-tust	Total		≤1\$	Male 16-80	6-15	≤15	Female 16-55			56+
96	G-06	Khovd	Mankhan	Mongolian Altay	Veterinary Officer	111	135	246	member							8	-
97	G-07	Khovd	Myangad	Mongolian Altay	Herder	124	0	124	member	3	1		1			5	-
98	G-08	Khovd	Myangad	Mongolian Altay	Herder	461	0	461	member	1	1		1			4	-
99	G-09	Khovd	Myangad	Mongolian Altay	Herder	557	0	557	member	1	1		1			3	-
100	G-10	Khovd	Myangad	Mongolian Altay	Herder	142	0	142	member	2	1		1			4	-
101	G-11	Khovd	Khovd	Mongolian Altay	Herder	923	0	923	member		1		1			3	-
102	G-12	Khovd	Khovd	Mongolian Altay	Herder	105	0	105	member		1		1			2	-
103	G-13	Khovd	Khovd	Mongolian Altay	Herder	761	0	761	member		2		2			4	-
104	G-14	Khovd	Khovd	Mongolian Altay	Herder	245	0	245	member	2	1		4			9	-
105	G-15	Khovd	Khovd	Mongolian Altay	Farmer	52	0	52	member	1	4					5	-
106	G-16	Khovd	Khovd	Mongolian Altay	Herder	309	0	309	member				1			2	-
107	G-17	Khovd	Khovd	Mongolian Altay	Herder	1,469	0	1,469	member	1	3		2			6	-
108	G-18	Khovd	Khovd	Mongolian Altay	Agriculturist	66	0	66	member	1	2		1			5	-
109	G-19	Khovd	Buyant	Mongolian Altay	Driver	420	0	420	member	1	2		4			9	-
110	G-20	Khovd	Buyant	Mongolian Altay	Accountant/Brigad Chief	153	0	153	member	5	2		1			10	-
111	G-21	Khovd	Dunl	Mongolian Altay	Herder	466	0	466	member		5		2			7	-
112	G-22	Khovd	Erdene Buren	Mongolian Altay	Herder	133	0	133	-				1			2	-
113	G-23	Khovd	Erdene Buren	Mongolian Altay	Agent	369	0	369	-	2	2		3			7	-
114	G-24	Khovd	Erdene Buren	Mongolian Altay	Herder	282	0	282	-	1	1		1			3	-
115	G-25	Khovd	Erdene Buren	Mongolian Altay	Herder	454	0	454	-	3	1		2			6	-
116	G-26	Uvs	Khovd	Mongolian Altay	Forest Worker	91	140	231	-	1	1		2			5	-
117	G-27	Bayan-Olgii	Atantsybs	Mongolian Altay	Herder	176	0	176	-		1		1			2	-
118	G-28	Uvs	Omngoboi	Mongolian Altay	Herder	815	0	815	member	5	3		1			9	-
119	G-29	Bayan-Olgii	Bayan-nour	Mongolian Altay	Herder	49	0	49	-	2	1		1			4	-
120	G-30	Bayan-Olgii	Atantsybs	Mongolian Altay	Herder	165	209	395	-	5			1			6	-
121	G-31	Bayan-Olgii	Atantsybs	Mongolian Altay	Accountant	188	0	188	-	1	1		1			3	-
122	G-32	Bayan-Olgii	Atantsybs	Mongolian Altay	Factory Worker by 95	140	0	140	-	1	1		1			3	-
123	G-33	Uvs	Omngoboi	Mongolian Altay	Herder	105	22	127	-	2	1		2			5	-
124	G-34	Uvs	Omngoboi	Mongolian Altay	Herder	32	0	32	-	1	1		1			2	-
125	G-35	Uvs	Omngoboi	Mongolian Altay	Tractor operator	358	0	358	-	4	2		1			9	-
126	G-36	Uvs	Omngoboi	Mongolian Altay	Herder	59	41	100	-	2	1		2			5	-
127	G-37	Uvs	Omngoboi	Mongolian Altay	Herder	84	0	84	-	4	1		1			6	-
128	G-38	Uvs	Tsatan	Mongolian Altay	Herder	52	0	52	-	2	1		3			7	-
129	G-39	Uvs	Tsatan	Mongolian Altay	Brigad worker	150	0	150	-	1	1		1			3	-
130	G-40	Uvs	Khovd	Mongolian Altay	Herder	249	0	249	-	1	1		3			5	-
131	G-41	Uvs	Khovd	Mongolian Altay	Tractor operator	70	87	157	member	1	1		2			3	-
132	G-42	Uvs	Khovd	Mongolian Altay	Herder	120	0	120	-	1	1		1			3	-
133	G-43	Uvs	Tsatan	Mongolian Altay	Agent till 1992	156	50	206	member				1			5	-
134	G-44	Uvs	Olgii	Mongolian Altay	Herder	195	0	195	member	1	1		5			7	-
135	G-45	Uvs	Olgii	Mongolian Altay	Herder	155	96	251	member	1	1		1			4	-
136	G-46	Uvs	Olgii	Mongolian Altay	Herder	319	53	372	-	2	5		1			10	-
137	Lv-01	Akhangai	Bat-Tsangal	Khangaï	Herder	290	82	372	member	1	3		5			11	-
138	Lv-02	Akhangai	Bat-Tsangal	Khangaï	Tractor Operator	275	0	275	member	3	2		1			7	-
