INTERNATIONAL FUND OF AGRICULTURAL DEVELOPMENT (IFAD)

RURAL POVERTY ALLEVIATION PROJECT

REPORT ON

MONGOLIA ARKHANGAI/KHUVSGUL PROJECT SURVEY

CARRIED OUT BY:

CENTER FOR POLICY RESEARCH, MONGOLIA

SEPTEMBER-OCTOBER 2005

ULAANBAATAR, MONGOLIA

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Abbreviations

IFAD	International Fund for Agricultural Development
RPAP	Rural Poverty Alleviation Project
CPR	Centre for Policy Research
PIU	Project Implementing Unit
MNT	Mongolian National Togrog (currency)
B/W/Colour TV	Black/white and colour television

Glossary of Mongolian terms

Khot ail(s)	A group of households camping at least one season
Dzud(s)	Harshest weather condition in winter and spring
Aimag	Province
Soum(s)	Rural district
Ger(s)	Mongolian traditional round tent-like dwelling
Bod	Cow equivalent comparative unit of animals
Khainag(s)	Hybrid of yak and cattle
Tsagaan Sar	Mongolian traditional festivity – lunar calendar new year
Daatgal	Insurance
Airag	National mare's milk drink
Otor	Distant migration of households to a good grazing area

Exchange rate[1]

Year	US$	MNT
October 31 2005[2]	1	1221
December 31 2004	1	1209
December 31 2003	1	1168
December 31 2002	1	1125
December 31 2001	1	1102

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[1] Exchange rates for 2001-2004 are taken from the Mongolian National Statistical Yearbook, 2004
[2] Internet Website of the Mongol Bank

1. INTRODUCTION

For the Completion Evaluation Mission of IFAD Rural Poverty Alleviation Project (RPAP), Centre for Policy Research (CPR) has conducted three social surveys among beneficiary livestock and vegetable households of the IFAD RPAP and non-beneficiary herding households in Arkhangai and Khuvsgul aimags. The CPR survey has been undertaken by a team consisted of Dr. A. Enkh-Amgalan (CPR Director) and Dr. D. Shombodon (Researcher).

Survey purpose

The survey was done for the two purposes:
1. To evaluate the project impacts
2. Forming an access database of the survey
3. Analyzing the survey data and making conclusions

Survey Methodology

The CPR used social survey questionnaires separately for each of the three group informants:
–   livestock beneficiary households
–   vegetable beneficiary households
–   non-beneficiary herding households (control group)

In addition, some participatory techniques have been used for interviewing. Microsoft Access and Excel programs were used for database forming and comparative analyses of the data.

Duration

The social survey has been done in two stages: i) field trip and question airing undertaken in 15 days from 7 to 21 September 2005; ii) Database forming, comparative analyses and report writing lasted until October 19, 2005.

Scope of the survey

The social survey covered all natural zones such as Steppe, Forest Step, High-mountainous and Alpine zones. In terms of administrative divisions, it included Ulziit, Battsengel, Tariat, Tsakhir, Ikhtamir, Tuvshruulekh, Ogiinuur and Khashaat soums in Arkhangai aimag; and Jargalant, Shine-Ider, Tumurbulag, Alag-Erdene, Khatgal, Chandmani-Undor, Tsagaan-Uur, Tunkhel and Rashaant soums in Khuvsgul aimag. Totally, the survey covered 17 sums and 45 bags.

Selection of informants

The researcher used mainly a random selection method of informants, especially for selection of non-beneficiary households and some livestock and vegetable beneficiary households were chosen with assistances of bag governors and soum project staff. Totally, the social survey included representatives of 180 households, of which 85 livestock beneficiaries, 63 non-project beneficiaries and 32 vegetable beneficiaries. Types and gender of the informants are given in Table 1 & 2.

Table 1. Number of informants by aimags

Aimag	Livestock beneficiaries	Non-beneficiary households	Vegetable beneficiaries	Total
Khuvsgul	45	34	16	95
Arkhangai	40	29	16	85
Total	85	63	32	180

The survey team questioned 180 informants, which exceeded the plan by 30 persons in total (15 livestock beneficiaries, 15 non-beneficiary households and vegetable beneficiaries).

2. DEMOGRAPHIC STATUS OF THE HOUSEHOLDS

2.1 Gender issues

The social survey studied main gender demographic indexes of households through gender and marital status of informants.

Table 2. Gender of informants

Gender		Livestock beneficiaries	Non-beneficiaries	Vegetable beneficiaries	Total
Men	Number	52	43	15	110
	Percent	61	68	47	61.1
Women	Number	33	20	17	70
	Percent	39	32	53	38.9
Total	Number	85	63	32	180
	Percent	100	100	100	100

As Table 2 shows 61.1% of informants are men and 38.9% women and the share of female informants is 39% among livestock beneficiaries, 32% among non-beneficiary informants and 53% among vegetable beneficiaries.

Table 3. Marital status of informants

Marital status		Livestock beneficiaries	Non-beneficiary informants	Vegetable beneficiaries	Total
Married	Number	75	47	25	147
	Percent	88	75	78.1	81.7
Single women/men	Number	10	16	7	33
	Percent	12	25	21.9	18.3
Total	Number	85	63	32	180
	Percent	100	100	100	100

As Table 3 indicates 81.7% of all survey informants have declared their full-marriages, and the share of full-marriage households is 88% among livestock beneficiaries, 75% among non-beneficiary households and 78.1% among vegetable beneficiaries. Table 2 also shows that 25% of non-beneficiary households are single woman- or man-headed families, followed by 21.9% of vegetable beneficiary households and 12% of livestock beneficiary households. This shows that vegetable component covers more female-headed households than the Restocking component. The share of single female- and man-headed households is slightly higher (18.8%) in Arkhangai than that is Khuvsgul (17.9%).

2.2 Total size of households

The 180 questioned households have 875 people in their families. In order to compare them, the average size of a household was calculated in each project aimag and by types of informants.

Table 4. Total size of households

		Number of households	Total population	Average size (person) of a household
Livestock beneficiaries	Khuvsgul	45	237	5.3
	Arkhangai	40	203	5.1
	Total	85	440	5.2
Non-beneficiaries	Khuvsgul	s34	146	4.3
	Arkhangai	29	127	4.4
	Total	63	273	4.3
Vegetable beneficiaries	Khuvsgul	16	84	5.3
	Arkhangai	16	78	4.9
	Total	32	162	5.1

As Table 4 shows an average size of non-beneficiary households is smaller and it is 4.3 persons in Khuvsgul and 4.4 in Arkhangai aimag. Average sizes of livestock and vegetable beneficiary households are 5.3 persons in Khuvsgul and 5.1-4.9 persons in Arkhangai aimag. From this, it is clear that the project beneficiary households are comparatively big. The big size of poor household is due to two reasons: i) Poor households have always financial difficulties with marriages of their adult children; ii) Unmarried adult daughters of poor households stay longer with their parents and usually bring births.

Table 5. Household composition, %

Household types	Average household size	Gender composition of household, %		
		Men	Women	Children
Khuvsgul livestock beneficiary	5.3	34,0	34,0	32,1
Arkhangai livestock beneficiary	5.1	37,3	31,4	31,4
Khuvsgul non-beneficiary	4.3	34,9	34,9	30,2
Arkhangai non-beneficiary	4.4	39,5	37,2	23,3
Khuvsgul vegetable beneficiary	5.3	34,0	43,4	22,6
Arkhangai vegetable beneficiary	4.9	49,0	36,7	16,3

Table 5 indicates that Khuvsgul aimag has more gender balanced household composition in terms of adult men and women ratio (34.0:34.0% for livestock beneficiary households and 34.9:34.9% for non-beneficiary households), while the ratio in Arkhangai aimag is variable and 37.3:31.4% and 39.5:37.2%, respectively. At the same time, the vegetable beneficiary household composition is different in the two aimags. For example, the share of men in vegetable beneficiary households of Khuvsgul aimag is 34.0% versus 43.3% for women while the share of men is 49% versus 36.6% of women in Arkhangai aimag. The share of children is also smaller (16.3%) in composition with the vegetable beneficiary households of Khuvsgul aimag. These specifics of household composition in the three questioned groups of the two project aimags are illustrated in Figure 1.

Figure 1. Specifics of household composition

Household composition

	Khuvs. Livestock beneficiary	Arkh. Livestock beneficiary	Khuvs. Non-beneficiary	Arkh. Non-beneficiary	Khuvs. Vegetale beneficiary	Arkh. Vegetable beneficiary
☐ Children	1,7	1,6	1,3	1	1,2	0,8
■ Women	1,8	1,6	1,5	1,7	2,3	1,8
■ Men	1,8	1,9	1,5	1,7	1,8	2,4
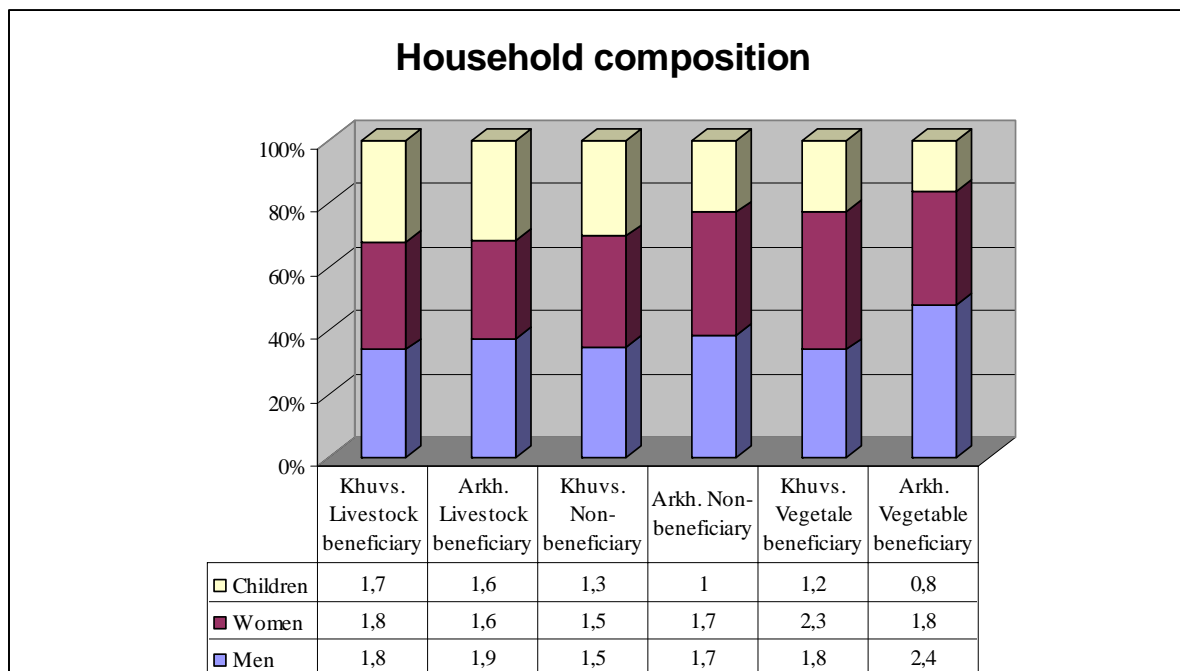
2.3 Migrants and their occupations

A migration of some family members is a peculiarity of demographic phenomena of the households covered of the survey. We considered people as migrants who live outside the soum territory, mainly in aimag centres, Ulaanbaatar, Darkhan and Erdenet cities. Shares of migrants of non-beneficiary and livestock beneficiary households of Khuvsgul and Arkhangai aimags are comparatively low and their percents are 7.0-9.1% and 13.2-11.8%, respectively. On the contrary, the vegetable beneficiary households have the high percentage of migrants and their shares are 26.4% in Khuvsgul aimag and 20.4% in Arkhangai aimag. The dramatic fluctuations of migrants in the three group informants are demonstrated Figure 2.

