

**Socioeconomic Survey & Range Use Survey
of Wakhi Households Using the Afghan Pamir,
Wakhan District, Badakhshan Province, Afghanistan**

Consultancy with the Wildlife Conservation Society's
Afghanistan Biodiversity Project
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Introduction

The WCS Community Conservation Program is charged with implementing the overall Afghanistan Biodiversity Project's objective of facilitating community-based natural resource management in Wakhan District of Badakhshan Province. Community-based natural resource management activities are critical for the long-term conservation of biodiversity within the landscape, as they promote the concept of natural resource conflict mediation at a local scale, improve the capacity of local people to design and execute natural resource management projects and, most critically, promote community-based decision-making processes, with internal regulations and controls for natural resource management - including wildlife.

Recognizing that conservation is as much a social and economic issue as a biological one, and that Wakhan District has been a peopled landscape for more than 2,500 years, the WCS Community Conservation Program's first activity was to gather information about the people of Wakhan; their culture, insights, livelihoods, and aspirations. This information-gathering process formed the core of one project activity - a socioeconomic survey of Wakhan. In the WCS Life of Project (LOP) Workplan, this is LOP Activity 3.1. The information gathered through this activity was designed to support three additional activities: LOP Activity 3.2., conservation awareness workshops and environmental education; LOP Activity 3.3., community organization and governance; and LOP activity 4.3., ecotourism enterprise development.

At the outset of the project little was known about current demographics and economic activities of Wakhi villages in Wakhan. The sole descriptive ethnography (Shahrani 1979) and ecological study (Petocz 1978) both dated from 1973 fieldwork. In 1996, FOCUS Humanitarian Assistance, part of the Aga Khan Development Network (AKDN), began providing food aid to Wakhan, and the Aga Khan Foundation-Afghanistan (AKF-A) assumed responsibility for long-term rural development in Wakhan in 2002¹. Subsequent technical reports from summer field visits (Fitzherbert for UNEP/FAO in 2003, Felmy and Kreutzmann for ACTED in 2004, Mock and O'Neil for Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)/AKF-A in 2005, and Schaller with the National Geographic Society and WCS in 2004 and 2005) provided some estimates, and a detailed study of opium addiction (Pain for AKF-A in 2004) rounded out the data available.

¹ Total AKF-A investment in Wakhan for 2002-2005 was U.S. \$2,150,841 (AKF-A 2006).

Summary of Key Findings

A. Size and Scope

The survey focused on Wakhi households using Big Pamir and Little Pamir resources for livestock grazing. The survey was conducted in two parts; a Range Use Survey during July and August 2006, and a Household Survey during September and October 2006.

In the Big Pamir, the Range Use Survey covered seventy-nine households from seventeen villages that travel in thirteen distinct migratory groups to seasonal pastures, all of which are inside or are reached via the Big Pamir Wildlife Reserve (BPWR). In the Little Pamir, the Range Use Survey covered forty-two households from four villages that travel in seventeen distinct migratory groups to seasonal pastures, all of which are in or adjacent to the Little Pamir.

The Household Survey covered 320 households in twenty-one villages, sixteen of which use grazing resources in the Afghan Pamir. The surveyed villages are in a geographically continuous group from Qila-e Panja to Sarhad-e Broghil. This group is divided into five clusters under Afghanistan's National Solidarity Program (NSP). Three villages with households that use the Big Pamir's resources are outside of this geographical group and were not surveyed. One village in the group that uses these resources was too remote and not surveyed.

B. Population

The average household size of the surveyed population was 11.3 persons, compared to the average for Afghanistan of 7.5 persons. The percentage of children aged 15 or younger ranged from 45% to 51% per cluster. The overall gender ratio was 88.6 women for every 100 men, compared to the average gender ratio for Afghanistan of 94 women for every 100 men.

The crude birth rate (CBR) was 26 live births per 1,000 people, compared to Afghanistan's CBR of 47.4. The crude death rate (CDR) was 24.4 deaths per 1,000 people, compared to Afghanistan's CDR of 21.5. The infant mortality rate (IMR) was 351 deaths of children less than one year of age for every 1,000 live births, compared to Afghanistan's IMR of 161.7.

Badakhshan Province has the world's highest recorded maternal mortality rate, which can be assumed to contribute to the high infant mortality rate and lower female population percentage. The child mortality rate is 16.5 deaths for every 1,000 children one through five years of age, compared to the CMR for Afghanistan of 257. In Wakhan the percentage of all deaths of children five years old and younger was 52%, compared to the percentage of all deaths in Badakhshan of children less than five of 70%. Childbearing women and children less than one year of age are the most vulnerable segment of the surveyed population.

Disability was not significantly reported in the survey.

C. Land Ownership

Average land ownership ranged from 2.8 *jerib* to 5.7 *jerib* per household for each cluster, and median ownership from 2.0 *jerib* to 4.0 *jerib* per household for each cluster. Land ownership ranged from 92% to 98% for all households of each cluster. Landlessness was not widely

reported in the survey and tended to be linked to catastrophic outburst floods. These are a persistent landscape feature.

Grain production per median household land holding, based on UNEP-FAO yields estimates for Wakhan, is insufficient. Median production ranges from one to two kilograms of grain per day per household for each cluster.

D. Occupation

Almost all households report owning land and owning livestock, and roughly half of the surveyed total population report working primarily as farmer/herder or housewife. This ranged from 44.0% of the population to 50% of the population of each cluster employed in household and farm labor.

Opportunity to work for money or for grain is rare. The percentage of the surveyed population that reported working for income (cash or food) ranged from 1.4% to 5.2% for each cluster. Much of this work was seasonal or temporary (craftsman or laborer) and less was permanent employment (teacher, police, NGO worker, or Afghan army).

Although households rely on their own farm and household labor to meet their needs, they also need to earn money or food to meet the shortfall in grain production and the need to purchase basic necessities (food, clothing, household supplies). Occasional labor, although scarce, is economically important and sought.

E. Education

Schools exist, although they currently operate in large UNICEF-supplied tents. The percentage of male and female children between six and fifteen years of age attending school is 83.1%, with gender attendance of 93.5% of boys and 70.9% of girls. This compares favorably with attendance percentages in Badakhshan of 63% of all boys and 56% of all girls.

Attendance percentages for classes 1-5 is comparable between boys and girls, ranging from highs of 57% male attendance and 51% female attendance to lows of 49% male attendance and 43% female attendance per cluster. For classes 6-9, the male attendance percentage is much higher, ranging from 78% (and 0% female) to 100% (and 28% female). The attendance rate in higher secondary (classes 10+) is a significant advantage for the surveyed population, and will correlate with higher literacy rates going forward.

F. Livestock

Livestock is the most significant financial resource for all surveyed households. Livestock ownership ranges from 98% to 100% of surveyed households for each cluster. Cows are the most commonly owned livestock, owned by 93% of all households, followed by donkeys, owned by 88%. Sheep are owned by 84% of households, goats by 58%, yaks by 31% and horses by 29%. This is a higher percentage than Badakhshan, where 60% of households own cows, 69% own donkeys, 75% own sheep, 82% own goats, and 18% own horses.

Sheep range from 32% to 46.6% of total livestock owned per household for each cluster. Yaks range from 6.4% to 15.1% of total household livestock per cluster.

The one cluster that lacks access to grazing in the Afghan Pamir has an average of 3.5 sheep per household and 0.7 yaks per household. For the other clusters that have grazing rights in the Afghan Pamir, the average number of sheep per household ranges from 12.3 to 15.4, and the average number of yaks per household ranges from 2.3 to 4.8. Median numbers of sheep range from 11.9 per household to 13.9 for each cluster having grazing access to the Afghan Pamir, and 1.7 to 5.0 yaks per household.

In comparison with livestock ownership reported by Petocz in FAO reports on the Big Pamir, published in 1978, the surveyed population reported a greater percentage of households owning livestock, but a smaller average per household number of livestock. The total numbers of livestock grazing in the Big Pamir appeared to have changed very little in the intervening thirty years. The number of Wakhi households using the Big Pamir, however, has risen significantly.

No comparison was available for Wakhi households using the Little Pamir or for total numbers of livestock. However, because the number of Kyrgyz households in the Little Pamir has decreased, and pasture areas have become available, we assume that the number of Wakhi households grazing in the Little Pamir has increased. However, we cannot assume there is an overall total increase in livestock grazing in the Little Pamir, because the assumed increase in Wakhi livestock is likely balanced (or even exceeded) by a decrease in Kyrgyz livestock. This applies to the areas that were formerly grazed by Kyrgyz.

G. Dairy Production

Wakhi production of butter and cheese made from buttermilk is largely confined to the Big Pamir and Little Pamir during the summer grazing season. This dairy production correlates strongly, we find, with substantial livestock ownership and with household wealth. Butter and cheese can be sold or traded, or consumed in the household.

In the one cluster that lacks access to grazing resources in the Afghan Pamir, no households reported dairy production. In the other clusters that have grazing rights, dairy production ranged from 31% to 43% of all households surveyed for each cluster. This corresponds closely with the total percentage of households that own yaks.

H. Livestock Sales and Consumption

The sale of livestock for cash or for goods was widely reported by the surveyed households, ranging from 83% to 94% of all households for each cluster. The percentage of livestock sold for cash (versus traded for goods, usually food) ranged from 60% to 100%. The lowest percentage of households selling for cash (and the highest percentage selling for goods) was reported from the one cluster that lacks grazing access to the Afghan Pamir.

We had expected to find a higher percentage of barter trade than cash sales. We have observed an increase in the breadth and prevalence of a cash economy from 2004 to 2006, with a corresponding growth in the size of the Ishkashim and Khandud bazaars. We conclude that the cash economy is increasing in Wakhan, and we observed a correlation in proximity to market centers and ease of access with percentage of households selling livestock for cash. We assume that increased road access will lead to increased cash sales.

Livestock sales are essential for Wakhi households to meet grain shortfalls and unavoidable household expenses. We have included comments on the oft-mentioned Wakhi debt economy in the main body of the report.

Average sales of sheep and goats ranged from 4.0 to 8.1 per household for each cluster.

Livestock are purchased by traders, most of whom come from outside Wakhan. Surveyed households reported selling livestock most frequently to traders from elsewhere in Badakhshan, but also to traders from Panjshir and Takhar Provinces.

Livestock consumption ranged from 36% to 66% of surveyed households for each cluster. The number of sheep and goats consumed ranged from an average of 0.7 to 3.5 per surveyed household for each cluster. Livestock consumption is socially required for marriage and death rites.

I. Livestock Deaths

Livestock deaths were highest among sheep and goats, ranging from 51% to 86% of all livestock deaths. Average sheep and goat deaths as a percentage of total sheep and goats owned per household ranged from 14% to 17% in three clusters, but in the cluster that lacks grazing access to the Afghan Pamir, it was 50%, and in the one cluster using the Little Pamir, it was 51%.

This loss of a majority of sheep and goats owned per household was reported by the cluster using the Little Pamir as due to hunger, caused by heavy snowfall. Losses of this magnitude have been reported in all other recent reports on Wakhan's livestock. We include an analysis of herders' strategy and rationale in the body of the report in section 2.3.1. Debt Economy. The majority of sheep and goat deaths in the one cluster lacking grazing rights to the Afghan Pamir were attributed to disease. Cause of death was not specified by a majority of surveyed households in the three clusters that reported a lower percentage of sheep and goat deaths.

Predation would not appear to be a major concern, as it was not reported as the major cause of death for either sheep and goats or for yaks, except in one case where a snow leopard reportedly entered a livestock pen and killed many sheep and goats. This type of mass killing is typically associated with snow leopard predation. Winter losses in the Big Pamir and Little Pamir attributed to wolves were comparatively few compared to hunger and disease.

J. Big Pamir Pastures

The Range Use Survey found thirteen distinct migratory groups that travel to seasonal pastures used by seventy-nine households from seventeen villages. All these pasture areas are either within the BPWR or are reached by passing through the BPWR. These households are the relatively more wealthy households. This represents approximately 20% of the total households from the villages using the Big Pamir.

Of these seventy-nine households, forty-five or 57% reported keeping livestock in Big Pamir during winter. Winter pastures are located in lower elevation areas along the Pamir River or on the valley floor of one of the main rivers flowing out of BPWR (Ali Su, Istimoch). Livestock, particularly sheep and goats, intended for sale or consumption are brought to the village. Yaks are typically not brought to the village. Villages that lack winter grazing for yaks near the village will send their yaks to the Little Pamir to be tended by Kyrgyz during winter.

Households surveyed in the Big Pamir reported slightly more than 6,800 sheep and goats and nearly 700 yaks in the Big Pamir. Of these, approximately 4,300 sheep and goats and 450 yaks graze within the BPWR in summer. The rest graze north of the BPWR, but must pass through the BPWR if being taken to market or to and from the village.

K. Little Pamir Pastures

The Range Use Survey found seventeen distinct migratory groups that travel to seasonal pastures used by forty-two households from four villages. These villages comprise the Broghil cluster and the households are 34% of all households in Broghil cluster, which is the highest percentage of households for any cluster using grazing resources in the Afghan Pamir.

The Broghil cluster has been able to take advantage of the 1979 exodus of Kyrgyz from Afghanistan, which left many grazing areas vacant. Broghil cluster has the highest average (4.8) and median number (5.0) of yaks per household of all clusters, and has the highest percentage of yaks (15.1%) among all livestock owned per household of all clusters.

Of the forty-two households, seventeen or 40% reported keeping livestock in the Little Pamir during winter.

Households surveyed reported a total of nearly 3,300 sheep and goats and 680 yaks grazing in the Little Pamir.

L. Overall Afghan Pamir Usage

Although 31% of households surveyed reported owning yaks, which require grazing in the Afghan Pamir, only 25% of all households surveyed in villages that have grazing rights in the Afghan Pamir reported utilizing these grazing rights. Similarly, 84% of all households own sheep, which typically require grazing in the Afghan Pamir. We found that some families do not take their livestock themselves, but instead send their livestock with a relative. This system, locally termed *amanat*, (see section 2.3.3.) is crucial both for the economic livelihood of the surveyed households and also for the social fabric of the community.

The Range Use Survey found 121 households from twenty-one villages traveling in thirty distinct migratory groups to seasonal pastures in both the Big Pamir and the Little Pamir. These households reported a total of approximately 10,100 sheep and goats and nearly 1,400 yaks.

We assume that these represent minimum numbers of livestock. As Petocz commented in 1978, herders tend to understate actual numbers of livestock owned in order to guard the true amount of their wealth. We also understand that livestock numbers are elastic. Shocks such as disease or winter snow fall can kill substantial percentages. Herders are constantly engaged in an effort to increase their herd size. They must balance herd size against risk of disastrous loss, need to sell some livestock every year to meet household needs, and indigenous community knowledge of how much livestock can be grazed in each particular pasture area.

Grazing rights are passed through male descent lines, typically from father to son, but often from uncle to nephew. The young men (and women, because Wakhi women also go to the seasonal pastures where they do the milking and dairy production) develop a detailed knowledge of their own pastures, based on knowledge received from their elder relatives and their own experience. Wakhi have been grazing their livestock in the Afghan Pamir since before the first modern European visitor, Lieutenant John Wood of the British Navy in 1838. Their strategies

and techniques have evolved over centuries and stood the test of time, which is sustainability's true measure.

The challenge for WCS and all stakeholders is to now incorporate new patterns of use by new user groups while maintaining and hopefully enhancing the sustainability of this traditional management system.

M. Constraints of the Survey

Although the Household Survey employed a random sampling technique to select households for interviews, in the case of the Broghil cluster the livestock numbers may be understated, as several of the largest livestock owners were not included. This is possible because livestock ownership is often concentrated in a few wealthy households, whose heads are termed *boi* (see section 2.3.2.).

Although the Household Survey sampled 53.7% of all households in the villages from Qila-e Panja to Sarhad-e Broghil, this represents a total surveyed population of 3,729 people, or 55.5% of the total population of 6,717. This size population may be too small to give accurate birth and death rates, especially infant mortality rates. However, even if this rate is overstated, it is still substantial and is a serious concern for any development in the area.

Questions of the Household Survey that did not give clear or complete responses for tabulation should be revised and the survey should be re-administered at least once prior to the conclusion of WCS's Afghanistan Biodiversity Project.

The Range Use Survey did not visit all pastures in the Little Pamir. Only the Chapdara pastures were surveyed during fieldwork in 2006. Livestock numbers and numbers of households using the other Little Pamir pasture areas were obtained through community interviews in each village. Dr. Mock and Ms. O'Neil visited these Little Pamir pasture areas in 2004 and 2005. The team should visit these areas in 2007 and conduct range use surveys in the field.

Kyrgyz areas in both the Big Pamir and the Little Pamir were not systematically surveyed. The team did visit nine Kyrgyz settlements in the Big Pamir, but did not conduct detailed surveys. Survey work among the Kyrgyz communities in both the Big Pamir and the Little Pamir should also be conducted in 2007.

The data from both surveys was encoded using Excel spreadsheets and tabulated using the calculation functions of Excel. It is desirable to enter the data sets into either a relational database such as Access or a statistical analysis package such as SPSS. However, the team members are not data base programmers. Ideally, the data sets also can be entered into the GIS that WCS is developing for Wakhan. It is ethically essential that the identities of the individual heads of household be kept confidential should the data be given to any outside agencies or representatives of the Afghan government.

1. Governance

As part of the overall project and in support of LOP Activity 3.3., which calls for facilitating community conservation committees, the WCS Community Conservation Program sought information about the existing governance structure in Wakhan. By understanding and adapting the existing governance structure to the broader sphere of stakeholders in biodiversity conservation, the WCS Community Conservation Program aims to build upon natural resource tenure systems, enable communities to realize greater security over natural resources, actively contribute to natural resource management that benefits all stakeholders, and develop sustainable use of community held natural resources to create community-wide benefits.

1.1. Shuras & Clusters

Wakhan District has forty-two village *shuras* or governing councils, also called Community Development Council (CDCs): twenty-four in Lower Wakhan (see Table 2 for *shuras* relating to fieldwork); and eighteen in Upper Wakhan (see Table 1). The CDCs were established as part of Afghanistan's National Solidarity Program (NSP), under the Ministry of Rural Rehabilitation and Development (MRRD). Each village *shura* has officers and members who are elected for a three-year term. The officers are *rais* (president), deputy *rais* (vice president), secretary, and treasurer. Every village in Wakhan belongs to a *shura*. Some *shuras* include more than one named settlement when one of the settlements is small and near to another larger settlement. Local people refer to the council by the term *shura* and not by CDC.

Each *shura* is part of a cluster of four to six villages. Each cluster is led by a *rais*. Upper Wakhan has four clusters: Broghil, Nirs, Kandkhun, and Baba Tungi. (See Table 1 for a list of villages in each cluster and Table 3 for a list of cluster *rais* and deputy *rais*).

NSP defines Lower Wakhan as the villages from Ftur, the western boundary of Wakhan District (near Ishkashim), to near the bridge at Sast (including Wuzed, Sast and Qila-e Wust villages, which are east of the bridge). NSP's definition of Upper Wakhan includes the villages from Shelk (on the true right or northern side of the Wakhan River) and Baba Tungi (on the true left or southern side of the Wakhan River) east to Sarhad-e Broghil, the easternmost village and the end of the road.

Table 1: Upper Wakhan <i>Shuras</i> (18) & Clusters (4)			
Village(s)		Cluster	Village <i>Rais</i>
1	Sarhad-e Broghil	Broghil	Mohammad Toshi Boi
2	Chilkand	Broghil	Shambi
3	Ptukh	Broghil	Bismillah
4	Neshtkhawar, Issik, Shushp	Broghil	Mulla Sabur
5	Korkot, Suikunj	Nirs	Nauroz
6	Nirs Bala, Nirs Payan	Nirs	Ali Don
7	Rochun	Nirs	Beg Mohammad
8	Rukut (Archa)	Nirs	Farman

Table 1: Upper Wakhan *Shuras* (18) & Clusters (4)

Village(s)		Cluster	Village <i>Rais</i>
9	Dehghulaman	Kandkhun	Khisrau
10	Kandkhun, Sanin	Kandkhun	Ahmad Khan
11	Rorong	Kandkhun	Gul Beg
12	Karich	Kandkhun	Murad Beg
13	Kret	Baba Tungi	Khyal Beg
14	Kuzget	Baba Tungi	Momin
15	Baba Tungi	Baba Tungi	Daulat Boi
16	Sargez	Baba Tungi	Ali Akbar
17	Kipkut	Baba Tungi	Adina Beg
18	Shelk	Baba Tungi	Syed Dol

Table 2: Lower Wakhan *Shuras* (6) & Clusters (2) Relating to WCS Fieldwork in 2006

Village(s)		Cluster	Village <i>Rais</i>
Qila-e Wust		Sast	Nida Khan
Wuzed		Sast	Char Shambi
Sast Bala, Sast Payan		Sast	Nida Khan
Goz Khun		Sast	Wali Jan
Avgarch		Sast	Shah Yusuf
Qila-e Panja, Pikut		?	Syed Shah Mahmud

Table 3: Upper Wakhan *Rais* & Deputy *Rais* by Cluster

Cluster	Cluster <i>Rais</i> (Village)	Cluster Deputy <i>Rais</i>
Broghil	Mohammad Toshi Boi (Sarhad-e Broghil)	Mirza Dehqan (Ptukh)
Nirs	Sulaiman (Nirs)	Maani (Korkut)
Kandkhun	Juma Khan (Kandkhun)	Amir Mohammad (Karich)
Baba Tungi	Ali Akbar (Sargez)	Noorullah (Kuzget)
Sast	Wali Jan (Goz Khun)	?

The target population for WCS purposes includes the eighteen villages of Upper Wakhan plus the six villages in the Sast cluster and Qila-e Panja, for a total of twenty-five villages. The villages from Qila-e Panja, near the confluence of the Pamir River and Wakhan River, east to Sarhad-e Broghil at the end of the road form a geographically logical group. These are the villages that impact the Afghan Pamir and have grazing rights in the Big Pamir and the Little Pamir. Four additional villages in Lower Wakhan, Khandud, Yamit, Paghish, and Qazideh²,

² Qazideh has one household, that of Pir Shah Langar of Qazideh, with grazing rights in the Big Pamir. Pir Qazideh sends his livestock with a herder from Qila-e Panja, who tends the livestock along with his own.

which are not contiguous with the above defined geographical region, have a few families with grazing rights in the Big Pamir.

1.2. *Shura* Committees

Under the NSP, the *shuras* in Wakhan have focused primarily on selecting and implementing a physical infrastructure project, with funding provided through NSP. In Badakhshan, AKF-A has the mandate for implementing NSP, with the result that in Wakhan District, NSP is widely viewed as an AKF-A initiative. Additional components of AKF-A's rural development program in Wakhan, such as Natural Resource Management (NRM) and tourism, are also being addressed through the CDC structure.

