



## Minor Field Studies No 353

# Changing Land Rights, Changing Land Use: Privatisation Drives Landscape Change in Post-Soviet Kyrgyzstan



Camilla Eriksson

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## Preface

This paper on changes in land use systems as a consequence of privatisation of agriculture in Kyrgyzstan is based on fieldwork carried out during the summer of 2004. Fieldwork was conducted in three communities, whereof two earlier collective farms (*kolkhozes*) and one state farm (*sovkhos*), representing different geographical environments. Sida's Minor Field Study Programme and Stockholm University financed the fieldwork. The study was greatly facilitated by practical support by the Central Asia Project of the NCCR, North-South Research Programme, University of Berne, Switzerland, as well as CAMP, Central Asian Mountain Partnership, Bishkek, Kyrgyzstan. Bo Lauri at Swedesurvey, Bishkek, Kyrgyzstan functioned as a local resource person. This study has benefited substantially from inputs and advice from my supervisor Prof. Carl Christiansson, Dept. of Physical Geography and Quaternary Geology, Stockholm University. Stefan Ene at the GeoProcessing Unit, Dept. of Human Geography, Stockholm University has provided important and much needed technical support

The aim of this paper is to identify, document and analyse the change in land use systems as a consequence of the privatisation of agriculture in Kyrgyzstan. A combination of different methods has been used in the study: semi-structured deep interviews with representatives of selected households in the three study areas; interviews with collective farm managers and representatives of various administrative bodies including individuals which have been directly involved in the land reform work; field observations and documentation; map and satellite image analysis for reconstruction and illustration of land use change, and finally literature studies and analysis of law texts have played an important role.

The three study areas are all local governments, and situated in different physical environments at different altitudes: Pervomaisk in the lowlands at 500 m, near Bishkek, the capital; Svetlaya Polyana in the intermontane basin of Ysyk-Kol at 1600 m, and Jergetal in the highlands at about 2500 m. In Pervomaisk, 13 household representatives have been interviewed, in Svetlaya Polyana and Jergetal 10 and 11 households respectively. In addition to household representatives, 17 key informants including managers of cooperatives, administrative staff and legal experts have been interviewed in order to gain general information regarding the agrarian reform and its implementation within the study areas or nationwide.



FIGURE 1. MAP OF KYRGYZSTAN

The map shows Kyrgyzstan's dramatic topography, which gives rise to different agricultural regions. All names are written with Turkish letters, which means that the spelling of names might differ from those used in this paper. The study areas are marked with squares, number one showing Pervomaisk local government situated in Chui *oblast* on the lowland bordering Kazakstan, close to the national capital Bishkek. Number two is Svetlaya Polyana local government, situated in Ysyk-Kol *oblast*, on the fertile plains surrounding lake Ysyk-Kol. The highland study area Jergetal local government is shown as number three, situated close to Naryn city, which is Naryn *oblast's* administrative centre. The politico-administrative hierarchy in Kyrgyzstan consists of three levels (besides from the state). *Oblasts* are the largest sub-national administrative territories, which are subdivided into several *raions*, both administrative levels established in Kyrgyzstan during the Soviet time. Each *raion* is in turn are subdivided into local governments, *aiyl okmotus*, which were established in 1997.

*Based on University of Texas Libraries (1996)*

## CHAPTER 1

### From Plan to Market: Reforming Soviet agriculture

*During the 20<sup>th</sup> century Kyrgyzstanis have experienced two major transitions relating to the organisation of agriculture. The first transition was that from traditional pastoralism to Soviet command agriculture. During this process, the previously nomad Kyrgyz were forcibly settled on collective or state farms, which started in the 1920s as a result of the creation of Kirgizia (Kirgiz Soviet Socialist Republic). The second transition, starting off when the Soviet Union collapsed, was from the Soviet command agriculture to a market-oriented system. All agricultural reforms undertaken since independence have aimed at reforming agriculture in order to adjust to the emerging market economy.*

#### The legacy of Soviet agriculture

One of the most fundamental principles of Soviet socialism was nationalisation of the factors of production. Private land tenure was forbidden and replaced by state or collective-owned land (Åslund 2002: 21). The Soviet command agriculture is characterised by its strong belief in the advantage of large-scale farming. This was manifested through the industrialised state farms with hundreds of employees and areas of cultivated land and pastures far exceeding what was common in Western countries at the time (Hedlund 1986: 100). To facilitate keeping of large herds of farm animals in lowland areas, complementary upland grazing was

assigned to lowland farms, often considerable distances away. As rail and road transport became available animals were transported to summer pastures in the highlands with vehicles (Wilson, 1997: 59).

There were basically two ways of organising agriculture in the Soviet Union: in state farms, *sovkhoses*, or collective farms, *kolkhoses*. The state farms were enterprises that employed agricultural workers, who received a salary just as an industrial worker. These farms cultivated large areas, according to national economic plans. The collective farm on the other hand was organised as an agricultural cooperative, where the members of the collective “owned” a

part of the farm's land and landed properties. Decisions about the collective farm's whereabouts were taken at meetings where all the members participated. The earnings that the collective farm made were distributed among the members based on the individual effort put down at working on the collective farm. The land of the state farms and collective farms could consist of different proportions of cultivated land and pastures (Maggs 1971: 139-40).

The organisation of labour on Soviet farms was highly specialised – people had official work titles such as herders, milkmaids, technicians, electricians, tractor drivers and constructors. Women were often employed to carry out various forms of manual labour such as weeding, hay gathering and so on. All workers received a salary; the amount varied between different occupations where manual labour was a low-wage job, while drivers or technicians were relatively high-paid occupations. Also animal herders received a higher wage than those working with animals or cultivation near the village. This can be seen as a compensation for not being able to benefit from the welfare institutions (such as medical care, libraries and so on) on equal terms while tending the animals in the summer pasture areas (Nurdin Barakanov, head of collective farm *Pobeda* during the Soviet time, interview 2004).

Parallel to the organised work within the collective and state farms, there was also private production on household plots that was intended to keep the workers self-sufficient with basic food items. In



FIGURE 2. Abandoned agricultural buildings suited for large-scale farming are a common sight today (picture taken in Svetlaya Polyana).

fact, private production on household plots made up 30% of agricultural production within the Soviet Union, although they only made up 1.6% of the arable land (Medvedev 1987:364). All workers on collective and state farms were entitled to a household plot adjacent to their homestead. The area varied from farm to farm, but it was most often less than 1/3 ha. The farm provided machinery and other farm inputs needed. Most other tasks were done manually, within the family. Within the study areas dealt with in this paper, the most common crops grown on the household plots were (and still are) potatoes, vegetables, fruits and berries.

On the household plots, farm workers were allowed to keep a limited number of farm animals for self-sufficiency purposes. In all three study areas, villagers were officially permitted to keep up to ten sheep, one horse, one cow and an unlimited amount of poultry in private ownership. The farms allocated pastureland close to the village for keeping of the privately owned livestock, the villagers only paid for the service of herders who took care of their animals during workdays. The animals that belonged to the collective farm were kept separate from the privately owned

animals. The opportunity to both cultivate and keep animals for domestic use meant that all workers were self-supporting on milk, eggs, potatoes, vegetables and fruit. What they needed to purchase from the farm were products such as grain for making flour and fodder for their animals (Barakanov, interview 2004).

### Agrarian reform in the Central Asian Republics

Decollectivisation of the Soviet agricultural system has been accomplished differently within the now independent former Soviet republics. In principle, two different ways of decollectivising land have been seen as legitimate: restitution, i.e. giving back land rights to previous owners, which has been exercised in East and Central Europe. The second form of legitimate decollectivisation is distribution of land to agricultural workers on the collective or state farms, which has been the case in the Kyrgyz Republic (Åslund 2002: 282-3).

If agrarian reform is to result in a change in the agricultural landscape, a real shift farm management and mode of production must also take place. In several of the former Soviet Republics where decollectivisation has been implemented by distributing land to agricultural workers, it has not had any real effect on the agricultural management system. This since the distributed land shares have only been fictive, not physical. In these cases, the farms have been restructured into cooperatives, where every worker owns one share. The shareholders of the cooperative do not own any specific land

plot; they own a share in the cooperative in more or less the same way as they did as *kolhoz* members. Thus, the management of the farm and the modes of production remain unaltered. Depending on national legislation, workers may or may not be allowed to take their share out of the cooperative for private use in countries where a share distribution reform has been implemented (World Bank 2003: 140).

All of the Central Asian Republics are today relatively poor, agrarian economies. Kazakhstan, Uzbekistan and Turkmenistan have substantial reserves of oil, gas and valuable minerals such as gold. However, the distributive social system established during Soviet times has collapsed, which means that the income generated from the extraction industry does not reach "common" people, the majority of whom live in rural areas. Under those conditions, having access to land for subsistence farming is essential, in order to guarantee food security and livelihood opportunities for the rural poor.

However, the Central Asian states have not been pioneers in terms of decollectivising agricultural land – of the Central Asian states, it is only Kyrgyzstan and Kazakhstan that allows full private ownership of land. In Turkmenistan, agriculture is still fully controlled by the government, and although land officially has been privatised, farmers do not have the right to sell their land shares. In Uzbekistan and Tajikistan, land is considered national property, so systems of user rights have been established. In both countries, the state has substantial



control over land use, especially the economically strategic cotton farming. The collective farms where people work for low salaries remain. Until 2003, only household plots that residents of the collective farms had land use rights to during the Soviet time could be privately owned in Kazakhstan (Lerman 2001: 98). In 2003, a new law making private ownership of all agricultural land possible was granted, however it is uncertain how it will be implemented. In conclusion, Kyrgyzstan certainly stands out as the most liberal reformer of agriculture among the Central Asian Republics.