Figure 2. Migrants of the households covered by the survey

Migratory family members

	Khuvs. livestock beneficiary	Arkh. livestock beneficiary	Khuvs. non-beneficiary	Arkh. non-beneficiary	Khuvs. Vegetale beneficiary	Arkh. Vegetable beneficiary
☐ Children	0,2	0,1	0	0,1	0,2	0
■ Women	0,3	0,2	0,2	0,2	0,6	0,4
■ Men	0,2	0,3	0,1	0,1	0,6	0,6

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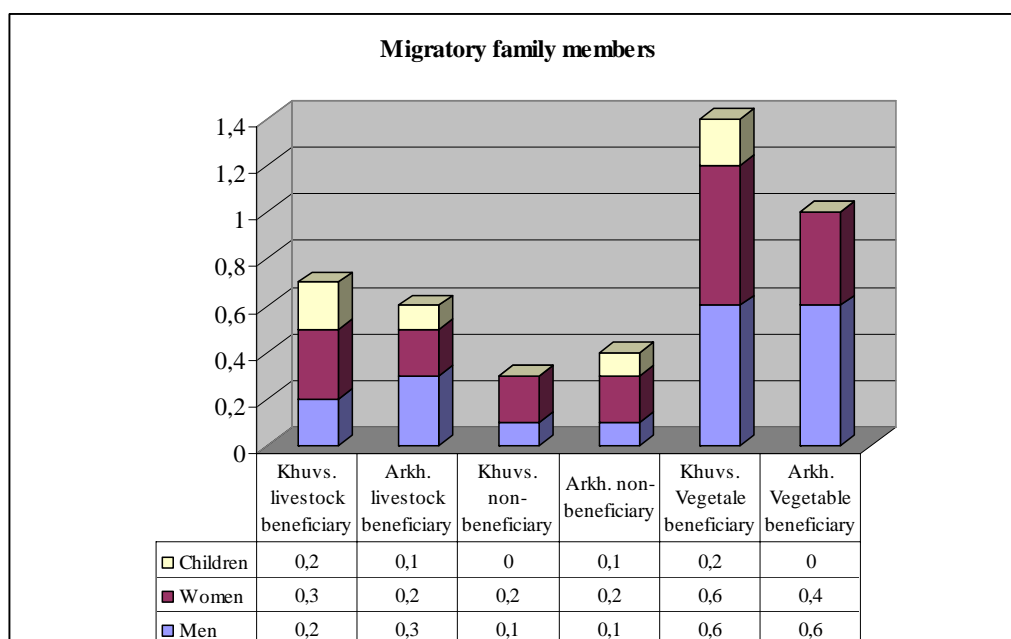
The survey has identified purposes of migrants of the three group households, via studying of their occupations.

Figure 3. Migrants' occupations of livestock beneficiary households

Migrants' occupation of livestock beneficiaries

- Working 25%
- Military Service 5%
- Together with children 2%
- Kindergartens 7%
- Primary school 9%
- Unemployed in city 0%
- Vocational Training School 0%
- University and colleges 39%
- High school 13%
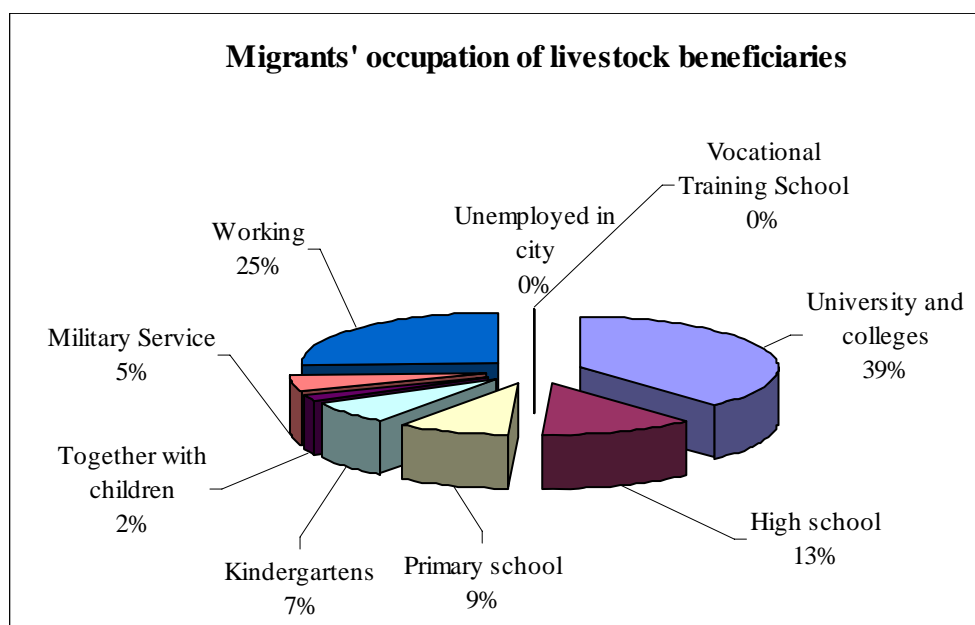
Figure 4. Migrants' occupations of non-beneficiary households

Migrants occupation of non-beneficiaries

- Vocational Training School 17%
- Unemployed in city 0%
- Working 13%
- Military Service 4%
- Together with children 0%
- Kindergartens 0%
- Primary school 8%
- High school 13%
- University and colleges 45%
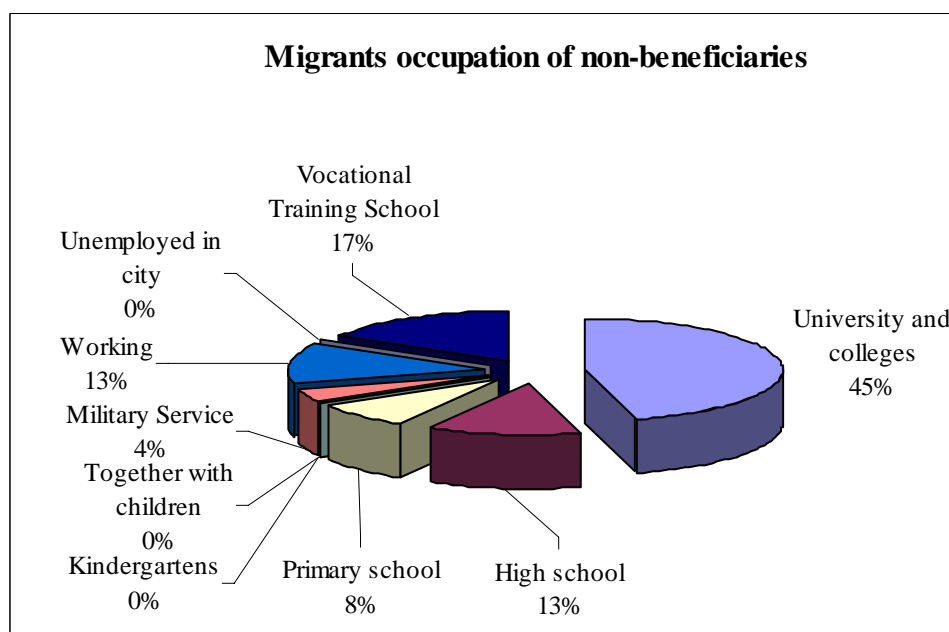
Figure 5. Migrants' occupations of vegetable beneficiary households

Migrants occupation of vegetable beneficiaries

- Working 11%
- Unemployed in city 5%
- Vocational Training School 5%
- Military Service 0%
- Together with children 3%
- Kindergartens 0%
- Primary school 3%
- High school 16%
- University and colleges 57%
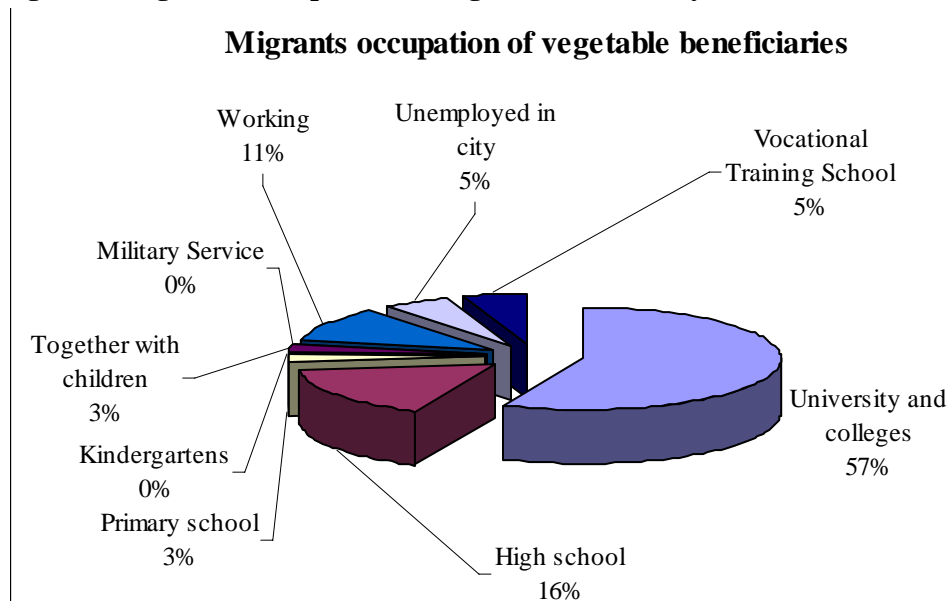
From the analysis of migrants' occupations, we can divide purposes of migrants into three groups such as education, employment and other. Migration for the educational purpose is the first priority of all the three types. For example, 83% of migrants of the non-beneficiary households, 81% of migrants of the vegetable beneficiary households, and 78% of migrants of livestock beneficiary households migrate for educational purposes. Study in universities, colleges and vocational training schools is a natural process and the share of students among migrants varies from 39% for the livestock beneficiary group to 62% for the vegetable beneficiary and non-beneficiary households. The migrating of all primary schools' pupils and major part of migrating pupils of high schools is due to poor quality of local education. Second, many livestock beneficiary households send some of their family members to work in cities, mainly in Ulaanbaatar. It is related to their needs in additional incomes for their livings and repayment of loans. 13% migrants of non-beneficiary households and 16% (11% work and 5% unemployed) of migrants of vegetable beneficiary households are migrating for the employment purpose. Other purposes of migrants include military services and looking after children and 4-5% of migrants of non-beneficiary and livestock beneficiary households are on the military services and 2-3% of migrants of livestock and vegetable beneficiary households are looking after children who attend primary schools and kindergartens. For this purpose, some herding households send some of their family members with extra gers or other accommodations.

2.4 Khot ail

A term "Khot Ail" is very loose in terms of its meaning and composition and it traditionally means a camp of single or a group of households. At present, many people, especially foreign experts accept it as a group of households staying together. Thus, we used a term "Khot Ail" in meaning of a group camping of households.

Table 6. Forming Khot Ails in summer and winter

Types of household	Aimag	Number of households	Summer Khot Ail		Winter Khot Ail	
			Number	%	Number	%
Livestock beneficiaries	Khuvsgul	45	31	68.9	33	73.3
	Arkhangai	40	23	57.5	22	55.0
	Total	85	54	63.5	55	64.7
Non-beneficiaries	Khuvsgul	34	27	79.4	23	67.6
	Arkhangai	29	24	82.6	19	65.9
	Total	63	51	80.9	42	66.7

As Table 6 indicates Khot Ails of livestock beneficiary households are more or less consistent (63.5% in summer and 64.7% in winter), and the limited number of their herds allow them to keep Khot Ail composition a year around. On the contrary, 80.9% of non-beneficiary households form Khot Ails in summer and 66.7% in winter. Maybe, it is due to that more wealthy households need to reduce the size and composition of Khot Ails in winter.

Khot Ails are formed mainly upon social and economic reasons. First, a propinquity of households becomes a social reason of forming Khot Ails. In this case, Khot Ail forming is bigger in summer but many of them move away to soum centers in winter. Usually, Khot Ails let their parents to spend winters in soum centers more comfortable and some of them look after school children, leaving their animals with original Khot Ails. Even, a household is divided into two parts and one part looks after the animals and another part after the school children in soum and aimag centers. Second, labor cooperation in animal husbandry becomes an economic reason for forming Khot ails. In this case, composition of Khot Ails is more consistent.

Khot Ails are named either by a human name or by a name of a location. In most cases, individual Khot Ails are named with the name of a senior person in terms of age or social position in the Khot Ail. Totally, 89.1% of livestock beneficiary households and 86.3% of non-beneficiary households named their Khot Ails with names of senior people in the Khot Ails. The rest of Khot Ails have names of certain places. A Khot Ail name originated from human name stays with the community not depending on its location. On the contrary, Khot Ail name originated from a location is consistent with the group when they camp there, only.