Each *shura* has its own Village Tourism Development Committee (TDC) (see Table 4), and each cluster has its own Cluster TDC (see Table 5). Both village- and cluster-level TDCs have their own *rais*.

Discussions with villagers revealed that most TDCs are not active, and have yet to identify issues or projects. In some villages, AKF-A has begun tourism infrastructure projects (village guest houses, campgrounds, and bath houses), which are being executed along the lines of NSP infrastructure projects. Because tourism is based upon shared resources, and tourism-related issues such as labor allocation and labor rates extend beyond any single village, the Cluster TDCs are functioning.

Table 4: Upper Wakhan's Village Tourism Development Committees			
#	Village(s)	Cluster	Village <i>Rais</i> Tourism
1	Sarhad-e Broghil	Broghil	Sultan Beg
2	Chilkand	Broghil	Syed Khan
3	Ptukh	Broghil	Mirza Dehqun
4	Neshtkhawar, Issik, Shushp	Broghil	Daulat Ali
5	Korkot, Suikunj	Nirs	Murad Ali
6	Nirs Bala, Nirs Payan	Nirs	Gul Shad
7	Rochun	Nirs	Shaheen
8	Rukut (Archa)	Nirs	Sahid Beg
9	Dehghulaman	Kandkhun	Panj Shambi
10	Kandkhun, Sanin	Kandkhun	Juma Khan
11	Rorung	Kandkhun	Mohammad Ayub
12	Karich	Kandkhun	Amir Mohammad
13	Kret	Baba Tungi	Zanjir Beg
14	Kuzget	Baba Tungi	Mohammad Hasan
15	Baba Tungi	Baba Tungi	Hakim Shah
16	Sargez	Baba Tungi	Ali Akbar
17	Kipkut	Baba Tungi	Gul Mohammad
18	Shelk	Baba Tungi	Mirza

Table 5: Upper Wakhan's Cluster Tourism Development Committees (Name/Village)				
Cluster	Cluster Rais Tourism	Cluster Deputy Rais Tourism	Cluster Secretary Tourism	Cluster Treasurer Tourism
Broghil	Qach Beg (Sarhad)	Mirza Dehqun (Ptukh)	Syed Khan (Chilkand)	?
Nirs	Sulaiman (Nirs)	Maani (Korkut)	Sahid Beg (Rukut)	Ali Murad (Rochun)
Kandkhun	Juma Khan (Kandkhun)	Amir Mohammad (Karich)	Musafir	
Baba Tungi	Ali Akbar (Sargez)	Noorullah (Kuzget)	Firosat (Baba Tungi)	?

Note that the Cluster TDCs comprise the same villages, but do not necessarily have the same officers as the CDC clusters.

1.3. Tourism & Conservation

As part of the overall project and in support of LOP Activity 3.4., developing ecotourism enterprise, the WCS Community Conservation Program sought information about the status of tourism development in Wakhan. Prior to 1979, Wakhan was visited by a handful of mountaineers who came to climb 7,000-meter Hindukush peaks along the Pakistani border, and a few international trophy hunters who came to hunt Marco Polo sheep through a hunting program operated by the Afghan Tourism Organization (ATO). Following the Soviet incursion, all tourism to Wakhan stopped. Since the fall of the Taliban government, a handful of foreign tourists has visited Wakhan (see Mock & O'Neil 2005 for additional detail).

Recognizing that community conservation initiatives must be closely linked with economic benefits in order to be sustained, and that sustainability requires that the benefits of conservation flow directly to local communities, WCS seeks to encourage and facilitate responsible ecotourism to Wakhan. Ecotourism requires a commitment to conservation on the part of all stakeholders in tourism. This shared commitment arises from the crucial interdependence between tourism and the environment; tourism has a vested interest in conserving and strengthening the cultural, physical, and biological landscape, and conserving and strengthening cultural and biological diversity holds the key to tourism's success.

In order for WCS to build capacity within the community for ecotourism management and to support community conservation committees in acquiring the skills to manage the environment, WCS seeks a close working relationship with organizations, like AKF-A, who are working to achieve similar objectives.

AKF-A has prepared an outline of the responsibilities of Cluster TDCs. These responsibilities include identifying individuals for tourism training (e.g., cook, guide, etc.), fixing labor and accommodation rates, resolving conflict between *shuras* over tourism, allocating labor opportunities, and providing services to tourists.

Because the economic opportunity of tourism in Wakhan, both existing and potential, is substantial, the formation of TDCs sets up a potential rivalry with CDCs, which were previously

the main channel for allocating labor rights. Daily labor on an NSP-funded project earns Afghani 150, and is paid through the CDC structure. The rate for working with a tourist for one day has been set by the TDCs at Afghani 800.

The disproportionate earning potential in a region where opportunity to earn money is extremely limited means that even in the 2006 field season, the hiring of pack animals to support WCS teams became a contentious issue between individuals and villages, straining the existing governance system of Wakhan. The WCS Community Conservation Program team will continue to monitor this development and work within the existing system to advise and strengthen management that keeps conservation first and foremost.

2. Socioeconomic Survey

Because of the project's special concern with the high-altitude regions of Wakhan District, the Big Pamir and the Little Pamir, the focus of the WCS Community Conservation Program for the first project year (2006) was on the Wakhi use of resources in the Afghan Pamir. Survey work was accomplished in two phases, a Range Use Survey and a Household Survey.

The team conducted the Range Use Survey in Big Pamir Wakhi summer herding settlements during July and August 2006, when pasture settlements are fully occupied (see section 3., Range Use Survey). This survey provided data on types and numbers of livestock grazing in the Big Pamir, on village affiliation of Wakhi households in each herding settlement, the number of households using each grazing area, and on the seasonal migration patterns of each herding group. The team also gathered information on Wakhi herding activity in the Little Pamir, which was augmented with data gathered on previous, non-WCS sponsored visits to the Little Pamir in 2004 and 2005.

The Household Survey was conducted in September and October 2006, when most herders and some livestock have returned to their villages. The household surveys provide data on demographics (age, gender, birth/death, marriage), occupation, education, land ownership, livestock ownership (type, number, age), dairy and wool production, and livestock sales, purchases, consumption and mortality, including causes of loss. See section 2.2. Demographics and section 2.3. Livestock for results from the Household Survey.

The two surveys provide initial baseline data on Wakhi villages and their herding activities in both the Big and Little Pamir. This data suggests focus and direction for future activities.

2.1. Methodology

The WCS Community Conservation Program team prepared questionnaires for the Range Use Survey and the Household Survey and circulated them for comment among WCS Afghanistan expert staff.

The Range Use Survey was administered in the field by Dr. John Mock and Ms. Kimberley O'Neil to members of all households present in each Wakhi herding settlement. Data was recorded in field notebooks and subsequently entered into an Excel spreadsheet. The data was GPS referenced and has been transferred to the WCS mapping section for incorporation into

the project's GIS. The surveyed households provided data on numbers of households, village affiliation, number and type of livestock, and seasonal movement.

The Range Use Survey of the Big Pamir identified seventy-nine households from seventeen villages using Big Pamir grazing resources. These households move in thirteen distinct migratory groups. The Range Use Survey of the Little Pamir identified forty-two households from four villages³ that move in seventeen distinct migratory patterns. Because livestock owners are the most wealthy segment of the population, this survey dealt with the Wakhi households with the greatest financial resources. (See Table 67 for a summary.)

The Household Survey questionnaire, covering demography and economic activity, was administered in twenty-one Wakhi villages, using random sampling techniques to select households, with a minimum village sample size of 39.5% of households. Mr. Inayat Ali, a native Wakhi speaker, administered the questionnaire, recording data in field notebooks, which were tabulated by Dr. Mock and Ms. O'Neil, using an Excel spreadsheet for computations. Additional levels of analysis would be possible using a relational database program. Because all village locations are GPS coded, all data could potentially be incorporated into the WCS's GIS for Wakhan.

The survey size was 320 households (see Table 6), covering 53.7% of all households in the twenty-one villages. The number of persons in the households surveyed was 3,729 people of total targeted population of 6,717, or 55.5% of the total population. Respondents were from twenty-one of twenty-four villages; three villages were not surveyed due to difficulty of access.

Table 6: # Households in Wakhan Household Survey by Village					
Village(s)	# Households	Total Population	Average Population per Household	# Households Surveyed	% of Total Households Surveyed
Sarhad-e Broghil	43	515	12.0	17	39.5%
Chilkand	32	360	11.3	15	46.8%
Ptukh	26	312	12.0	15	57.6%
Neshtkhawar, Issik, Shushp	22	282	12.8	13	59.0%
Subtotal Broghil Cluster:	123	1469	11.9	60	48.8%
Korkot, Suikunj	10	130	13.0	0	0.0%
Nirs Bala, Nirs Payan	27	300	11.1	13	48.1%
Rochun	12	115	9.6	12	100.0%
Rukut (Archa)	12	112	10.0	0	0.0%
Subtotal Nirs Cluster:	61	657	10.8	25	41.0%
Dehghulaman	26	310	11.9	13	50.0%
Kandkhun, Sanin	11	96	8.7	8	72.7%

³ The *shura* of Neshtkhawar includes two smaller settlements, Issik and Shushp. Hence six villages actually use the Little Pamir resources, but are organized under the NSP into four shuras.

Table 6: # Households in Wakhan Household Survey by Village					
Village(s)	# Households	Total Population	Average Population per Household	# Households Surveyed	% of Total Households Surveyed
Rorung	27	280	10.4	0	0.0%
Karich	10	106	10.6	10	100%
Subtotal Kandkhun Cluster:	74	792	10.7	31	41.9%
Kret	38	400	10.5	21	55.2%
Kuzget	10	125	12.5	9	90.0%
Baba Tungi	14	156	11.1	14	100.0%
Sargez	8	100	12.5	8	100.0%
Kipkut	20	200	10.0	12	60.0%
Shelk	14	126	9.0	9	64.3%
Subtotal Baba Tungi Cluster:	104	1107	10.6	73	70.2%
Total Upper Wakhan:	362	4025	11.1	189	52.2%
Lower Wakhan Village Population (related villages/shuras only)					
Qila-e Wust	21	246	11.7	15	71.4%
Wuzed	17	200	11.1	13	72.2%
Sast Bala, Sast Payan	50	727	14.5	29	58.0%
Goz Khun	21	232	11.0	13	61.9%
Avgarch	40	487	12.2	20	50.0%
Subtotal Sast Cluster:	149	1892	12.7	90	60.4%
Qila-e Panja	85	800	9.4	41	48.2%
Total Targeted Population:	596	6717	11.3	320	53.7%

2.2. Demographics

The Household Survey addresses these data: total population, age and gender of population, birth rate, death rate, number of marriages, number of disabled, land ownership, occupation, and education.

The original demographic data for each of the 320 respondents is attached in the file named SES-Population.xls.

2.2.1. Population

Table 7 shows the number of households, total population, and average number of people per household listed by village. Total population figures for each village were supplied by the *rais* of each *shura*, who also supplied a list of heads of all households in each village. Although

some village population figures would appear to be estimates (such as those that are even multiples of 100), they do correlate closely with actual cluster averages obtained through the survey.

The overall average household size of 11.3 persons (see Table 6) matches the average household size of 11.1 obtained through a smaller-scale survey in 2002 by Dr. Alex and Mrs. Eleanor Duncan for ORA International (Duncan 2002). Wakhi households surveyed have a significantly larger size than the average household in Afghanistan, which is 7.5 persons (National Risk & Vulnerability Assessment 2003).

Table 7: Wakhan Village Population				
Villages	Cluster	# Households	Total Population	Average per Household
Sarhad-e Broghil	Broghil	43	515	12.0
Chilkand	Broghil	32	360	11.3
Ptukh	Broghil	26	312 ⁴	12.0
Neshtkhawar, Issik, Shushp	Broghil	22	282	12.8
Subtotal Broghil Cluster:		123	1,469	11.9
Korkot, Suikunj	Nirs	10	130 ⁵	13.0
Nirs Bala, Nirs Payan	Nirs	27	300	11.1
Rochun	Nirs	12	115	9.6
Rukut (Archa)	Nirs	12	112	10.0
Subtotal Nirs Cluster:		61	657	10.8
Dehghulaman	Kandkhun	26	310	11.9
Kandkhun, Sanin	Kandkhun	11	96	8.7
Rorung	Kandkhun	27	280	10.4
Karich	Kandkhun	10	106	10.6
Subtotal Kandkhun Cluster:		74	792	10.7
Kret	Baba Tungi	38	400	10.5
Kuzget	Baba Tungi	10	125	12.5
Baba Tungi	Baba Tungi	14	156	11.1
Sargez	Baba Tungi	8	100	12.5
Kipkut	Baba Tungi	20	200	10.0
Shelk	Baba Tungi	14	126	9.0
Subtotal Baba Tungi Cluster:		104	1,107	10.6

⁴ Ptukh's *rais shura* did not know the village population, which is estimated based on an average household size of 12.0 individuals for the other villages in the Broghil cluster.

⁵ Korkut has five households and a population of 65. Suikunj also has five households, but its population was not available and has been estimated at 65.

Table 7: Wakhan Village Population				
Villages	Cluster	# Households	Total Population	Average per Household
Total Upper Wakhan:		362	4,025	11.1
Lower Wakhan Village Population (related villages/shuras only)				
Qila-e Wust	Sast	21	246	11.7
Wuzed	Sast	17	200	11.1
Sast Bala, Sast Payan	Sast	50	727 ⁶	14.5
Goz Khun	Sast	21	232	11.0
Avgarch	Sast	40	487	12.2
Subtotal Sast Cluster:		149	1,892	12.7
Qila-e Panja	?	85	800	9.4
Total Targeted Population:		596	6,717	11.3

Table 8 shows the population by age range and gender. The percentage of children aged fifteen or younger in each cluster ranges from 47% to 51%. In individual villages, the percentage of children fifteen or younger ranges from 43% in Kuzget and Qila-e Panja to 52% in Nirs.

In Afghanistan, life expectancy in 2004 was 44.5 years, compared to 60.8 years in Pakistan and 70.1 years in Iran (World Bank 2005). Almost half of the surveyed population is under age fifteen, and only 11.6% of the population exceeds Afghanistan's average life expectancy.

The gender ratio of the surveyed households ranges from 85 women for every 100 men in the Sast cluster to 94 women for every 100 men in the Kandkhun cluster and 96 women for every 100 men in Qila-e Panja. The overall average gender ratio for all households surveyed is 88.6 women for every 100 men, or 1.13 men for every woman. In Afghanistan the gender ratio is 94 women for every 100 men, or 1.06 men for every woman (U.N. Population Fund, UNFPA).

Women's health in Afghanistan is extremely vulnerable, especially during maternity. Afghanistan has one of the highest maternal mortality ratios (MMR) in the world, with 1,600 deaths for every 100,000 live births (World Bank 2005). Neighboring Pakistan has an MMR of 500, and Iran just 76. Badakhshan Province has the highest MMR ever recorded in the world at 6,500 deaths for every 100,000 live births. The root causes of this high MMR are poverty and three decades of war, which result in lack of access to basic needs and services. Wakhan is one of the most remote districts of Badakhshan, and maternal mortality is likely a significant factor in the surveyed population's gender ratio. It should be noted that women are highly valued in Wakhi society, with no overt discrimination.

⁶ The *rais shura* first gave the figure 538, but later gave 727, a difference of 189.

Table 8: Wakhi Population by Age Range & Gender								
Village	Children			Adults			Gender	
	0-15 years Male	0-15 years Female	Total %	16+ years Male	16+ years Female	Total %	Total % Male	Total % Female
Sarhad-e Broghil	22%	24%	46%	29%	25%	54%	51%	49%
Chilkand	28%	22%	50%	28%	22%	50%	56%	44%
Ptukh	29%	20%	49%	29%	23%	51%	58%	42%
Neshtkhawar, Issik, Shushp	23%	27%	50%	24%	26%	50%	47%	53%
Total Broghil Cluster:	26%	23%	49%	27%	24%	51%	53%	47%
Nirs Bala, Nirs Payan	25%	27%	52%	25%	23%	48%	50%	50%
Rochun	28%	22%	50%	28%	22%	50%	56%	44%
Total Nirs Cluster:	26%	25%	51%	27%	22%	49%	53%	47%
Dehghulaman	21%	28%	49%	25%	26%	51%	46%	54%
Kandkhun, Sanin	30%	17%	48%	30%	22%	52%	60%	40%
Karich	24%	21%	45%	28%	27%	55%	52%	48%
Total Kandkhun Cluster:	23%	24%	47%	27%	26%	53%	50%	50%
Kret	27%	22%	49%	29%	22%	51%	56%	44%
Kuzget	23%	20%	43%	32%	25%	57%	55%	45%
Baba Tungi	24%	20%	45%	29%	26%	55%	54%	46%
Sargez	19%	29%	48%	28%	24%	52%	47%	53%
Kipkut	26%	19%	45%	29%	26%	55%	55%	45%
Shelk	22%	22%	44%	32%	24%	56%	54%	46%
Total Baba Tungi Cluster:	24%	22%	46%	30%	24%	54%	54%	46%
Qila-e Wust	21%	22%	43%	32%	25%	57%	53%	47%
Wuzed	33%	16%	49%	26%	25%	51%	59%	41%
Sast Bala, Sast Payan	26%	20%	46%	28%	26%	54%	54%	46%
Goz Khun	26%	21%	47%	27%	26%	53%	53%	47%
Avgarch	24%	20%	44%	29%	27%	56%	53%	47%
Total Sast Cluster:	25%	20%	45%	29%	26%	55%	54%	46%
Qila-e Panja	22%	21%	43%	29%	28%	57%	51%	49%

The data in Table 9 indicates the rate of birth, death, and marriage in the past year. The surveyed population of 3,729 people had ninety-seven live births, giving a crude birthrate (CBR) of 26 births per 1000. This compares with Afghanistan's overall CBR of 47.4 (UNFPA). The highest birth rate, 42.4, was in the Nirs cluster (nine births in a population of 212) and the lowest, 14.8, was in the Kandkhun cluster (five births in a population of 337).

The crude death rate (CDR) of the surveyed population was 24.4 deaths per 1,000 people (ninety-one deaths in the surveyed population of 3,729), which compares to Afghanistan's CDR of 21.5. The lowest crude death rate was 14.9 in the Broghil cluster and the highest crude death

rate was 61.3 in the Nirs cluster. Nirs cluster lacks access to the Afghan Pamir's resources and has the least financial resources. Rochun village in Nirs cluster experienced multiple deaths from a disease epidemic. Described as "a red rash on the body," it may have been measles, which Dr. Duncan reports to recur as an epidemic every three to four years (Duncan 2002).

Infant mortality is extremely high in Wakhan. The surveyed population reported thirty-four deaths of children under one year of age and ninety-seven live births, which yields an infant mortality rate (IMR) of 351 per 1,000, or greater than one-third of all children born die within the first year. Afghanistan's IMR is 161.7 (UNFPA).

For children aged one through five, mortality decreased markedly. The surveyed population reported thirteen deaths in a child population of 797, yielding a child mortality rate (CMR) of 16.5 per 1,000, compared to Afghanistan's CMR for 2003 of 257 (UNICEF). Afghanistan's National Risk & Vulnerability Assessment reports that in Badakhshan, 70% of all deaths are of children under five years old (WFP and MRRD 2004). In Wakhan, the percentage of deaths for children five and younger is 52%.

Two disabled persons, one from Ptukh and one from Neshtkhawar, were reported in the surveyed population, which is a ratio of 54 disabled persons per every 100,000 population. Disability may be under-reported in the surveyed population. No mention was made of lathyrus paralysis, caused by eating *krosh* (*Lathyrus sativus* or grass pea), a condition that can be readily observed in Wakhan. FOCUS food programs are likely having a positive effect on reducing the consumption of this food.

Table 9: Wakhi Rate of Birth, Death, Marriage & Disability						
Village	Birth	Death 0-15 year old	Death 16+ year old	Death Total	Marriage	Disabled
Sarhad-e Broghil	2.0%	0.5%	0.0%	0.5%	1.0%	0.0%
Chilkand	3.8%	1.6%	0.5%	2.2%	3.3%	0.0%
Ptukh	3.0%	0.6%	0.6%	1.2%	0.6%	0.6%
Neshtkhawar, Issik, Shushp	2.7%	1.1%	1.1%	2.2%	1.1%	0.5%
Total Broghil Cluster:	2.8%	0.9%	0.5%	1.5%	1.5%	0.3%
Nirs Bala, Nirs Payan	2.8%	0.0%	0.9%	0.9%	0.0%	0.0%
Rochun	5.7%	7.5%	3.8%	11.3%	0.9%	0.0%
Total Nirs Cluster:	4.2%	3.8%	2.4%	6.1%	0.5%	0.0%
Dehghulaman	1.8%	0.6%	1.2%	1.8%	1.8%	0.0%
Kandkhun, Sanin	1.4%	0.0%	2.9%	2.9%	4.3%	0.0%
Karich	1.0%	3.1%	1.0%	4.1%	1.0%	0.0%
Total Kandkhun Cluster:	1.5%	1.2%	1.5%	2.7%	2.1%	0.0%
Kret	3.2%	2.7%	1.4%	4.1%	2.7%	0.0%
Kuzget	2.0%	1.0%	0.0%	1.0%	3.0%	0.0%
Baba Tungi	2.3%	0.8%	0.8%	1.6%	1.6%	0.0%
Sargez	2.9%	0.0%	1.9%	1.9%	2.9%	0.0%

Table 9: Wakhi Rate of Birth, Death, Marriage & Disability						
Village	Birth	Death 0-15 year old	Death 16+ year old	Death Total	Marriage	Disabled
Kipkut	1.5%	0.7%	0.0%	0.7%	2.2%	0.0%
Shelk	1.9%	2.9%	0.0%	2.9%	1.9%	0.0%
Total Baba Tungi Cluster:	2.4%	1.5%	0.8%	2.3%	2.4%	0.0%
Qila-e Wust	2.6%	1.6%	1.6%	3.1%	0.5%	0.0%
Wuzed	3.1%	1.5%	0.8%	2.3%	3.8%	0.0%
Sast Bala, Sast Payan	1.6%	0.5%	0.5%	1.0%	2.3%	0.0%
Goz Khun	1.2%	0.6%	0.6%	1.2%	2.5%	0.0%
Avgarch	3.0%	1.5%	2.7%	4.2%	1.1%	0.0%
Total Sast Cluster:	2.2%	1.1%	1.2%	2.3%	1.9%	0.0%
Qila-e Panja	3.5%	1.2%	1.5%	2.7%	2.5%	0.0%

2.2.2. Land Ownership

Table 10 shows land ownership, and mean and median *jerib* per household. Land ownership is measured by *jerib*, which is the amount of land requiring five *seer* (35 k.g.) of seed for planting.