#### Chronology of Kyrgyzstan's agrarian reform

In Kyrgyzstan, the privatisation process started almost immediately after independence. Largely, Kyrgyzstan has followed the "blueprint for reform" introduced by the World Bank in 1992. The reform plan comprised of market liberalisation, decollectivisation (establishment of family farms), deregulation and privatisation. With this plan, the World Bank anticipated a fast transition to a market economy, which would, at the same time, minimise the difficulties that a transition process may impose on rural inhabitants (Spoor & Visser 2001).

Already in 1991, decollectivisation was made possible through obliging all state and collective farms to allocate land to individuals wishing to start a private farm. Individual farmers who took the opportunity of doing so got very favourable conditions, since they got access to the state supply and marketing apparatus. Thus individual farmers had

the right to acquire farm machinery, seed, fertilisers and other inputs at prices set for collective farms. They also had access to state marketing channels, and received low interest rates on credits (Bloch & Rasmussen 1998: 116-7).

In 1994 all collective and state farms were forcibly decollectivised through new legislation and presidential decrees. All farms distributed shares of their arable land and non-land assets to all farm residents. On this occasion, workers obtained land use rights valid for ninety-nine years. At the same time, a total prohibition to sell land shares was enacted, although it was allowed to rent out land temporarily. However, 25% of each former collective or state owned farm's arable land is kept in a State Redistribution Fund (SRF) managed by the Ministry of Agriculture<sup>1</sup>. This land is allocated to farmers who need additional land, and can also be used for allocating land to farmers who can claim legitimate rights to land which was not distributed in the initial phase. Pastureland is not distributed, but kept in state ownership. However, pastureland can be rented out to farmers by local governments (Bloch & Rasmussen 1998: 116-7).

A nationwide referendum was held on October 17, 1998, to introduce the concept of private ownership of land to be added to the Constitution. The privatisation of land was accomplished in a way that did not bring any significant change to the farmers: the use

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<sup>1</sup> Later the management of the State Redistribution Fund (SRF) was decentralised. Today the Local Governments are responsible for SRF lands within their territory, as are *raions* and *oblasts*.

rights distributed in 1994 were transformed into private property, i.e. no redistribution was made. However, there are several restrictions regarding land transactions, regulated in the law on *Management of Agricultural Lands* enacted in September 2001 (Law of the Kyrgyz Republic on Management of Agricultural Land, 2001). Firstly, “owners of agricultural land shares have the right to sell land only to other owners of agricultural land shares in the same plot<sup>2</sup> without payment of state fee” (article 15). Secondly, “the maximum size of an agricultural land parcel in the ownership of a citizen of the Kyrgyz Republic may not be more than 20 average land shares in one *ail-okmotu*<sup>3</sup>, however not more than 50 hectares” (article 18). Thirdly, “buyers of agricultural land in the case of resale of purchased land parcels during the first year shall pay a state fee at the amount of 40 percent, during the second year 20 percent and during the third year 10 percent of the purchase sum of the land parcel” (article 19). Land that cannot be sold, or held in private ownership is land in the Redistribution Fund (25% of all irrigated land), as well as pastureland that is exclusively owned by the state (article 20, 21).

However, when the law was to be implemented, a discussion was raised (on *oblast* level<sup>4</sup>) concerning *who* should

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<sup>2</sup> It is unclear what is meant by the same “plot”.

<sup>3</sup> Local Government

<sup>4</sup> This issue of ownership rights was discussed throughout Chui *oblast*, as well as in Osh and Jalal-Abad *oblast*, in the south of Kyrgyzstan (Rajapov Ertabyldy, interview 2004).

Interestingly, in Chui *oblast* arable land is relatively abundant, while it is a scarce resource in the densely populated Osh and Jalal-Abad

get ownership rights within the existing farms. The argument concerned to what extent non-agricultural workers could claim ownership rights of land, since they were not productive parts of the collective farms or state farms on which they lived. In the end it was decided that the collective and state farm leaders should solve this question locally (Rajapov Ertabyldy, Vice Director of GosRegistr local office in Sokuluk, interview 2004).

Another aspect of land tenure is that of women’s rights. Although women and men alike were granted land ownership rights during the distribution, in practice Land Certificates were given to the (male) head of the household (for the whole household’s regard). This has no justification in the Land Code, where land ownership is regarded as individual, but is primarily a choice of convenience for the administrators (Shim Kanayev, Kyrgyz Agrarian University, interview 2004). In practice, this means that the household head is regarded as the formal landowner. Women seldom claim compensation for their land shares, in case of divorce or other family break-ups. This also applies to children, who in fact were given land rights on equal terms as their parents. Adult daughters generally do not claim to their land shares when they marry (Tukan Musuralieva, private farmer, interview 2004).

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*oblast*. The three areas are all lowland areas, with large-scale industrial and market oriented agriculture, where it is plausible to assume that there are more residents on the farms that were not involved directly in the agricultural production, compared to highland areas, where this discussion is absent.

## CHAPTER 2

### Cooperatives in the Lowland: Conserving Soviet Land Use Patterns

*Kyrgyzstan's few large cities – Bishkek, Osh and Jalal-Abad are all situated in the lowlands (Figure 1). This means that markets for agricultural produce and access to information is available to a much higher degree here than in the infrastructurally and economically marginal highland areas. Bishkek is situated in the northern parts of the country, bordering Kazakhstan, while Osh and Jalal-Abad are situated in the Ferghana valley in the south, bordering Uzbekistan. The lowlands are characterized by favourable conditions for intensive irrigated agriculture. However, arable land per capita is considerably higher in the northern plains than in the more densely populated Ferghana valley in the south. Thus, land is relatively abundant in the northern lowlands, where the study area Pervomaisk local government is situated (Figure 3).*

Pervomaisk local government consists of three villages; the main village *Pervomaisk* with 1705 inhabitants, *Nationalia* with 807 inhabitants, and *Panfilova* with 142 inhabitants, which makes a total of 2654 inhabitants (Maria Vorobyova, Statistician, interview 2004). Since 1980, the population has decreased by approximately 300 inhabitants. This decrease is mainly due to post-Soviet emigration of ethnic Germans and Russians that previously populated the area. Additionally, young people move to the national capital, Bishkek, which is situated only 30 kilometres from Pervomaisk village, in search

of work opportunities. This has led to an increase in the median age of the population to approximately 50-55 years of age. Nevertheless, there has also been a substantial immigration to the area; 130 refugees from the civil war in the neighbouring country Tajikistan settled here during 1994. Also an undetermined number of ethnic Kyrgyz have settled in the area and purchased homesteads from emigrating Germans and Russians (Vorobyova, interview 2004).

## Land use established during the Soviet time

Between 1936 and 2001, Pervomaisk local government<sup>5</sup> was known as the state farm *Kyrgyzskaya Selectionaya Stantsia* (KOSS). KOSS was one out of 15 seed or livestock experimental farms in the Kyrgyz Republic. KOSS produced high-quality seeds of primarily sugar beet, but also wheat. Different seeds were crossbred in order to develop new, high quality seed. KOSS was the largest sugar beet seed supplier within the Soviet Union, tells Aleksandr Barko, who was head of state farm KOSS during the Soviet time (interview 2004).

Production goals were set by the Institute of Land in Bishkek, through which the farm management communicated with Moscow. The farm's production goals included 10 000 tons of sugar beets per year, for which purpose 100-400 hectares of sugar beet were cultivated every year. Crop rotation was always practiced on the lands of the farm; sugar beet, wheat, barley and forage were rotated on all fields. Sugar beets are regarded to deplete the soil of its nutrients; hence the farm management planned the crop rotation schedules accordingly, says agronomist Tukui Alymkulov (interview 2004). The sugar beets were sold to a sugar factory (which today has become a vodka distillery). In Sokuluk *raion*, all state and collective farms bought seeds of sugar beet, wheat and barley from KOSS. Thus, the farm had a strong position in the

<sup>5</sup> As a result of a politico-administrative reform in 1997, the village committees that existed within the collective and state farms were declared as Local Governments (*aiyl okmotu*).

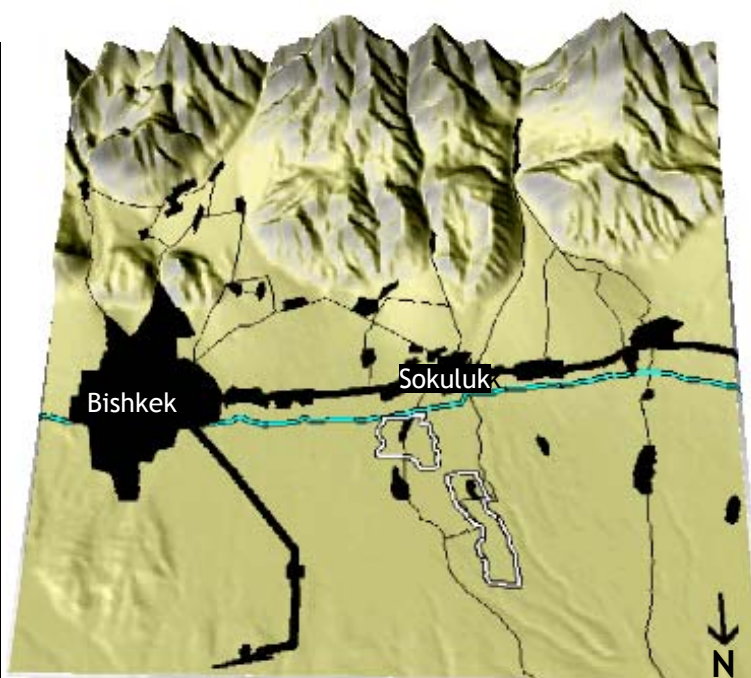


FIGURE 3. REGIONAL OVERVIEW OF PERVOMAISK

This model shows an area of 50 km from north to south; 52 km east to west. Note that north is down in the picture. The model present the regional setting of Pervomaisk local government (marked in white lines), which territory is exactly that of the former state farm KOSS, is situated on the plain with the high rising Tien Shan mountain ridge in the south. The Big Chui Canal, the main irrigation canal in Chui *oblast* runs right along Pervomaisk's border. Pervomaisk's proximity to the national capital Bishkek, also the largest city in Kyrgyzstan, is clearly shown. Bishkek is naturally a major market place of great importance for farmers in Pervomaisk.