139	Lv-03	Akhangai	Bat-Tsangal	Khangaï	Herder	245	125	370	-	1	2		3			6	-
140	Lv-04	Akhangai	Bat-Tsangal	Khangaï	Herder	95	68	163	member	1	1		1			3	-
141	Lv-05	Bulgan	Sayhan	Steppe	Herder	450	0	450	-	1	2		3			6	-
142	Lv-06	Bulgan	Bayan-Agl	Khangaï	Herder	266	64	330	member	3	1		1			5	-
143	Lv-07	Bulgan	Bayan-Agl	Khangaï	Herder	73	0	73	-	1	1		1			3	-
144	Lv-08	Khovsgol	Rashaant	Khangaï	Herder	0	0	0	-	1	1		5			8	-
145	Lv-09	Khovsgol	Rashaant	Khangaï	Herder	101	0	101	-	1	1		1			3	-
146	Lv-10	Khovsgol	Rashaant	Khangaï	Herder	73	0	73	member		2		2			4	-
147	Lv-11	Khovsgol	Rashaant	Khangaï	Brigada Chief	247	257	504	member	1	4		1			7	-
148	Lv-12	Akhangai	Bulgan	Khangaï	Herder	712	62	774	-	1	4		2			7	-
149	Lv-13	Akhangai	Bulgan	Khangaï	Other	168	23	191	member	1	4		1			7	-
150	Lv-14	Akhangai	Bulgan	Khangaï	Ngodol worker	129	40	169	member	1	1		3			4	-
151	Lv-15	Akhangai	Bulgan	Khangaï	Herder	214	80	276	member	3	1		1			6	-
152	Lv-16	Akhangai	Tselsereg	Khangaï	Agent	45	0	45	-	2	1		1			4	-
153	Lv-17	Akhangai	Tselsereg	Khangaï	Brigada Chief	371	157	528	member	1	1		1			3	-
154	Lv-18	Akhangai	Tselsereg	Khangaï	Carpenter	97	0	97	member	1	1		1			4	-
155	Lv-19	Akhangai	Tselsereg	Khangaï	Herder	126	0	126	member				1			2	-
156	Lv-20	Akhangai	Tselsereg	Khangaï	Herder	82	0	82	-		3		2			5	-
157	Lv-21	Akhangai	Tsenkher	Khangaï	Herder	88	0	88	member	1	1		2			4	-
158	Lv-22	Akhangai	Tsenkher	Khangaï	Herder	114	0	114	member	2	1		2			5	-
159	Lv-23	Akhangai	Tsenkher	Khangaï	Herder	65	0	65	-				1			2	-
160	Lv-24	Akhangai	Tsenkher	Khangaï	Herder	202	87	289	-	2	1		2			7	-
161	Lv-25	Akhangai	Tsenkher	Khangaï	Herder	55	0	55	-	1	1		1			4	-
162	Lv-26	Akhangai	Khangaï	Khangaï	Herder	126	0	126	member	1	1		1			4	-
163	Lv-27	Akhangai	Khangaï	Khangaï	Herder	201	70	271	member	3	2		3			9	-
164	Lv-28	Akhangai	Khangaï	Khangaï	Herder	129	110	239	member	1	1		1			3	-
165	Lv-29	Akhangai	Khangaï	Khangaï	Herder	29	0	29	member		1		1			2	-
166	Lv-30	Akhangai	Tarial	Khangaï	Herder	265	0	265	member		3		2			5	-
167	Lv-31	Akhangai	Tarial	Khangaï	Others	84	0	84	-	1	2		1			4	-
168	Lv-32	Akhangai	Tarial	Khangaï	Herder	108	20	128	member	1	1		2			4	-
169	Lv-33	Akhangai	Tarial	Khangaï	Herder	245	0	245	-	1	1		1			3	-
170	Lv-34	Akhangai	Ikh Tami	Khangaï	Herder	123	0	123	-	1	4		3			8	-
171	Lv-35	Akhangai	Ikh Tami	Khangaï	Herder	42	0	42	-	1	1		1			3	-
172	Lv-36	Akhangai	Ikh Tami	Khangaï	Carpenter	101	103	204	member	3	1		2			6	-
173	Lv-37	Akhangai	Erdenebendal	Khangaï	Tractor Operator	366	90	456	-	1	2		2			5	-
174	Lv-38	Akhangai	Erdenebendal	Khangaï	Herder	65	0	65	-	2	1		3			4	-
175	Lv-39	Akhangai	Tsukha	Khangaï	Herder	53	0	53	-	2	1		2			5	-
176	Lv-40	Akhangai	Tsukha	Khangaï	Medical Assistant	85	0	85	-	1	1		3			5	-
177	Crop-61	Bulgan	Guvانبuлаг	Steppe	Driver/Operator	114	0	114	member	2	4		2			11	-
178	Crop-62	Bulgan	Guvانبuлаг	Steppe	Tractor Operator	143	0	143	member	1	1		1			4	-
179	Crop-63	Bulgan	Guvانبuлаг	Steppe	Tractor Operator	283	0	288	-	1	4		2			6	-
180	Crop-64	Bulgan	Dashinchiyan	Steppe	Tractor Operator	70	0	70	member	1	1		2			5	-
181	Crop-65	Bulgan	Dashinchiyan	Steppe	Mechanic	178	0	178	member	3	1		2			7	-
182	Crop-66	Bulgan	Dashinchiyan	Steppe	Tractor Operator	61	0	61	member	1	1		2			4	-
183	Crop-67	Tov	Zaamar	Steppe	Mechanic	18	0	18	member	2	1		1			4	-
184	Crop-68	Tov	Zaamar	Steppe	Tractor Operator	50	0	50	member		2		2			4	-