3. ANIMAL HUSBANDRY OF BENEFICIARY AND NON-BENEFICIARY HOUSEHOLDS

3.1 Herd sizes of interviewees

Herding households as a part of the whole rural economy are based on animal husbandry and their living standards and social welfares are dependent on their herd sizes. During the survey, herd sizes of project beneficiary and non-beneficiary households were studied.

Table 7. Number of animals of project beneficiary and non-beneficiary households

	Sheep	Goats	Yaks	Kha inag	Cattle	Horses	Total animals Qty	in Bod
Bod equivalent coefficients[3]	0,14	0,14	1	1	1	1		
Khuvsgul livestock beneficiary	34	48	5	1	6	5	99	28,5
Arkhangai livestock beneficiary	21	29	4	0	2	6	62	19,0
Khuvsgul non-beneficiary	34	37	5	2	5	7	90	28,9
Arkhangai non-beneficiary	85	47	13	1	4	12	162	48,5
Khuvsgul vegetable beneficiary	21	19	3	1	7	2	53	18,6
Arkhangai vegetable beneficiary	26	29	0	0	2	5	62	14,7

Figure 6. Herd size of informants
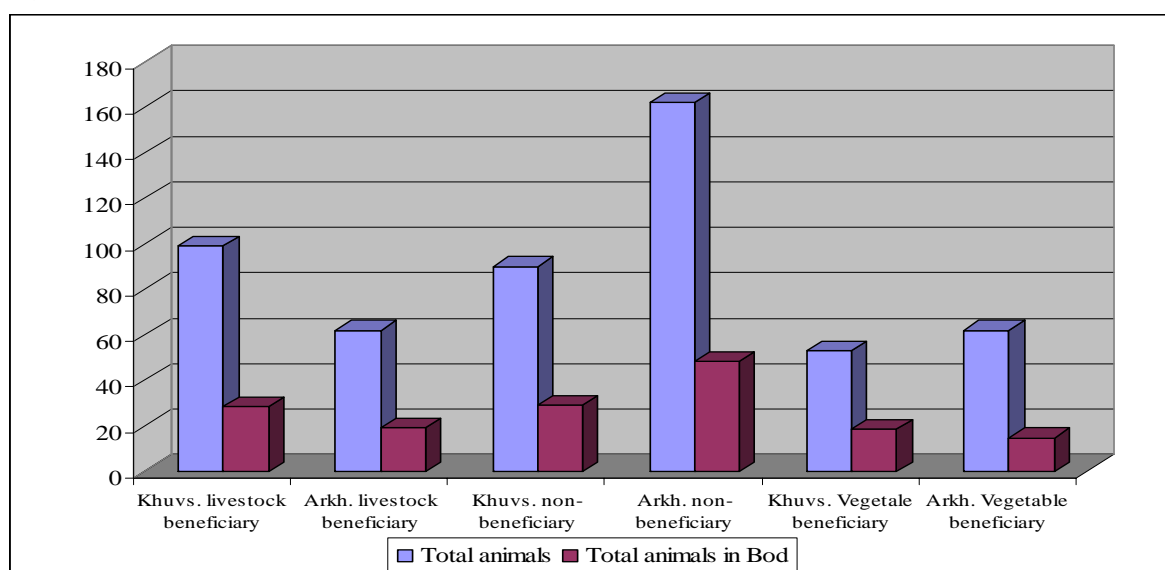
As Table 7 and Figure 6 indicate that numbers of informants' animals vary from 14.7 Bod (vegetable beneficiary in Arkhangai) to 48.5 (non-beneficiary in the same aimag) Bod. In Khuvsgul aimag, there is very small difference in average numbers of animals between livestock beneficiary and non-beneficiary herding households (28.5 Bod versus 28.9 on average) while a livestock beneficiary household in Arkhangai owns 19.0 Bod versus 48.5 of non-beneficiary household. The vegetable beneficiary households in Khuvsgul and Arkhangai aimags possess comparatively small herds i.e. 18.6 and 14.7 Bods, respectively. The herd sizes show potentials of the households to market livestock products and generate household incomes.

3.2 Sales of animal products

We have studied sales of animal products on examples of the non-beneficiary households. Herders usually produce milk and fiber products. As Table 8 indicates the non-beneficiary households in Arkhangai aimag more actively trade in milk products and 31% of them sale milk cream, 27.6% curds, 13.8% cottage cheese and 10.3% butter while 5.8 – 11.8% of the non-beneficiary households in Khuvsgul aimag sell these milk products. These households in the two aimags do not actively trade in fresh milk and aimag because of their short shelf-life and far location of consumers.

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[3] This coefficient is taken from Mongolia Arkhangai livestock Project: survey and implications for project design. Survey of Sums: Arkhangai Version 1.0

Table 8. Sales of milk products by the non-beneficiary households

	Khuvsgul		Arkhangai	
	Qty	%	Qty	%
Milk	4	11,8	3	10,3
Curds	4	11,8	8	27,6
Milk cream	2	5,9	9	31,0
Butter	3	8,8	3	10,3
Airag			1	3,4
Vet curds (aarts)	2	5,9		
Cottage cheese	0	0,0	4	13,8

Traditionally, Mongols used sheep wool for manufacturing felts to cover theirs gers. Now, herding households mainly market their fibre products. The most valuable fibre is cashmere. It is valued higher because of its fine fibre diameter and other physical peculiarities. Sheep wool is also an important fiber. As Table 9 shows 82.4-85.3% of the non-beneficiary households in Khuvsgul aimag market cashmere and sheep wool while 79.4-70.6% of the non-beneficiary households in Arkhangai aimag sell these fibers.

Other types of animal fibres i.e. horse mane and tail and horse and cattle molt are not in high demand, so herders sell them not very much. In addition, these two aimags are rich with yaks, but they almost do not comb or cut yak molt down and a few interviewees (17.5%) have mentioned about marketing yak down.

Table 9. Sales of fibre products by non-beneficiary households

	Khuvsgul		Arkhangai	
	Qty	%	Qty	%
Cashmere	28	82,4	27	79,4
Sheep wool	29	85,3	24	70,6
Mane and tail	5	14,7	10	29,4
Yak Molt	0	0,0	6	17,6

Herders sell hides and skins of slaughtered animals on local markets, mainly. Our survey result shows 50-86.2% of non-beneficiary households sell hides on markets. This bring reasonable incomes to them although slaughter animals for their home consumptions, mainly.

Table 10. Sales of hide products by non-beneficiary households

	Khuvsgul		Arkhangai	
	Qty	%	Qty	%
Sheep skins	19	55,9	25	86,2
Goat skins	20	58,8	23	79,3
Yak hides	20	58,8	6	20,7
Horse hides	17	50,0	17	58,6
Cattle hides	8	23,5	19	65,5

3.3 Sales of animals

Due to the seasonality of agricultural production, rural people receive sales incomes of animal products, seasonally. On the contrary, their household expenditures are regular and continuous a year around. They spend their sales incomes mainly for purchase of food items and cloths. In addition, they need cash for children's education and for recovery of their health conditions. Different festivities, especially Tsagaan Sar also produce considerable expenses. A lack of cash sometimes forces them to sell their animals on markets and to cover their household economic and social needs.

Table 11. Number of animals sold by the survey informants in 2004

	Sheep	Goats	Yaks	Khainags	Cattle	Horses	Total	Total animals
Bod equivalent coefficients	0,14	0,14	1	1	1	1		
Khuvsgul livestock beneficiary	3	2			1		6	0,8
Arkhangai livestock beneficiary	2	3					5	0,7
Khuvsgul non-beneficiary	4	1			1	1	7	1,0
Arkhangai non-beneficiary	16	5	1				22	3,1
Khuvsgul vegetable beneficiary	1	1			2		4	0,6
Arkhangai vegetable beneficiary	2	1					3	0,4

As Table 11 and Figure 7 show all types of the households covered by the survey have sold animals in 2004. On average, a vegetable beneficiary household sold animals equivalent to 0.4-0.6 Bod while a livestock beneficiary and a non-beneficiary household sold 0.7-0.8 and 1-3.1 Bod, respectively. Due to the high demand for mutton and cashmere, sheep and goats are most sellable animals. Different types of households trade in different types animals. For example, in 2004, an average non-beneficiary household sold most types of animals in a considerable numbers, including 4-16 sheep and 1-5 goats, while a livestock beneficiary household sold 2-3 sheep and 2-3 goats and a vegetable beneficiary household sold 1-2 sheep and a goat.

Figure 7. Number of animals sold by different types of households

	Khuvs. livestock beneficiary	Arkh. livestock beneficiary	Khuvs. non-beneficiary	Arkh. non-beneficiary	Khuvs. Vegetale beneficiary	Arkh. Vegetable beneficiary
Total sold animals	6	5	7	22	4	3
The sold animals in Bod	0,8	0,7	1,0	3,1	0,6	0,4
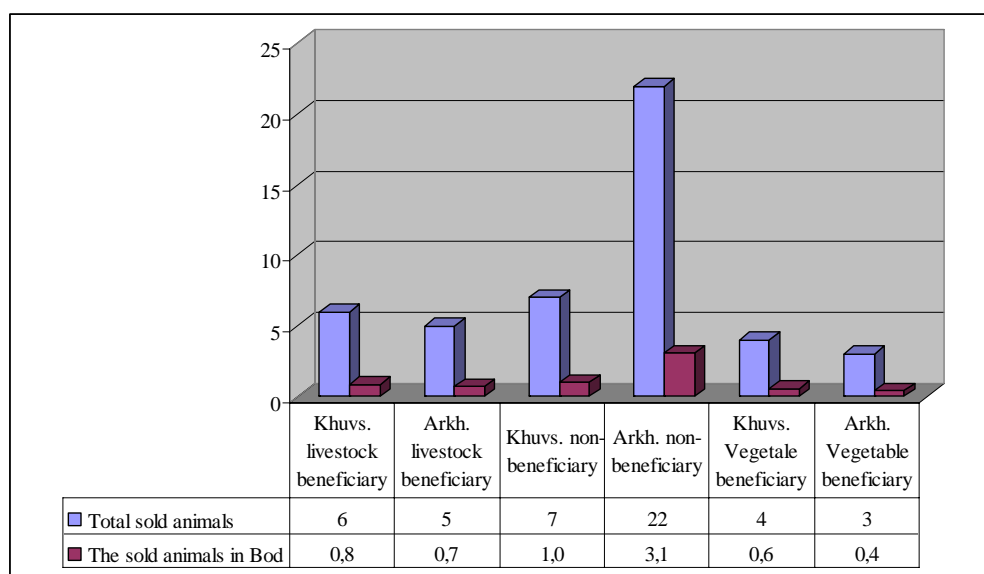
However, some herding households stop sales of animals when they receive sufficient cash incomes from sales of animal products such as fiber and milk products and hides and skins.

3.4 Animal losses in dzud

The most important issue of pastoral risk management is protection of animals from any kind of natural disasters. In Mongolia, dzud (harshest weather condition in winter and spring) is a dangerous threat for herding households. As our informants declared recent years were full of natural disasters including Dzuds and droughts and the herding households interviewed have lost many animals dead in dzud.

As Table 12 shows the 85 livestock beneficiary households lost 3389 animals and the 63 non-beneficiary households 3510 animals in Dzuds. On average, a livestock beneficiary household lost 36 animals or 16 Bod and a non-beneficiary household 56 animals or 22 Bod. So, animal losses of an average non-beneficiary household are bigger in comparison with animal losses of an average livestock beneficiary household. However, the average animal loss (16 Bod) of a livestock beneficiary household exceeds the average size of an animal loan (12 Bod) by 33%.

Table 12. Animal losses of livestock beneficiary and non-beneficiary households in dzud

	Total animal losses		Animal losses per household	
	Head	In Bod unit	Head	In Bod unit
Khuvsgul livestock beneficiary	1368	618	30	14
Arkhangai livestock beneficiary	2021	706	51	18
Total	3389	1324	40	16
Khuvsgul livestock beneficiary	1225	621	36	18
Arkhangai livestock beneficiary	2285	746	79	26
Total	3510	1367	56	22

3.5 Other types of animal losses

Except Dzuds, herding households also face other types of risks causing animal losses. It is searched on examples of the livestock beneficiary households, getting answers to the question: "What else caused animal losses"?