*oblast*, if not in the whole country. The farm economist, Nasorov, tells that KOSS had a very good economy, and was often able to make a profit. The surplus went into a fund that was used for social aid to people who worked on the farm, as well as for building and maintaining infrastructure within the farm. In spite of the farm's location on the lowland, KOSS had large herds of livestock and small animals (whereof 800 milk cows), sheep, swine and poultry. KOSS managed to keep a large number of farm animals since the farm had access to pasture areas in the mountains, situated about 50

km south of the farm, says Pyotr Nasorov, who was an economist at KOSS (Interview 2004).

During the Soviet time, all rural households were entitled to a household plot adjacent to the homesteads, where cultivation and animal keeping was allowed for self-sufficiency. KOSS provided for summer pastures, hence workers paid a herder to take care of the animals throughout the summer (Museenko, interview 2004). Common crops grown on the household plot were potatoes and vegetables such as cucumbers and onions. These were grown together with different kinds of fruit trees. It was uncommon to use chemical fertilisers, but the manure from their own farm animals was used on the fields in the household plot, tells Saymrbek Karatalov (private farmer, interview 2004).

#### Large-scale farming sustain

Experimental farms were excluded from all land laws until a presidential decree on privatisation of seed and breeding



FIGURE 4. KOSS Cooperative continues to use land and farm machinery in the same way as the state farm did

farms was enacted in 1999. When this law was implemented, the workers and residents of KOSS were assigned ownership of the farm's land. As mentioned in Chapter 1, there was a fierce debate in Chui *oblast* (where Pervomaisk local government is situated) concerning the rights of non-agricultural workers to claim land rights. In Pervomaisk local government a complicated schedule for land distribution was carried out as a result of the land rights debate. Agricultural workers received 100% of a land share (1.55 ha, whereof 1.3 ha irrigated land<sup>6</sup>), non-agricultural workers 50%, and residents on the farm who did not work there<sup>7</sup> received 25% of a full land share. In total, 2298 people got land during the distribution of land, all of which were workers or residents on KOSS. In the process of restructuring the farm, a cooperative was formed to which all individual land shares were allocated in accordance with directions from the Ministry of Agriculture. The cooperative kept the name of the state farm, and is thus called KOSS Cooperative. Later it became possible for workers to leave the cooperative on their own initiative, which means that any shareowner has the right to reclaim their land share for private use (Barko, interview 2004).

KOSS Cooperative continued to function largely as KOSS State Farm did, and so continued to refine sugar beets until 2001, when the activity of refining sugar

<sup>6</sup> The size of the land shares was calculated through dividing the land area by the number of eligible residents

<sup>7</sup> Most often farm worker's spouses, who could be unemployed or employed elsewhere

beets was registered as a separate enterprise on initiative from the Ministry of Agriculture. The new enterprise was named KOSS Experimental Station of Sugar Beet. Thus, the important production and refinement of sugar beets continues although on a smaller scale than was practiced during the Soviet time. The state-owned Experimental Station rents land from the State Redistribution Fund. The landed property, animal stocks and farm machinery of the state farm were divided between KOSS Cooperative (75%) and KOSS Experimental Farm (25%). This means that no farm machinery or landed properties have been assigned to individual owners, as it has in other areas<sup>8</sup> (Nikolajovna; Barko, interview 2004).

Largely, the cooperative KOSS inherited the management functions of the state farm KOSS. The main difference between the function of the present KOSS Cooperative and the old state farm KOSS is that today's KOSS no longer deliver its products to the state, but distributes them to the shareholders of the cooperative, or sell them on the market (Nasorov, interview 2004). The cooperative shareholders (2364 people) officially rent their land to the cooperative, for which they get a part of

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<sup>8</sup> There is no obvious explanation to why state farms' assets were distributed to the workers, since they officially had no other rights than that of an industrial worker, not comparable with the membership status as workers on collective farms (*kolkhozes*) had. In spite of this, the state made no difference between state-owned and collective farms throughout the reform process, except for the special treatment of seed and breeding farms.

the production in return. Currently, the cooperative pools 1851<sup>9</sup> ha of land, whereof 1548 ha irrigated. This means that the cooperative uses about 80% of the amount of irrigated land compared to what the state farm did during Soviet times. The state farm had about 1800 employees, while the cooperative only has 330 employed workers (Barko, interview 2004).

The cooperative uses the land in the same way as the state farm did. However, the labour force is not as specialised as before. "Today everybody does everything, but if someone is especially skilled at something they may work only with that task" says Olga Nikolajovna, economist at KOSS Cooperative (interview 2004). The land use system remains the same though; the same crops are grown, the same techniques are used. During the cultivation season of 2004, 1152 ha of wheat, 393 ha of forage and 28 ha of maize were harvested. 2500 tons of the forage is used for making silage<sup>10</sup>. The supply of machinery consists of 8 wheat combine harvesters and 14 tractors. The cooperative have all the machinery it needs, but face problems since most of the machinery is from the Soviet time, and need replacement (*ibid.*).

#### Family farms establishes successively

When the state farm dissolved, the household plots (which are seen as a natural part of a homestead) became

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<sup>9</sup> Whereof 142 ha is rented from the State Redistribution Fund, and another 155 ha from other Local Governments.

<sup>10</sup> In Pervomaisk, silage is made through burying the forage under ground; a tractor is used for compacting the soil to make it airtight.

private property. The use of the household plots have not changed – for self-sufficiency people cultivate the same crops (mainly potatoes and vegetables) today as before. As stated above, individual shareholders of KOSS Cooperative are free to take their share out of the cooperative and start family farms (or other, new, cooperatives for that matter). In 1999, when the cooperative was formed, 12 households immediately applied for taking their shares out. Today<sup>11</sup>, there are 45 family farms in the local government (Nikolajovna, interview 2004).

In general, the owners of family farms plan their farm activities in order to be self-sufficient on foodstuffs. Emphasis is put on growing crops for meeting the family's and their animals' demands, and, if any – the surplus is sold at the market. However, some crops are easier to sell on the market than others, which naturally affects farmer's crop selection. There are few middlemen who buy any large quantities of agricultural produce, except for sugar beets and tomatoes. There is a sugar factory in Sokuluk *raion* to which farmers can sell sugar beets, which practically all informants do (as well as the KOSS Cooperative). The tomato factory however is about 100 km away, in the industrial town of Tokmok (Figure 1). Few farmers find it profitable to go there to sell their tomatoes. Thus, farmers bring their products to the bazaar in Sokuluk (the *raion* capital) or Bishkek (the national capital), and sell them either directly to consumers themselves, or to retailers who in turn sell them at the bazaar. However, when

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<sup>11</sup> Fieldwork 2004

using middlemen, the farmers do not get paid until the products have been sold to consumers, says private farmer Elias Vushizo (Interview 2004).

There is a high degree of consensus among the farmers interviewed that sugar beet is the most capital-intensive and labour-intensive crop to grow. This is today the only crop grown solely as a cash crop. It is the only crop that farmers know they can sell, and although the sugar factory sets the price it has been high and stable according to Omur Tokoev (private farmer, interview 2004). Therefore, sugar beets are prioritised in arable farming, for family farms as well as for the KOSS Cooperative. However, most family farms need to employ labour in order to harvest, wash and transport the sugar beets to the factory, according to private farmers Omur Tokoev and Zaynash Kumarov (Interviews 2004).

The most common crops that private farmers grow in Pervomaisk local government are wheat, sugar beet, forage and maize. All family farms interviewed use farm machinery, the only exception being Vushizo who cultivates vegetables manually (interview 2004). Just as the state farm practiced crop rotation during the Soviet time, the family farms see this as a rational way to maintain good soil fertility. Sugar beets deplete the soil of its nutrients most intensively; hence the crop rotation schedule is determined by sugar beet. Forage is most often mentioned as the successor of sugar beet, but also vegetables, peas and watermelons. "Also maize depletes the soil of nutrients, but it can grow on the