Villages in Wakhan are located on alluvial fans or river terraces in the mountainous Panj and Wakhan river valleys. Arable land is scarce and must be irrigated. Hence, land holdings are small. In Badakhshan, average total ownership of cultivated land ranges from a minimum of 6.3 *jerib* to an average maximum of 8.8 *jerib* (WFP and MRRD 2004). “Very poor” households have minimum-maximum averages of 1.1 to 1.8 *jerib*, and “poor” households have minimum-maximum averages of 3.6 to 5.2 *jerib*. The difficulty of Wakhi farmers is evident when Wakhi average land ownership in Wakhan District, which ranges from 2.8 *jerib* in Kandkhun cluster to 5.7 *jerib* in Broghil cluster, is compared to average land ownership in Badakhshan Province.

Fitzherbert reports an estimated minimum return of 5:1 for grain crops in Wakhan (Fitzherbert 2003). This means that for each *jerib* of land sown, a farmer might expect to reap at least twenty-five *seer* (175 k.g.) of grain. Fitzherbert reports that this yield is sufficient for six to seven months, leaving a potential five- to six-month shortfall that must be made up for through livestock sales or purchases of grain (if money is available).

Villages of the Kandkhun, Baba Tungi and Sast clusters are located in the narrow gorge of the Wakhan River, where arable land is very scarce. Hence, their mean household land holding is significantly lower than that of villages in the Broghil cluster, which are located in a comparatively broader former flood plain. The mean land holding for Qila-e Panja, located below the confluence of the Wakhan and Pamir Rivers is in the comparatively wider main valley of the Panj River, and Qila-e Panja’s mean land holding is the highest of any village surveyed.

The low median land holding of 2.0 *jerib* for both Kandkhun and Baba Tungi clusters indicates that half of the households can expect to harvest less than 50 *seer* (350 kg). With an average household size of almost eleven people sharing less than one kilogram of grain per day, it is clear that food sufficiency is a serious issue. Grain must be supplemented with livestock consumption (meat) and dairy production, but as Tables 32-33 show, there is insufficient

livestock production (and ownership) to meet this shortfall. FOCUS is working to address these issues, and should be supported.

Landlessness, reported to be a significant issue for Wakhan in AKF-A internal documents, did not give a significant result in the survey. The villages with the largest percentage of landless households are Baba Tungi, Nirs and Chilkand. A large glacial outburst flood in July 2005 swept away the land of many Baba Tungi households. The outburst flood dammed the Wakhan River and inundated many fields. This catastrophic event decimated the village and impoverished many households. Such catastrophic outburst floods are characteristic events in the Hindukush region, including Wakhan. The alluvial outwash plain of a steep side valley that has glaciers at its head (which describes the location of most villages in Wakhan, especially those above Qila-e Panja) is always at risk. Sargez experienced a recent outburst flood in 2006. The Wakhan River also erodes agricultural land, as is currently happening in Ptukh, Neshtkhawar, Kuzget and Shelk. Landlessness there may indeed be a result of heavy debt, as suggested in AKF-A documents. In Chilkand, the land of two households was sold to the late Kyrgyz Khan, Haji Rahman Qul, who had acquired land to grow grain. The land is currently cultivated by the sellers' families, who hold it as the *amanat* of Kyrgyz who allow the Wakhi families to continue living on the land.

Table 10: Wakhi Land Ownership				
Village	% Households That Own Land	Mean <i>Jerib</i> per Household	Median <i>Jerib</i> per Household	% Landless Households
Sarhad-e Broghil	100%	3.6	3.0	0%
Chilkand	80%	6.5	2.5	9%
Ptukh	100%	4.5	4.0	0%
Neshtkhawar, Issik, Shushp	100%	9.2	6.0	0%
Total Broghil Cluster:	95%	5.7	4.0	2%
Nirs Bala, Nirs Payan	85%	3.2	3.0	11%
Rochun	100%	3.0	3.0	0%
Total Nirs Cluster:	92%	3.1	3.0	6%
Dehghulaman	100%	2.8	2.0	0%
Kandkhun, Sanin	100%	2.0	1.8	0%
Karich	100%	3.7	2.5	0%
Total Kandkhun Cluster:	97%	2.8	2.0	0%
Kret	100%	2.3	2.0	0%
Kuzget	100%	6.4	2.0	0%
Baba Tungi	71%	2.2	2.0	23%
Sargez	100%	1.6	1.0	0%
Kipkut	100%	4.5	4.0	0%
Shelk	100%	4.1	4.0	0%
Total Baba Tungi Cluster:	93%	3.4	2.0	4%
Qila-e Wust	100%	3.3	2.0	0%

Table 10: Wakhi Land Ownership				
Village	% Households That Own Land	Mean <i>Jerib</i> per Household	Median <i>Jerib</i> per Household	% Landless Households
Wuzed	100%	3.0	3.0	0%
Sast Bala, Sast Payan	100%	2.8	2.3	0%
Goz Khun	92%	4.2	3.0	4%
Avgarch	100%	3.9	4.0	0%
Total Sast Cluster:	98%	3.3	3.0	1%
Qila-e Panja	100%	10.7	5.5	0%

2.2.3. Occupation

In Wakhan, Wakhi people practice mixed agriculture, cultivating crops (wheat, barley, peas) in fields near the village, and taking livestock to higher elevation pastures in summer months. Fields are irrigated and manure is used for fertilizer. The occupation of farmer also includes tending livestock for the surveyed population.

Table 11 shows the percentage of the surveyed population working as farmers/herders and housewives versus those who earn income in a job. The sum of farmers and housewives plus income earners gives the percentage of village population actually working. Who in a household works at farm or herding labor is a decision made in each household, and may be determined by land ownership, size of livestock holding, age, and health status. A more detailed data analysis would be necessary to determine significant correlations. Table 12 details the types of income earning jobs in which people are employed.

Almost all individuals who reported their occupation as farmer or housewife work on their own property or in their own home. Many households have one or two members who perform occasional labor for money, or not infrequently, in exchange for grain. For example, labor for road maintenance is paid in food which is distributed through the World Food Programme (WFP). Craftsmen (masons, carpenters, weavers, blacksmiths) are typically paid either in production (earning a carpet) or in grain. Out-migration for labor was not significantly reported (three households total). In the Broghil cluster, working for the Kyrgyz in the Pamir and receiving payment in livestock and/or in wool/hair was significant (seven households). Development projects which require local labor have a significant village-level impact. For example, construction of a school in Kret by the Central Asia Institute employed 33% of the households surveyed. Tourism earning had significant impact in Goz Khun, where 100% of households reported earnings, and Avgarch, with 50% of households earning. This work was with WCS teams, transporting loads on pack animals, or, in the case of one individual, operating a guest house.

The percentage of income earners by cluster ranges from 1.4% to 5.2%. The data shows a lack of income earning opportunity in Wakhan and the reliance on household and farm labor of the population. As one Wakhi person noted, “there is almost no opportunity to earn money in Wakhan.”

Table 11: Occupation of Wakhi in Wakhan				
Village	Farmers & Housewives as % of Population	Income Earners as % of Population	Total Available Labor as % of Population	% of Income Earners to Total Labor
Sarhad-e Broghil	49.0%	2.9%	52.0%	5.7%
Chilkand	39.9%	5.5%	45.4%	10.4%
Ptukh	42.3%	6.5%	48.8%	8.3%
Neshtkhawar, Issik, Shushp	44.3%	1.1%	45.4%	2.4%
Total Broghil Cluster:	44.0%	3.9%	48.0%	8.2%
Nirs Bala, Nirs Payan	50.9%	0.9%	51.9%	1.8%
Rochun	49.1%	1.9%	50.9%	3.7%
Total Nirs Cluster:	50.0%	1.4%	51.4%	2.8%
Dehghulaman	43.3%	2.9%	46.2%	6.3%
Kandkhun, Sanin	44.9%	4.3%	49.9%	8.8%
Karich	45.4%	4.1%	49.5%	8.3%
Total Kandkhun Cluster:	44.2%	3.6%	47.8%	7.5%
Kret	46.4%	5.9%	52.3%	11.2%
Kuzget	42.4%	6.1%	48.5%	12.5%
Baba Tungi	43.8%	6.3%	50.0%	12.5%
Sargez	36.5%	6.7%	43.3%	15.6%
Kipkut	46.7%	2.2%	48.9%	4.5%
Shelk	49.0%	3.8%	52.9%	7.3%
Total Baba Tungi Cluster:	44.6%	5.2%	49.7%	10.4%
Qila-e Wust	54.2%	0.5%	54.7%	1.0%
Wuzed	37.7%	3.8%	41.5%	9.3%
Sast Bala, Sast Payan	47.4%	4.2%	51.6%	8.1%
Goz Khun	39.9%	9.8%	49.7%	19.8%
Avgarch	49.4%	6.5%	55.9%	11.6%
Total Sast Cluster:	46.8%	4.9%	51.7%	9.4%
Qila-e Panja	39.2%	7.7%	46.9%	16.5%

Individuals with jobs that generate income fall into nine categories (see Table 12): teacher, chowkidar (at schools), police, NGO or office worker, dispenser (including veterinary), government employee (including army), tourism (i.e., horse or yak man), craftsmen (mason, carpenter, blacksmith, weaver), and laborer (including seasonal work for Kyrgyz). The first six categories are typically year-round work, and the last three categories (tourism, craftsmen, laborer) are seasonal work. Masons and carpenters work in spring, summer, and autumn and often must balance their work for other people with their own need to work on their own land. Weavers work in evenings, or in spare time, especially during winter months, when they do not

have agricultural work. Tourism is seasonal and occasional. The effect of foreign visitors (such as the WCS project) on a village can be dramatic, as evidenced by the high percentage of tourism work in Goz Khun and Avgarch. The data shows the importance of occasional labor for all villages, where most households need to earn some income to meet household needs.

Table 12: Income Earners as % of Total Wakhi Population										
Key: 1=Teacher, 2=Chowkidar, 3=Police, 4=NGO Staff/Office Worker, 5=Dispenser, 6=Government/Army, 7=Tourism, 8=Craftsman, 9=Laborer										
Village	1	2	3	4	5	6	7	8	9	Total
Sarhad-e Broghil	0.5	0	0.5	0	0.5	0	0	0.5	1.0	2.9%
Chilkand	1.1	0.5	0.5	0	0.5	0	0	1.1	1.6	5.5%
Ptukh	0.6	0	0.6	0.6	0	0	0	2.4	2.4	6.5%
Neshtkhawar, Issik, Shushp	0.5%	0	0	0	0	0	0	0	0.5	1.1%
Total Broghil Cluster:	0.7%	0.1%	0.4%	0.1%	0.3%	0%	0%	0.9%	1.4%	3.9%
Nirs Bala, Nirs Payan	0	0	0	0	0	0	0	0	0.9	0.9%
Rochun	0	0	0	0	0	0	0	0	1.9	1.9%
Total Nirs Cluster:	0%	0%	0%	0%	0%	0%	0%	0%	1.4%	1.4%
Dehghulaman	1.8%	0	0	0	0	0	0	0.6	0.6	2.9%
Kandkhun, Sanin	0	0	0	0	0	0	0	1.4	2.9	4.3%
Karich	2.1%	0	0	0	0	0	0	0	2.1	4.1
Total Kandkhun Cluster:	1.5%	0%	0%	0%	0%	0%	0%	0.6%	1.5%	3.6%
Kret	0.9	0	0.9	0.5	0.5	0	0	0	3.2	5.9%
Kuzget	0	2.0	0	1.0	0	0	0	1.0	2.0	6.1%
Baba Tungi	0	0.8	1.6	1.6	0	0.8	0	0	1.6	6.3%
Sargez	3.8	0	1.0	0	1.0	0	1.0	0	0	6.7%
Kipkut	0.7	0	0.7	0	0	0	0	0	0.7	2.2%
Shelk	0	0	2.9	0	1.0	0	0	0	0	3.8%
Total Baba Tungi Cluster:	0.9%	0.4%	1.1%	0.5%	0.4%	0.1%	0.1%	0.1%	1.5%	5.2%
Qila-e Wust	0	0	0	0	0	0	0	0	0.5	0.5%
Wuzed	2.3	0	0.8	0	0	0	0	0.8	0	3.8%
Sast Bala, Sast Payan	0	0	1.3	0	0	0	0	0.8	2.1	4.2%
Goz Khun	1.2	0	1.2	0	0	0	7.4	0	0	9.8%
Avgarch	0.4	0.4	0.8	0	0	0	3.4	0.8	0.8	6.5%
Total Sast Cluster:	0.5%	0.1%	0.9%	0%	0%	0%	1.9%	0.5%	1.0%	4.9%
Qila-e Panja	1.7%	0.2%	2.1%	0.2%	0%	0.6%	0.4%	0.6%	1.9%	7.7%

2.2.4. Education

Table 13 indicates the number of students between six and fifteen years old who are enrolled in school. Schools in Wakhan began operating only after the fall of the Taliban. They are operated by the government of Afghanistan with support from UNICEF, and are housed in large UNICEF tents. Three school buildings have been constructed by the Central Asia Institute (Sarhad-e Broghil, Kret, Qila-e Panja), but not all have not been officially opened. AKF-A District Social Organizer for Upper Wakhan, Ghaib Ali Shah, stated that there are currently six schools operating; three primary (up to 8th class) in Rochun, Deghulaman, and Sast; two secondary (up to 10th class) in Chilkand and Baba Tungi; and one higher secondary (up to 12th class) in Qila-e Panja. The overall percentage of male and female children from six to fifteen years of age attending school in the surveyed population is 83.1%. This is noteworthy in light of distances that need to be traveled to reach schools. Some students who study in higher secondary travel to the school in Khandud, the Wakhan District headquarters, although this may change as of 2007 with the opening of Qila-e Panja's higher secondary school.

In Wakhan, school attendance of boys from six to fifteen years of age is 93.5% and of girls from six to fifteen years of age it is 70.9%. Wakhan District has significantly higher school attendance than the rest of Badakhshan Province where it is 63% for all boys and 56% for all girls, which are the third and second highest attendance ranks of Afghanistan's thirty-five provinces (WFP and MRRD 2004). This is a significant advantage for Wakhan. Developing conservation education materials for schools would effectively reach most of the youth, who are almost half of Wakhan's population.

Village	Class 1-5	Class 6-9	Class 10+	Total	% Potential Students
Sarhad-e Broghil	31	3	2	36	97.3%
Chilkand	32	11	3	46	88.5%
Ptukh	23	8	0	31	73.8%
Neshtkhawar, Issik, Shushp	31	1	0	32	78.0%
Total Broghil Cluster:	117	23	5	145	84.3%
Nirs Bala, Nirs Payan	23	0	0	23	71.9%
Rochun	16	1	0	17	63.0%
Total Nirs Cluster:	39	1	0	40	67.8%
Dehghulaman	27	7	2	36	85.7%
Kandkhun, Sanin	8	6	0	14	87.5%
Karich	8	4	0	12	54.5%
Total Kandkhun Cluster:	43	17	2	62	77.5%
Kret	37	5	0	42	87.5%
Kuzget	22	3	1	26	100%
Baba Tungi	24	5	1	30	100%

Table 13: Wakhi Education (Male + Female Students 6-15 years old Enrolled in School)					
Village	Class 1-5	Class 6-9	Class 10+	Total	% Potential Students
Sargez	11	5	0	16	59.3%
Kipkut	22	4	1	27	87.1%
Shelk	8	0	0	8	38.1%
Total Baba Tungi Cluster:	124	22	3	149	83.7%
Qila-e Wust	25	5	2	32	97.0%
Wuzed	15	4	1	20	62.5%
Sast Bala, Sast Payan	57	12	1	70	85.4%
Goz Khun	16	7	0	23	62.2%
Avgarch	33	3	1	37	71.2%
Total Sast Cluster:	146	31	5	182	77.1%
Qila-e Panja	74	32	9	115	100%

The surveyed per-cluster percentage of school attendance by gender shows that a greater percentage of boys attend school than do girls. Broghil cluster has 90% male attendance and 76.4% female. Nirs cluster has 79.3% male and 56.7% female. Kandkhun cluster has 97.5% male and 57.5% female. Baba Tungi cluster has 97.7% male attendance and 70.3% female attendance. Sast cluster has 82.5% male and 69.7% female attendance. Qila-e Panja has 100% male attendance and 84.9% female attendance. Table 14 gives a breakdown of students who attend school by gender.

Attendance percentages for primary schools are highest and are almost evenly divided between male and female students. However, secondary school becomes almost entirely male. Villages with female secondary attendance are those in which schools are located, suggesting that travel to school may be more difficult for females of secondary school age than for males.

Table 14: Wakhi Education (% of Male & Female Students by Classes)						
Village	Class 1-5 Male	Class 1-5 Female	Class 6-9 Male	Class 6-9 Female	Class 10+ Male	Class 10+ Female
Sarhad-e Broghil	48%	52%	100%	0%	100%	0%
Chilkand	59%	41%	64%	36%	100%	0%
Ptukh	61%	39%	88%	12%	n/a	n/a
Neshtkhawar, Issik, Shushp	61%	39%	100%	0%	n/a	n/a
Total Broghil Cluster:	57%	43%	78%	28%	100%	0%
Nirs Bala, Nirs Payan	52%	48%	n/a	n/a	n/a	n/a
Rochun	63%	37%	100%	0%	n/a	n/a
Total Nirs Cluster:	57%	43%	100%	0%	n/a	n/a
Dehghulaman	37%	63%	57%	43%	100%	0%

Table 14: Wakhi Education (% of Male & Female Students by Classes)						
Village	Class 1-5 Male	Class 1-5 Female	Class 6-9 Male	Class 6-9 Female	Class 10+ Male	Class 10+ Female
Kandkhun, Sanin	63%	37%	100%	0%	n/a	n/a
Karich	100%	0%	100%	0%	n/a	n/a
Total Kandkhun Cluster:	54%	46%	82%	18%	100%	0%
Kret	38%	62%	100%	0%	n/a	n/a
Kuzget	50%	50%	100%	0%	100%	0%
Baba Tungi	50%	50%	80%	20%	100%	0%
Sargez	55%	45%	100%	0%	n/a	n/a
Kipkut	45%	55%	100%	0%	100%	0%
Shelk	100%	0%	n/a	n/a	n/a	n/a
Total Baba Tungi Cluster:	49%	51%	95%	5%	100%	0%
Qila-e Wust	48%	52%	100%	0%	100%	0%
Wuzed	67%	33%	100%	0%	100%	0%
Sast Bala, Sast Payan	61%	39%	100%	0%	100%	0%
Goz Khun	38%	62%	86%	14%	n/a	n/a
Avgarch	45%	55%	100%	0%	100%	0%
Total Sast Cluster:	53%	47%	97%	3%	100%	0%
Qila-e Panja	54%	46%	72%	28%	78%	22%

2.3. Livestock

As part of the Household Survey, data was gathered on livestock ownership (type, number, age), dairy production, livestock sales, purchases, consumption and mortality, including causes of loss. Livestock is the most significant financial resource in Wakhan, where livestock is the major ‘savings’ wealth. Livestock is, however, subject to major ‘shocks,’ such as blizzards or disease epidemics that cause major livestock death.

Investments in these financial resources (ie, through fodder, vaccination, improved breeds, etc.) can improve liquidity and reduce risk. However, investment in financial resources (livestock) can lead to loss of natural resources (through over grazing, undesired interaction or competition with wild species, damage to ecologically fragile areas). Livestock need to be understood as a major component of Wakhan’s economy, and efforts to influence livestock grazing need to be linked with economic measures, such as improved access to credit to break the debt-trap of traders/money lenders. Investment in physical resources (infrastructure) can also improve liquidity and access to markets. Investment in human resources (through skills training, education) can also expand income generating opportunities and help reduce the near total dependence on livestock.

The original livestock data for each of the 320 respondents is attached in the file named SES-Livestock.xls.

2.3.1. Debt economy

We noted substantial livestock deaths (see section 2.3.8. Livestock Deaths) during winter, due to grass buried under heavy snow, avalanches, cold, and disease. This raises the question of why do Wakhi livestock owners take such risks with their livestock, when they know that every year many will die, and that some years more than 50% may die?

Mohammad Toshi Boi, *rais* of Sarhad-e Broghil and *rais* of Broghil cluster (and a major livestock owner) explained that it is a calculated risk. If they bring livestock down for ‘sale’ or for food to their village, then they lose the opportunity for that stock to reproduce and increase their herd size, which is the overwhelmingly important goal. Fodder resources in the villages are not sufficient to carry large numbers of livestock through the winter, as arable land is used for grain production (itself insufficient).

This raises the question of why livestock numbers are so crucial? And, why do large livestock owners (*boi*) practice heavy stocking (referred to by Petocz as ‘prestige overstocking’). The local economy of Wakhan offers an explanation.

There is only a rudimentary cash economy, in which most households take part, but only households with large numbers of livestock can profit. For many households, there is a delayed debt economy, with traders functioning as the credit bank (see section 2.3.6.1. Tijor). Goods are given in winter and/or spring, and are repaid in livestock in summer. Livestock is the currency in this economy. Without livestock, a Wakhi household cannot break the debt cycle. Hence the risk taken - it is the only chance to escape from the debt cycle.

For large livestock owners, the prestige of being a *boi* (see section 2.3.2. Boi), which gives them surplus livestock that they can loan as *amanat* (see section 2.3.3. Amanant) to other Wakhi (and hence build a clientele and create obligation and allegiance), or ‘spend’ through donations to the spiritual leader or for community work (feeding the workers), offers additional explanation why large livestock owners also risk the winter losses.

2.3.2. Boi

A Wakhi *boi* is a man who owns substantial livestock. It is a title of respect, and carries prestige. *Boi*, explains Ali Akbar, village *rais* of Sargez and Baba Tungi cluster *rais*, is anyone with livestock and some money. There is no fixed amount required to be called *boi*. A *boi* can meet the traders’ debt demand and still provide for family and relatives and perhaps help the poor. This may be a person who owns approximately 200 sheep and goats. Such a person is not ‘rich’ (few, if any, are in Wakhan), but as Ali Akbar states, “When a person has 100 sheep and goats, people begin to see him as *boi*.” If, however, the livestock is lost, then he is no longer seen as *boi*.