Table 13. Reasons for animal losses of the livestock beneficiaries, except dzud

	Khuvsgul		Arkhangai	
What else caused animal losses?	Number	%	Number	%
No other animal losses	16	35,6	18	45,0
Yes, other animal losses	29	64.5	22	55.0
Of which by reasons:				
Disease	14	48,3	10	45,5
Wolf attack	4	13,8	5	22,7
Theft	9	31,0	7	31,8
Lightning	1	3,4		0,0
Drowned	1	3,4		0,0
Total	29	100	22	100

To the above question, 35.6% and 45% of the livestock beneficiaries in Khuvsgul and Arkhangai aimag, have answered no other reasons causing animal losses, and the rest (64.5% and 55%) answered to this question positively. Table 13 shows that different kinds of diseases cause considerable animal losses (48.3% in Khuvsgul and 45.5% in Arkhangai). Then, thieves steal a big number of animals, especially horse and yaks/cattle (31.0% in Khuvsgul and 31.8% in Arkhangai). Wolf attacks cause animal losses (13.8% in Khuvsgul and 22.7% in Arkhangai). A few informants also named lightening and drowning as reasons causing animal losses.

3.6 Changes in herd composition

Due the natural and economic factors, many changes occurred in herd composition of the beneficiary and non-beneficiary households.

Table 14. Changes in herd composition of the livestock beneficiary households

	Khuvsgul		Arkhangai	
	Number	%	Number	%
Not relevant (no animals)	1	2,2	6	15,0
Goats increased	15	33,3	8	20,0
Sheep increased	10	22,2	1	2,5
Yaks increased		0,0		0,0
Cattle increased	4	8,9		0,0
Most animals increased	3	6,7	1	2,5
All animals increased	1	2,2	4	10,0
Sheep decreased		0,0	1	2,5
No change	7	15,6	3	7,5
Yaks decreased	2	4,4		0,0
Cattle decreased		0,0	1	2,5
Most animals decreased	2	4,4	11	27,5
All animals decreased		0,0	4	10,0
Total	45	100,0	40	100,0

Positive changes in herd composition of the livestock beneficiary households in Khuvsgul aimag are increasing goats, sheep, cattle and all/most animals (33.3%, 22.2%, 8.9% and 2.2/6.7% respectively). Such positive changes occurred in herd composition of the livestock beneficiaries in Arkhangai aimag are increasing goats, all/most animals and sheep (20.0%, 10/2.5% and 2.5%).

Negative changes in herd composition of Khuvsgul livestock beneficiaries are decreasing yaks and most animals (4.4% each) and that in herd composition of Arkhangai beneficiary households are decreasing most animals, sheep, cattle and no animals (27.5%, 2.5%, 2.5% and 15%, respectively). From this, we can conclude that more positive changes occurred in herd composition of the Khuvsgul livestock beneficiaries than that of Arkhangai livestock beneficiaries.

Table 15. Changes in herd composition of the non-beneficiary households

	Khuvsgul		Arkhangai	
	Number	%	Number	%
Not relevant (no animals)	1	2,9	3	10,3
Goats increased	8	23,5	2	6,9
Sheep increased	5	14,7	3	10,3
Yaks increased	1	2,9		0,0
Cattle increased	2	5,9		0,0
Most animals increased		0,0		0,0
All animals increased		0,0	1	3,4
Sheep decreased	1	2,9	1	3,4
No change	13	38,2	11	37,9
Yaks decreased	1	2,9	1	3,4
Cattle decreased		0,0	2	6,9
Most animals decreased	1	2,9	4	13,8
All animals decreased	1	2,9	1	3,4
Total	34	100,0	29	100,0

At the same time, the non-beneficiary households in Khuvsgul aimag pointed that goats (23.5%), sheep (14.5%), yaks (2.9%) and cattle (5.9%) are increased in their herd composition. The non-beneficiary households in Arkhangai aimag declared that goats (6.9%), sheep (10.3%) and all animals (3.4%) are increased in their herd. Negative changes in herd composition of the non-beneficiary households of Khuvsgul aimag are lesser (8.7%) than that in herd composition of the non-beneficiary households of Arkhangai aimag. Many of the non-beneficiary households in Khuvsgul and Arkhangai aimag mentioned no changes in their herd composition (38.2% and 37.9%, respectively).

4. ISSUES RELATED TO LIVESTOCK RISK AVOIDANCE

4.1 Livestock insurance

The Restocking Project Implementing Unit (PIU) insured all the animals given to the livestock beneficiary households 100% for the first year of animal loans. Mongol Daatgal insurance company charged 6% of insurance premium, annually. Later, the insurance premiums were taken back by the PIUs from the livestock beneficiaries. To the question related to insuring animals, the interviewees have answered as indicated in Table 16.

Table 16. Insuring animals of the livestock beneficiaries in project aimags

	Khuvsgul		Arkhangai	
	Beneficiaries	%	Beneficiaries	%
Not insured	33	73,3	32	80
Insured, no risks	1	2,2		
Insured, no compensation at all	7	15,6	1	2,5
Insured, paid some	4	8,9	7	17,5
Total	45	100,0	40	100

The analysis of the interviewees' answers show that 73.3% of the livestock beneficiaries in Khuvsgul aimag have not insured their animals, after the first year of the animal loan, and 17.5% of them have insured their animals but losses were not compensated, at all. 2.5% of interviewees have insured their animals and received partial compensation and 2.2% have insured their animals but no risks were occurred.

Figure 8. Insuring animals of the Khuvsgul livestock beneficiaries

Insuring animals of Khuvsgel livestock beneficiaries

Insured, no compensation at all 16%

Insured, paid some 9%

Insured, no risks 2%

Not insured 73%
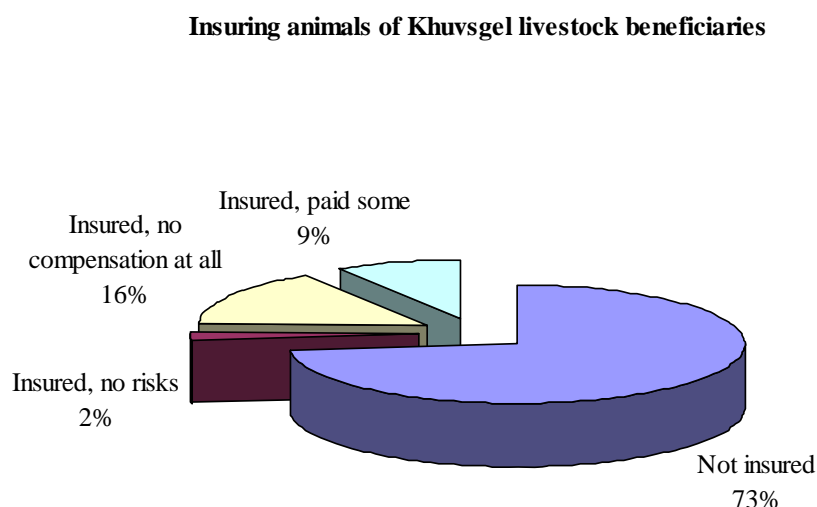
Figure 9. Insuring animals of the Arkhangai livestock beneficiaries

Insuring animals of Arkhangai livestock beneficiaries

Insured, no compensation at all 3%

Insured, paid some 18%

Insured, no risks 0%

Not insured 79%
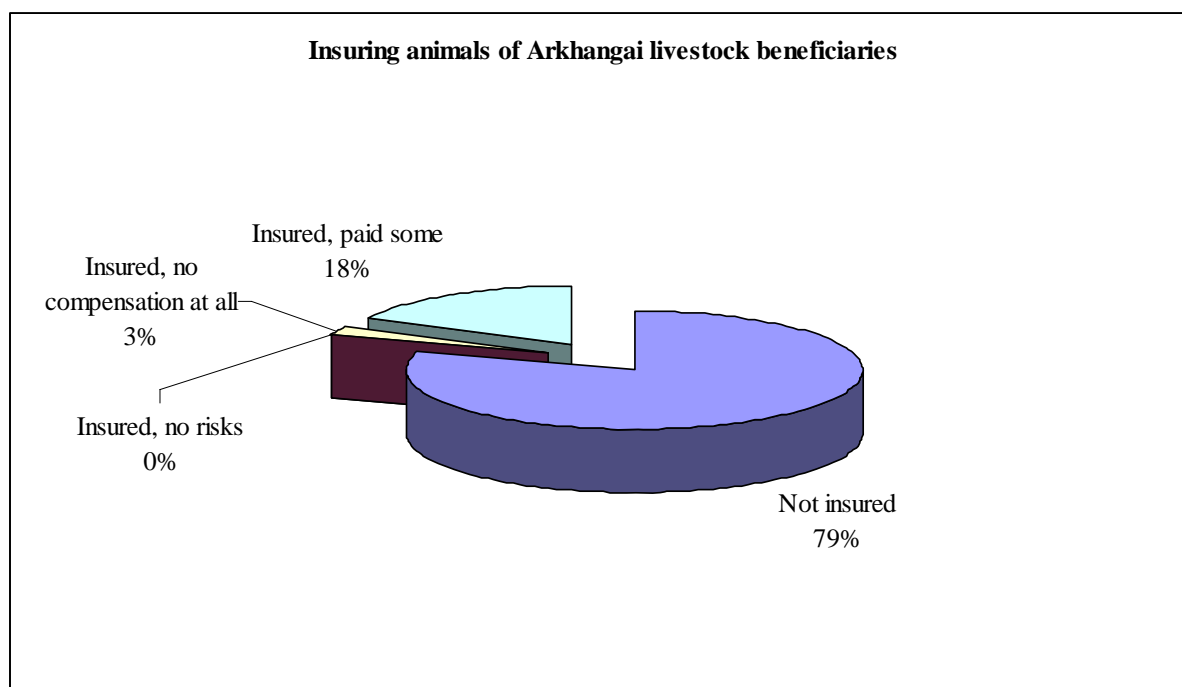
Mongol Daatgal company happily insured the animals taken by beneficiaries for the first years of their loans but did not want to make compensation of animal losses of beneficiaries, completely. In best cases, the company compensated 28-33% of animal losses of beneficiaries instead of 80% indicated in Insurance Agreements in Khuvsgul and Arkhangai aimags. Many beneficiaries could not get any compensation at all. Such bad performances of the insurance company resulted in project implementations and livelihoods of the livestock beneficiaries very badly. From 2002, the insurance company practically stopped insuring animals. Their arguments were its bad financial conditions and no double insurance via other insurance companies. At that time, Mongol Daatgal was a state owned company, so the government had to take responsibilities in accordance with the agreement signed with IFAD.

4.2 Veterinary service

The most interviewed livestock beneficiaries have recognized helpfulness of local veterinary services i.e. 73.3% of them in Khuvsgul aimag and 90% in Arkhangai aimag and 70.6% of the non-beneficiary households in Khuvsgul and 82.8% in Arkhangai aimag.

Table 17. Helpfulness of vet services for beneficiary and non-beneficiary households

Veterinary service helps?	Khuvsgul		Arkhangai	
	Households	Percent	Households	Percent
a. Livestock beneficiaries				
Yes	33	73,3	36	90
No	12	26,7	4	10
b. Non-beneficiary households				
Yes	24	70.6	24	82.8
No	10	29.4	5	17.2

As Table 17 indicates 26.7-29.4% of the livestock beneficiary and non-beneficiary households in Khuvsgul aimag and 10.0-17.2% in Arkhangai aimag declared that veterinary services were not useful. In Khuvsgul aimag, the interviewed households were not happy with veterinary services where bags had not vet doctors, while the interviewees in Arkhangai aimag answered negatively because of bad veterinary services i.e. insufficient effects of anti-parasitic treatments.

4.3 Supply of vet drugs

The most livestock beneficiary and non-beneficiary households buy vet drugs for their animals.