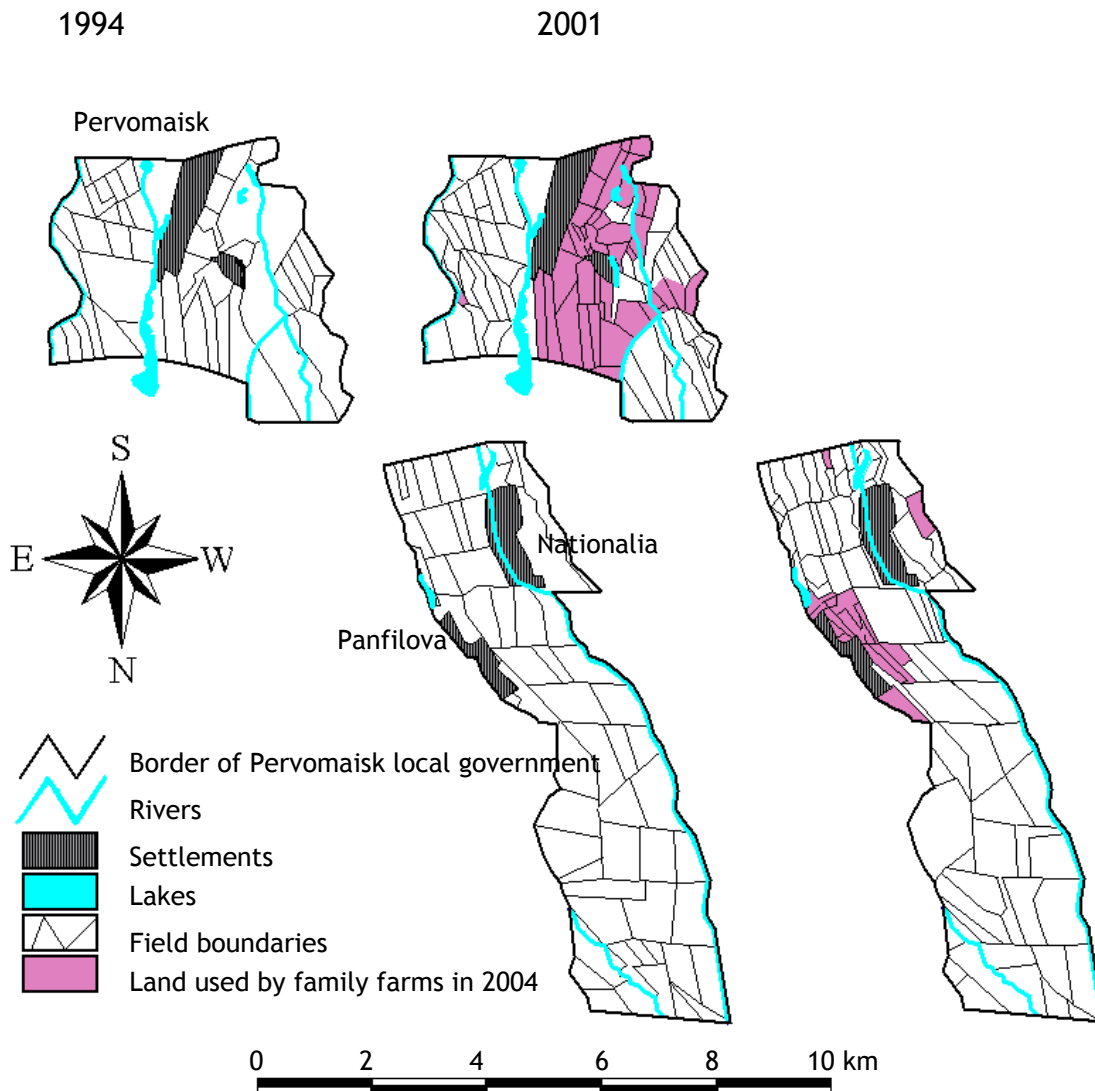


FIGURE 5. MAPPING LAND USE CHANGE

The agrarian reform did not have any effect on the management of the state farm KOSS until the year 2000, when KOSS Cooperative and KOSS Experimental Farm were formed. Within both these new enterprises, the land is used according to large-scale management practices. This means that although the land has formally been privatised, no major change of the land use has been implemented. Therefore no significant change in the agricultural landscape can be expected in Pervomaisk. However, there is a growing number of shareholders who seek to take their shares out of the cooperative. This makes it difficult to show how the size of cultivated fields has changed prior to and after the privatisation, since there are significant continuous changes. A satellite image recorded on July 15<sup>th</sup> 1994 has been used to show boundaries of cultivated fields prior to the privatisation. A satellite image recorded on June 8<sup>th</sup> 2001 is used to map boundaries of cultivated fields after the land was privatised. Unfortunately no more recent images have been available, which makes the mapping not entirely up to date. The data on land under private ownership are from fieldwork carried out in 2004. This means that at the time the satellite image was recorded, the area that was used by family farms was smaller, and can then not be observed in the satellite image. However the cultivated fields close to the village Panfilova have become fragmented. This land is marked as being under private ownership in 2004. Still, the privatisation of land has not yet had any significant effect on the agricultural scenery in Pervomaisk.



same place for two or three years, while sugar beets have to be planted on a new field every year" (Alymkulov, interview 2004). The family farmers can rent pastureland in mountainous areas, but since it is difficult to get animals there (due to large interlaying roads and settled areas), most farmers pay a fee to herders who take large herds of animals to the pasture areas. Other farmers choose to keep their animals at home, and let them graze at the crop fields (after harvest), or along public trenches or roadsides, says Ivan Savchenko (private farmer, interview 2004). In general, the answers given by the farmers interviewed indicate that keeping one cow is enough for being self-sufficient on dairy products; more than one cow means that you can also sell milk and other dairy products. Regarding livestock – there are two products that are continuously produced for the market: milk and wool. Meat, or live animals are, in general sold only in situations of crisis.

Cattle are seen as the most profitable animals, since, as Sheyshenbek Sheirenov (private farmer, interview 2004) puts it: "you get both meat and milk from them, which are both highly profitable products". Zaynash Kumarov agrees – the income her family gets from selling milk is of great importance. A milk truck comes from a dairy farm in Sokuluk every day to collect milk. This is paid for once a week. In the winter the price is twice as high as in the summer (interview 2004).

No farm machinery has been distributed to private farmers from the state farm

KOSS; thus all machinery is owned either by the state KOSS Experimental Farm, or by KOSS Cooperative. This means, that the few private farmers within the villages that belong to Pervomaisk local government, who own agricultural machinery have had to buy this using private funding. Sheyshenbek Sheirenov tells that those who own machinery often have sold their animals; it is not common to take loans to buy agricultural machinery, he claims (interview 2004).

Most family farmers point out the high cost for renting machinery as the single highest cost in crop production. Access to machinery is seen as a threshold for those who keep their land share within the cooperative. Mayramkul Cherikov, a shareholder in Pervomaisk village claims that the family would starve if they were not members of the cooperative, even though she is discontent with the compensation they get. They cannot cultivate their land themselves, since they have no money to pay for the necessary machinery (interview 2004). Savchenko agrees with Cherikov, saying that "if you are a simple villager with your land share kept as part of the cooperative, it is difficult to start a family farm, since farm machinery is so expensive" (interview, 2004). Still Savchenko decided to start a family farm some years ago, but the high expenses made him decide to rent his land to another private farmer, Vushizo (who cultivates vegetables manually). Nonetheless, Savchenko claims he is better off renting his land out, than if he were just a shareholder of the cooperative (interview 2004).

## CHAPTER 3

### Mixed Farming in the Intermontane Region: High Potential for Successful Farmers

*At the intermediate level, in the intermontane basin of Ysyk-Kol (Figure 1) conditions are favourable for livestock production as well as for arable agriculture. The lake Ysyk-Kol is surrounded by fertile plains, which are to a considerable degree used for labour intensive forms of agriculture. At reasonable distance are the mountains with good grazing for livestock. Together these conditions create possibilities for a varied agricultural production. Svetlaya Polyana local government is wedged in between lake Ysyk-Kol in the north, and the Tien Shan mountain ridge in the south (Figure 6). Ysyk-Kol is one of the largest alpine lakes in the world, stretching 177 km from east to west, and 60 km from north to south.*

During the latter half of the 19<sup>th</sup> century Russian settlers founded several villages in the area surrounding lake Ysyk-Kol (Ysyk-Kol region Entsiklopedija, 1995: 333). One of these villages is Svetlaya Polyana, today the main village in Svetlaya Polyana local government. Another, smaller, village named Chon-Kyzyl-Suu is also situated within the territory of the local government, as is shown in Figure 9 (Nurdin Barakanov, head of *Pobeda* during the Soviet time, interview 2004). Throughout the Soviet time, Slavic people, mainly Russians and Ukrainians, settled in the village. With

them came new crops and agricultural know-how. Especially important are the sunflowers brought by Ukrainians – the cultivation of sunflower is today seen as a speciality of Svetlaya Polyana village, since more or less every family, since the 1930s, have grown and sold sunflower seeds in nearby markets, tells Sonja Sagalieva (private farmer, interview 2004). However, since independence, the ethnic composition of Svetlaya Polyana village has changed as Slavs have emigrated (in general back to their home countries). In most cases, ethnic Kyrgyz have bought their houses and land

shares, according to Kanat Djumaliev, Land Use Specialist at the local government (interview 2004).

#### Arable farming more important during the Soviet time

For the collective farm *Pobeda*<sup>12</sup> (which held the same territory as today's Svetlaya Polyana local government) livestock husbandry and arable farming was of equal importance, although Barakanov tells that arable farming was more important for the farm's economy.

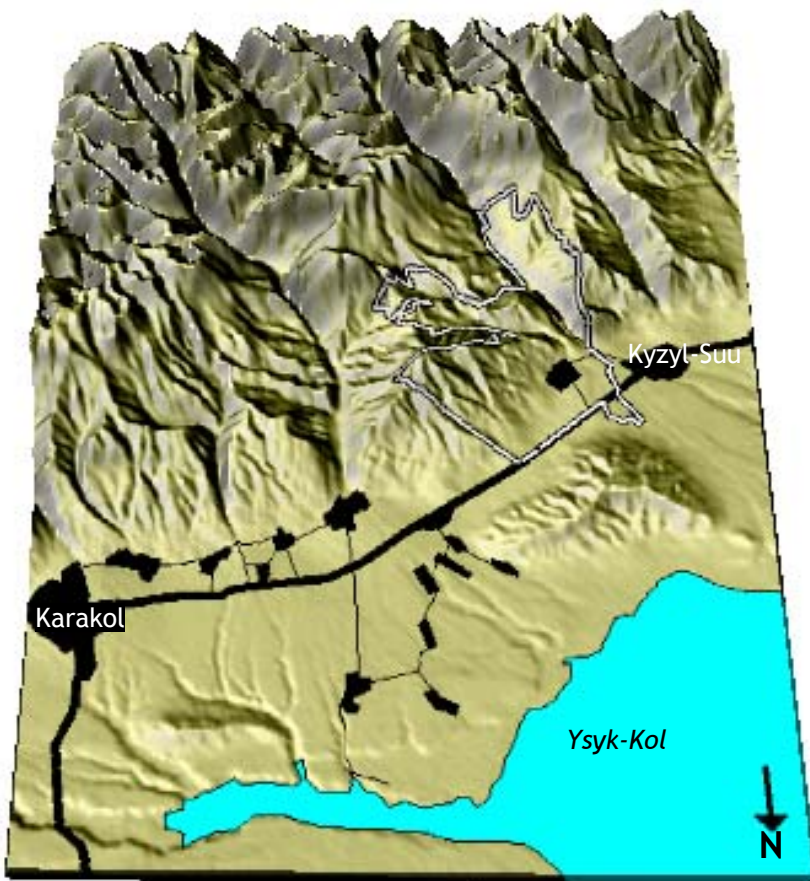


FIGURE 6. REGIONAL OVERVIEW OF SVETLAYA POLYANA

This model shows an area of approximately 50 km from north to south, and 40 km east to west. Note that north is down in the model. Svetlaya Polyana local government (marked in white) which territory is identical to that of the former collective farm *Pobeda*, is situated about 10 km from the southern shore of lake Ysyk-Kol, with access to arable land on the plain, as well as pasture areas.