Boi is a title borrowed from the Kyrgyz. Petocz (1978) uses this term in reference to wealthy Big Pamir livestock owners (spelling it ‘*bouy*’ and placing it as part of the individual’s name, e.g., Mastali Bouy).

2.3.3. Amanant

Amanat is an Arabic word commonly used throughout Afghanistan. It has no single-word equivalent in English. It is used in reference to an item or items given to another person to use

for a fixed period of time and then to be returned undamaged. It is similar to ‘using and returning undamaged’ or ‘safe-keeping while using.’

In Wakhan, it is used for the giving of livestock to another person. The giver retains ownership, but the user has certain use rights. For example, if a household owns livestock but cannot take the livestock to a summer pasture, the livestock will be given to another person who will care for the livestock in the summer pasture. It is the *amanat* of the livestock owner with the herder.

Reasons for not being able to take livestock to pasture are: lack of labor in the household (not enough people to take care of house, land/crops, and livestock); not enough money to support a household in the pasture area (to purchase food, equipment); not enough livestock to make the operation of a pasture household worthwhile; other important village activities that preclude going to summer pasture (usually only wealthy or influential people).

This *amanat* is usually given during the summer grazing season. For example, Ghulam Haidar of Paghish keeps fifteen *turqi* sheep with Aziz Big of Kret in the summer pasture of Tor Bulok as *amanat*. Sulaiman, a *tijor* from Qazideh, keeps forty *turqi* sheep with the household of Abdul Ahmed Boi of Qila-e Wust in Tor Bulok, for which they keep milk and wool as payment. Ghulam of Qila-e Panja has twenty-five sheep and goats in Buqbun, but also keeps 200 sheep and goats of Pir Syed Shah Ismail as *amanat*. Zaidullah of Qila-e Panja tends the livestock of Pir Syed Shah Langar in Bulok Kshun. Khush Big of Qila-e Wust has twenty sheep and goats in Lupghil Kshun, but keeps 200 sheep and goats and ten yaks of Khwaja Sardar of Qila-e Panja. Dehghulaman villagers send many sheep and goats to Asan Katich as *amanat*, for which the herders there receive milk and wool, and every other year they get the new born lambs/kids (the owners get the lambs/kids the other year). Khyal Jan of Rorung tends thirty sheep and goats and three yaks in Mergich summer pasture above the village, most of which are *amanat* from the village.

A second kind of *amanat* is given in winter season. In villages that lack winter pasture rights for livestock in the Afghan Pamir, and lack sufficient winter grazing area near the village, livestock are sent to the Afghan Pamir to be cared for by Kyrgyz. For example, Haidar Beg of Qila-e Wust sends forty *turqi* sheep as *amanat* to Qasim Boi in Bai Tibat. Qasim Boi, a Kyrgyz, gets all milk and wool (sheared in spring) as payment. All the households using Tor Bulok (from Qila-e Wust, Kret and Karich) give some yaks to Kyrgyz in the Little Pamir as winter *amanat*. The Kyrgyz receive one *turqi* sheep for caring for ten yaks during winter. Previously, they exchanged seven *seer* of wheat/flour for caring for ten yaks, but the wheat system is now ended. The seven households using Asan Katich (from Dehghulaman, Kandkhun and Rorung) lack winter pasture area for yaks, and so send all their yaks to Kyrgyz (Aziz in Hichqili) in the Little Pamir as winter *amanat*. Syed Ibrahim of Sargez sends his yaks to the Little Pamir as winter *amanat*, because Sargez lacks any winter grazing area for yaks.

A third type of *amanat* is the loaning of animals to poor people by wealthy *boi*. For example, the village of Rukut, with twelve households, owns little livestock, between fifteen and twenty sheep and goats for the entire village. However, Mohammad Toshi Boi of Sarhad-e Broghil has given them an additional thirty to thirty-five sheep and goats as *amanat* to help them meet their milk and meat needs. Rukut cannot take loans from traders, as they have no way to repay the loans. Rochun also receives *amanat* livestock from Mohammad Toshi Boi and Qach Beg of Sarhad-e Broghil. Rochun villagers work as laborers to earn money to pay for debts incurred to traders, often as herders for Kyrgyz in the Little Pamir. This type of *amanat*, due to

poverty, although ensuring the survival of the household receiving the *amanat*, does not allow the household to build wealth. It is more significantly present in the Nirs cluster, which lacks access to the Afghan Pamir's resources.

2.3.4. Livestock Ownership

Table 15 shows livestock ownership by household and distinguishes between any households that give or receive *amanat*. Almost all households own livestock, which, in the case of a poor household, is most likely a single cow or sheep, used for household milk (tea) needs.

Several notably poorer villages (the entire Nirs cluster, and Baba Tungi which suffered a catastrophic outburst flood) receive significant *amanat*, reflecting their lack of livestock.

Villages with comparatively greater access to the Afghan Pamir's resources (especially the Broghil cluster), give significant percentages of livestock as *amanat*, reflecting their comparatively greater financial resources.

Table 15: Wakhi Livestock Ownership				
Village	Households Own Livestock	Households Do Not Own livestock	Households Receive Amanat as Livestock	Households Give Livestock as Amanat
Sarhad-e Broghil	100%	0%	0%	12%
Chilkand	100%	0%	0%	7%
Ptukh	93%	7%	13%	27%
Neshtkhawar, Issik, Shushp	100%	0%	0%	15%
Total Broghil Cluster:	98%	2%	3%	15%
Nirs Bala, Nirs Payan	100%	0%	8%	8%
Rochun	100%	0%	8%	0%
Total Nirs Cluster:	100%	0%	8%	2%
Dehghulaman	100%	0%	8%	0%
Kandkhun, Sanin	100%	0%	0%	0%
Karich	100%	0%	0%	0%
Total Kandkhun Cluster:	100%	0%	5%	0%
Kret	95%	5%	5%	5%
Kuzget	100%	0%	0%	0%
Baba Tungi	100%	0%	7%	0%
Sargez	100%	0%	0%	0%
Kipkut	100%	0%	0%	8%
Shelk	100%	0%	0%	22%
Total Baba Tungi Cluster:	99%	1%	3%	5%
Qila-e Wust	100%	0%	0%	7%
Wuzed	100%	0%	0%	0%

Table 15: Wakhi Livestock Ownership

Village	Households Own Livestock	Households Do Not Own livestock	Households Receive Amanat as Livestock	Households Give Livestock as Amanat
Sast Bala, Sast Payan	97%	3%	14%	3%
Goz Khun	100%	0%	0%	0%
Avgarch	100%	0%	0%	0%
Total Sast Cluster:	99%	1%	4%	2%
Qila-e Panja	100%	0%	0%	5%

Table 16 identifies the type of livestock owned as a percentage of total livestock owned. Sheep and goats predominate, with the higher-value sheep preferred over goats. This type of mixed herding is an important ecological adaptation. Sheep are more cold-resistant than goats and are better able to break through winter snow to uncover grass, but goats move more rapidly and prevent the mixed herd from overgrazing a single location (Shahrani 1979:89). Yaks, which are perfectly adapted to the cold and snow of the Afghan Pamir, are prestige animals, and command a high value in the market. They are also the best load carriers in the Afghan Pamir, able to easily cross rivers even while carrying a load. Cows are kept near homes for milk, and oxen are crucial for plowing. Cattle are also used for threshing. Donkeys are owned by most households, even poorer households, and are used for carrying loads, although they cannot cross deep rivers and perform poorly at higher elevations. Horse ownership is less widespread, and is more of a prestige animal, used primarily for riding. Interestingly, Wakhi keep female horses for riding, while Kyrgyz always keep males for riding. Wakhi sell horses to the Kyrgyz, as horses cannot breed at the elevations of the Afghan Pamir. Camels are the most prestigious animal, and only a wealthy *boi* owns a camel.

Table 16: Wakhi Livestock Ownership by Type of Livestock (as % of Total Livestock)

Village	Sheep	Goat	Cow/Ox	Yak	Horse	Donkey	Camel
Sarhad-e Broghil	48.7	7.3	20.4	14.4	3.5	5.5	0.2
Chilkand	29.2	27.1	14.6	19.3	2.7	6.7	0.4
Ptukh	41.7	20.7	18.7	9.0	2.9	7.0	0.0
Neshtkhawar, Issik, Shushp	44.7	20.6	12.6	15.3	1.9	4.9	0.0
Total Broghil Cluster:	40.6	19.3	16.2	15.1	2.7	6.0	0.2
Nirs Bala, Nirs Payan	44.5	6.1	26.2	11.0	4.9	7.3	0.0
Rochun	14.5	17.9	42.7	0.6	8.5	16.2	0.0
Total Nirs Cluster:	32.0	11.0	33.1	6.4	6.4	11.0	0.0
Dehghulaman	41.0	23.1	15.6	12.3	1.2	5.4	1.4
Kandkhun, Sanin	30.5	22.0	25.6	7.3	2.4	12.2	0.0
Karich	49.4	23.8	13.9	7.5	0.7	3.3	1.4
Total Kandkhun Cluster:	44.0	23.3	15.7	9.7	1.1	5.0	1.3
Kret	54.0	17.6	14.1	6.7	0.3	6.4	0.9

Table 16: Wakhi Livestock Ownership by Type of Livestock (as % of Total Livestock)							
Village	Sheep	Goat	Cow/Ox	Yak	Horse	Donkey	Camel
Kuzget	55.2	17.5	16.1	5.8	0.4	4.9	0.0
Baba Tungi	38.9	25.3	24.2	0.5	2.1	8.9	0.0
Sargez	30.8	46.5	9.5	10.2	0.7	2.4	0.0
Kipkut	45.2	24.9	13.9	10.2	0.5	5.3	0.0
Shelk	26.3	47.1	15.8	3.8	0.9	6.1	0.0
Total Baba Tungi Cluster:	42.0	30.2	14.5	6.9	0.7	5.4	0.2
Qila-e Wust	53.3	25.5	8.5	7.5	0.4	3.6	1.2
Wuzed	41.3	25.0	21.8	5.6	0.8	5.6	0.0
Sast Bala, Sast Payan	45.6	13.9	24.7	6.2	0.7	8.9	0.0
Goz Khun	39.4	34.0	14.2	4.6	1.9	4.9	1.0
Avgarch	49.1	11.2	18.1	13.5	0.7	6.5	0.9
Total Sast Cluster:	46.6	22.2	16.2	7.6	0.9	5.7	0.7
Qila-e Panja	40.5	20.3	23.6	5.6	2.3	6.9	0.8

Tables 17-21 show the age and gender for each type of livestock: sheep (see Table 17), goat (see Table 18), cow/ox (see Table 19), yak (Table 20), and horse (Table 21).

Females, as milk givers and bearers of new sheep, are kept in much greater numbers than adult males. The predominance of newborn sheep to one-year olds suggests a high mortality among newborn, or a vigorous selection and culling process by herders, or a combination of both.

Table 17: Wakhi Sheep Ownership by Sheep's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Sarhad-e Broghil	27%	9%	2%	62%
Chilkand	29%	0%	1%	70%
Ptukh	41%	1%	2%	56%
Neshtkhawar, Issik, Shushp	43%	2%	3%	52%
Total Broghil Cluster:	35%	3%	2%	60%
Nirs Bala, Nirs Payan	37%	5%	3%	55%
Rochun	29%	0%	6%	65%
Total Nirs Cluster:	36%	4%	3%	57%
Dehghulaman	42%	9%	5%	44%
Kandkhun, Sanin	48%	0%	4%	48%
Karich	36%	7%	3%	54%
Total Kandkhun Cluster:	39.6%	7.2%	3.7%	49.5%
Kret	42%	6%	2%	50%

Table 17: Wakhi Sheep Ownership by Sheep's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Kuzget	34%	7%	15%	44%
Baba Tungi	41%	0%	1%	58%
Sargez	48%	6%	3%	43%
Kipkut	38%	7%	1%	54%
Shelk	36%	13%	3%	48%
Total Baba Tungi Cluster:	40%	7%	4%	49%
Qila-e Wust	42%	5%	2%	51%
Wuzed	40%	0%	2%	58%
Sast Bala, Sast Payan	36%	2%	2%	60%
Goz Khun	37%	6%	2%	55%
Avgarch	35%	0%	1%	64%
Total Sast Cluster:	38%	3%	2%	57%
Qila-e Panja	44%	0%	0%	56%

Although the female to male preference is still evident, male goats are of more use, in that males are better at leading the herd, especially when goats are driven to market, as they keep a steady pace (Shahrani 1979:90). The low recruitment rate from newborn to one year old, like sheep, suggests high mortality and/or vigorous culling.

Table 18: Wakhi Goat Ownership by Goat's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Sarhad-e Broghil	43%	6%	6%	45%
Chilkand	26%	5%	5%	64%
Ptukh	45%	3%	1%	51%
Neshtkhawar, Issik, Shushp	34%	0%	14%	52%
Total Broghil Cluster:	34%	3%	7%	56%
Nirs Bala, Nirs Payan	30%	20%	0%	50%
Rochun	48%	0%	0%	52%
Total Nirs Cluster:	42%	6%	0%	52%
Dehghulaman	36%	5%	12%	47%
Kandkhun, Sanin	50%	0%	0%	50%
Karich	38%	5%	10%	47%
Total Kandkhun Cluster:	38%	5%	10%	47%
Kret	32%	2%	3%	63%

Table 18: Wakhi Goat Ownership by Goat's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Kuzget	38%	18%	3%	41%
Baba Tungi	46%	0%	0%	54%
Sargez	35%	3%	9%	53%
Kipkut	43%	3%	0%	54%
Shelk	38%	13%	0%	49%
Total Baba Tungi Cluster:	38%	6%	3%	53%
Qila-e Wust	41%	11%	2%	46%
Wuzed	37%	3%	6%	54%
Sast Bala, Sast Payan	46%	3%	1%	50%
Goz Khun	33%	5%	7%	5%
Avgarch	42%	0%	0%	58%
Total Sast Cluster:	38%	6%	4%	52%
Qila-e Panja	33%	2%	0%	45%

The comparative value of oxen is reflected in a higher percentage of adult males. The overall higher one-year-old recruitment rate for cattle compared to that of sheep or goats indicates that adult animals (cows for milk, males for ploughing) are valued, but still suggests high mortality and/or culling.

Table 19: Wakhi Cow/Ox Ownership by Cow's/Ox's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Sarhad-e Broghil	27%	11%	22%	40%
Chilkand	30%	11%	18%	41%
Ptukh	31%	16%	16%	37%
Neshtkhawar, Issik, Shushp	27%	13%	24%	36%
Total Broghil Cluster:	29%	13%	20%	38%
Nirs Bala, Nirs Payan	32%	7%	19%	42%
Rochun	32%	4%	22%	42%
Total Nirs Cluster:	32%	5%	21%	42%
Dehghulaman	26%	15%	26%	33%
Kandkhun, Sanin	33%	0%	14%	53%
Karich	20%	20%	24%	36%
Total Kandkhun Cluster:	25%	15%	23%	37%
Kret	23%	8%	29%	39%

Table 19: Wakhi Cow/Ox Ownership by Cow's/Ox's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Kuzget	33%	6%	19%	42%
Baba Tungi	30%	2%	26%	42%
Sargez	28%	2%	28%	42%
Kipkut	29%	11%	27%	33%
Shelk	24%	13%	26%	37%
Total Baba Tungi Cluster:	27%	8%	27%	38%
Qila-e Wust	21%	9%	29%	41%
Wuzed	26%	16%	16%	42%
Sast Bala, Sast Payan	29%	9%	24%	38%
Goz Khun	27%	13%	19%	41%
Avgarch	22%	14%	30%	34%
Total Sast Cluster:	25%	12%	24%	39%
Qila-e Panja	26%	14%	24%	36%

Male yaks are of comparatively greater market value than female yaks. The recruitment rate from newborn to one-year old is highest for yaks. The distinction between gelded and non-gelded males was not made. Gelded males, which are preferred for load-carrying, would outnumber stud bulls, which are carefully selected and kept in small numbers. Yaks are able to exploit marginal areas (high elevation, sparse grass) that other livestock cannot, and yak ownership almost always indicates relative wealth.

Table 20: Wakhi Yak Ownership by Yak's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Sarhad-e Broghil	18%	18%	31%	33%
Chilkand	21%	15%	41%	23%
Ptukh	32%	23%	19%	26%
Neshtkhawar, Issik, Shushp	25%	12%	28%	35%
Total Broghil Cluster:	23%	16%	33%	28%
Nirs Bala, Nirs Payan	28%	6%	0%	66%
Rochun	0%	0%	0%	0%
Total Nirs Cluster:	28%	6%	0%	66%
Dehghulaman	27%	13%	29%	31%
Kandkhun, Sanin	17%	0%	33%	50%
Karich	25%	9%	35%	31%
Total Kandkhun Cluster:	26%	11%	31%	32%

Table 20: Wakhi Yak Ownership by Yak's Age & Gender				
Village	Newborn Male/Female	1 year old Male/Female	Adult Male	Adult Female
Kret	26%	3%	28%	43%
Kuzget	16%	8%	38%	38%
Baba Tungi	0%	0%	0%	100%
Sargez	26%	7%	37%	30%
Kipkut	21%	5%	42%	32%
Shelk	31%	15%	23%	31%
Total Baba Tungi Cluster:	24%	6%	35%	35%
Qila-e Wust	26%	9%	36%	29%
Wuzed	21%	0%	58%	21%
Sast Bala, Sast Payan	26%	9%	31%	34%
Goz Khun	14%	14%	48%	24%
Avgarch	20%	12%	36%	32%
Total Sast Cluster:	22%	10%	38%	20%
Qila-e Panja	28%	12%	25%	35%

Wakhi keep female horses, which are used for riding. Male horses are kept for stud, but are often sold to Kyrgyz. Although respondents did not distinguish between adult male and female, it can be assumed that almost all adult horses are female.

The Broghil cluster, which has abundant open grass land, offers better habitat for horse breeding, and Broghil cluster has a comparatively greater number of horses.

Table 21: Wakhi Horse Ownership by Horse's Age		
Village	Newborn Male/Female	Adult Male/Female
Sarhad-e Broghil	13%	87%
Chilkand	13%	87%
Ptukh	0%	100%
Neshtkhawar, Issik, Shushp	0%	100%
Total Broghil Cluster:	8%	92%
Nirs Bala, Nirs Payan	0%	100%
Rochun	0%	100%
Total Nirs Cluster:	0%	100%
Dehghulaman	0%	100%
Kandkhun, Sanin	0%	100%
Karich	0%	100%
Total Kandkhun Cluster:	0%	100%

Table 21: Wakhi Horse Ownership by Horse's Age		
Village	Newborn Male/Female	Adult Male/Female
Kret	0%	100%
Kuzget	0%	100%
Baba Tungi	0%	100%
Sargez	0%	100%
Kipkut	0%	100%
Shelk	0%	100%
Total Baba Tungi Cluster:	0%	100%
Qila-e Wust	0%	100%
Wuzed	0%	100%
Sast Bala, Sast Payan	0%	100%
Goz Khun	0%	100%
Avgarch	0%	100%
Total Sast Cluster:	0%	100%
Qila-e Panja	0%	100%

Table 22 shows average number of livestock per household by type of livestock. Cows are the most commonly owned livestock, with 93% of surveyed households owning a cow. Donkeys, the universal load carriers, are next at 88%. Oxen are owned by 75% of all households, and are vital for plowing and threshing. Sheep are owned by 84% of households, and goats by 58%. Yaks, whose ownership carries more prestige and indicates wealth, are owned by 31% of households, followed closely by horse ownership at 29%. Camels, the highest prestige animal, are owned by 4.6% of all households surveyed. The percentage of households owning livestock in Wakhan is greater than in Badakhshan Province as a whole, where 60% of households own cows, 49% own oxen, 69% own donkeys, 75% own sheep, 82% own goats, and 18% own horses (WFP and MRRD 2004). This reflects the mixed agro-pastoralist economy of Wakhan, where livestock is a crucial component.

In the surveyed village clusters, Broghil cluster has the highest percentage of yak (43%) and horse (58%) ownership per household, indicative of both the access to the Afghan Pamir's resources and the availability of grazing land near the villages for horses. The highest percentages of sheep ownership were in the Baba Tungi (93%) and Sast (92%) clusters. Goat ownership ranged from 73% of households in the Baba Tungi cluster to just 16% of households in the Nirs cluster.

In rural Afghanistan, the average number of livestock per household are 2.9 sheep, 2.4 goats, 1.2 cows and 0.5 donkeys (World Bank 2005). The much higher average and median household numbers for all clusters in Wakhan (with the exception of goats per household in Nirs), indicates the importance of livestock to Wakhi people, where livestock ownership is almost universal (also see Table 23). Poor indeed is the family that cannot produce fresh milk.