Table 18. Purchase of vet drugs by the beneficiary and non-beneficiary households

Do you buy vet drugs for your animals?				
	Khuvsgul		Arkhangai	
a. Livestock beneficiaries	Households	Percent	Households	Percent
Yes	43	95,6	38	95
No	2	4,4	2	5
b. Non-beneficiaries				
Yes	32	94.1	24	82.8
No	2	5.9	5	17.2

As Table 18 shows about 95% of the livestock beneficiaries in the two project aimags buy vet drugs, while 94.1-82.2% of the non-beneficiary households (in Khuvsgul and Arkhangai aimags, respectively) buy vet drugs for their animals.

Table 19. Vet drugs supplied to the livestock beneficiaries by the project

Vet drugs supplied by the project?	Khuvsgul		Arkhangai	
	Households	Percent	Households	Percent
Yes	33	73,3	14	35
No	12	26,7	26	65

As Table 19 shows 73.3% of livestock beneficiaries in Khuvsgul aimag and 35% in Arkhangai aimag remember that the PIUs have supplied with small amount of a vet drug, once, in early stages of the project. The rest could not remember such actions, at all.

4.4 Fodder supply

A sufficient animal feed reserve is very important for a good wintering of herding households, in addition to natural pastures. Most herders understand this and prepare animal feeds in several ways. A hay making is a traditional and available method of fodder preparation. As Table 20 shows all the livestock beneficiaries in the two project aimags prepare hays for winter and spring seasons, while 97.1% of non-beneficiaries in Khuvsgul aimag and 89.7% in Arkhangai aimag prepare hays.

Table 20. Hay-making of the livestock beneficiary and non-beneficiary households

Do you make hay?	Khuvsgul		Arkhangai	
	Households	Percent	Households	Percent
a. Beneficiary households				
Yes	45	100,0	40	100
No	0	0,0	0	0
Non-beneficiary households				
Yes	33	97.1	26	89.7
No	1	2.9	3	10.3

On the contrary, 2.9% of non-beneficiaries in Khuvsgul aimag and 10.3% in Arkhangai aimag do not prepare hays, at all. They believe that there is no need for hays when they regularly spend winters and springs on "Otor[4]". Otor can be useful for somebody, who moves to a place with favorable weather conditions. As many interviewees pointed they lost most or all animals on Otor pastures in territories of other soums and aimags. On Otor pastures, they had less or no access to fodder supplies and vet services.

We found that there is a direct correlation between numbers of the household animals and the amount of prepared hays by themselves. Generally, households are wealthy because of sufficient amount of hays. It is reversely for poor households. Otor movement is risky in some cases, so it is advisable for herders to prepare enough hays and warm shelters for winters and springs in home places.

Many herding households usually lack hays during harsh winters and springs. In these cases, they start buying additional feeds for their animals.

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[4]Far winter movement of households and spending winter and spring on territories of other aimags and soums.

Table 21. Purchase of feeds by the livestock beneficiary and non-beneficiary households

Do you buy animal feeds?	Khuvsgul		Arkhangai	
	Households	Percent	Households	Percent
a. Livestock beneficiaries				
Yes	35	77,8	29	72,5
No	10	22,2	11	27,5
b.　　　Non-beneficiary households				
Yes	25	73.5	22	75.8
No	9	26.5	7	24.1

Table 21 shows 77.8-72.5% of the livestock beneficiaries in Khuvsgul and Arkhangai aimags, respectively, buy feeds for their animals, while 73.5-75.8% of the non-beneficiary households buy animal feeds. The rest of informants have pointed they do not buy animal feed. Households who prepare enough hays have no needs to buy extra animal feeds. Some households do not buy animal feeds due to a lack of cash.

4.5 Changes in pastures

In Mongolia, animal husbandry is mainly based on natural pastures, so any negative changes in pastures directly easily turn into risk factors for livestock sector. The survey searched what changes occurred in pastures of the two project aimags, over 10 years. During the survey, 77.3% of the livestock beneficiary and non-beneficiary households in Khuvsgul aimag and 97.1% of the informants in Arkhangai aimag have pointed many changes occurred in natural pastures and the rest informants said no changes.

Table 22. Changes in pastures of the project aimags over 10 years

	Khuvsgul aimag				Arkhangai aimag			
	Livestock beneficiary	Non-beneficiary	Total	%	Livestock beneficiary	Non-beneficiary	Total	%
Total changes repeatedly	61	44	105	100,0	70	52	122	100,0
Of which:								
Yields decreased	29	26	55	52,4	36	24	60	49,2
Pasture grasses disappeared	4	0	4	3,8	5	0	5	4,1
Weeds came up	13	11	24	22,9	12	18	30	24,6
Overgrazing	2	2	4	3,8	0	1	1	0,8
Evidences of desertification	0	0	0	0,0	9	3	12	9,8
Water sources dried	6	1	7	6,7	3	5	8	6,6
Different yields	2	0	2	1,9	2	0	2	1,6
Don't know	3	1	4	3,8	2	1	3	2,5
Insects increased	2	1	3	2,9	1	0	1	0,8
Tree encroachment	0	2	2	1,9	0	0	0	0,0
Total	61	44	105	100,0	70	52	122	100,0

As Table 22 shows decreased grass yields were said as the biggest changes in pastures (55% in Khuvsgul and 49.2% in Arkhangai), followed via appearances of weeds (22.9% in Khuvsgul and 24.6% in Arkhangai) and drying of water sources (6.7% in Khuvsgul and 6.6% in Arkhangai). In addition, overgrazing, evidences of desertification, different yields, increased insects and tree encroachment have been named as changes occurred in pastures, but their shares are not very big. And, 3.8% and 2.5% of the informants in Khuvsgul and Arkhangai aimag said they did not know.

4.6 Wolf attacks

As previously mentioned, wolf attacks are a big threat to the herding households in the two project aimags. Even, during our interview with a women-headed non-beneficiary household in Tsagaan-Uur soum, a yearling cow seriously attacked by wolves, although she was live.

Table 23. Threats of wolves to the beneficiary and non-beneficiary households

Are wolves a threat to your herd?	Khuvsgul		Arkhangai	
	Answers	Percent	Answers	Percent
a. Livestock beneficiaries				
Yes	33	73,3	32	80
No	12	26,7	8	20
b. Non-beneficiary households				
Yes	26	76.5	24	82.7
No	8	23.5	5	17.3

Table 23 indicates that 73.3% and 76.5% of the beneficiary and non-beneficiary households in Khuvsgul aimag (respectively) recognized wolf attacks as threats, while 80.0-82.7% of informants named wolf threats.

Table 24. Hunting system for predators

Is there any system of hunting predators?	Khuvsgul		Arkhangai	
	Answers	Percent	Answers	Percent
a. Livestock beneficiaries				
Yes	28	62,2	13	32,5
No	17	37,8	27	67,5
b. Non-beneficiary households				
Yes	20	58.8	12	41.4
No	14	41.2	17	58.6

In the project areas, wolves cause biggest threats to herders, no other predators. As Table 24 indicates 62.2% and 58.8% of the non-beneficiary households in Khuvsgul aimag (respectively) and 32.5% and 41.1% of the beneficiary and non-beneficiary households in Arkhangai aimag have informed hunting on wolves takes place, but they were not very sure about effectiveness of the present hunting system. The rest informants declared there is no hunting system on wolves, at all. Many herders said they needed an efficient hunting on them.

5. ANIMAL LOANS

5.1 Receiving dates of animal loans

Most rural households try to build up their herds and increase their economic potentials. With a purpose to assist poor herding households to build up their herds, Khuvsgul and Arkhangai aimags have implemented Restocking Project funded by the IFAD in 1997-2003. Issuing animal loans from the project started in Arkhangai aimag in 1997 and in Khuvsgul aimag in 1999. During the survey, the 85 livestock beneficiaries were interviewed as borrowers of animal loans, of which 45 in Khuvsgul aimag and 40 in Arkhangai aimag.

Table 25. Years received animal loans

	Khuvsgul		Arkhangai	
	Qty	%	Qty	%
1997			6	15,0
1998			10	25,0
1999	1	2,2	10	25,0
2000	7	15,6	5	12,5
2001	19	42,2	3	7,5
2002	11	24,4	4	10,0
2003	7	15,6	2	5,0
	45	100,0	40	100,0

Table 25 indicates the livestock beneficiaries in Arkhangai aimag started receiving animal loans from 1997 and in Khuvsgul aimag from 1999. The major part of animal loans was received in Arkhangai aimag in 1998-1999 (50%) and in Khuvsgul aimag in 2001-2002 (66.6%).

5.2 Purpose of animal loans

During the survey, the livestock beneficiary households declared purposes of their animal loans as indicated in Figure 10.

Figure 10. Purposes of animal loans of the livestock beneficiary households
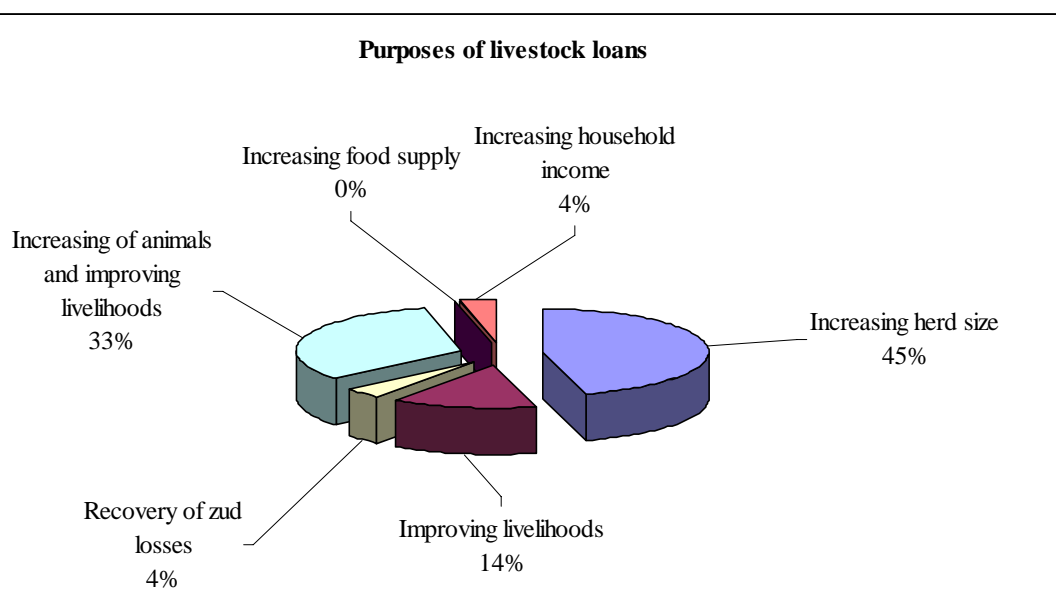
The survey result shows that 45% of the livestock beneficiaries took animal loans to increase their herd sizes, 33% to increase number of animals and improve their livelihoods, 14% to improve their livelihoods, 4% to increase their household incomes and 4% to recover Dzud losses. These statements are interrelated and finally they wanted to increase their economic and social welfares.

5.3 Amount and size of animal loans

Totally, the 85 livestock beneficiary households in the two aimags took animal loans in amount of 48609.1 thousand MNT, of which 45 borrowers in Khuvsgul aimag received 25730.1 thousand MNT and 40 borrowers in Arkhangai aimag 22879.0 thousand MNT.

Table 26. Animal loans of livestock beneficiaries in Khuvsgul and Arkhangai aimags

	Sheep loan	Goat loan	Yak loan	Cattle loan	Total	Loan amount, MNT
Khuvsgul animal loans	1051	235	194	135	1615	25730050
Arkhangai animal loans	976		180	167	1323	22879000
Total animal loans	2027	235	374	302	2938	48609050

Table 27. Average size of an animal loan per household

	Sheep loan	Goat loan	Yak loan	Cattle loan	All animals	Animal loans in Bod	Loan amounts, MNT
Average size of animal loan in Khuvsgul aimag	23	5	4	3	35	11	571779
Average size of animal loan in Arkhangai aimag	25		5	4	34	13	571975
Average size of an animal loan	24	3	4	4	35	12	571871

As Table 26 and 27 show that the 85 livestock beneficiaries have received 2938 animals on loans including 2027 sheep, 235 goats, 374 yaks and 302 cows. On average, a livestock beneficiary in Khuvsgul aimag borrowed 35 animals equivalent to 11 Bod, including 23 sheep, 5 goats, 4 yaks and 3 cattle, while a livestock beneficiary in Arkhangai aimag took 34 animals equivalent to 13 Bod, including 24 sheep, 5 yaks and 4 cattle.