<sup>12</sup> Russian for *victory*

As much as 65% of the farm's revenues came from arable farming, grain in particular (interview 2004). As other farms, *Pobeda* received a five-year production plan where the number of farm animals to keep was stated. In order to meet the production goals of milk, meat, wool and eggs the farm was obliged to keep a constant number of 28000 sheep, 1500 cattle (whereof 600 milk cows), 550 horses and 5000 hens. Until 1964 *Pobeda* also bred pigs but the production stopped as the farm did not produce enough grain to feed them. The products yielded from the farm's animals were delivered according to state orders, mostly for export, but also for consumption within nearby areas, for example to cafés and kindergartens (Barakanov, interview 2004).

The land resources of the *Pobeda* consist of both arable land (2095 ha<sup>13</sup>, whereof 585 ha rainfed), and mountain pasture areas (5488 ha). On the arable land wheat, barley, potatoes, grass and other forage crops were cultivated, each field followed a specific rotational sequence (Barakanov; Telman Mambetakunov, Brigade leader at *Pobeda* during the Soviet time, interviews 2004). *Pobeda* also had access to distant pasture areas specifically assigned to the farm situated about 200 km from the village at 3500 m (close to the Chinese border). The farm animals grazed on mountain pastures within the farm's territory (Figure 6) throughout the summer (May to October). After harvest and

<sup>13</sup> There are currently 600 households in the Local Government, which give a mean of 3.5 ha per household (which also suggests that the average family consists of 7 people).

haymaking on the cultivated fields, the animals grazed there before they were sent to winter barns a few kilometres from the villages, where employed herders tended the animals. Ram<sup>14</sup> herds were taken to the distant pastures, while ewe<sup>15</sup> herds and milk cows were kept as close to the village as possible to ease milking and mating (Barakanov, interview 2004).



FIGURE 7. A typical Soviet tractor, today in private ownership

Regarding arable agriculture, wheat was the most important crop. Wheat was transported to a mill in the *oblast* capital *Karakol*<sup>16</sup>, (Figure 6). The arable agriculture was highly mechanised. Farm machines such as tractors, harvesters, trucks (for transporting the harvest), machines for wool shearing and milking machines were needed in order to meet the production targets. The collective farm had all the machinery needed; there were never any problems about affording the maintenance, according to Barakanov (interview 2004).

<sup>14</sup> Male sheep

<sup>15</sup> Female sheep

<sup>16</sup> Which during the Soviet time was called *Prezevalsk*

## The transition from large-scale to small-scale farming

*Pobeda* was decollectivised when the Land Code of 1994 was enacted. All present or retired workers, and their children got one land share of the farm's irrigated arable land<sup>17</sup>. Everyone who was entitled to get land got the same area; no difference was made between different occupations, as in Pervomaisk local government. The land shares distributed were 0.48 ha per person. However, no consideration was taken to the location of the plots and family ties, which means that one family normally has several plots located in different places across Svetlaya Polyana local government. In accordance with the Land Code, the local government kept 25% of the arable land (which is now being rented to farmers) in the State Redistribution Fund (Djumaliev, interview 2004).

In order to make readjustment to market-oriented agriculture easier for the workers the farm management of *Pobeda* decided to create household cooperatives, comprising 5-10 households each, in spite of the fact that land was officially distributed to individuals. All farm assets were allocated to the household cooperatives, which most people today refer to as "mini-kolhozes"; land, farm animals, agricultural buildings, farm machinery

<sup>17</sup> At the same time as the irrigated land was distributed, people were offered 0.19 ha of hay fields per person for private ownership. At an open meeting in the local government, a decision was taken to keep all hay fields under state ownership. Thus, the local government is currently renting out hay fields to private farmers who apply for it.

and equipment. Within the household cooperatives all work tasks were to be carried out jointly, and the harvest was split equally among the shareholders, (Social worker Stamova Bakiza; worker at local NGO Tynychbek Ismailov; head of the local government Bapa Imanbaev, interviews 2004).

Still, the household cooperatives turned out to be a failure. They were inefficient, and people resented the idea from the start. It was soon clear, that members spontaneously started to dissolve the cooperatives, in favour of starting their own family farms. In 1999, when the final privatisation of land was



FIGURE 8. Village road in Chon-Kyzyl-Suu

implemented, the few cooperatives that remained were officially dissolved. Imanbaev, the head of the local government says that the reason why the household cooperatives failed was that there were disputes concerning labour inputs:

Five households could work very hard, while the other five households in the cooperative did not put down any labour at all, still the harvest was split among all households. This led to conflicts, which

can be avoided when agriculture is based on family farms instead. The present system with family farms works better, since every household is responsible for its own work efforts, hence their own harvest, which means that there are no disputes (Imanbaev, interview 2004).

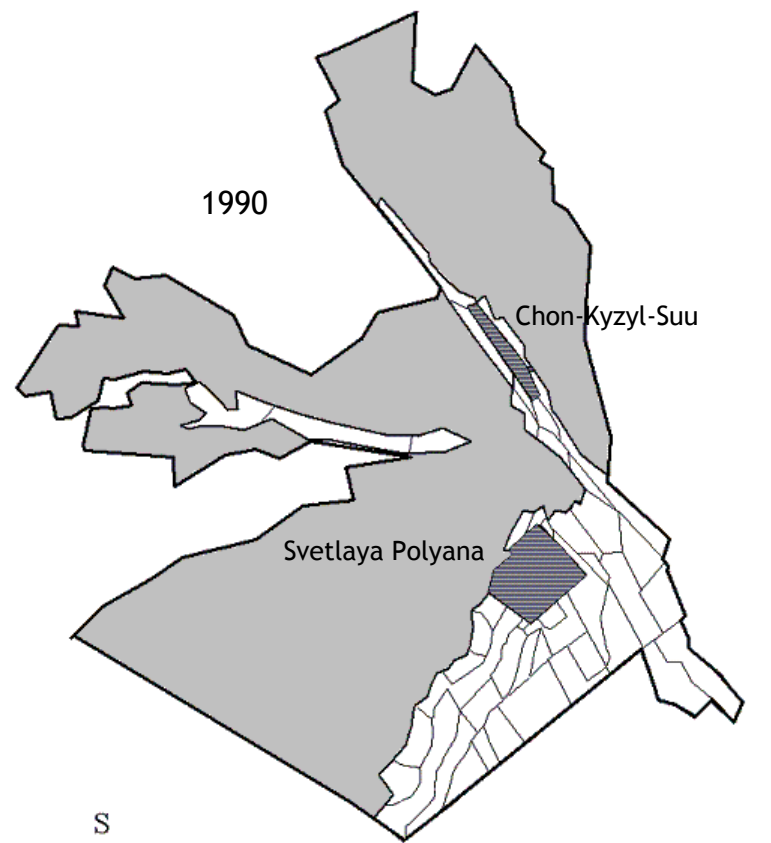
This means that today, family farms undertake basically all agricultural activities. A typical family farm has about 3-4 ha of arable land, and 2 cows, 2 horses and 10-20 sheep (Djumaliev, interview 2004).