Table 22: Wakhi Livestock Ownership Mean # of Livestock by Type per Household							
Village	Sheep	Goat	Cow/Ox	Yak	Horse	Donkey	Camel
Sarhad-e Broghil	12.9	1.9	5.4	3.8	0.9	1.5	0.1
Chilkand	10.8	10.0	5.4	7.1	1.0	2.5	0.1
Ptukh	9.5	4.7	4.3	2.1	0.7	1.6	0.0
Neshtkhawar, Issik, Shushp	18.2	8.4	5.2	6.2	0.8	2.0	0.0
Total Broghil Cluster:	12.9	6.3	5.1	4.8	0.8	1.9	0.0
Nirs Bala, Nirs Payan	5.6	0.8	3.3	1.4	0.6	0.9	0.0
Rochun	1.4	1.8	4.2	0.0	0.8	1.6	0.0
Total Nirs Cluster:	3.5	1.3	3.7	0.7	0.7	1.3	0.0
Dehghulaman	13.4	7.5	5.1	4.0	0.4	1.8	0.5
Kandkhun, Sanin	3.1	2.3	2.6	0.8	0.3	1.3	0.0
Karich	20.3	10.1	5.9	3.9	0.3	1.4	0.6
Total Kandkhun Cluster:	12.3	6.6	4.5	2.9	0.3	1.5	0.4
Kret	14.9	4.9	3.9	1.9	0.1	1.8	0.2
Kuzget	13.7	4.3	4.0	1.4	0.1	1.2	0.0
Baba Tungi	5.3	3.4	3.3	0.1	0.3	1.2	0.0
Sargez	17.4	26.3	5.4	5.8	0.4	1.4	0.0
Kipkut	14.1	7.8	4.3	3.2	0.2	1.7	0.0
Shelk	10.0	17.9	6.0	1.4	0.3	2.3	0.0
Total Baba Tungi Cluster:	12.6	10.8	4.5	2.3	0.2	1.6	0.0
Qila-e Wust	27.5	13.2	4.4	3.9	0.2	1.9	0.6
Wuzed	8.0	4.8	4.2	1.1	0.2	1.1	0.0
Sast Bala, Sast Payan	8.8	2.7	4.8	1.2	0.1	1.7	0.0
Goz Khun	19.0	16.4	6.8	2.2	0.9	2.4	0.5
Avgarch	13.6	3.1	5.0	3.8	0.2	1.8	0.3
Total Sast Cluster:	15.4	8.0	5.1	2.4	0.3	1.8	0.3
Qila-e Panja	12.8	6.4	7.5	1.8	0.7	2.2	0.3

Table 23: Wakhi Livestock Ownership Median # Livestock by Type per Household							
Village	Sheep	Goat	Cow/Ox	Yak	Horse	Donkey	Camel
Sarhad-e Broghil	6.0	0.0	5.0	2.0	1.0	1.0	0.0
Chilkand	3.0	4.0	4.0	0.0	0.0	2.0	0.0
Ptukh	8.0	5.0	4.0	0.0	1.0	2.0	0.0
Neshtkhawar, Issik, Shushp	8.0	3.0	5.0	4.0	1.0	2.0	0.0
Total Broghil Cluster:	11.9	6.6	5.3	5.0	0.9	1.8	0.0

Table 23: Wakhi Livestock Ownership Median # Livestock by Type per Household							
Village	Sheep	Goat	Cow/ Ox	Yak	Horse	Donkey	Camel
Nirs Bala, Nirs Payan	4.0	0.0	3.0	0.0	0.0	1.0	0.0
Rochun	1.0	0.0	4.0	0.0	1.0	1.5	0.0
Total Nirs Cluster:	3.5	1.3	3.7	0.7	0.7	1.3	0.0
Dehghulaman	6.0	4.0	4.0	0.0	0.0	2.0	0.0
Kandkhun, Sanin	0.0	2.0	2.0	0.0	0.0	1.0	0.0
Karich	13.5	6.5	5.5	2.5	0.0	2.0	0.0
Total Kandkhun Cluster:	13.4	7.5	5.1	3.9	0.3	1.4	0.5
Kret	6.0	2.0	4.0	0.0	0.0	2.0	0.0
Kuzget	4.0	0.0	4.0	0.0	0.0	1.0	0.0
Baba Tungi	5.5	3.5	3.5	0.0	0.0	1.0	0.0
Sargez	12.0	28.0	5.0	5.5	0.0	1.0	0.0
Kipkut	8.0	5.5	3.5	2.5	0.0	1.5	0.0
Shelk	10.0	14.0	6.0	0.0	0.0	2.0	0.0
Total Baba Tungi Cluster:	13.9	6.3	4.2	1.7	0.2	1.5	0.0
Qila-e Wust	10.0	9.0	4.0	0.0	0.0	2.0	0.0
Wuzed	6.0	4.0	5.0	0.0	0.0	1.0	0.0
Sast Bala, Sast Payan	6.0	0.0	4.0	0.0	0.0	2.0	0.0
Goz Khun	9.0	7.0	6.0	0.0	0.0	2.0	0.0
Avgarch	9.5	0.0	5.0	2.0	0.0	2.0	0.0
Total Sast Cluster:	13.6	4.8	4.8	2.2	0.2	1.8	0.3
Qila-e Panja	7.0	0.0	7.0	0.0	0.0	2.0	0.0

Poultry ownership in Wakhan is not widespread (see Table 24), as it is in the rest of Badakhshan Province where 84% of all households own poultry (WFP and MRRD 2004). Chickens do not tolerate cold well and must be brought into Wakhan. Hence, villages at lower elevations tend to have a greater percentage of households keeping poultry. Chicken is not a preferred meat among Wakhi in Wakhan, perhaps due to unfamiliarity with chicken. We anecdotally found that chicken tended to be cooked in the same way as other meat - boiling - which is not the most flavorful way to cook chicken.

Table 24: Wakhi Poultry Ownership		
Village	Households Own Poultry	Households Do Not Own Poultry
Sarhad-e Broghil	29%	71%
Chilkand	33%	67%
Ptukh	0%	100%
Neshtkhawar, Issik, Shushp	23%	77%

Table 24: Wakhi Poultry Ownership		
Village	Households Own Poultry	Households Do Not Own Poultry
Total Broghil Cluster:	22%	78%
Nirs Bala, Nirs Payan	0%	100%
Rochun	0%	100%
Total Nirs Cluster:	0%	100%
Dehghulaman	8%	92%
Kandkhun, Sanin	0%	100%
Karich	0%	100%
Total Kandkhun Cluster:	3%	97%
Kret	38%	62%
Kuzget	44%	56%
Baba Tungi	43%	57%
Sargez	25%	75%
Kipkut	58%	42%
Shelk	89%	11%
Total Baba Tungi Cluster:	48%	52%
Qila-e Wust	73%	27%
Wuzed	54%	46%
Sast Bala, Sast Payan	31%	69%
Goz Khun	31%	69%
Avgarch	30%	70%
Total Sast Cluster:	41%	59%
Qila-e Panja	39%	61%

2.3.5. Dairy Production

Dairy production includes production of butter and *qurut*, a cheese made after butter is extracted from milk (see Table 25). The data does not address milk production. Most households produce some milk for their own consumption (in tea). Dairy production shown in this table correlates with livestock ownership, and with access to the Afghan Pamir's resources: those households having sufficient livestock, and access to the Afghan Pamir's grazing resources, are able to produce butter and cheese. As such, butter and cheese production is an indication of relative wealth, since livestock is the most significant financial resource in Wakhan. In order to derive full benefit from financial resources, human resources (i.e., labor) is essential. Households with livestock may lack labor to tend them in the Afghan Pamir. In such cases the household would give their livestock as *amanat* to a relative, who would keep the dairy production in return for tending the livestock.

The mean amount of butter and *qurut* produced per household (shown in Table 25) includes only the households producing dairy products, i.e., not all households. Most households

surveyed do not produce butter and cheese. In only four villages - Karich, Sargez, Shelk and Avgarch - do more than half the households produce dairy. The total amount of butter produced in each village, compared to the percentage of households producing dairy, reveals that there are some wealthy households in villages that produce a large quantity of butter. The notable example is Qila-e Wust, where 33% of households produce butter, but those households average 41.3 k.g. of butter, the highest mean butter production in Wakhan. This indicates that households producing butter in Qila-e Wust have large livestock holdings and are wealthy. Contrast this with the Nirs cluster, where no households produce butter, and all villages lack access to the Afghan Pamir's resources.

Table 25: Wakhi Dairy Production

Village	Households Produce Dairy	Households Do Not Produce Dairy	Total kg Butter Produced per village	Mean kg Butter Produced per Household	Total kg Qurut Produced per village	Mean kg Qurut Produced per Household
Sarhad-e Broghil	35%	65%	80.5	13.4	161.0	26.8
Chilkand	27%	73%	88.0	22.0	337.0	84.3
Ptukh	27%	73%	70.0	17.5	228.0	57.0
Neshtkhawar, Issik, Shushp	46%	54%	168.0	28.0	392.0	65.3
Total Broghil Cluster:	33%	67%	406.5	20.3	1118.0	55.9
Nirs Bala, Nirs Payan	0%	100%	0	0	0	0
Rochun	0%	100%	0	0	0	0
Total Nirs Cluster:	0%	100%	0	0	0	0
Dehghulaman	15%	85%	56.0	28.0	98.0	49.0
Kandkhun, Sanin	13%	87%	17.5	17.5	35.0	35.0
Karich	60%	40%	122.5	20.4	262.5	43.8
Total Kandkhun Cluster:	43%	57%	196.0	21.8	395.5	43.9
Kret	14%	86%	59.5	19.8	224.0	74.7
Kuzget	33%	67%	28.0	9.3	91.0	30.3
Baba Tungi	14%	86%	5.0	2.5	5.5	2.8
Sargez	63%	37%	108.5	21.7	259.0	51.8
Kipkut	42%	58%	98.0	19.6	252.0	50.4
Shelk	56%	44%	49.0	9.8	203.0	40.6
Total Baba Tungi Cluster:	32%	68%	348.0	15.1	1034.5	45.0
Qila-e Wust	33%	67%	206.5	41.3	378.0	75.6
Wuzed	23%	77%	58.0	19.3	189.0	63.0

Table 25: Wakhi Dairy Production

Village	Households Produce Dairy	Households Do Not Produce Dairy	Total kg Butter Produced per village	Mean kg Butter Produced per Household	Total kg Qurut Produced per village	Mean kg Qurut Produced per Household
Sast Bala, Sast Payan	17%	83%	98.0	19.6	182.0	36.4
Goz Khun	38%	62%	115.5	23.1	224.0	44.8
Avgarch	60%	40%	224.0	18.7	567.0	47.3
Total Sast Cluster:	33%	67%	702.0	23.4	1540.0	51.3
Qila-e Panja	10%	90%	80.5	20.1	238.0	59.5

2.3.6. Livestock Sales

Table 26 summarizes livestock sales by household and currency. Tables 27 and 28 detail the livestock sales by type of livestock: sheep/goat and cow/ox (see Table 27), and yak and horse (see Table 28). The average value of each type of livestock sold is shown in Table 29. Table 30 shows the mean and median number of livestock sold by type per household. The livestock buyers are described in Table 31.

At least 83% of households on average sell livestock, which is sold for either cash or for goods (see Table 26). Of interest is that the more remote clusters (Broghil, Nirs) have a higher percentage of sales for goods, indicating that direct barter exchanges may be favored where transportation places a higher hurdle on access to market. The Broghil and Nirs clusters are one additional day's travel (on horse) farther than other clusters from any market. The closest market is Khandud.

Table 26: Wakhi Livestock Sales by Households & Currency

Village	Households Sell Livestock	Households Do Not Sell Livestock	Livestock Sold for Cash	Livestock Sold for Goods
Sarhad-e Broghil	59%	41%	35%	65%
Chilkand	93%	7%	71%	29%
Ptukh	87%	13%	80%	20%
Neshtkhawar, Issik, Shushp	100%	0%	79%	21%
Total Broghil Cluster:	83%	17%	69%	31%
Nirs Bala, Nirs Payan	77%	23%	51%	49%
Rochun	100%	0%	80%	20%
Total Nirs Cluster:	88%	12%	60%	40%
Dehghulaman	100%	0%	100%	0%
Kandkhun, Sanin	75%	25%	100%	0%
Karich	100%	0%	100%	0%

Table 26: Wakhi Livestock Sales by Households & Currency				
Village	Households Sell Livestock	Households Do Not Sell Livestock	Livestock Sold for Cash	Livestock Sold for Goods
Total Kandkhun Cluster:	94%	6%	100%	0%
Kret	81%	19%	99%	1%
Kuzget	100%	0%	93%	7%
Baba Tungi	79%	21%	94%	6%
Sargez	100%	0%	100%	0%
Kipkut	92%	8%	100%	0%
Shelk	100%	0%	55%	45%
Total Baba Tungi Cluster:	89%	11%	93%	7%
Qila-e Wust	87%	13%	100%	0%
Wuzed	92%	8%	97%	3%
Sast Bala, Sast Payan	97%	3%	100%	0%
Goz Khun	85%	15%	99%	1%
Avgarch	85%	15%	100%	0%
Total Sast Cluster:	90%	10%	100%	0%
Qila-e Panja	83%	17%	98%	2%

Table 27: Wakhi Sheep/Goat & Cow/Ox Sales				
Village	Sheep/Goat % Sold for Cash	Sheep Goat % Sold for Goods	Cow/Ox % Sold for Cash	Cow/Ox % Sold for Goods
Sarhad-e Broghil	25	75	83	17
Chilkand	72	28	100	0
Ptukh	80	20	75	25
Neshtkhawar, Issik, Shushp	75	25	100	0
Total Broghil Cluster:	66%	34%	91%	9%
Nirs Bala, Nirs Payan	49	51	11	89
Rochun	77	23	86	14
Total Nirs Cluster:	58%	42%	57%	43%
Dehghulaman	100	0	100	0
Kandkhun, Sanin	100	0	100	0
Karich	100	0	100	0
Total Kandkhun Cluster:	100%	0%	100%	0%
Kret	100	0	75	25
Kuzget	100	0	79	21

Table 27: Wakhi Sheep/Goat & Cow/Ox Sales				
Village	Sheep/Goat % Sold for Cash	Sheep Goat % Sold for Goods	Cow/Ox % Sold for Cash	Cow/Ox % Sold for Goods
Baba Tungi	100	0	78	22
Sargez	100	0	100	0
Kipkut	100	0	100	0
Shelk	56	44	29	71
Total Baba Tungi Cluster:	95%	5%	73%	27%
Qila-e Wust	100	0	100	0
Wuzed	100	0	71	29
Sast Bala, Sast Payan	100	0	100	0
Goz Khun	98	2	100	0
Avgarch	100	0	100	0
Total Sast Cluster:	100%	0%	96%	4%
Qila-e Panja	100	0	94	6

Table 28: Wakhi Yak & Horse Sales				
Village	Yak % Sold for Cash	Yak % Sold for Goods	Horse % Sold for Cash	Horse % Sold for Goods
Sarhad-e Broghil	75	25	50	50
Chilkand	12	88	100	0
Ptukh	100	0	0	0
Neshtkhawar, Issik, Shushp	100	0	0	0
Total Broghil Cluster:	65%	35%	75%	25%
Nirs Bala, Nirs Payan	100	0	0	100
Rochun	0	0	0	0
Total Nirs Cluster:	100%	0%	0%	100%
Dehghulaman	100	0	0	0
Kandkhun, Sanin	100	0	0	0
Karich	100	0	0	0
Total Kandkhun Cluster:	100%	0%	0%	0%
Kret	100	0	0	0
Kuzget	0	0	0	0
Baba Tungi	0	0	0	0
Sargez	100	0	0	0
Kipkut	100	0	0	0

Table 28: Wakhi Yak & Horse Sales				
Village	Yak % Sold for Cash	Yak % Sold for Goods	Horse % Sold for Cash	Horse % Sold for Goods
Shelk	100	0	0	0
Total Baba Tungi Cluster:	100%	0%	0%	0%
Qila-e Wust	100	0	0	0
Wuzed	0	0	0	0
Sast Bala, Sast Payan	100	0	0	0
Goz Khun	100	0	0	0
Avgarch	100	0	0	0
Total Sast Cluster:	100%	0%	0%	0%
Qila-e Panja	100	0	50	50

Sheep sold are typically female sheep, with Afghani 2,000 being a fairly standard price for an adult female. Oxen get a higher price than cows; oxen can bring more than Afghani 10,000, and cows are typically sold for close to Afghani 5,000. Male yaks sell for more than females. Typical prices are Afghani 15,000 for an adult male yak and 10,000 for an adult female. Young yaks bring a lower price. Sheep and goats sold by the surveyed population brought an approximate average price of Afghani 1,900. Cows and oxen averaged Afghani 6,089. Yaks averaged Afghani 8,990.

The average surveyed household in the Broghil cluster earned Afghani 8,418 from sheep/goat sales (1791 x 4.7), Afghani 3,551 from cow/ox sales, Afghani 3,893 from yak sales, or Afghani 15,862 from livestock sales. The Nirs cluster averaged Afghani 7,188 from sheep/goats, Afghani 3,461 from cow/ox, and Afghani 3,520 from yak sales, a total of Afghani 14,169.

Table 29: Average Value (per Animal in Afghani) of Livestock Sale by Type of Livestock				
Village	Sheep/Goat	Cow/Ox	Yak	Horse
Sarhad-e Broghil	1958	7200	10000	15000
Chilkand	1911	6875	25000	18000
Ptukh	1826	4167	7500	0
Neshtkhawar, Issik, Shushp	1623	5000	8444	0
Total Broghil Cluster:	1,791	5,919	9,733	17,000
Nirs Bala, Nirs Payan	1857	6000	8800	0
Rochun	1708	3667	0	0
Total Nirs Cluster:	1,797	3,846	8,800	0
Dehghulaman	1908	8429	3333	0
Kandkhun, Sanin	2000	5000	10500	0

Table 29: Average Value (per Animal in Afghanis) of Livestock Sale by Type of Livestock

Village	Sheep/Goat	Cow/Ox	Yak	Horse
Karich	2077	8917	9750	0
Total Kandkhun Cluster:	1,811	8,392	6,364	0
Kret	1861	7000	7500	0
Kuzget	2000	7767	0	0
Baba Tungi	2095	4600	0	0
Sargez	2000	3000	7900	0
Kipkut	1889	4960	12000	0
Shelk	1857	7500	7000	0
Total Baba Tungi Cluster:	1,932	5,584	8,470	0
Qila-e Wust	1962	7500	10666	0
Wuzed	1982	4100	0	0
Sast Bala, Sast Payan	1779	7158	0	0
Goz Khun	1988	5500	18000	0
Avgarch	1946	6227	10800	0
Total Sast Cluster:	1,921	6,554	10,400	0
Qila-e Panja	2133	6742	15000	0

Table 30: Livestock Sales Mean/Median # of Livestock by Type per Household

Village	Mean # per Household			Median # per Household		
	Sheep/Goat	Cow/Ox	Yak	Sheep/Goat	Cow/Ox	Yak
Sarhad-e Broghil	2.8	0.4	0.2	0.0	0.0	0.0
Chilkand	5.7	0.8	0.5	2.0	1.0	0.0
Ptukh	3.6	0.5	0.1	2.0	0.0	0.0
Neshtkhawar, Issik, Shushp	6.7	0.6	0.7	4.0	1.0	0.0
Total Broghil Cluster:	4.7	0.6	0.4	4.7	0.6	0.4
Nirs Bala, Nirs Payan	5.5	0.7	0.8	4.0	0.0	0.0
Rochun	2.6	1.2	0.0	3.0	1.0	0.0
Total Nirs Cluster:	4.0	0.9	0.4	4.0	0.9	0.4
Dehghulaman	6.5	0.6	0.4	4.0	0.0	0.0
Kandkhun, Sanin	2.5	0.5	0.3	2.5	0.0	0.0
Karich	11.3	0.6	0.4	6.5	0.5	0.0
Total Kandkhun Cluster:	6.8	0.6	0.3	6.5	0.6	0.4
Kret	7.5	0.4	0.1	4.0	0.0	0.0
Kuzget	3.3	1.6	0.0	2.0	1.0	0.0

Table 30: Livestock Sales Mean/Median # of Livestock by Type per Household

Village	Mean # per Household			Median # per Household		
	Sheep/ Goat	Cow/Ox	Yak	Sheep/ Goat	Cow/Ox	Yak
Baba Tungi	1.6	0.6	0.0	1.5	0.0	0.0
Sargez	17.9	0.3	1.3	10.0	0.0	0.0
Kipkut	10.8	0.4	0.9	7.0	0.0	0.0
Shelk	7.6	0.8	0.2	8.0	1.0	0.0
Total Baba Tungi Cluster:	8.1	0.7	0.4	7.5	0.5	0.2
Qila-e Wust	12.9	0.5	0.2	6.0	0.0	0.0
Wuzed	4.8	0.5	0.0	5.0	0.0	0.0
Sast Bala, Sast Payan	8.6	0.7	0.0	4.0	0.0	0.0
Goz Khun	5.1	0.2	0.1	4.0	0.0	0.0
Avgarch	4.2	0.6	0.3	3.0	0.0	0.0
Total Sast Cluster:	7.1	0.5	0.1	5.1	0.5	0.1
Qila-e Panja	5.0	0.9	0.0	0.0	1.0	0.0

2.3.6.1. Tijor (Traders)

Traders (*tijor/tijorisht*, singular/plural in Wakhi) come to Wakhan in winter and early spring and provide for sale wheat flour, tea, cloth, barley, salt, oil, rice, shoes, i.e., all the items that must be purchased, including opium (*turiyoq* in Wakhi). In summer, they return to collect their loan (*qarz* in Wakhi). Few households can repay in cash. Livestock (sheep and goats) is the usual medium for payment. The traders claim and then keep these livestock in the pastures until autumn, then drive them down and transport (or walk) them to market.

Previously, Wakhi people from Wakhan would go on foot via Broghil Pass to Pakistan to obtain supplies. There, they gave one female sheep for seven *seer* of wheat. Now, they receive ten *seer* of wheat for one female sheep from traders, and do not have to make the journey to and from Pakistan. This system was likely in effect during the civil war and Taliban period, when Wakhan and Wakhi people were largely isolated from Afghan markets and traders.

Many traders currently come to Wakhan from Badakhshan. We also met traders from Panjshir. We met small-scale Wakhi traders too (e.g., Mohammad Gul from Kipkut, Sulaiman from Qazideh, and Mirza Mohammad and Diwana from Sarhad-e Broghil). This seems to be a new phenomenon. Wakhi traders typically trade with Kyrgyz. These Wakhi traders often wear a distinctive Chinese-made hat, with fur-lined flaps folded up. This business is said to be profitable, and Wakhi traders have an advantage of being local and sharing both Wakhi and Farsi language with Kyrgyz. Hence they can more easily establish a relationship. Wakhi traders should also be less likely to trade opium, since it is banned by Isma'ili religious leaders.

Buyers were identified as belonging to eight groups (see Table 31): Kyrgyz, Wakhi, Ishkashimi, Badakhsi (including traders from Faizabad, Baharak and Warduj), Panjshiri, Takhari, Kabuli, and Pushtoon, although many households did not identify where the traders they dealt with came from. In Wakhan, the same trader visits several villages, and traders rely

on relationships with households in the villages for hospitality. Some of the traders will also travel to Kyrgyz areas in the Pamir. Most traders identified are from within Badakhshan province. There are few traders in Wakhan itself, and not many more in Ishkashim, the closest major market town. It was surprising to see the substantial percentage of traders from Takhar Province, which is just west of Badakhshan. These traders may be supplying the Kunduz meat market.