In terms of value, the average size of an animal loan is 571779 MNT in Khuvsgul aimag and 571975 MNT in Arkhangai aimag, totally 571871 MNT for the two aimags. This means the average sizes of animal loans in the two project aimags are almost the same, in terms of the number of animals and values. The main difference is that Khuvsgul animal loans included goats, while Arkhangai ones did not.

In terms of money value, sizes of animal loans of individual livestock beneficiaries vary dramatically.

Figure 11. Fluctuations of sizes of animal loans

Sizes of animal loans in the two project aimags, '000 MNT
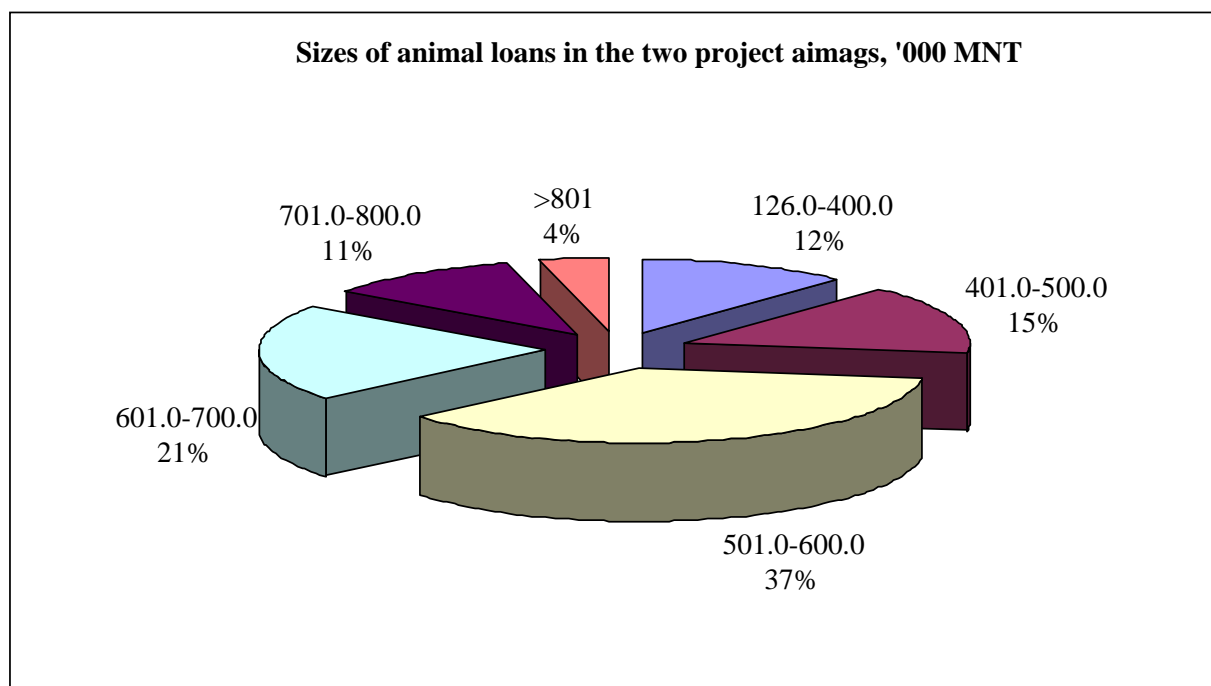
Figure 11 shows 37% of animal loans are given in amount of 501.0-600.0 thousand MNT, 21% in 601.0-700.0 thousand MNT, 15% in 401-500 thousand MNT and 11% in 701.0-800.0 thousand MNT. The bigger loans are over 800 thousand MNT (4%) and the smaller loans are between 126.0 to 400.0 thousand MNT.

5.4 Results of the restocking loans

As Table 7 shows a livestock beneficiary household in Khuvsgul aimag now has 99 animals equivalent to 28.5 Bod and in Arkhangai aimag 62 animals equivalent to 19 Bod, on average. At present, the numbers of livestock beneficiaries' animals vary very much. For example, 79 out of 85 livestock beneficiary households have some animals and 6 have no animals at all.

Out of the 79 borrowers with animals:
- 59 households have 2-185 sheep
- 66 households have 2-321 goats
- 45 households have 1-35 yaks
- 25 households have 1-6 khainags
- 25 households have 1-53 cows
- 67 households have 1-40 horses

The survey result shows the Khuvsgul livestock beneficiary households have more animals in comparison with the Arkhangai livestock beneficiaries. On average, a livestock beneficiary household in Khuvsgul aimag has 28.5 Bod and it is only 1.4% lesser in comparison with the herd size of a non-beneficiary household (28.9 Bod). An average livestock beneficiary household in Arkhangai aimag has 19.0 bod, which is 60.8% lesser than the average herd size of non-beneficiary households. As many informants indicated this difference in results of restocking projects in the two aimags is mainly because the most animal loans were given in Arkhangai prior to the recent years Dzuds and these households lost many animals in dzud.

5.5 Repayment of animal loans

The livestock beneficiaries have received animal loans on condition to repay sheep/goat loans in 6 years and yak/cattle loans in 9 years at 100% of interest rate for the given periods. In other words, they have to repay animal loans via animals in a doubled amount. Repayment of sheep and goat loans starts from the third year, while repayment of yak and cattle loans starts from the fourth year.

Now, the repayment status of animal loans is in different stages, depending on dates issued. Some livestock beneficiaries repaid their loans and others are repaying, while repayment of yak/cattle loans given later has not started yet.

As Figure 12 indicates 38% (26 borrowers in Khuvsgul and 7 in Arkhangai) of livestock beneficiaries repaid their loans completely and 31% (5 in Khuvsgul and 21 in Arkhangai) repaid their loans partially. Repayment of loans has not started yet for 13% of borrowers. At the same time, 18% of the animal loans are past due fully.

Figure 12. Repayment of animal loans in Khuvsgul and Arkhangai aimags

Repayment of livestock loans
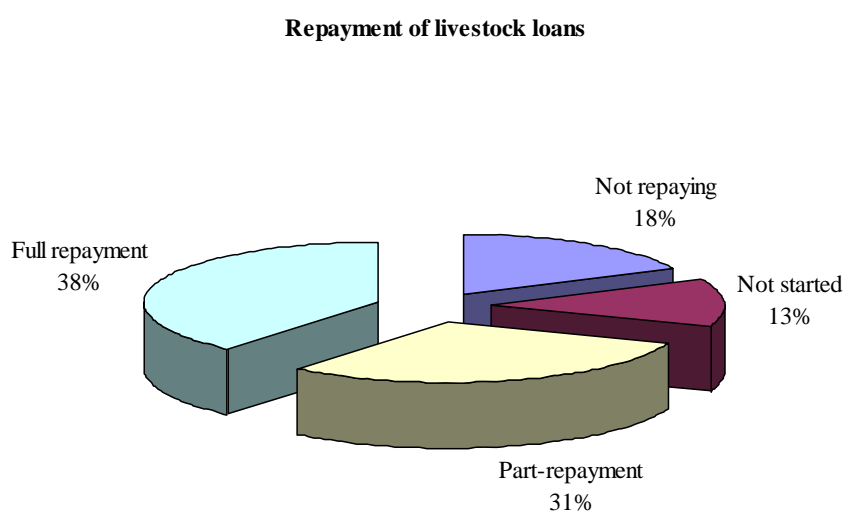
In accordance with the animal loan agreements, these loans should be repaid via identical animals, but the livestock beneficiaries now are repaying in cash. It is much useful for the borrowers because market prices of animals went up by 2.5-3 times, since the loans were disbursed.

5.6 Reasons for not repaying loans

Totally, 15 borrowers in the two aimags (5 in Khuvsgul and 10 in Arkhangai) do not repay their loans fully and 26 borrowers delay repayment of their animal loans partially due to the reasons indicated in Table 28.

23

Table 28. Reasons for loans not repaid on time

Non-repayment reason	Total past due loans		Khuvsgul		Arkhangai	
	Qty	%	Qty	%	Qty	%
Lost all animals in dzud	5	12,2	0	0,0	5	16,7
Lost most animals in dzud	10	24,4	1	9,1	9	30,0
Decreased livelihood level	23	56,1	9	81,8	14	46,7
Borrower sick	2	4,9	1	9,1	1	3,3
No saleable animals	1	2,4		0,0	1	3,3
Total	41	100,0	11	100,0	30	100,0

Table 28 indicates 11 loans in Khuvsgul aimag and 30 loans in Arkhangai are past due fully or partially. As the borrowers indicated that 56.1% of these non-performing loans are past due because of decreasing livelihoods of the beneficiaries (81.8% in Khuvsgul and 46.7% in Arkhangai) and 36.6% are past due because borrowers lost all or most animals in dzud (9.1% in Khuvsgul and 46.7% in Arkhangai). Other reasons of delaying repayment of loans are sickness of borrowers and lack of saleable animals.

Figure 13. Reasons of past due loans in Khuvsgul aimag

Non-repayment reasons of Khuvsgel livestock loans

Borrower sick 9%

Lost most animals in zud 9%

Decreased livelihood level 82%
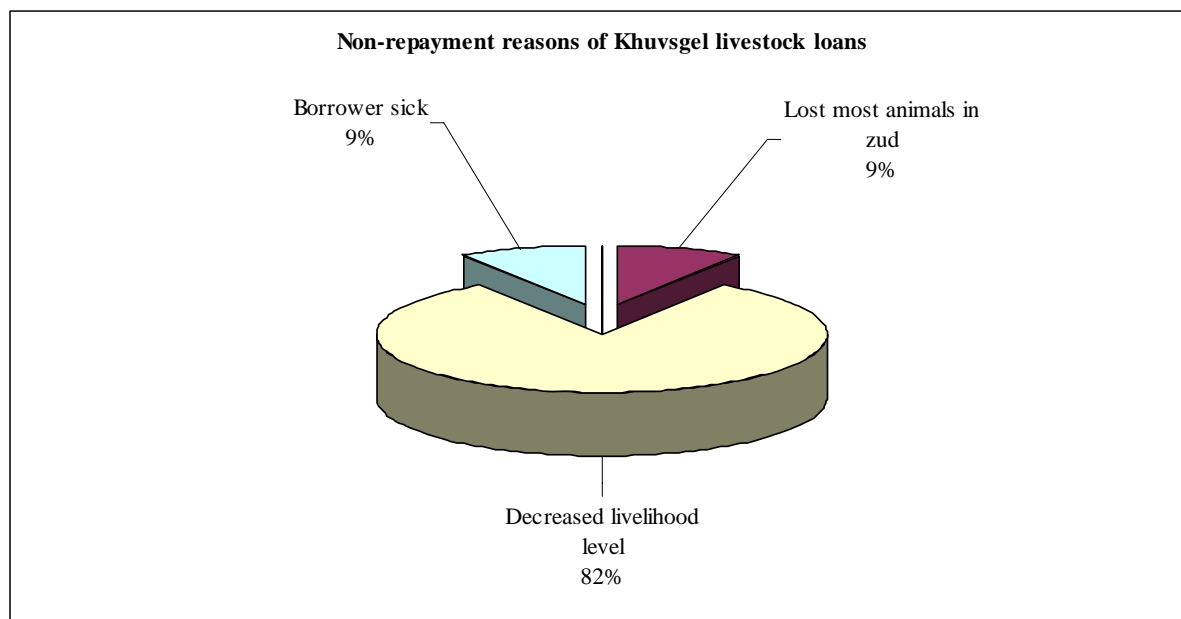
Figure 14. Reasons of past due loans in Arkhangai aimag

Non-repayment reason of Arkhangai livestock loans

No saleable animals 3%
Borrower sick 3%
Lost all animals in zud 17%
Decreased livelihood level 47%
Lost most animals in zud 30%
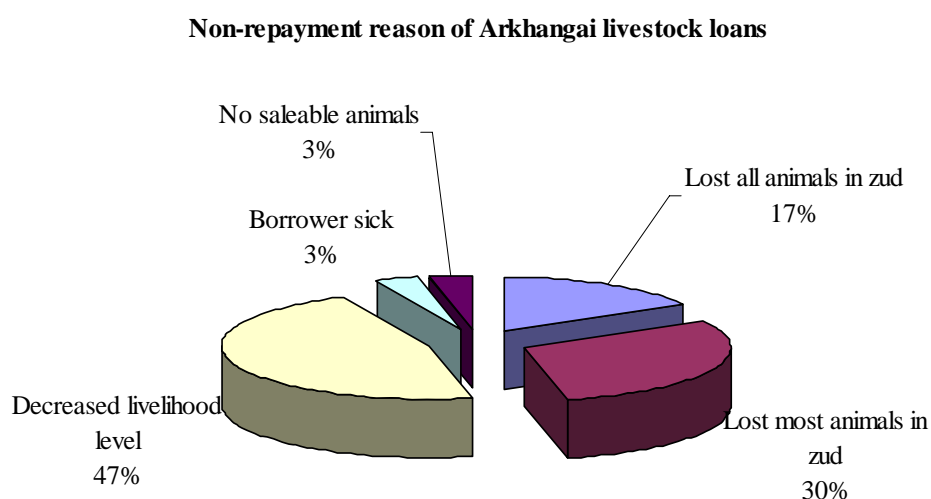
6. VEGETABLE LOANS

The vegetable component of the Restocking Project provided vegetable loans in Khuvsgul and Arkhangai aimags. Beneficiaries of the vegetable loans are not homogeneous and among the beneficiaries of the component there are vegetable growers, herders, businesses and employees of soum governors' officials and social servants.