#### Animal products important for family farmers

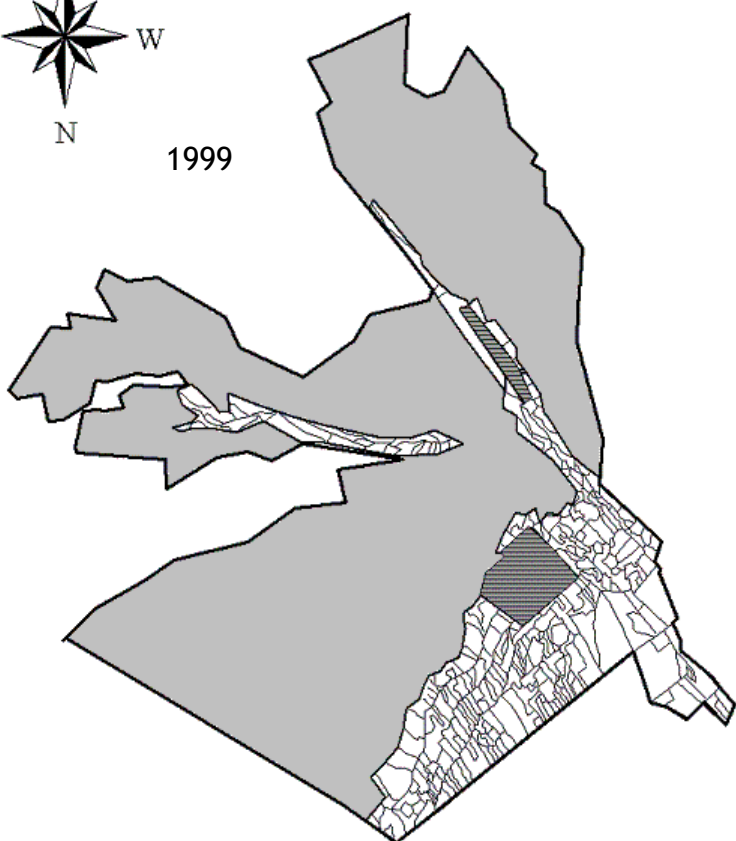
While arable farming made up the main part of collective farm *Pobeda's* budget, the family farms get most of their income from livestock husbandry. However, the reason for this is mainly that the market for agricultural produce is unpredictable. As in Pervomaisk local government, no middlemen who buy large quantities of agricultural produce have established themselves, which means that farmers have to sell their products on own initiative, at nearby rural markets (primarily in Kyzyl-Suu) or in the *oblast* capital Karakol, (Figure 6). Since independence, prices of meat, farm animals, milk and other dairy products have been stable and reliable. Regarding crop production, on the other hand, prices have been fluctuating, of potatoes in particular. Most family farms lost revenues and invested labour and capital during a drastic potato price fall in 2003<sup>18</sup>, causing some farmers to go bankrupt (Imanbaev, interview 2004).





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<sup>18</sup> The price fell to 7% of the previous year's price!.



1999



-  Border of Svetlaya Polyana
-  Settlements
-  Pastureland
-  Field boundaries

0 2 4 6 8 10 km

FIGURE 9. MAPPING LAND USE CHANGE

The way the agrarian reform has been implemented in Svetlaya Polyana has caused a transition in agriculture from collective to a household-based farming system. The mapping of field boundaries prior to the privatisation of land was done based on a Landsat satellite image from July 31<sup>st</sup> 1990. On that image, a large-scale agricultural landscape with distinctive fields is clearly visible. The mapping of field boundaries after the privatisation of land is based on a Landsat satellite image recorded on September 18, 1999. This image shows that the agricultural plots have become smaller.

Still, farmers in Svetlaya Polyana local government in general have a better safety-net than farmers in Pervomaisk or Jergetal local governments (which will be described in Chapter 4), since they are able to spread risks through practicing both animal and crop production. If one fails, the other might succeed. Most farmers use their land for cultivating wheat, barley and grass for forage, just as *Pobeda* did, but several have expanded their fields of potatoes and sunflowers, which were previously only cultivated on household plots, tells Kabylbek Beksultanov (private farmer, interview 2004). Thus, potatoes and sunflower seeds are the family farms' main cash crops. Surplus fruits and vegetables from the household plots are often sold at the market as well (Kubat Atamkulov, Agronomist, interview 2004). When the household cooperatives dissolved, the farm machines assigned to each cooperative were generally bought out by one of the more affluent members. Family farms generally rent farm machinery (with driver) for ploughing, sowing and harvesting wheat and barley (Ismailov, interview 2004).

There are some family farms that have managed to expand their enterprises in Svetlaya Polyana local government. Attaining more arable land is the key for expansion. The land market in Svetlo-Polyana has clearly benefited from the emigration of Russians and Ukrainians described above, who sold their homesteads and their land as they went. However, in most cases people from nearby towns or other villages have bought the homesteads, but several local farmers have been able to buy additional

land as well (Bakiza, interview 2004). Most of them have focused on animal production, like Sonja Sagalieva. Her family has expanded its herds to 25 cattle, whereof 15 milk cows, 100 sheep and 6 horses (whereof 1 mare<sup>19</sup>). The family has purchased two winter barns and a flourmill. During peak periods they employ labour from outside the household, in particular during lambing. At the time land was distributed, the family was allotted 3.5 ha of arable land, but this has turned out not to be enough to feed a growing animal herd. The family has been strained to buy arable land, so they currently have 10 ha of irrigated land where they grow wheat, barley and forage in equal proportions (Sagalieva, interview 2004).

However, relatives have in some cases continued to pool their farm resources and work collaboratively. One example is Kybatbek Totubaev, who works cooperatively with his two brothers and their families. These three families have 7 hectares of arable land. Totubaev sees several advantages with cooperating, since the larger cultivated area makes it easier for them to practice rotational farming. They also carry out more work tasks manually, which reduces the cost for machinery. Together the three families have bought a winter barn, where a fourth family resides, employed as herders of their animals (Totubaev, interview 2004). Thus, cooperation can be a successful strategy for family farmers if they want to expand their farming activities.

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<sup>19</sup> Important distinction in Kyrgyzstan, as fermented horse milk (*kymyz*) is a highly priced commodity

## CHAPTER 4

### Family Farms in the Highlands: Scarce Arable Land, Under-Utilized Pastures

*Vast pasture areas that historically as well as today form the ecological basis for livestock keeping characterize the highlands. In this environment arable land is available only in valleys where the numerically small highland population has settled in villages established during the Soviet collectivisation programme. In pre-Soviet days, the Kyrgyz nomads migrated to the lowlands during the winter season, thus permanent settlements in the highland valleys are a relatively new phenomenon.*

In Jergetal river valley, three villages have been established that today make up Jergetal local government: Jergetal (632 households), Jalgyz-Terek (213 households) and Kara-Chiy (268 households), Figure 10 and 1). In contrast to Pervomaisk and Svetlaya Polyana, Jergetal local government, and its (rural) surroundings were more or less an homogenous ethnic Kyrgyz area during the Soviet time, as well as nowadays. During the Soviet time Jergetal local government was part of *Jany-Talap*, one of the largest collective farms in Naryn *oblast*. In addition to the three villages within Jergetal local government, there were five other villages in the collective farm that today have been incorporated into neighbouring local governments. However, Jergetal village was the main village in the collective farm, says

Sharsheke Kaynazarov, Land Use Specialist at the local government (interview 2004).

#### Focus on animal production during the Soviet time

As in Pervomaisk and Svetlaya Polyana, farmers as well as administrative staff praise the collective farm they worked in. "This collective farm was a very rich one, that is why people did not want it to be dissolved", Tukan Musuralieva (interview 2004), today a private farmer living in Jalgyz-Terek village tells me. All my informants share this view: *Jany-Talap* was a successful collective farm, exclusively focusing on animal breeding. Practically all of the arable irrigated land was used for haymaking and forage production in order to keep the animals stall-fed throughout the winter. The farm did however cultivate wheat and



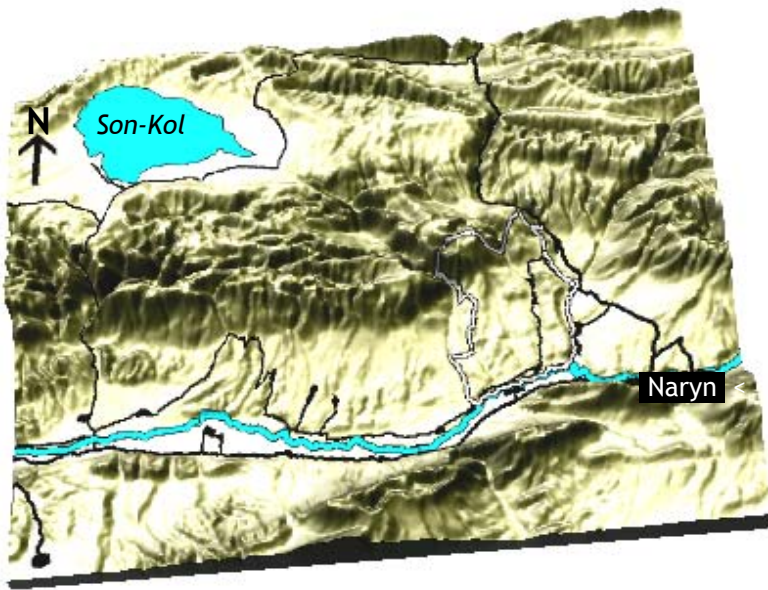


FIGURE 10. REGIONAL OVERVIEW OF JERGETAL

This model shows an area of approximately 80 km from north to south, and 100 km from east to west. The area shows Jergetal local government (marked in white), which is slightly smaller than the territory of the former collective farm *Jany-Talap*. Jergetal local government is situated in between the alpine lake *Son-Kol* and the *oblast* capital Naryn, along Naryn River. The road running along the eastern border of Jergetal local government is the only major road leading to the area from the northern parts of the country, where the national capital Bishkek is situated.

potatoes at a small scale, in order to be self-sufficient, but most foodstuffs were imported from other areas (Kaynazarov, interview 2004).

As for other farms, the number of farm animals *Jany-Talap* should keep was defined in their five-year production plan. For example, the farm kept a constant number of 72000 sheep, which was as much as other *raion's* had in total. The farm also kept large herds of cattle, horses, sheep, camels and yaks; foremost for meat and wool and milk from cows

and mares<sup>20</sup>. Horses and camels were also used as draft animals and for personal transportation (Kaynazarov, interview 2004).

The farm practiced a rational grazing system. Different pasture areas situated at different altitudes were used every season (as it got warmer, the animals were taken to pastures at higher elevations). During the Soviet time all collective farms were assigned pasture areas outside their respective territory, in order to effectively utilize the abundant pasture reserves in Kyrgyzstan. As in *Pobeda*, ram herds were taken to distant pasture areas (which were especially assigned for *Jany-Talap*) bordering China, while ewes and milk cows were kept closer to the villages. For milk cows, the farm used pasturelands within its own territory, and for ewes pasturelands on the southern shore of lake *Son-Kol* were used. Since the farm was specialised on animal breeding, a large portion of the workers of the farm were employed as herders. Normally, two spouses were assigned to work together, taking their children with them. Every shepherding family was responsible for 500-600 sheep, but they got help from 30-40 extra workers when it was time for shearing the wool. Sheep shearing was done in the pasturelands, and from there the wool was transported by trucks directly to a textile factory, tells Jumakan Abdylidaeva, who worked as a herder for

<sup>20</sup> Horse milk was an important commodity in Kyrgyzstan during the Soviet time and even more so today. Fermented horse milk, *kymyz*, is both an everyday and a festive drink cherished by most Kyrgyz families.