Table 31: Livestock Buyers in Wakhan (as % of Total Buyers)										
Buyers' Key: #1=Kyrgyz, #2=Wakhi, #3=Ishkashimi, #4=Badakhshi, #5=Panjshiri, #6=Takhari, #7=Kabuli, #8=Pushtoon, #9=Other, #10=Unspecified										
Village	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Sarhad-e Broghil	8	0	8	42	0	17	8	17	0	0
Chilkand	0	0	0	40	40	0	0	7	0	13
Ptukh	0	13	7	20	27	20	0	0	0	13
Neshtkhawar, Issik, Shushp	0	0	0	43	50	0	0	0	0	7
Total Broghil Cluster:	2%	4%	4%	36%	30%	9%	2%	5%	0%	9%
Nirs Bala, Nirs Payan	9	0	0	27	0	0	0	9	0	55
Rochun	0	0	0	25	0	0	0	17	0	58
Total Nirs Cluster:	4%	0%	0%	26%	0%	0%	0%	13%	0%	57
Dehghulaman	0	8	0	46	8	8	0	8	8	15
Kandkhun, Sanin	0	0	0	17	0	0	0	0	0	83
Karich	0	9	0	55	9	9	0	0	0	18
Total Kandkhun Cluster:	0%	7%	0%	43%	7%	7%	0%	3%	3%	30%
Kret	0	0	17	0	5	40	0	5	0	33
Kuzget	0	0	10	0	0	30	0	10	0	50
Baba Tungi	0	10	0	10	0	10	0	0	0	70
Sargez	0	0	0	13	0	64	0	13	0	13
Kipkut	0	0	0	33	18	33	0	8	0	8
Shelk	0	0	9	9	0	55	0	9	9	9
Total Baba Tungi Cluster:	0%	1%	3%	14%	4%	38%	0%	7%	1%	30%
Qila-e Wust	0	14	7	36	0	0	0	0	0	43
Wuzed	0	0	0	27	0	18	0	9	0	45
Sast Bala, Sast Payan	0	0	4	32	0	8	0	4	4	48
Goz Khun	0	0	9	18	0	9	0	0	0	64
Avgarch	0	0	0	29	0	6	0	18	6	41
Total Sast Cluster:	0%	3%	4%	29%	0%	8%	0%	6%	3%	47%
Qila-e Panja	0	3	8	11	6	11	3	8	0	50

2.3.7. Livestock Consumption

Livestock slaughter is required as a social obligation upon deaths or weddings. Any household where either life passage event occurs would feel obligation to slaughter a sheep to feed guests. A substantial majority of all livestock consumption is occasioned by either a death or a wedding. Other occasions for livestock consumption were not mentioned by respondents. A few wealthy families (with large livestock ownership) mention simply consuming animals. It should be recalled that feeding fellow villagers or clan members through slaughtering an animal accrues social merit for the family offering the food.

Livestock offered to the Pir is a sign of wealth, and indicates a close relationship with a Pir. It is more typical in villages where clan relationships with Pirs exist (Sargez), or are physically close to the seat of a Pir.

Although livestock slaughtered is always consumed, the food value would appear to be valued much less than the social value of the livestock offering. Few households seem to slaughter animals only for food - it is almost always occasioned by a social event, and, as such, is not a frequent occurrence.

Table 32 shows consumption rates and Table 33 gives mean and median numbers of livestock consumed per household. Sheep and goats are slaughtered in greatest percentages, ranging from 69% to 95% of the total livestock consumed for food. Cows and oxen range between 5% and 31%, with ox slaughtered more frequently than cows, and yak from 0% to 1%. Villages in the Nirs cluster slaughter a disproportionately greater percentage of cows and oxen (31%) compared with all other villages (5% to 14%), likely reflective of the fact that Nirs cluster has less livestock, and has only cows available for slaughter.

Of the eleven villages in the Baba Tungi and Sast clusters, six villages (Kuzget, Sargez, Kipkut, Shelk, Qila-e Wust and Wuzed) or 55% of villages in these two clusters, gift sheep and goats to the Pir Syed Shah Ismail in Qila-e Panja. No households from the Broghil, Nirs or Kandkhun clusters gift livestock to the Pir.

Table 32: Wakhi Livestock Consumption							
Village					% of Total Livestock Consumed		
	Household Consume Livestock	Household Do Not Consume Livestock	Sheep/Goat Killed for Food	Sheep/Goat Gifted to Pir	Sheep/Goat Total Consumed	Cow/Ox Killed for Food	Yak Killed for Food
Sarhad-e Broghil	29%	71%	100%	0%	94%	6%	0%
Chilkand	47%	53%	100%	0%	68%	26%	5%
Ptukh	20%	80%	100%	0%	100%	0%	0%
Neshtkhawar, Issik, Shushp	62%	38%	100%	0%	86%	14%	0%
Total Broghil Cluster:	38%	62%	100%	0%	85%	14%	1%

Table 32: Wakhi Livestock Consumption							
Village					% of Total Livestock Consumed		
	Household Consume Livestock	Household Do Not Consume Livestock	Sheep/Goat Killed for Food	Sheep/Goat Gifted to Pir	Sheep/Goat Total Consumed	Cow/Ox Killed for Food	Yak Killed for Food
Nirs Bala, Nirs Payan	15%	85%	100%	0%	67%	33%	0%
Rochun	58%	42%	100%	0%	70%	30%	0%
Total Nirs Cluster:	36%	64%	100%	0%	69%	31%	0%
Dehghulaman	54%	46%	100%	0%	85%	12%	3%
Kandkhun, Sanin	63%	37%	100%	0%	81%	19%	0%
Karich	40%	60%	100%	0%	93%	7%	0%
Total Kandkhun Cluster:	52%	48%	100%	0%	86%	13%	1%
Kret	48%	52%	100%	0%	88%	12%	0%
Kuzget	100%	0%	81%	19%	97%	3%	0%
Baba Tungi	29%	71%	100%	0%	100%	0%	0%
Sargez	100%	0%	67%	33%	95%	5%	0%
Kipkut	75%	25%	74%	26%	100%	0%	0%
Shelk	89%	11%	95%	5%	98%	2%	0%
Total Baba Tungi Cluster:	66%	34%	85%	15%	95%	5%	0%
Qila-e Wust	53%	47%	94%	6%	94%	6%	0%
Wuzed	69%	31%	93%	7%	97%	3%	0%
Sast Bala, Sast Payan	52%	48%	100%	0%	92%	8%	0%
Goz Khun	46%	54%	100%	0%	94%	6%	0%
Avgarch	80%	20%	100%	0%	95%	5%	0%
Total Sast Cluster:	60%	40%	98%	2%	94%	6%	0%
Qila-e Panja	68%	32%	99%	1%	86%	13%	1%

Table 33: Livestock Consumption Mean/Median # of Livestock by Type per Household						
	Mean # per Household			Median # per Household		
Village	Sheep/ Goat	Cow/Ox	Yak	Sheep/ Goat	Cow/Ox	Yak
Sarhad-e Broghil	0.9	0.1	0	0	0	0
Chilkand	0.9	0.3	0.1	0	0	0
Ptukh	0.6	0	0	0	0	0
Neshtkhawar, Issik, Shushp	1.9	1.3	0	1	0	0
Total Broghil Cluster:	1.1	0.2	0	0.9	0.2	0
Nirs Bala, Nirs Payan	0.3	0.2	0	0	0	0
Rochun	1.2	0.5	0	0.5	0	0
Total Nirs Cluster:	0.7	0.3	0	0.7	0.3	0
Dehghulaman	2.2	0.3	0.1	1	0	0
Kandkhun, Sanin	2.1	0.5	0	1.5	0.5	0
Karich	1.4	0.1	0	0	0	0
Total Kandkhun Cluster:	1.9	0.3	0	2.1	0.3	0
Kret	2.5	0.3	0	0	0	0
Kuzget	4.1	0.1	0	2	0	0
Baba Tungi	0.7	0	0	0	0	0
Sargez	5.3	0.3	0	5	0	0
Kipkut	3.3	0	0	3	0	0
Shelk	4.9	0.1	0	4	0	0
Total Baba Tungi Cluster:	3.5	0.1	0	3.7	0.1	0
Qila-e Wust	2.1	0.1	0	1	0	0
Wuzed	2.2	0.1	0	2	0	0
Sast Bala, Sast Payan	1.6	0.1	0	0	0	0
Goz Khun	3.6	0.2	0	0	0	0
Avgarch	3.8	0.2	0	4	0	0
Total Sast Cluster:	2.7	0.2	0	2.2	0.1	0
Qila-e Panja	2.4	0.4	0	1	0	0

2.3.8. Livestock Deaths

Livestock losses (see Tables 34 and 35) are significant. The majority of livestock deaths are among sheep and goats (51% to 86%). Large body and higher value livestock are less commonly lost (cows and oxen from 5% to 29% of livestock deaths, and yaks from 6% to 20% of livestock deaths). Hunger is the most frequently named cause of death of livestock, and usually is correlated with heavy snow fall that covers grass. Many sheep/goats and almost all yaks are kept in the Afghan Pamir during winter, where they are tended by a few herders, called

shpun. This is difficult and dangerous work, but fodder resources are lacking near villages and so livestock must be kept in the Afghan Pamir in order to maintain the herd size, even though there is substantial loss of livestock every year, and exceptional loss some years.

Table 34: Wakhi Livestock Deaths by Livestock Type (as % of Total Livestock Deaths)			
Village	Sheep/Goat	Cow/Ox	Yak
Sarhad-e Broghil	59%	11%	30%
Chilkand	68%	13%	19%
Ptukh	68%	9%	23%
Neshtkhawar, Issik, Shushp	78%	18%	5%
Total Broghil Cluster:	70%	14%	16%
Nirs Bala, Nirs Payan	80%	20%	0%
Rochun	83%	17%	0%
Total Nirs Cluster:	81%	19%	0%
Dehghulaman	76%	8%	16%
Kandkhun, Sanin	100%	0%	0%
Karich	75%	4%	21%
Total Kandkhun Cluster:	79%	5%	16%
Kret	30%	35%	35%
Kuzget	85%	11%	4%
Baba Tungi	96%	4%	0%
Sargez	48%	49%	3%
Kipkut	68%	6%	26%
Shelk	89%	0%	11%
Total Baba Tungi Cluster:	51%	29%	20%
Qila-e Wust	84%	9%	7%
Wuzed	56%	39%	5%
Sast Bala, Sast Payan	82%	12%	6%
Goz Khun	94%	4%	2%
Avgarch	80%	2%	18%
Total Sast Cluster:	86%	8%	6%
Qila-e Panja	84%	10%	6%

The average number of sheep and goats dying ranges from 2.4 to 4.1 per household, with the exception of Broghil cluster, which reported an average of 10.0 per household. Broghil cluster, which grazes sheep and goats in the Little Pamir, reported substantial deaths due to hunger, caused by heavy snowfall. These shocks are frequently reported, and although they have serious economic consequences, households accept the losses (see section 2.3.1. Debt Economy).

The average number of sheep and goats dying per household compared to the average number of sheep and goats owned per household for each cluster, shows that when there is serious livestock death, such as in Broghil, 51% of sheep and goat can die. The Kandkhun, Baba Tungi and Sast clusters lost between 14% and 17% per household of sheep and goats. Nirs cluster lost an average 50% of per household sheep and goats.

Table 35: Wakhi Livestock Deaths Mean/Median # of Livestock by Type per Household						
Village	Mean # per Household			Median # per Household		
	Sheep/ Goat	Cow/Ox	Yak	Sheep/ Goat	Cow/Ox	Yak
Sarhad-e Broghil	3.8	0.7	1.9	0	0	0
Chilkand	14	2.7	3.8	1	0	0
Ptukh	5.5	0.7	1.9	1	0	0
Neshtkhawar, Issik, Shushp	16.6	3.8	1	1	0	0
Total Broghil Cluster:	10	2	2.1	9.7	1.7	1.9
Nirs Bala, Nirs Payan	2.8	0.7	0	2	0	0
Rochun	2.1	0.4	0	0	0	0
Total Nirs Cluster:	2.4	0.6	0	2.4	0.6	0
Dehghulaman	2.9	0.3	0.6	2	0	0
Kandkhun, Sanin	2	0	0	0	0	0
Karich	3.6	0.2	1	3	0	0
Total Kandkhun Cluster:	2.8	0.2	0.5	2.9	0.2	0.6
Kret	2.6	3	3	1	0	0
Kuzget	2.6	0.3	0.1	3	0	0
Baba Tungi	1.6	0.1	0	0.5	0	0
Sargez	6.1	6.4	0.4	2.5	0	0
Kipkut	1.9	0.2	0.8	1	0	0.5
Shelk	4.7	0	0.6	4	0	0
Total Baba Tungi Cluster:	3.2	1.7	0.8	2.6	0.3	0.5
Qila-e Wust	4.3	0.5	0.3	1	0	0
Wuzed	0.8	0.5	0.1	0	0	0
Sast Bala, Sast Payan	2.2	0.3	0.2	1	0	0
Goz Khun	11	0.5	0.2	2	0	0
Avgarch	2.4	0.1	0.6	1.5	0	0
Total Sast Cluster:	4.1	0.4	0.3	2.4	0.5	0.2
Qila-e Panja	7	0.8	0.5	0	0	0

2.3.9. Causes of Livestock Deaths

Respondents gave causes of livestock deaths in five categories - avalanche, disease, hunger (which is usually due to heavy snowfall that makes foraging difficult or impossible), predation, and other. Not all respondents gave a cause of death for their livestock, which is noted in Tables 36-39 as Other & Unspecified. Table 36 gives the cause of death for sheep and goats, Table 37 for cows and oxen, and Table 38 for yaks. Table 39 summarizes the cause of death for all livestock.

Hunger is the most significant cause of death, often precipitated by a heavy snowfall that covers grass so deeply that livestock cannot find food. One herder reported that the most dangerous weather condition was a late autumn or early winter ice storm followed by heavy snow. The ice acts as an almost impenetrable barrier to livestock hooves and many animals die. Substantial losses are reported due to winter conditions. Susceptible animals die of coldness or are weakened and succumb to disease. Young animals are particularly vulnerable, with twenty-six yak deaths occurring to calves, 205 sheep and goat deaths occurring to lambs/kids, and twenty-nine cow/ox deaths occurring to calves.

Many households did not specify a cause of death for livestock, which could be hunger or disease.

Disease was the third most commonly named cause of livestock death. Among diseases, the local name of *kushrif* or *kurmjakh*, a disease of sheep and goats, is ascribed to ‘worm in liver’ (liver fluke?) and *falaq*, a disease of yaks, is described as shivering for two days followed by death. One unusual cow death cause was ‘eating a piece of iron,’ which occurred to three animals (tabulated as disease).

It is notable that predation is not a substantial cause of livestock death. Only one incident of snow leopard mass killing (entering a livestock enclosure at night and killing multiple animals) was reported (in Kret). Winter predation losses in the Afghan Pamir were few, and attributed to wolves.

Table 36: Wakhi Sheep/Goat Deaths by Cause of Death					
Village	Avalanche	Disease	Hunger	Predation	Other & Unspecified
Sarhad-e Broghil	0%	16%	66%	0%	19%
Chilkand	2%	42%	55%	01%	0%
Ptukh	0%	24%	37%	0%	39%
Neshtkhawar, Issik, Shushp	0%	7%	93%	0%	0%
Total Broghil Cluster:	1%	24%	68%	0%	8%
Nirs Bala, Nirs Payan	0%	67%	0%	0%	33%
Rochun	0%	36%	0%	0%	64%
Total Nirs Cluster:	0%	54%	0%	0%	46%
Dehghulaman	0%	24%	0%	5%	71%
Kandkhun, Sanin	0%	38%	38%	25%	0%
Karich	0%	11%	0%	3%	86%

Table 36: Wakhi Sheep/Goat Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predation	Other & Unspecified
Total Kandkhun Cluster:	0%	21%	7%	8%	64%
Kret	0%	7%	0%	33%	59%
Kuzget	0%	0%	0%	0%	100%
Baba Tungi	0%	0%	0%	0%	100%
Sargez	4%	0%	0%	0%	96%
Kipkut	0%	0%	0%	0%	100%
Shelk	0%	48%	0%	0%	52%
Total Baba Tungi Cluster:	1%	11%	0%	8%	79%
Qila-e Wust	0%	25%	0%	6%	69%
Wuzed	10%	20%	0%	20%	50%
Sast Bala, Sast Payan	3%	6%	0%	3%	91%
Goz Khun	0%	0%	70%	0%	30%
Avgarch	0%	0%	0%	0%	100%
Total Sast Cluster:	1%	7%	30%	2%	60%
Qila-e Panja	0%	5%	66%	4%	25%

Table 37: Wakhi Cow/Ox Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predator	Other & Unspecified
Sarhad-e Broghil	0%	42%	58%	0%	0%
Chilkand	0%	25%	75%	0%	0%
Ptukh	0%	73%	27%	0%	0%
Neshtkhawar, Issik, Shushp	0%	18%	82%	0%	0%
Total Broghil Cluster:	0%	29%	71%	0%	0%
Nirs Bala, Nirs Payan	0%	0%	78%	0%	22%
Rochun	0%	40%	0%	0%	60%
Total Nirs Cluster:	0%	14%	50%	0%	36%
Dehghulaman	0%	0%	0%	25%	75%
Kandkhun, Sanin	0%	0%	0%	0%	0%
Karich	0%	0%	0%	0%	100%
Total Kandkhun Cluster:	0%	0%	0%	17%	83%
Kret	0%	0%	95%	0%	5%
Kuzget	0%	0%	0%	0%	100%
Baba Tungi	0%	0%	0%	0%	100%
Sargez	0%	0%	98%	0%	2%

Table 37: Wakhi Cow/Ox Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predator	Other & Unspecified
Kipkut	0%	0%	0%	0%	100%
Shelk	0%	0%	0%	0%	0%
Total Baba Tungi Cluster:	0%	0%	92%	0%	8%
Qila-e Wust	0%	0%	0%	0%	100%
Wuzed	0%	0%	0%	0%	100%
Sast Bala, Sast Payan	0%	0%	0%	0%	100%
Goz Khun	0%	0%	0%	0%	100%
Avgarch	0%	0%	0%	0%	100%
Total Sast Cluster:	0%	0%	0%	0%	100%
Qila-e Panja	0%	18%	0%	0%	82%

Table 38: Wakhi Yak Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predator	Other & Unspecified
Sarhad-e Broghil	0%	3%	91%	3%	3%
Chilkand	0%	70%	26%	4%	0%
Ptukh	7%	0%	43%	0%	50%
Neshtkhawar, Issik, Shushp	0%	31%	62%	8%	0%
Total Broghil Cluster:	2%	35%	49%	3%	12%
Nirs Bala, Nirs Payan	0%	0%	0%	0%	0%
Rochun	0%	0%	0%	0%	0%
Total Nirs Cluster:	0%	0%	0%	0%	0%
Dehghulaman	0%	0%	0%	0%	100%
Kandkhun, Sanin	0%	0%	0%	0%	0%
Karich	0%	50%	0%	20%	30%
Total Kandkhun Cluster:	0%	28%	0%	11%	61%
Kret	0%	0%	94%	0%	6%
Kuzget	0%	0%	0%	0%	100%
Baba Tungi	0%	0%	0%	0%	0%
Sargez	0%	0%	33%	0%	67%
Kipkut	0%	0%	0%	11%	89%
Shelk	0%	0%	0%	60%	40%
Total Baba Tungi Cluster:	0%	0%	74%	5%	21%
Qila-e Wust	20%	0%	0%	0%	80%
Wuzed	100%	0%	0%	0%	0%

Table 38: Wakhi Yak Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predator	Other & Unspecified
Sast Bala, Sast Payan	0%	0%	0%	40%	60%
Goz Khun	0%	0%	0%	0%	100%
Avgarch	0%	0%	9%	9%	82%
Total Sast Cluster:	8%	0%	4%	12%	76%
Qila-e Panja	0%	0%	36%	32%	32%

Table 39: Wakhi Livestock Deaths by Cause of Death

Village	Avalanche	Disease	Hunger	Predator	Other & Unspecified
Sarhad-e Broghil	0%	15%	72%	1%	12%
Chilkand	2%	45%	52%	1%	0%
Ptukh	2%	23%	37%	0%	38%
Neshtkhawar, Issik, Shushp	0%	10%	89%	0%	0%
Total Broghil Cluster:	1%	26%	65%	0%	7%
Nirs Bala, Nirs Payan	0%	53%	16%	0%	31%
Rochun	0%	37%	0%	0%	63%
Total Nirs Cluster:	0%	47%	9%	0%	44%
Dehghulaman	0%	18%	0%	6%	76%
Kandkhun, Sanin	0%	38%	38%	25%	0%
Karich	0%	19%	0%	6%	75%
Total Kandkhun Cluster:	0%	21%	5%	9%	65%
Kret	0%	2%	66%	10%	22%
Kuzget	0%	0%	0%	0%	100%
Baba Tungi	0%	0%	0%	0%	100%
Sargez	2%	0%	50%	0%	49%
Kipkut	0%	0%	0%	3%	97%
Shelk	0%	43%	0%	6%	51%
Total Baba Tungi Cluster:	0%	6%	41%	5%	47%
Qila-e Wust	1%	21%	0%	5%	73%
Wuzed	11%	11%	0%	11%	67%
Sast Bala, Sast Payan	3%	5%	0%	3%	90%
Goz Khun	0%	0%	66%	0%	34%
Avgarch	0%	0%	2%	2%	97%
Total Sast Cluster:	1%	6%	26%	2%	64%
Qila-e Panja	0%	6%	58%	5%	31%

3. Range Use Survey

The WCS Community Conservation team made field visits to thirty-one herding settlements; nine Wakhi settlements in the Little Pamir, and twenty-two in the Big Pamir (thirteen Wakhi settlements and nine Kyrgyz settlements). The two-person team of Dr. Mock and Ms. O’Neil walked 225 kilometers, crossed five 4400- to 4900-meter passes, crossed six 4000-meter “ridges” and forded sixteen rivers. In each summer herding settlement, the team met with a group of key informants who provided information on number of households and village affiliation of each household, numbers of small-body (sheep/goat) and large body (yak) livestock owned by each herder household, and seasonal movement pattern of herders and livestock between village and Pamir. The team identified ten Wakhi winter pasture areas in the Big Pamir and obtained herders’ estimates on number and type of livestock using these winter pastures.

The file named *pasturelist.xls*, which is attached to this document, provides additional data from the Range Use Survey. This data includes pasture names, location by valley and region, elevation, GPS data and source noted in UTM and/or latitude and longitude, map references, the presence or absence of Wakhi or Kyrgyz households, and the date the team visited the pasture. Additionally, the file contains other place names in the Afghan Pamir and relevant data.

3.1. Background on Grazing in the Afghan Pamir

3.1.1. Big Pamir Grazing

Syed Ibrahim and Ali Akbar of Sargez⁷ say that during the era of ‘*garzandoi*’ (the ATO) trophy hunting (1968-1978), grazing was not allowed in Shikargah, Aba Khan and above Asan Katich. Petocz confirms “protection of rangeland in valley heads during the Afghan Tourist Organization hunting season” (Petocz 1978c:11), but remarks that the ban concentrated domestic stock in the lower part of the valleys, which degraded range conditions in what is crucial winter habitat for female wild sheep. He also notes that “Prior to the expansion of the [Big Pamir Wildlife] Reserve and grazing restrictions, domestic animals had been more disseminated over the whole rangeland area and grazing pressure was less concentrated or localized in lower valley parts” (1978c:26), and that “grazing restrictions have acted against the economic interests of the pastoral community which has traditionally used the area.”