6.1 Years received vegetable loans

The component has started issuing vegetable loans from 1997 in Arkhangai aimag and from 1999 in Khuvsgul aimag.

Table 29. Years received vegetable loans

Year received loan	Khuvsgul aimag		Arkhangai aimag	
	Borrowers	Percent	Borrowers	Percent
1997			11	68,8
1998			2	12,5
1999	3	18,8		0,0
2000	2	12,5		0,0
2001	3	18,8		0,0
2002	3	18,8	1	6,3
2003	1	6,3		0,0
2004		0,0	1	6,3
2005	4	25,0	1	6,3
Total	16	100,0	16	100,0

As Table 29 shows most vegetable growers in Arkhangai aimag have received vegetable loans in 1997-1998 (81.3%). On the contrary, vegetable growers in Khuvsgul aimag have received 68.9% of vegetable loans more evenly from 1999 to 2002.

6.2 Purpose of vegetable loans

The survey has identified purposes of the vegetable loans of the beneficiaries by asking from the borrowers interviewed.

Figure 15. Purposes of vegetable loans in Arkhangai aimag

Purpose of vegetable loans in Arkhangai aimag

Increasing household
income
6%

Improving livelihoods
44%

Increasing food
supply
50%
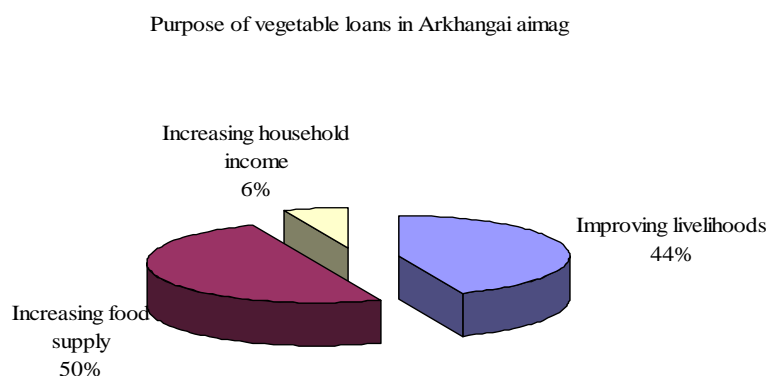
As Figure 15 indicates most borrowers in Arkhangai aimag received vegetable loans for domestic needs, for instance 50% for increasing their food supply, 44% for improving their livelihoods and 6% for increasing their household incomes.

Figure 16. Purposes of vegetable loans in Khuvsgul aimag

Purpose of vegetable loans in Khuvsgel aimag

To produce for sum
market
6%

Lasting previous
experience
13%

Lack of cash for seed
purchase
13%

Improving livelihoods
37%

Increasing food
supply
31%
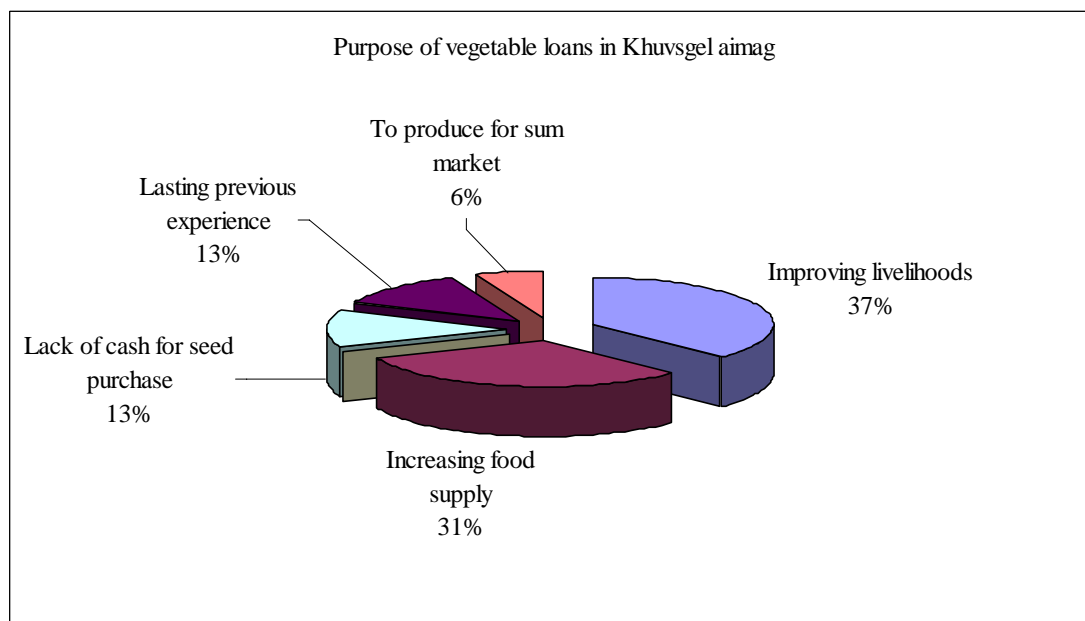
As Figure 16 shows purposes of vegetable loans in Khuvsgul aimag are broader and slightly market oriented because they were disbursed more recently.

6.3 Amount and size of vegetable loans

The vegetable beneficiaries in Khuvsgul aimag have received 904050 MNT loans, in total, while the total amount of loans taken by Arkhangai vegetable beneficiaries is 401100 MNT. The average size of a vegetable loan is 56503 MNT for a Khuvsgul borrower and 25069 MNT for an Arkhangai borrower. Sizes of individual vegetable loans are variable.

Table 30. Sizes of vegetable loans in the two project aimags

Grouping loans by their sizes	Khuvsgul aimag		Arkhangai aimag	
	Borrowers	Percent	Borrowers	Percent
<10000 MNT	4	25	6	38
10001-20000 MNT	5	31	6	38
20001-50000 MNT	3	19	3	19
50001-100000 MNT	3	19	1	6
>100001 MNT	1	6		0
Total	16	100	16	100

As Table 30 shows that vegetable beneficiaries in Arkhangai aimag received comparatively smaller loans and 76% of them borrowed loans up to 20000 MNT and 19% up to up to 50000 MNT. On the contrary, the average size of a vegetable loan in Khuvsgul aimag is twice bigger, and 56% of the vegetable beneficiaries received loans up to 20000 MNT and 38% of borrowers in amount of 50001-100000 MNT and 6% more than 100000 MNT.

6.4 Term and repayment of vegetable loans

The vegetable growers received short-term loans (a few months) and the PIUs in the two project aimags distribute potato seeds as seed loans in condition to repay after the harvesting of yields in the same year.

Table 31. Repayment status of vegetable loans

	Khuvsgul		Arkhangai	
	Borrowers	%	Borrowers	%
Loan repayment				
Not repaying				
Not started	3	18,8	2	12,5
Part-repayment				
Full repayment	13	81,3	14	87,5
Total	16	100,0	16	100,0

As Table 31 shows 81.3% and 87.5% of borrowers in Khuvsgul and Arkhangai aimag, respectively, have repaid their vegetable loans completely and the rest (18.8% and 12.5%) is expecting to be repaid after harvesting this year.

6.5 Training for borrowers

To the question of the Questionnaire "Did you have training?", 75% of informants in Khuvsgul aimag and 93.8% of informants in Arkhangai aimag have answered "Yes", and the rest "No".

Table 32. Training of borrowers

	Khuvsgul		Arkhangai	
	Borrowers	%	Borrowers	%
Yes	12	75	15	93,8
No	4	25	1	6,3
Total	16	100	16	100

6.6 Vegetable products

Some of vegetable beneficiaries grow many types of vegetables and some of them grow a few types of vegetables.

Table 33. Types of vegetables grown by the vegetable beneficiaries

What vegetables did you produce?	Khuvsgul vegetable growers		Arkhangai vegetable growers	
	Total	%	Total	%
Potatoes	15	93,8	15	93,8
Beets	9	56,3	10	62,5
Carrots	7	43,8	8	50,0
Cabbages	2	12,5	2	12,5
Beetroots	3	18,8	0	0,0
Cucumber	1	6,3	3	18,8
Tomatoes	3	18,8	2	12,5

Table 33 shows that 93.8% vegetable beneficiaries in each of the two project aimags grow potatoes, 56.3-62.5% of Khuvsgul and Arkhangai aimag beneficiaries (respectively) plant beets and 43.8-50.0% carrots. Shares of cabbages, beetroots, cucumbers and tomatoes are under 20%. Some vegetable beneficiaries have mentioned they grow also peppers, onions, garlic, water melon, pumpkins and peas.

6.7 Marketing of vegetables

During the survey, we found that vegetable growers are learning in marketing of their products. The vegetable beneficiaries have answered to the "Where and how will you sell them?" as indicated in Table 34.

Table 34. Marketing of vegetable beneficiaries

Where and how will you sell them?	Khuvsgul aimag		Arkhangai aimag	
	Borrowers	Percent	Borrowers	Percent
Consume domestically	3	19	8	50
In soum centre from home	6	38	1	6
Countryside in exchange for livestock products	3	19	1	6
To soum public organizations	1	6	2	13
Through brokers on aimag centre markets	2	13		0
Through aimag centre wholesale nets	1	6		0
In soum centre shop or kiosk		0	4	25
Total	16	100	16	100

The answers show that the vegetable beneficiaries in Khuvsgul aimag market their products mainly on the soum markets (38% from home, 19% to herders and 6% to soum public organizations) and some on the aimag center (13% through brokers and 6% through wholesale nets). On the contrary, the vegetable beneficiaries in Arkhangai aimag sell 50% of their products on soum markets (6% from home, 6% to herders, 13% to soum public organizations and 25% from kiosks). The Arkhangai aimag beneficiaries consume 50% of their products and it is more than two times bigger in comparison with that in Khuvsgul aimag (50% versus 19%). In many cases, the vegetable beneficiaries use barter exchanges, for example, one sack of potatoes is exchangeable for a yearling kid and two sacks for a yearling sheep. They also exchange their products for milk products.

6.8 Problems of vegetable beneficiaries

With assistance of the vegetable component, rural people are building up their experiences how to grow vegetables. This is a new occupation for some of them and they face many problems as indicated in Table 35.