*Jany-Talap* during the Soviet time (interview 2004).

There were several winter pasture areas situated only a few kilometres from the villages. All herding families returned from the summer pastures to the winter pastures, where there were barns for the animals and living quarters for the herding family who stayed with the sheep all year round. Their children normally stayed with relatives in the village throughout the school year. In springtime they brought the sheep down to the village for lambing, where they got assistance from other workers. The collective farm ran trucks, which functioned as mobile shops which supplied all herding families with consumer goods and foodstuffs all year round, since they rarely came to the villages themselves, according to Jursun Taybagarova, who was a herder for *Jany-Talap* during the Soviet time (interview 2004).

Arable agriculture was important for the farm, since it is difficult to maintain large numbers of farm animals without sufficient forage. But the need to cultivate grain and potatoes for human needs was significant as well. During the 1970s a large land area situated a few kilometres from Jergetal village, previously used for haymaking, was put under cultivation. Since the soil was not suitable for farming, labour and capital was needed in order to accomplish this: soil from the river valley was transported to the area, irrigation canals were constructed, and fertilisers were added in order to make anything grow. The project succeeded and the area is today regarded to be well suited for

arable agriculture, and used for growing grain crops. The farm ensured to utilise all available land; the natural vegetation in badly drained fields was cut and used as forage. This was not possible without manual labour, and as noted in Chapter 2, manual labour was most often assigned to women. Working in the swamps was, according to Sagyn Ismailova an especially tiresome task; equipped with rubber boots the women worked long days cutting grass and reed (agricultural worker during the Soviet time, interview 2004).

During the Soviet time all households had a household plot of 0,25 ha, but as the population grew, the plot size was reduced to 0.15 ha for new homesteads. On the household plots, people grew vegetables and potatoes for their own needs. It was allowed to keep up to 10 sheep, one cow, one horse and an unlimited number of hens and turkeys under private ownership (Kaynazarov, interview 2004). However, the number of sheep that was actually held at the household plots seems to have been larger in some cases. Some informants say that 15 sheep were allowed, others that it was allowed to have an unlimited number of sheep. One informant tells that she was allowed to keep three horses, four cows and twenty sheep, since she was a mother of ten children. The reason for pointing this out, is not to show that the official regulations seem to have been violated, but that this indicates that livestock husbandry was of high importance also during the Soviet time for families to be self-sufficient in this mountain region. It is plausible to assume, that the regulations were not as

strict here, since pastureland is abundant and arable land a scarce resource, compared to Svetlaya Polyana or Pervomaisk local governments.

### The transition from large-scale to small-scale farming

The formal decision to dissolve *Jany-Talap* was taken in December 1993. The distribution of the farm's assets was made successively: first the animals were distributed, then farm buildings, then agricultural machines and farm equipment. There is an obvious difficulty with distributing collectively owned machinery, since there is not one tractor for each person. Instead of letting the machinery go to the people who could

should be the formal owner. Some machinery remained in the ownership of the local government though. Those are now rented to private farmers (Kaynazarov; Jansup Sydykov, landowner, interviews 2004).

During the summer of 1994 the arable irrigated land was distributed in accordance with the agrarian reform legislation. Every resident was given 0.29 ha of irrigated land, which was one full land share. However, one exception to this rule was made for the head of *Jany-Talap*, who received five hectares of irrigated land. As in Svetlaya Polyana local government, the rainfed land was kept in the local government's hands, but informal user-rights were given to every family who today use rainfed land for cultivating wheat and barley, without paying any rent (Kaynazarov, interview 2004). During the first two winters, people were not able to get enough fodder for the animals they received when the collective farm dissolved<sup>21</sup>. After the distribution of animals, most families had double or more livestock compared to what they had during the Soviet time<sup>22</sup>. Meanwhile, the arable land (that went into individual user rights) was left fallow during the cultivation season of 1994, mainly due to unclear land rights. People did cut grass in nearby pasture areas and were ever it grew spontaneously, so that they would have some hay for the winter, but that



FIGURE 11. A homestead in Jergetal. In the background, are dung piles used for heating. The usage of dung has increased since independence, due to increasing prices on coal and electricity.

afford to buy out the other shareowners, the farm management of *Jany-Talap* decided that some of the farm machines were to be distributed to the heads of major clans, who then decided who

<sup>21</sup> During the Soviet time, people purchased hay from the collective farm, at discount prices. Thus, people never used their private plots for haymaking.

<sup>22</sup> A maximum of 10 sheep, one cow and one horse was allowed and generally held in private ownership during the Soviet time

turned out to be far from enough to feed all the newly received livestock. Farmers experienced a severe lack of animal fodder, so most of the animals (horses, sheep and cows) that had been distributed from the collective farm died of starvation during 1994/1995 (Kaynazarov; Musuralieva; Sydykov, interviews 2004). According to Kaynazarov, the number of sheep has now decreased to just 1/5 of what the collective farm owned (interview 2004).

Obviously, leaving the land fallow also meant that there was a severe shortage of grain for human consumption (which the collective farm was self-sufficient on during the Soviet time). Sheraaly Adamaliev, who was in charge of the land distribution, eased the situation through applying for permission to harvest wheat grown on an area of 70 ha on a neighbouring farm, which he distributed among the people. This, together with haymaking from pasture areas and the crops grown on the household plots were sufficient for the needs of both humans and animals, he claims. Adamaliev explains the lack of initiatives to solve the problems among the villagers themselves through the fact that people had not understood the full meaning of the breakdown of the Soviet Union:

As during Soviet times, people were awaiting help from the state rather than acting on their own to solve their problems. Today, the situation is much improved. Almost all people know what is required for taking care of livestock, how to medicate them, what things to grow in order to meet their needs of fodder and so on, in the market economy way. (Adamaliev, interview 2004).



FIGURE 12. Sheep grazing at summer pastures near lake *Son-Kol*. Today, the Kyrgyz black sheep called “fat-rump sheep” is mixed with the fine wool white sheep held by the collective farm during the Soviet time.

During the cultivation season of 1995, farmers started to use their land shares. However, today arable agriculture is extremely small-scale in Jergetal local government. Since each person received less than a third of a hectare, the cultivation area of each family farm is as small as 1-2 hectares depending on the size of the family. A considerable part of the arable land is used for cultivation of animal fodder, mainly grass and barley. During the summer months the family farms may rent grazing land close to the village or pay for a herder who takes their animals to summer pastures near lake *Son-Kol*. Remote lands with excess growth of grass are not harvested for hay as there are practically no farmers with access to vehicles for transport. The consequence is that the extensive pasture areas, as well as the potential hay-producing meadows, are under-utilized.