Ramzan Boi of Paghish, Khair Mahmad of Khandud, and Bari Boi of Yamit, who graze livestock in the Istimoch ‘*shikargah*,’ say that more than seven generations of their families have grazed in Shikargah. They had to vacate during the *garzandoi* era and received no compensation for loss of grazing. They were allowed to graze below the hunting camps, but not above. Now that there are no camps, they remark, they graze the entire valley.

Petocz lists the pasture locations affecting the Big Pamir Wildlife Reserve (BPWR) (Petocz 1978c:4). He records two settlements in the Kund-a-Thur/Khushabad area (which he terms “Sargaz Valley”), one settlement in the Istimoch-Shikargah area (termed “Tulibai Valley”), one settlement in Manjulak, one settlement in Aba Khan, and one summer settlement in Ali Su. He does not mention the Jermasirt area north of BPWR, although he does map it as a

⁷ Syed Ibrahim was a hunting guide for ATO, as was Ali Akbar’s father, Ali Gauhar.

Wakhi use area. Petocz estimated about 5,000 sheep and goats and about 450 yaks and cows as the total livestock grazing in BPWR when he did fieldwork (1971-1976). Petocz notes that “most animals are owned by comparatively few of the area’s wealthier people (*boi*), but a large segment of the male population, some with their families, establish summer encampments in traditional areas within the [BPWR] reserve’s boundaries” (1973c:3).

Thirty years later the situation is different. Livestock ownership, although still concentrated among wealthy men, is more widespread with many households owning smaller numbers of livestock which are grazed in the Big Pamir’s summer (and winter) pastures. For example, yaks, which must be grazed in the Afghan Pamir, are owned by more than 30% of the surveyed population of each cluster (except Nirs, which has no access to Afghan Pamir resources), and sheep, which are also typically grazed in Afghan Pamir pastures, are owned by 75% of all households. Dairy production, which is a good correlate for major livestock ownership, was reported by more than 30% of all households (except Nirs cluster).

The Wakhi population, which Petocz estimated at “about 4,000” (1978a:22) is now more than 6,700 in the villages from Qila-e Panja to Sarhad-e Broghil. Petocz noted only six summer pasture areas in BPWR. The Range Use Survey identified nine summer pasture areas inside BPWR (excluding the Jermasirt area north of BWPR). In Manjuluk, Petocz noted one settlement; we visited four. In Tulibai (Shikargah) he noted one; we visited two. In the Kund-a-Thur/Khushabad (Sargez) area, he noted two; we visited eight. We also identified a settlement at the head of Wuzed Valley, adjacent to Khushabad. These settlements are used by fifty-seven households from sixteen villages.

However, and this is interesting, the Range Use Survey of total livestock numbers indicates that roughly the same number of livestock are using BPWR grazing areas; 4,329 sheep and goats, and 446 yaks. Although the estimates we received we assume to be low, the data does suggest that there has been an increase in the number of livestock owners with a corresponding decrease in individual livestock owner’s herd sizes, and that the grazing numbers in BPWR have stayed roughly the same. Is this due to a local recognition of potential stocking rate, with herd size maintained at the maximum sustainable number? It is an interesting question, and warrants further investigation into how numbers of livestock grazed in each area and for how long is monitored and evaluated by Wakhi herders. It is important to keep in mind that Wakhan has been a peopled landscape for more than 2,500 years. The first British visitor, Lieutenant John Wood in 1838, remarked that Wakhi people were rich in livestock but poor in land and grain (Wood 1841:330). Wood’s remarks generally apply to Wakhan today, indicating that their mixed agro-pastoralism has a considerable track record of sustainability.

3.1.2. Little Pamir Grazing

Both Shahrani and Petocz reported Wakhi summer usage in the Little Pamir extended to Langar and beyond to Mirza Murad Dasht (Shahrani 1979:42, 173). Shahrani, whose fieldwork was 1972-1975, remarks that “in recent years . . . the Kirghiz have gained access to some former Wakhi pasturage” (1979:173). Petocz prepared a map showing Wakhi and Kyrgyz grazing areas (1978a:fig 21). This map shows mixed Wakhi and Kyrgyz usage of the Chapdara area. Shahrani mapped Kyrgyz winter, summer, and spring/fall camp locations (1979:114). He identified spring/fall and winter Kyrgyz camps in the Chapdara area, and summer Kyrgyz camps in the Shpodkis and Warm valleys, and also in Bai Qara. These areas are now occupied by

Wakhi herders. Mohammad Toshi Boi, the *rais* of Sarhad-e Broghil, who grazes much livestock in Bai Qara, stated that Bai Qara has been used by Wakhi since the late Kyrgyz Khan, Haji Rahman Qul, left Wakhan for Pakistan (and subsequently Turkey) in 1979. This exodus of Kyrgyz from the Little Pamir has allowed Wakhi herders to occupy former Kyrgyz grazing areas. As a result, the Broghil cluster has benefitted. The Broghil cluster has a large per household size (11.9 people), and the increased access to the Little Pamir's resources would help support the larger population. Shahrani's remarks on grazing access prior to the permanent settlement of Kyrgyz in the Little Pamir in 1949 should be kept in mind. Access to grazing in the Little Pamir has been fluid as the Kyrgyz have come and gone due to geopolitical events. In Wakhi people's mind, their usage of Chapdara, Shpodkis and Warm are simply resuming usage of traditional areas that the Kyrgyz occupied for several decades. See Appendix IV for comparative maps illustrating the division between Wakhi and Kyrgyz territory in the Afghan Pamir prior to the 1979 Kyrgyz exodus and in 2006.

3.2. Wakhi Grazing Rights in Afghan Pamir

The location of Wakhi villages' grazing rights is shown in Table 40. The data indicates whether a village has grazing rights in the Big Pamir, Little Pamir or only near the village. All villages have rights to grazing along the stream that provides water for the village. Households that do not or cannot take sheep or goats to the Afghan Pamir rely on these smaller grazing areas. Village cattle and donkeys are typically kept in these areas where they are readily available for labor or milk needs in the village.

Wuzed is included as having grazing rights in the Big Pamir because their summer grazing area, Dest Ghar, in the upper Wuzed valley, lies within the proposed boundaries of BPWR. Wuzed and other villagers do not necessarily identify this pasture as being in the Big Pamir.

Table 40: Location of Wakhi Villages' Grazing Rights in Wakhan			
Village(s)	Big Pamir	Little Pamir (including Chapdara, Wutsir)	Only Near Village
Upper Wakhan Villages (by shuras)			
Sarhad-e Broghil		x	
Chilkand		x	
Ptukh		x	
Neshtkhawar, Issik, Shushp		x	
Korkot, Suikunj			x
Nirs Bala, Nirs Payan			x
Rochun			x
Rukut (Archa)			x
Dehghulaman	x		
Kandkhun, Sanin	x		
Rorung	x		

Table 40: Location of Wakhi Villages' Grazing Rights in Wakhan			
Village(s)	Big Pamir	Little Pamir (including Chapdara, Wutsir)	Only Near Village
Karich	x		
Kret	x		
Kuzget	x		
Baba Tungi			x
Sargez	x		
Kipkut	x		
Shelk	x		
Subtotal Upper Wakhan:	9	4	5
Lower Wakhan (related shuras only)			
Qila-e Wust	x		
Wuzed	x		
Sast Bala, Sast Payan	x		
Goz Khun			x
Avgarch	x		
Qila-e Panja, Pikut	x		
Khandud	x		
Yamit	x		
Paghish	x		
Subtotal Lower Wakhan:	8	0	1
Total Villages:	17	4	6

3.3. Big Pamir

3.3.1. Wakhi Seasonal Pastures in Big Pamir

Seventeen Wakhi villages graze in the Big Pamir (see Table 40); eight from Lower Wakhan, and nine from Upper Wakhan. The survey includes as Big Pamir pastures all areas within the boundaries of the gazetted BPWR, and pastures north of the BPWR. Sixteen of the seventeen villages use pastures within the BPWR and seven pass through the BPWR en route to pastures in Jermasirt, north of the BPWR. All seventeen villages impact the BPWR itself, as livestock must pass through the reserve going to and coming from the grazing area to the north of the BPWR.

It is important to note that not all households in a village have rights to graze in the Big Pamir. The number of households and percentage of total households in each village that have grazing rights in the Big Pamir are listed in Table 45.

Table 41 lists the names of the main summer pasture settlements, where there are stone-walled livestock enclosures and at least one stone-walled house for each household. Households that occupy a particular summer pasture area are typically related. The group of households will

move together seasonally between summer, autumn, winter, and spring pasture areas, utilizing altitudinal zones to take advantage of vegetation growth. All settlement areas are located near water, preferably a flowing stream. Of the Big Pamir pastures listed, all are within the BPWR except the four pastures in Jermasirt.

Two villages within the same geographical area as the other seventeen villages do not graze in the Big Pamir. Goz Khun uses pastures along the Pamir River, but not within the BPWR and does not claim rights to the Big Pamir, and Baba Tungi uses pastures near the village.

Table 41: Big Pamir Pastures by Pasture Used by Wakhi		
Pasture (north to south)	Lower Wakhan Villages	Upper Wakhan Villages
Jabar Khan (Jermasirt)	Avgarch	Kret, Kuzget, Sast
Buqbun (Jermasirt)	Qila-e Panja	
Lupghil Kshun (Jermasirt)	Avgarch, Qila-e Wust	
Bulok Kshun (Jermasirt)	Paghish, Qila-e Panja	
Manjulak	Qila-e Wust	Karich, Kret
Nakchirshitk	Qila-e Wust	Kipkut, Sargez
Tor Bulok	Qila-e Wust	Karich, Kret
Ganj Khatun		Kipkut, Kret
Qabal Gah	Paghish, Yamit	
Darah Big	Khandud, Qila-e Panja, Yamit	
Kund-a-Thur		Sargez, Shelk
Mulung Than		Karich, Kret, Kuzget
Vagd Boi, Khushabad		Kandkhun, Dehghulaman
Asan Katich		Dehghulaman, Rorung
Dest Ghar (Wuzed Zherav)	Wuzed	Sast

3.3.2. Wakhi Seasonal Pasture Movements in Big Pamir

Seasonal pasture movements in the Big Pamir are in thirteen distinct migratory groups. Each group of households from a village that goes to a particular pasture area moves together. This seasonal migration, or *kuch*, of Wakhi people and their livestock to and from summer pastures is a colorful sight. Yaks piled high with cauldrons, bedding and household goods move along the trail, while large mastif-like dogs trot beside them. Wakhi women, swathed in red scarves and shawls, ride on yaks and camels with young children clinging behind their mothers. Infants ride in cloth-draped cradles perched on the backs of yaks and the men walk alongside, leading the yaks, or ride on horses. The spring migration usually leaves the villages in late May or early June, and the joyous return migration arrives in the second or third week of October. During the grazing season *kuch* caravans move to utilize grazing resources, typically moving higher as the snowline rises, but also moving to use water resources as snowmelt streams go dry during

summer and autumn. These thirteen *kuch* (see Table 46) are from seventeen Wakhi villages (see Table 42) to two main regions, Jermasirt and BPWR.

The BPWR has two regions called Tor Bulok (all pastures between Manjulak and Istimoch), and Istimoch (including Shikargah, Khushabad, and upper Wuzed valleys). These two regions are separated by a mountain pass between two watersheds.

Table 42: Wakhi Big Pamir Pasture by Village				
#	Village	3 Main Grazing Regions (East to West)		
		Jermasirt	Big Pamir Wildlife Reserve	
			Tor Bulok	Istimoch
1	Dehghulaman			x
2	Rorung			x
3	Kandkhun			x
4	Karich		x	x
5	Kret	x	x	x
6	Kuzget	x		x
7	Shelk			x
8	Sargez		x	x
9	Kipkut		x	
10	Qila-e Wust	x	x	
11	Wuzed			x
12	Sast	x		x
13	Avgarch	x		
14	Qila-e Panja	x		x
15	Khandud			x
16	Yamit			x
17	Paghish	x		x
Total Villages per Region:		7	5	14

Table 43 lists the names and numbers of grazing areas used by each village. Although most villages have rights to just one grazing area, some villages have multiple *kuch* and rights to several areas. See also Table 48 for additional detail on individual summer pasture areas and number of households.

Table 43: Wakhi Big Pamir by Pasture					
#	Village	3 Summer Grazing Regions (East to West) named by summer kuch			
		Jermasirt	Tor Bulok	Istimoch	Total Pastures per Village
1	Dehghulaman			Asan Katich	1
2	Rorung			Asan Katich	1
3	Kandkhun			Khushabad	1
4	Karich		Tor Bulok	Mulung Than	2
5	Kret	Jabar Khan	Tor Bulok Ganj Khatun	Mulung Than	4
6	Kuzget	Jabar Khan		Mulung Than	2
7	Shelk			Kund-a-Thur	1
8	Sargez		Nakchirshitk	Kund-a-Thur	1
9	Kipkut		Nakchirshitk Ganj Khatun		2
10	Qila-e Wust	Lupghil Kshun	Nakchirshitk Tor Bulok		3
11	Wuzed			Dest Ghar	1
12	Sast	Jabar Khan		Dest Ghar	2
13	Avgarch	Jabar Khan Lupghil Kshun			2
14	Qila-e Panja	Buqbun Bulok Kshun		Darah Big	3
15	Khandud			Darah Big	1
16	Yamit			Qabal Gah Darah Big	2
17	Paghish	Bulok Kshun		Qabal Gah	2
Total Villages per Region:		7	5	14	-

Table 44 gives the total number of households in each village that utilize Big Pamir grazing resources. Seventy-nine households from seventeen villages participate in the Big Pamir *kuch*. When two numbers are joined by a + (plus) sign, it indicates that two separate migratory groups, each composed of the indicated number of households, come from that village.

Table 44: Wakhi Big Pamir by Households					
#	Village	3 Main Summer Grazing Regions (East to West)			
		Jermasirt	Tor Bulok	Istimoch	Total
1	Dehghulaman			5	5
2	Rorung			1	1
3	Kandkhun			1	1
4	Karich		1	3	4
5	Kret	2	2+1	3	8
6	Kuzget	1		2	3
7	Shelk			2	2
8	Sargez			5	5
9	Kipkut		4+5		9
10	Qila-e Wust	2	1+3		6
11	Wuzed			10	10
12	Sast	1		2	3
13	Avgarch	5+4			9
14	Qila-e Panja	5		1	6
15	Khandud	1		1	2
16	Yamit			2+1	3
17	Paghish	1		1	2
Total Households by Village:		22	17	40	79

Table 45 shows the total number of households from each village using the Big Pamir, and the percentage of all households that use the Big Pamir. For example, in the summer grazing area used by Sargez, called Kund-a-Thur, five households were from Sargez, which has a total of eight households. Hence, the pasture survey found that 63% of Sargez households use grazing resources in the Big Pamir. The five households match the percentage of households that the household survey reported as producing dairy, which is typically produced in the Afghan Pamir by wealthy families. Although Sargez's households did not report giving livestock as *amanat*, it is reasonable to assume that households with lower numbers of livestock do send their animals to the Big Pamir with a relative or neighbor. Hence, the 63% figure obtained for Sargez from the Range Use Survey represents more a minimal percentage of households having some access to grazing resources in the Big Pamir.

Because grazing rights in the Afghan Pamir mean that a household can maintain a larger number of livestock and have greater financial resources, these grazing rights also indicate the more wealthy Wakhi families in Wakhan. This gives a rough picture of wealth distribution in Wakhan, where most families are not wealthy even by local standards.

Table 45: Wakhi Villages Grazing in Big Pamir by Household				
#	Village	Total Households Grazing	Total Households per Village	% Households Grazing
1	Dehghulaman	5	26	19%
2	Rorung	1	27	4%
3	Kandkhun	1	11	9%
4	Karich	4	10	40%
5	Kret	8	38	21%
6	Kuzget	3	10	30%
7	Shelk	2	14	14%
8	Sargez	5	8	63%
9	Kipkut	9	20	45%
Subtotal Upper Wakhan:		38	153	24%
10	Qila-e Wust	6	21	29%
11	Wuzed	10	17	59%
12	Sast	3	50	6%
13	Avgarch	9	40	23%
14	Qila-e Panja	6	85	7%
15	Khandud	2	n/a	n/a
16	Yamit	3	n/a	n/a
17	Paghish	2	n/a	n/a
Subtotal Lower Wakhan:		41	n/a	n/a
Total:		79	n/a	n/a

Table 46 details the reported seasonal movement of each of the thirteen identified *kuch* migrations. During the late autumn, winter and early spring large households do not stay in the Big Pamir, but return to the village. During this time, the livestock are tended by small groups of herders, men, who are called *shpun* (literally ‘night watchmen’). Each household is responsible for sending one man as winter herder. Often this duty will be divided on a rotational basis if the household has sufficient labor resources. Winter herders can also be hired from poorer households. (See Table 49 for more detail on winter pastures.)

Households that use Jermasirt in the summer keep livestock either along the Pamir River (Gormatek, Sekr) in winter or take livestock to Ali Su. (The Wakhi name for Ali Su is Bakhal). We did not find any herders using Ali Su on our summer field visit.

Households using Tor Bulok in summer keep livestock along the Pamir River (Sekr), or in Ali Su.

Households using the ‘Shikargah’ area of Istimoch in summer (Qabal Gah, Darah Big) move their livestock down the Istimoch River during winter to areas near the mouth of the river and its confluence with the Pamir River.

Households using the Kund-a-Thur/Khusabad area of Istimoch in summer bring their livestock out of BPWR in winter and into the river valleys above their villages. Sargez lacks winter grazing for yaks. Sargez's sheep and goats return to village in winter, but yaks are sent to the Little Pamir where they are kept by Kyrgyz as winter *amanat*.

Table 46: Wakhi Big Pamir by <i>Kuch</i> Seasonal Pasture Usage					
#	(Summer) Region	Spring	Summer	Fall	Winter
1	Jermasirt	Bulok	Jabar Khan	Jabar Khan	Gormatek
2	Jermasirt	Ali Su	Buqbun	Ali Su	Ali Su
3	Jermasirt	Dolon	Lupghil Kshun	Lupghil Kshun, Ali Su	Sekr, Ali Su
4	Jermasirt	Bulok Ben	Bulok Kshun	Ali Su	Ali Su
5	Tor Bulok	Sekr, Manjulak	Nakchirshitk	Ali Su, Aba Khan	Sekr
6	Tor Bulok	Manjulak	Tor Bulok	Ali Su	Ali Su
7	Tor Bulok	Galitsgal	Ganj Khatun	Sekr, Ali Su, Aba Khan	Sekr, Ali Su, Aba Khan
8	Istimoch	Kuthil, Frakchakor	Qabal Gah	Lower Istimoch	Sarsin, Khun
9	Istimoch	Kuthil, Frakchakor	Darah Big	Lower Istimoch	Sarsin, Khun
10	Istimoch	Sargaz Zherav	Kund-a-Thur	Sargaz Zherav	Sargaz Zherav
11	Istimoch	Karich, Kret, Kuzget villages	Mulung Than	Mulung Than	Karich, Kret, Kuzget villages
12	Istimoch	Shukharen	Asan Katich	Vagd Boi	Sargaz Zherav
13	Istimoch	Sheetbarg	Dest Ghar	Raj Goz	Wuzed, Galetsghil

Seven villages use pastures in Ali Su and/or Aba Khan (see Table 47). They are (alphabetically): Karich, Kipkut, Kret, Paghish, Qila-e Panja, Qila-e Wust, and Sargez. Pastures in Ali Su and Aba Khan were not reported as currently used for grazing by any *kuch* during summer. Both valleys are, however, used for grazing during spring, fall and winter.

Grazing in Ali Su and Aba Khan is of particular interest and concern. Ali Su is the river that forms the northern boundary of BPWR. Aba Khan is a southern tributary of Ali Su and is within BPWR. An ATO hunting camp was once located in Aba Khan, and it is known as good *Ovis ammon polii* habitat. Wild ungulates are reported to descend to Ali Su in winter for grazing, and would likely come near to winter pasture areas.

Ali Su and Aba Khan valleys are used by three of the four Jermasirt *kuch* (all except Jabar Khan), and by all three Tor Bulok *kuch*. The Jermasirt *kuch* pass through Ali Su coming from and going to Jermasirt in summer since it is enroute to/from Jermasirt. Similarly, the Tor Bulok *kuch* utilize Ali Su and Aba Khan, which are near their primary summer grazing areas.

Table 47: Big Pamir <i>Kuch</i> Affecting Ali Su & Aba Khan				
# Kuch	Region	Summer Kuch Name	Villages Using Pasture	Total Households per Pasture
1	Jermasirt	Buqbun	Qila-e Panja	5
2	Jermasirt	Bulok Kshun	Qila-e Panja Paghish	2
3	Tor Bulok	Nakchirshitk	Sargez Kipkut Qila-e Wust	5
4	Tor Bulok	Tor Bulok	Karich Kret Qila-e Wust	6
5	Tor Bulok	Ganj Khatun	Kret Kipkut	6
Total:			7 villages	24

Table 48 details the number of households from each village using each summer pasture area. Villages that use more than one summer pasture in an area are only counted once. The household from Kandkhun that sends livestock to Asan Katich may combine in the pasture with another household, likely from Dehghulaman, as they all belong to the same clan.

Table 48: Wakhi Big Pamir by <i>Kuch</i> Seasonal Pasture Usage						
#	(Summer) Region	Summer Pasture	# Total Households per Pasture	Village(s)	# Households per Village	# Villages per Pasture
1	Jermasirt	Jabar Khan	9	Kuzget Kret Sast Avgarch	1 2 1 5	4
2	Jermasirt	Buqbun	5	Qila-e Panja	5	1
3	Jermasirt	Lupghil Kshun	6	Qila-e Wust Avgarch	2 4	2
4	Jermasirt	Bulok Kshun	2	Qila-e Panja Paghish	1 1	2
Subtotal Jermasirt:			22	7 villages	22	9-2=7
5	Tor Bulok	Nakchirshitk	5	Sargez Kipkut Qila-e Wust	1 3 1	3
6	Tor Bulok	Tor Bulok	6	Karich Kret Qila-e Wust	1 2 3	3

Table 48: Wakhi Big Pamir by <i>Kuch</i> Seasonal Pasture Usage						
#	(Summer) Region	Summer Pasture	# Total Households per Pasture	Village(s)	# Households per Village	# Villages per Pasture
7	Tor Bulok	Ganj Khatun	6	Kret Kipkut	1 5	2
Subtotal Tor Bulok:			17	5 villages	17	8-3=5
8	Istimoch	Qabal Gah	3	Yamit Paghish	2 1	2
9	Istimoch	Darah Big	3	Qila-e Panja Khandud Yamit	1 1 1	3
10	Istimoch	Kund-a-Thur	7	Sargez Shelk	5 2	2
11	Istimoch	Mulung Than	8	Karich Kret Kuzget	3 3 2	3
12	Istimoch	Asan Katich	7	Rorung Dehghulaman Kandkhun	1 5 1	3
13	Istimoch	Dest Ghar	10 2	Wuzed Sast	10 2	2
Subtotal Istimoch:			40	14 villages	40	15-1=14
Total:			79		79	

Table 49 details the number of households that reported keeping livestock in the Big Pamir during winter.