Table 35. Problems faced by vegetable growers

	Khuvsgul					Arkhangai				
	1st prob.	2nd prob.	3rd prob.	Total	%	1st prob.	2nd prob.	3rd prob.	Total	%
Don't know	1			1	6,3	1			1	6,3
No soil preparation machinery	2	2	1	5	31,3	2	1		3	18,8
Lack of cash to purchase seeds	1	1		2	12,5	1	2		3	18,8
Low quality of seeds	3	1		4	25,0				0	0,0
Transported water		1		1	6,3	9		2	11	68,8
No irrigation pump or scheme	2	2		4	25,0			1	1	6,3
Not enough workforce	1			1	6,3					
Weeds	1			1	6,3					
Insufficient knowledge about fertilizers	1			1	6,3					
Lack of knowledge to struggle with insects	4	3	1	8	50,0	1	2	2	5	31,3
Lack of fertilizers							2	1	3	18,8
Rodents			1	1	6,3					
No greenhouses							1		1	6,3
Flood						1			1	6,3
Thefts								1	1	6,3
Bad climate		1		1	6,3					
No underground storage						1			1	6,3
Total	16	11	3			16	8	7		

For the Khuvsgul vegetable beneficiaries, big problems are insects (50%), hand preparation of soil (31.3%), low quality of seeds (25%) and lack of irrigation (25%). The Arkhangai vegetable beneficiaries have named transported water (68.8%), insects (18.8%), lack of cash for seed purchases (18.8%) and lack of fertilizers as big problems.

6.9 Future of beneficiaries' activities

To the question "Will you continue vegetable growing?", all the vegetable beneficiaries interviewed in Khuvsgul aimag and 93.8% of Arkhangai beneficiaries answered "Yes".

Table 36. Willingness of the beneficiaries to continue vegetable growing

	Khuvsgul		Arkhangai	
	Number	Percent	Number	Percent
Yes	16	100	15	93,8
No	0		1	6,3

The only one aged women answered to this question negatively because she is old enough and can not manage production activities.

7. CHANGES IN MATERIAL POSSISSION OF INTERVIEWEES

During the survey, we have studied changes in material possessions of livestock and vegetable beneficiaries and non-beneficiary herding households over 10 years.

Table 37. Number of households with changes in their material possessions

	Khuvsgul aimag		Arkhangai aimag	
	Households	%	Households	%
a. Livestock beneficiaries				
No changes	25	55,6	21	52,5
Changes occurred	20	44,4	19	47,5
b. Non-beneficiary households				
No changes	11	32,4	9	31,0
Changes occurred	23	67,6	20	69,0
c. Vegetable beneficiaries				
No changes	8	50,0	8	50,0
Changes occurred	8	50,0	8	50,0

As a result of the survey, 44.4% and 47.5% the livestock beneficiaries, 67.6% and 69.0% of non-beneficiary herding households in Khuvsgul and Arkhangai aimags, respectively, informed some changes occurred in their material possessions over the last ten years, while 50% of vegetable beneficiaries in each of the two project aimags gave the same answers. The rest of the interviewees answered there were no changes in their material possessions.

Table 38. Changes in material possessions of the livestock beneficiaries

	Khuvsgul aimag		Arkhangai aimag	
	Households	%	Households	%
Motorbike bought	5	11,1	7	17,5
Satellite antenna, B/W/Colour TV bought	14	31,1	3	7,5
Solar panel & electric generator bought	1	2,2	7	17,5
Refrigerator bought	0	0,0	0	0
Car bought	2	4,4	3	7,5
Mini tractor bought	1	2,2	0	0
Ger burned away	0	0,0	1	2,5
Valuable items sold	0	0,0	3	7,5
Winter shelter sold	0	0,0	1	2,5
Transport sold	1	2,2	0	0
Built up houses	1	2,2	0	0
Hay-making machine bought				
Carpentry tools bought				

Table 39. Changes in material possessions of the non-beneficiary households

	Khuvsgul aimag		Arkhangai aimag	
	Households	%	Households	%
Motorbike bought	5	14,7	9	31,0
Satellite antenna, B/W/Colour TV bought	17	50,0	16	55,2
Solar panel & electric generator bought	4	11,8	4	13,8
Refrigerator bought	0	0,0	3	10,3
Car bought	3	8,8	2	6,9
Mini tractor bought	0	0,0	0	0,0
Ger burned away	0	0,0	0	0,0
Valuable items sold	0	0,0	0	0,0
Winter shelter sold	0	0,0	0	0,0
Transport sold	3	8,8	1	3,4
Built up houses	0	0,0	1	3,4
Hay-making machine bought	0	0,0	0	0,0
Carpentry tools bought	0	0,0	0	0,0

Table 40. Changes in material possessions of the vegetable beneficiaries

	Khuvsgul aimag		Arkhangai aimag	
	Households	%	Households	%
Motorbike bought	2	12,5	2	12,5
Satellite antenna, B/W/Colour TV bought	5	31,3	6	37,5
Solar panel & electric generator bought	1	6,3		0,0
Refrigerator bought	1	6,3	2	12,5
Car bought	3	18,8	1	6,3
Mini tractor bought				
Ger burned away				
Valuable items sold				
Winter shelter sold				
Transport sold				
Built up houses			2	12,5
Hay-making machine bought	1	6,3		0,0
Carpentry tools bought		0,0	1	6,3

As Tables 38-40 show that changes in material possessions of the interviewed households are characterized with purchases and sales of their valuable items. For example, purchase of satellite antenna, black/white and colour TVs is the most common changes in material possession of the interviewees (31.1% and 7.5% of the livestock beneficiaries, 50% and 55.2% of the non-beneficiary households, and 31.3% and 37.5% of the vegetable beneficiaries in Khuvsgul and Arkhangai aimags, respectively). Then, purchase of motorbikes is the next considerable changes in material possession of the informants (11.1% and 17.5% of the livestock beneficiaries, 14.7% and 31.0% of the non-beneficiary households, and 12.5% and 12.5% of the vegetable beneficiaries in Khuvsgul and Arkhangai aimags, respectively). Third, 4.4-7.5% of the livestock

beneficiaries, 8.8-6.9% of the non-beneficiary households and 18.8-6.3% of the vegetable beneficiaries bought a car or a track. A few households in the two aimags have built up wooden houses.

At the same time, some households sold their valuable items such cars. Three livestock beneficiary households sold their silver items and a snuff bottle to buy animals but they could not have much success. Unfortunately, a livestock beneficiary household in Arkhangai aimag lost all animals in dzud and burned own ger.

8. SUGGESTIONS FOR FUTURE PROJECT DESIGN

During the survey, all the 85 livestock and the 63 non-beneficiary households have suggested their opinions for better future project design. Table 41 show that the only 22.2-37.5% of livestock beneficiaries in Khuvsgul and Arkhangai aimags (respectively) told their suggestions while the most vegetable beneficiaries made their suggestions (87.5% in Khuvsgul aimag and 93.8% in Arkhangai). The present achievement of

Table 41. Answers to the question "Suggestions for better future project design?

	Khuvsgul aimag		Arkhangai aimag	
	Answers	Percent	Answers	Percent
a. Livestock beneficiaries				
No suggestions	35	77,8	25	62,5
Suggested	10	22.2	15	37,5
Number of suggestions	11	100,0	19	100,0
b. Vegetable beneficiaries				
No suggestions	2	12,5	1	6,3
Suggested	14	87,5	15	93,8
Number of suggestions	19	100,0	29	100,0

The present restocking project can be a reason for a lower number of suggestions for better future project design. Second, livestock beneficiaries might see no much need for outside interventions. They said most things are dependent on themselves.

Table 42. Suggestions for the better future livestock project design

	Khuvsgul aimag		Arkhangai aimag	
	Households	%	Households	%
Animal husbandry training	1	9,1	2	10,5
Business and marketing training	1	9,1	1	5,3
Teaching better ways of living			1	5,3
Expansion of the project coverage	1	9,1		
To invest in pasture water supply			3	15,8
To improve veterinary services	1	9,1	1	5,3
To decrease interest rate on occasion of natural disasters	4	36,4	6	31,6
To provide unsuccessful beneficiaries with jobs			3	15,8
To provide inputs	2	18,2		
To provide small processing units on loans	1	9,1		
To include insurance in project			1	5,3
To include environmental protection in design			1	5,3
Total	11	100,0	15	100,0

The analysis of suggestions of the livestock beneficiaries for better future livestock project shows that 36.4% and 31.4% of them in Khuvsgul and Arkhangai aimags have suggested decreasing interest rates of animal loans on occasion of natural disasters. Other suggestions are slightly different. For example, 18.2% of the Khuvsgul beneficiaries suggested having trainings in animal husbandry and business subjects, 18.2% want production inputs, 9.1% small processing units of livestock products, 9.1% improving vet services and 9.1% expansion of project coverage. At the same time, 21% of Arkhangai livestock beneficiaries suggested including trainings in animal husbandry, business and better living and 15.8% want investing in pasture water supply, 15.8% arranging jobs for unsuccessful livestock beneficiaries and the rest 15.9% suggested including improving veterinary service, animal insurance and environmental protection in project designing.

Table 43. Suggestions for better future vegetable project design

Suggestions for better future project design	Khuvsgul aimag		Arkhangai aimag	
	Households	Percent	Households	Percent
To assist in soil preparation	2	10,5	1	3,4
To assist in seed supply	7	36,8	4	13,8
To assist in current assets	2	10,5	0	0,0
To assist in getting vegetable areas	4	21,1	2	6,9
To assist in workforce supply	0	0,0	0	0,0
To supply with small tractors	1	5,3	1	3,4
To support cooperatives	2	10,5	4	13,8
To assist in access to loans	1	5,3	0	0,0
To assist in irrigating	0	0,0	7	24,1
To assist in fencing	0	0,0	1	3,4
To supply with chemicals	0	0,0	4	13,8
To supply with hand tools	0	0,0	2	6,9
To assist in building underground storages	0	0,0	1	3,4
To assist in green houses	0	0,0	2	6,9
Total	19	100,0	29	100,0

The suggestions of the vegetable beneficiaries are linked mainly with vegetable growing activities. For example, the Khuvsgul beneficiaries want to include in project design seed supply (36.5%), delivery of vegetable areas (21.1%), assisting in soil preparation (10.5%), in current assets (10.5%) and in loan access (5.3%), supporting cooperatives (10.5%) and in supply of small tractors. The Arkhangai vegetable beneficiaries suggested including in project design irrigating (24.1%), seed supply, supporting to coops and supplying chemicals (13.8% each), allocating vegetable areas (6.9%), supplying small tractors (3.4%) and hand tools (6.9%) and assisting in building green houses (6.9%), assisting in soil preparation, fencing vegetable areas and building underground storages (3.4% each).

9. CONCLUSIONS AND SUGGESTIONS

9.1 Conclusions

1. The restocking project has implemented successfully in most cases, especially in Khuvsgul aimag. This conclusion based not only on the survey results, but also on perceptions of the interviewed livestock beneficiaries, aimag and soum government officials and project specialists.
2. The recent harsh winters and natural disasters badly resulted in project implementation of some livestock beneficiaries, especially in Arkhangai aimag. Many interviewed beneficiary households lost their animals partially and 6 households (7%) have lost their animals, completely.
3. The poor performances of the insurance agencies made beneficiary households suffer greater losses. Mongol Daatgal Company compensated only 29-33% of animal losses in best cases and many beneficiaries could not get compensation of lost animals, at all.

4. The beneficiary and non-beneficiary households produce extra expenses due to unsatisfactory local social services, via sending sick people and some children to aimag centers and big cities. Many of the interviewees also criticized police organizations do not take actions to stop thieves of animals.
5. The vegetable component's activities are very not targeted at the poor and it delivers vegetable seeds to households not considering their wealth conditions. So, its results are unclear in some cases.
6. The small herd size can be good criteria for selection of poor households but it is not enough for selection of a good borrower. In terms of credit point of view, the project did not pay enough attention to character, abilities and purposes of borrowers when they issued animal loans.

9.2 Suggestions

1. The IFAD Restocking Project issues animal loans, so, requests of potential beneficiaries should be appraised as loan applications. Thus, we are suggesting using progressive methods of loan appraisals including international methods such as CAMPARI.
2. It is suggested to more target project activities at certain segments of beneficiaries and to task them to achieve certain results. Such results and requests of beneficiaries can be attached to agreements signed with beneficiaries and monitored regularly.
3. Restocking of poor households can be done by local authorities or communities, with assistances of government or international organizations. Such restocking programs can be financed by the project or funding organizations after monitoring its results.
4. This report is based on perceptions of the livestock and vegetable beneficiary households and non-beneficiary households and it can be used for cross-checking of results of International Evaluation Team for the Completion Evaluation of the Restocking Project, IFAD, and for better future project designing.

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