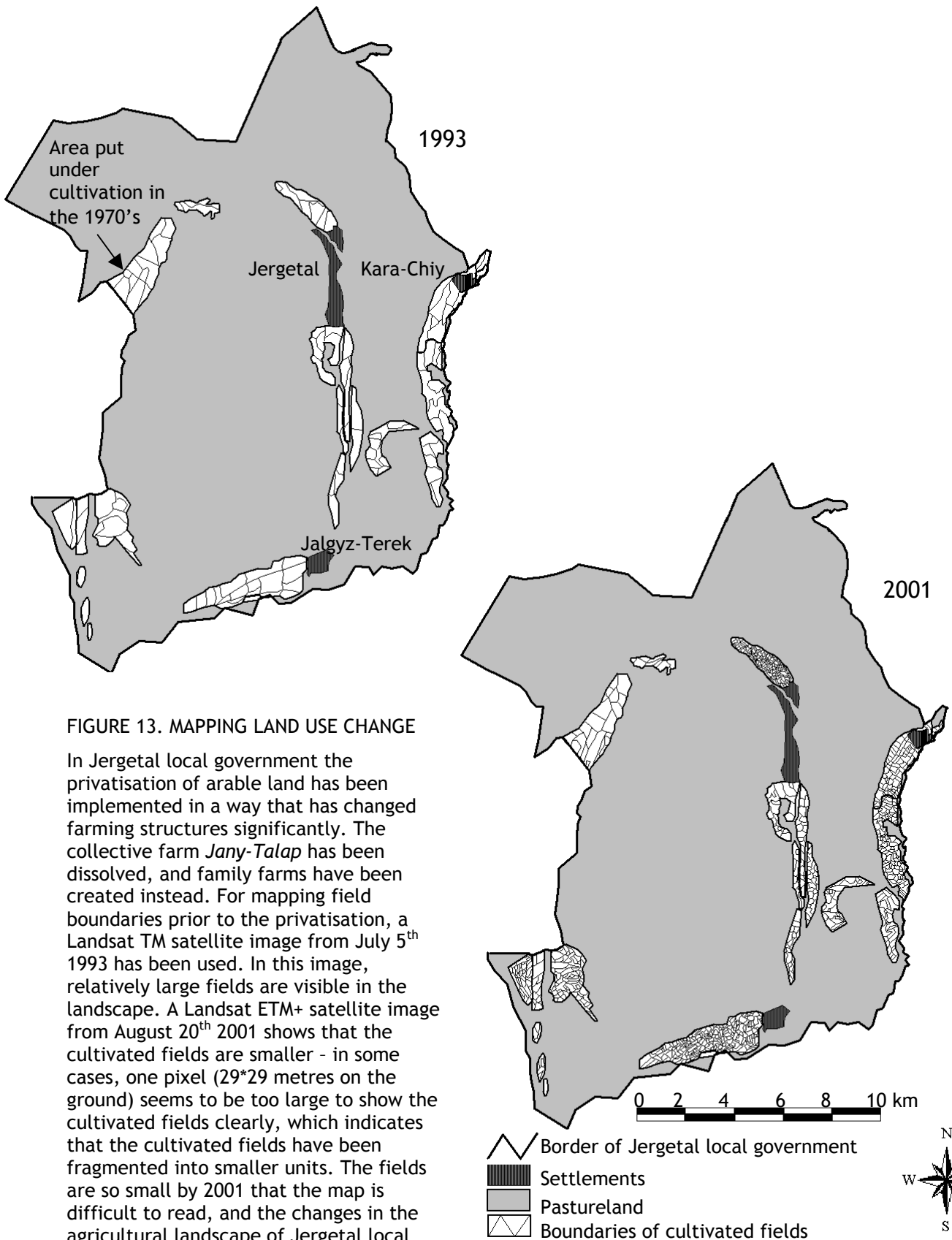


FIGURE 13. MAPPING LAND USE CHANGE

In Jergetal local government the privatisation of arable land has been implemented in a way that has changed farming structures significantly. The collective farm *Jany-Talap* has been dissolved, and family farms have been created instead. For mapping field boundaries prior to the privatisation, a Landsat TM satellite image from July 5<sup>th</sup> 1993 has been used. In this image, relatively large fields are visible in the landscape. A Landsat ETM+ satellite image from August 20<sup>th</sup> 2001 shows that the cultivated fields are smaller - in some cases, one pixel (29\*29 metres on the ground) seems to be too large to show the cultivated fields clearly, which indicates that the cultivated fields have been fragmented into smaller units. The fields are so small by 2001 that the map is difficult to read, and the changes in the agricultural landscape of Jergetal local government image are clear.

Still, the households must be self-supporting with fodder during the long winter months. There is practically no market where hay can be bought or sold. This means that while lack of arable land prevents family farms from increasing their cultivation activity, scarcity of winter fodder prevents them from expanding their animal husbandry.

A shift towards cultivation of food crops is slowly taking place in the village – the production of wheat, potatoes, onions, and even apples is increasing. Families grow wheat in order to be self-sufficient on flour, since bread is the most important basic food item. However, families maintained self-sufficiency on potatoes, vegetables and fruit from household plots already during the Soviet time. A village assembly, called the "Agro-commission", led by the local government supports the adoption of new crops. The Agro-commission test different varieties of potatoes, wheat and apples which they buy from seed retailers, and then give farmers information on what grows well, and how to go about when starting production of new crops (Adamaliev, interview 2004).

The family farms have continued to use machinery in their farming activities. All farmers interviewed claim that it is very expensive to hire machinery<sup>23</sup>; still they do hire tractors (with assigned drivers) for ploughing, sowing and harvesting wheat, barley and forage. As in Svetlaya Polyana local government, one family farm often has its plots scattered across the local government, and again, as in

Svetlaya Polyana, they do not cooperate with their neighbours for use of machinery or for labour inputs. This means that cultivation seldom takes place on plots larger than 0.29 ha, which was the original size of distributed plots. This explains the extreme small-scale pattern of fields visible in the figure above. The conditions for hiring machinery differ a lot between the different households – some pay only 1/3 of what others pay (Kaynazarov, interview 2004).

This could be a result of the fact that some of the machinery was given to clan heads, which indicates that there is at least some cooperation between relatives. However, this does not mean that it is collectively owned – the owner is employed as a driver and gets paid for his services, as in Svetlaya Polyana local government.

In general, most farmers today just imitate the cultivation practices of the collective farm – they grow wheat, barley and forage. This is mainly to substitute what they previously could buy at subsidised prices from the collective farm. Today, family farmers do not have economic means to buy foodstuffs, and hence cannot maintain the specialised animal production that was applied during the Soviet time.

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<sup>23</sup> Several farmers say that they sell animals in order to pay for machinery

## Concluding Summary

Market oriented reforms within the agricultural sector have been enforced in Kyrgyzstan since the country declared its independence from the Soviet Union in 1991. The 1994 Land Code resulted in decollectivisation of all collective and state farms in the country, with the option of forming cooperatives open. A large number of family farms were established in the highlands. In the lowlands, though, many earlier state and collective farms were reorganised into cooperatives, which means that farm management principles and work methods did not change much. Subsequently, private ownership was formally legalised with the approval of the 1998 Land Code. Land titles were given to workers on the former collective and state farms and a large number of family farms were established, particularly in the highlands.

The Soviet period left behind a large scale, specialised, mechanized and capital intensive agricultural system, which is difficult for today's small-scale farmers to transform to the needs and development of the family farms. They lack experience of managing enterprises with all their specific demands regarding time management, technical knowledge, economic planning, marketing etc. They work in an environment where arable land is a scarce resource, where there is no need for employed labour and where the capital reserves are very limited. Still some are ready to indebted themselves to buy badly worn farm machines from the Soviet time. The mental picture of farming is, especially in the lowlands, still influenced by the earlier large-scale cultivation of wheat and sugar beets, wholly based on heavy machinery. In the highlands, with very limited areas for cultivation but with vast grazing areas, the paradoxical lack of winter fodder prevents development of the family farms.

The new land legislation in Kyrgyzstan emphasizes that only physical persons, not juridical ones, can own farmland. Physical persons can, however, go together and form cooperatives, which has happened rather frequently in the lowlands. In this way much of the structure in the old state and collective farm system is conserved. The former manager of the state or collective farm has in many cases been elected chairman of the newly formed cooperative and the land is utilised in the same way and the same spirit as earlier. This implies that the organization is the same, although

the state or collective farm has formally ceased to exist. The large scale planning survives and the change in land use principles is minimal.

As during Soviet time the labour force at these cooperatives is strongly specialised. In the study area of Pervomaisk, the cooperative employs much fewer workers, 330 persons, than was the case during the Soviet time, 1800 persons, although, practically the same area is cultivated. The majority of the people who lived and worked on the former state farm are today shareholders in the cooperative, but without any employment. The compensation these shareholders get from the cooperative is very modest –some families receive only a loaf of bread a day as reward. Thus, it is in no way possible to manage the subsistence of a family by only being “share holder” in a cooperative.

In Pervomaisk local government, every individual who had a legitimate claim was allotted 1.55 hectare at the time of land distribution. Hence, the size of family farms may differ but there is a direct relation to the number of the household members at the time the state farm was dissolved. Today, owners of family farms can increase their land holdings by purchasing or renting land. The majority of the households, however, are reluctant to establish family farms, as farm inputs, i.e. machinery, chemical fertilizers and pesticides, as well as fees for irrigation, are expensive. Credits can be received but interest is high and repayment time is short. The risks associated with credits frighten some farmers.

Still the number of family farms in Pervomaisk local government has grown slowly since the cooperative was formed. (All members in the cooperative can demand their land back to establish family farms.) According to interviews farmers on individually managed family farms are often more satisfied with their situation than those who are only “share holders” in the cooperatives. However, on the family farms, the same crops are grown as on the cooperative and those, in turn, are the same crops that the state-farm produced during Soviet times, wheat, barley and sugar beets. The family farms replicate much of that land use pattern but on a small scale. If they at all can, they pay considerable amounts to buy or to rent tractors, combine harvesters and other farm implements.

In the intermontane area described in this study the family farms are relatively well adapted to the existing but still rudimentary market. The arable agriculture in Svetlaya Polyana local government is more varied than in the other study areas. This is a strategy to minimise risks as the market price of different crops fluctuates dramatically. Livestock keeping and arable agriculture are approximately of the same importance for the family farms, which in the study area have access to both grazing land and land for cultivation thanks to the intermontane location. In the Ysyk-Kol area labour intensive crops like potatoes and vegetables, less dependent on mechanization, are traditionally cultivated. Still, tractors are used for ploughing the fields, and cereal crops are harvested by means of combine harvesters. Most farmers in Svetlaya Polyana local government can normally sell all surplus produce at nearby



rural markets, or in Karakol, the administrative centre of Ysyk-Kol *oblast* (situated only 30 km away).

Strange enough, farm machinery is also frequently used in the highlands, although arable farming there is really small scale and wholly of subsistence character. The limited farm income normally derives from livestock production and a considerable portion of which is used for rent of farm machinery. In small, irrigated fields wheat and barley are grown and on even smaller plots, next to the homes, potatoes and vegetables are grown for household consumption, just as during Soviet time. Grass for winter fodder for the livestock is harvested on irrigated lands. Family farms are not able to expand their animal husbandry due to lack of fodder, which is paradoxical since pastureland is abundant. Due to problems with organising transport and labour for haymaking, farmers do not utilize the large grazing areas that are available for rent. Obviously, the vicious circle of not being able to expand agriculture has affected people's household economy negatively. If several of the farmers would join together and use distant non-irrigated land for haymaking and sharing transport costs they would be able to more economically use the small areas of centrally situated irrigated land. This could be used for production of food crops, small volumes of which could possibly be traded.

It seems that of the three study areas, the family farms in the intermontane basin of Ysyk-Kol, experience the most favourable conditions, at least in a short perspective. There, farmland of sufficiently good quality is available, as are also summer grazing areas in the mountains. The farmers can spread the risks through combining animal production and crop cultivation. The main obstacle for making arable farming commercial here is not lack of land, but poor-functioning markets for agricultural produce. However, this is an environment where family farms may meet with some success, while in the other study areas specific problems associated with the natural or social environment create difficulties for the family farms to take off.

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