Of the seventy-nine Wakhi households utilizing the Big Pamir for seasonal grazing, forty-five households or 57% of all households from nine *kuch* report keeping most of their livestock in the Big Pamir during winter. This would include all yaks, and most sheep and goats. Those sheep and goats needed for sale or for household consumption are brought back to the village. Subtracting the combined average household sales and consumption (Tables 30 and 33) from average household ownership (Table 22), gives an approximate percentage of livestock kept in the Big Pamir during winter. Three villages that graze almost exclusively in the Big Pamir can serve as examples. Kret sells or consumes on average 51% of its sheep and goats, leaving 49% in winter pastures. Qila-e Wust sells or consumes 37% of sheep and goats, leaving 63% in winter pastures, and Avgarch sells or consumes 48% of sheep and goats, leaving 52% in winter pastures.

Thirty-four of the seventy-nine households or 43% of total households from four *kuch* return with their sheep and goats to or near their villages during winter (see Table 50). These villages use the Kund-a-Thur/Khushabad area of Istimoch.

These households typically lack winter pasture area for yaks, and many of them send their yaks to the Little Pamir in winter where Kyrgyz tend them as *amanat*.

Table 49: Wakhi Kuch (9) Staying in Big Pamir in Winter					
# Kuch	Region	Village	Kuch by Summer Pasture	Winter Pasture	# Households
1	Jermasirt	Kuzget Kret Sast Avgarch	Jabar Khan	Gormatek	1 2 1 5
2	Jermasirt	Qila-e Panja	Buqbun	Ali Su	5
3	Jermasirt	Qila-e Wust Avgarch	Lupghil Kshun	Sekr, Ali Su	2 4
4	Jermasirt	Qila-e Panja Paghish	Bulok Kshun	Ali Su	1 1
5	Tor Bulok	Sargez Kipkut Qila-e Wust	Nakchirshitk	Sekr	1 3 1
6	Tor Bulok	Karich Kret Qila-e Wust	Tor Bulok	Ali Su	1 2 3
7	Tor Bulok	Kret Kipkut	Ganj Khatun	Sekr, Ali Su, Aba Khan	1 5
8	Istimoch	Yamit Paghish	Qabal Gah	Sarsin, Khun	2 1
9	Istimoch	Qila-e Panja Khandud Yamit	Darah Big	Sarsin, Khun	1 1 1
Total:					45

Table 50: Wakhi Big Pamir Kuch (3) Returning to or near Village in Winter				
#Kuch	Region	Village	Kuch by Summer Pasture	# Households
1	Istimoch	Sargez Shelk	Kund-a-Thur	5 2
2	Istimoch	Karich Kret Kuzget	Mulung Than	3 3 2
3	Istimoch	Rorung Dehghulaman Kandkhun	Asan Katich	1 5 1
4	Istimoch	Wuzed Sast	Dest Ghar	10 2
Total:				34

3.3.3. Wakhi Livestock Grazing in Big Pamir

The three main grazing areas in the Big Pamir are Jermasirt, Tor Bulok and Istimoch. Tables 51-53, listed by (summer) *kuch* name, give the estimated total livestock by household for each *kuch* and region reported in the Range Use Survey. These figures were obtained from heads of households in each grazing area visited.

Table 51: Wakhi Big Pamir Livestock Totals - Jermasirt Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Jabar Khan - Jermasirt kuch #1				
1	Khyal Beg, Rastam Beg	Kret	300	30
2	Abdul Shakur	Kret	70	10
3	Momin Boi	Kuzget	400	40
4	Daud Kul	Sast	40	12
5	Safar	Avgarch	150	25
6	Qudus	Avgarch	80	7
7	Sangi Mahmad	Avgarch	40	10
8	Mirza Beg	Avgarch	110	16
9	Baran	Avgarch	40	16
Subtotal Jabar Khan kuch #1:			1,230	166
Buqbun - Jermasirt kuch #2				
1	Abdullah Jan	Qila-e Panja	9	2
2	Lochin	Qila-e Panja	30	3
3	Ghulam <i>Amanat</i> of Shah Ismail	Qila-e Panja Qila-e Panja	25 200	4
4	Abdullah	Qila-e Panja	15	2
5	Nek Mohammad (brother of Jan Baz, Rahman)	Qila-e Panja	20	2
	<i>Amanat</i>	Qila-e Panja	200-250	0
Subtotal Buqbun kuch #2:			499-549	13
Lupghil Kshun - Jermasirt kuch #3				
1	Khush Beg <i>Amanat</i> of Khwaja Sardar	Qila-e Wust Qila-e Panja	20 200	10
2	Khush Qadam	Qila-e Wust	20	3
3	Mulla	Avgarch	40	0
4	Noorullah Beg	Avgarch	60	0
5	Adina	Avgarch	20	0
6	Ramazan	Avgarch	40	0

Table 51: Wakhi Big Pamir Livestock Totals - Jermasirt Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Subtotal Lupghil Kshun kuch #3:			400	13
Bulok Kshun - Jermasirt kuch #4				
1	Zaidullah	Qila-e Panja	100	20
2	Adina Boi	Paghish	150	15
	<i>Amanat</i> of Pir Shah Langar (+16 camels)	Qazideh	100	20
Subtotal Bulok Kshun kuch #4:			350	55
Total Livestock in Jermasirt Region:			2,479-2,529	247

Table 52: Wakhi Big Pamir Livestock Totals - Tor Bulok Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Nakchirshitk - Tor Bulok kuch #1				
1	Syed Shahdi, nephew of Mirza Badif <i>Amanat</i> of Sargez village	Sargez	50 50	10 0
2	Daulat Beg	Kipkut	300	10
3	Gul Mahmad	Kipkut	40	8
4	Qara Beg (paternal uncle of Daulat Beg)	Kipkut	100	40
5	Haidar Beg (maternal nephew of Daulat Beg)	Qila-e Wust	200	15
Subtotal Nakchirshitk kuch #1:			740	83
Tor Bulok - Tor Bulok kuch #2				
1	Mahmad Ali (brother of Murad Beg)	Karich	180	15
2	Aziz Beg <i>Amanat</i> of Ghulam Haidar	Kret Paghish	50 15	8 0
3	Karim	Kret	20	3
4	Abdul Ahmad Boi	Qila-e Wust	250	20
5	Abdullah Khan (brother of Nida Khan) <i>Amanat</i> of Suleiman	Qila-e Wust Qazideh	120 40	10 0
6	Bakhtwar s/o Pamiri	Qila-e Wust	80	6
Subtotal Tor Bulok kuch #2:			755	62
Total Tor Bulok kuch #1 & kuch #2:			1,495	145
Ganj Khatun - Tor Bulok kuch #3				
1	Abdullah Ahmad	Kret	n/a	n/a
2	Juma Beg	Kipkut	n/a	n/a
3	Sultan Shah	Kipkut	n/a	n/a

Table 52: Wakhi Big Pamir Livestock Totals - Tor Bulok Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
4	Khush Beg	Kipkut	n/a	n/a
5	Mahram Boi	Kipkut	n/a	n/a
6	Juma Gul	Kipkut	n/a	n/a
Subtotal Ganj Khatun kuch #3:			n/a	n/a
Total Livestock in Tor Bulok Region:			1,495	145

Table 53: Wakhi Big Pamir Livestock Totals - Istimoch Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Qabal Gah - Istimoch kuch #1				
1	Taboraq	Yamit	30	4
2	Bari Boi	Yamit	50	12
3	Ramazan Boi	Paghish	400	20
	Kakul (brother of Shagun who is nephew of Bari Boi) <i>Amanat</i> of Shagun	Yamit	250	15
	Khuda Dad of Khandud <i>Amanat</i> of Tila Boi (younger brother of Ramazan Boi)	Paghish	40	0
Subtotal Qabal Gah kuch #1:			770	51
Darah Big - Istimoch kuch #2				
1	Zaman s/o Khair Mohammad	Khandud	300	40
2	Bakht Shah & Mahmad Hakim	Yamit	40	4
3	Mohammad Jan	Qila-e Panja	n/a	n/a
Subtotal Darah Big kuch #2:			340	44
Kund-a-Thur - Istimoch kuch #3				
1	Manfiyat Khan <i>Amanat</i> of Ghulam Syed	Sargez Sargez	30 10	10 0
2	Syed Talib	Sargez	50	7
3	Syed Zafar	Sargez	100	12
4	Syed Khan	Sargez	20	0
5	Syed Ibrahim <i>Amanat</i> of Miruddin <i>Amanat</i> of Syed Alam	Sargez Sargez Avgarch	80 6 8	15 0 0
6	Syed Rahim <i>Amanat</i> of Syed Dol	Shelk Shelk	30 20	60
7	Mir Azar	Shelk	20	0
Subtotal Kund-a-Thur kuch #3:			374	50

Table 53: Wakhi Big Pamir Livestock Totals - Istimoch Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Mulung Than - Istimoch kuch #4				
1	Izzatullah Khan	Karich	40	12
2	Sher Gul	Karich	30	5
3	Juma Beg Bai	Karich	40	6
4	Mohammad Zaman	Kret	60	12
5	Ziran Boi	Kret	70	15
6	Bulbul	Kret	40	10
7	Bari Boi	Kuzget	n/a	n/a
8	Hashul	Kuzget	n/a	n/a
	<i>Amanat</i> of villages		300	0
Subtotal Mulung Than kuch #4:			580	60
Asan Katich - Istimoch kuch #5				
1	Qaran (Khalifa)	Dehghulaman	100	30
2	Jama Khan	Dehghulaman	20	8
3	Show Ali	Dehghulaman	50	6
4	Sher Khan Beg	Dehghulaman	40	12
5	Khaldar Beg	Dehghulaman	45	15
6	Gazi Beg	Rorung	30	7
	<i>Amanat</i> of villages		85	0
Subtotal Asan Katich kuch #5:			370	78
Dest Ghar - Istimoch kuch #6				
1	Beg Ali	Wuzed	400	18
2	Charshambi	Wuzed		
3	Juma Gul	Wuzed		
4	Qachqar Beg	Wuzed		
5	Haq Nazar	Wuzed		
6	Ayan Beg	Wuzed		
7	Khan Zaman	Wuzed		
8	Loghar	Wuzed		
9	Mangalai	Sast		
10	Pahlwan	Sast		
Total Livestock in Istimoch Region:			2,834	301

The totals in Table 54 should be regarded as the minimum number of livestock in the Big Pamir pastures used by Wakhi herders. In all likelihood the total number of livestock is higher. The livestock numbers from the Ganj Khatun *kuch* in Tor Bulok is not included in the totals, nor are the livestock numbers from two households in the Mulung Than *kuch* in Istimoch. There is a tendency of Wakhi herders to understate numbers of livestock, noted by Petocz (1978). Also,

amanat livestock may not have been included in the estimates provided by each head of household present in the pasture area.

Table 54: Summary Wakhi Big Pamir Livestock Totals			
Region #	Region	Sheep & Goats	Yaks
1	Jermasirt	2,479-2,529	247
2	Tor Bulok	1,495	145
3	Istimoch	2,834	301
Total:		6,808-6,858	693

The Household Survey recorded 523 yaks in the 260 households in villages that have access to the Big Pamir (i.e., the Kandkhun, Baba Tungi and Sast clusters, and Qila-e Panja). This is 63.1% of the total number of 412 households in these villages. Extrapolation of this percentage gives an estimate of 829 yaks in these villages, which exceeds the number recorded by the Range Use Survey. Additionally, if the number of yaks that the Range Use Survey recorded as owned by other villages (Khandud, Yamit, Paghish, Qazideh), 130 yaks, is subtracted from the total Range Use Survey of 693, then just 563 yaks were reported as belonging to the three clusters and Qila-e Panja. This analysis further supports the interpretation that the numbers reported in the Range Use Survey represent minimum numbers.

3.4. Little Pamir

3.4.1. Wakhi Seasonal Pasture Movements in Little Pamir

Little Pamir includes those pasture areas that are not in the Big Pamir. These pastures are used by the villages in the Broghil cluster of Upper Wakhan. Seasonal pasture movements are in seventeen distinct migratory groups (*kuch*, see Table 58-59) to four main regions from six different villages, all of which are in the Broghil cluster (see Table 55). Forty-two households participate in the *kuch*, which represents 34% of the total 123 households in the Broghil cluster (see Tables 56-57). This correlates with the 33% percent of Broghil cluster households reporting dairy production in the household survey (see Table 25).

Table 55: Wakhi Grazing in Little Pamir by Village				
Broghil Cluster Village	4 Main Grazing Regions (West to East)			
	Chapdara	Shpodkis	Warm	Bai Qara
Sarhad-e Broghil		x		x
Chilkand	x		x	
Ptukh	x		x	
Neshtkhawar	x		x	
Issik	x			
Shushp	x			

Table 55: Wakhi Grazing in Little Pamir by Village				
Broghil Cluster Village	4 Main Grazing Regions (West to East)			
	Chapdara	Shpodkis	Warm	Bai Qara
Total Villages per Grazing Region:	5	1	3	1

Table 56: Wakhi Grazing in Little Pamir by Household					
Broghil Cluster Village	4 Main Grazing Regions (West to East)				
	Chapdara	Shpodkis	Warm	Bai Qara	Total
Sarhad-e Broghil	0	16	0	5	21
Chilkand	3	0	5	0	8
Ptukh	3	0	2	0	5
Neshtkhawar	5	0	1	0	6
Issik	1	0	0	0	1
Shushp	1	0	0	0	1
Total Households per Region:	13	16	8	5	42

Table 57: Wakhi Grazing in Little Pamir by Household			
Broghil Cluster by Village	Total Households	Total Households per Village	% Households
Sarhad-e Broghil	21	43	49%
Chilkand	8	32	25%
Ptukh	5	26	19%
Neshtkhawar, Issik, Shushp	8	22	36%
Total:	42	123	34%

Table 58: Wakhi Grazing in Little Pamir by Kuch					
Broghil Cluster by Kuch	4 Main Grazing Regions (West to East)				
	Chapdara	Shpodkis	Warm	Bai Qara	Total
Sarhad-e Broghil	0	4	0	1	5
Chilkand	3	0	3	0	6
Ptukh	1	0	1	0	2
Neshtkhawar	2	0	1	0	3
Issik, Shushp	1	0	0	0	1
Total Kuch per Region:	7	4	5	1	17

Table 59: Little Pamir Seasonal Pasture Usage by Wakhi						
#	Region	<i>Kuch</i>	Spring	Summer	Fall	Winter
1	Chapdara	Ptukh	Khajam Khadan	Wutsir	Bajqir	Ptukh
2	Chapdara	Issik, Shushp	Khajam Khadan	Wutsir	Khajam Khadan	Issik, Shushp
3	Chapdara	Neshtkhawar	Ghulam Haidar Kshun	Mulungik Kshun	Ghulam Haidar Kshun	Neshtkhawar
4	Chapdara	Neshtkhawar	Ghulam Haidar Kshun	Mulungik Kshun	Ruun Zherav	Neshtkhawar
5	Chapdara	Chilkand	Fa Big	Uween-e-ben Kshun	Fa Big	Chilkand
6	Chapdara	Chilkand	Buzherav-gash	Uween-e-ben Kshun	Buzherav-gash	Chilkand
7	Chapdara	Chilkand	Saraqiraw	Uween-e-ben Kshun	Saraqiraw	Chilkand
8	Shpodkis	Sarhad-e Broghil	Limil	Sang Nevishta	Char Wus Zerdi Bar	Char Wus Zerdi Bar
9	Shpodkis	Sarhad-e Broghil	Pirkharen	Math Kuf	Pirkharen	Pirkharen
10	Shpodkis	Sarhad-e Broghil	Digarch	Ghareen Shpodkis	Buriqto	Zerdi Bar
11	Shpodkis	Sarhad-e Broghil	Limil	Sot Vijeetk	Borak	Tash Kuprek
12	Warm	Neshtkhawar	Mirza Murad Dasht	Chanaq Zherav	Chanaq Zherav	Langar
13	Warm	Ptukh	Mirza Murad Dasht	Chanaq Zherav	Chanaq Zherav	Below Langar
14	Warm	Chilkand	Mirza Murad Dasht	Aq Belis	Aq Belis	Weener
15	Warm	Chilkand	Mirza Murad Dasht	Wuch Raowen	Wuch Raowen-gash	Chiragtang
16	Warm	Chilkand	Mirza Murad Dasht	Ghareen Warm	Mirza Murad Dasht	Below Langar
17	Bai Qara	Sarhad-e Broghil	Komituk	Bai Qara	Mirza Murad Dasht	Gormituk

Of the forty-two Wakhi households utilizing the Little Pamir for seasonal grazing, seventeen households or 40% of all households keeps their livestock in the Little Pamir during winter (see Table 60). These seventeen households use three of the four main grazing regions (Shpodkis, Warm and Bai Qara) in summer, and two (Warm and Bai Qara) in winter. These winter pastures are the regions farthest away from the villages. Twenty-five households or 60% of total households return with their livestock to or near their villages during winter (see Table 61). These households graze in Chapdara or Shpodkis, which are the grazing regions closest to the villages.

Table 60: Wakhi <i>Kuch</i> (7) Staying in Little Pamir in Winter					
# <i>Kuch</i>	Region	Village	<i>Kuch</i>	Winter Pasture	# Households
1	Shpodkis	Sarhad-e Broghil	Sot Vijeetk	Tash Kuprek	4
2	Warm	Neshtkhawar	Chanaq Zherav	Langar	1
3	Warm	Ptukh	Chanaq Zherav	Below Langar	2
4	Warm	Chilkand	Aq Belis	Weener	2
5	Warm	Chilkand	Wuch Raowen	Chiragtang	2
6	Warm	Chilkand	Ghareen Warm	Below Langar	1
7	Bai Qara	Sarhad-e Broghil	Bai Qara	Gormituk	5
Total:		4			17

Table 61: Wakhi <i>Kuch</i> (10) Returning from Little Pamir to or near Village in Winter				
# <i>Kuch</i>	Region	Village	<i>Kuch</i>	# Households
1	Chapdara	Ptukh	Wutsir	3
2	Chapdara	Issik, Shushp	Wutsir	2
3, 4	Chapdara	Neshtkhawar	Mulungik Kshun	5
5, 6, 7	Chapdara	Chilkand	Uween-e-ben Kshun	3
8	Shpodkis	Sarhad-e Broghil	Sang Nevishta	4
9	Shpodkis	Sarhad-e Broghil	Math Kuf	4
10	Shpodkis	Sarhad-e Broghil	Ghareen Shpodkis	4
Total:		6		25

3.4.3. Wakhi Livestock Grazing in Little Pamir

The four main grazing areas in the Little Pamir are Chapdara, Shpodkis, Warm and Bai Qara. Tables 62-65, listed by (summer) *kuch*, give the estimated total livestock by household for each *kuch* and region. These estimates were provided by herders in the Chapdara region. For other regions (Shpodkis, Warm, Bai Qara), estimates were provided by groups of key informants in each village. The WCS Community Conservation team did not visit Shpodkis, Warm or Bai Qara during 2006 fieldwork, although Dr. Mock and Ms. O'Neil have visited all summer pastures in these regions on previous field visits in 2004 and 2005.

Table 62: Wakhi Little Pamir Livestock Totals - Chapdara Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Uween-e-ben Kshun - Chapdara kuch #1, #2, #3				
1	Syed Khan	Chilkand	20	10
2	Khuda Panah	Chilkand	15	20
3	Khush Nazar	Chilkand	30	20
	Karim (brother of Khush Nazar) Amanat of village	Chilkand	85	0
Subtotal Uween-e-ben Kshun kuch #1-3:			150	50
Mulungik Kshun - Chapdara kuch #4, #5				
1	Amar Ali	Neshtkhawar	60	15
2	Sana Gul	Neshtkhawar	20	10
3	Mir Akbar	Neshtkhawar	15	8
4	Musa	Neshtkhawar	30	8
5	Sufi & Tagosh	Neshtkhawar	40	30
	Amant of village		235	0
Subtotal Mulungik Kshun kuch #4-5:			400	71
Wutsir - Chapdara kuch #6, #7				
1	Adina (nephew of) & Bismillah	Ptukh	20	2
2	Raja Beg	Ptukh	15	2
3	Daulat Qadam	Ptukh	10	1
4	Shamshir	Issik	40	5
5	Tukht Nazar	Shushp	15	4
	Amanat of village		290	120
Subtotal Wutsir kuch #6-7:			390	134
Total Livestock in Chapdara Region:			940	255

Table 63: Wakhi Little Pamir Livestock Totals - Shpodkis Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Sang Nevishta - Shpodkis kuch #1				
1	Juma Khan, Chaqan Boi,	Sarhad-e Broghil	300	70
2	Qaqan Boi			
3	Sarfraz			
4	Ghulam Nasir			
	Musa			
Math Kuf - Shpodkis kuch #2				

Table 63: Wakhi Little Pamir Livestock Totals - Shpodkis Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
1	Mirza Mohammad	Sarhad-e Broghil	200	20
2	Juma Beg			
3	Madyar Beg			
4	Khujan Bardi			
Ghareen Shpodkis - Shpodkis kuch #3				
1	Buri	Sarhad-e Broghil	300	25
2	Arbab Panah			
3	Aleem			
4	Nayeeb			
Sot Vijeetk - Shpodkis kuch #4				
1	Kabot	Sarhad-e Broghil	200	30
2	Ramazan			
3	Karim Dad			
4	Khush Mohammad			
Total Livestock in Shpodkis Region:			1,000	145

Table 64: Wakhi Little Pamir Livestock Totals - Warm Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Chanaq Zherav - Warm kuch #1, #2				
1	Safar Boi	Neshtkhawar	200	30
2	Dost Mohammad	Ptukh		
3	Beg Mohammad	Ptukh		
Aqbelis - Warm kuch #3				
1	Khalifa Mohammad Jan (brother of Nek Bakht Shah)	Chilkand	250	50
			100	20
2	Himdullah	Chilkand		
Wuch Raowen-gash - Warm kuch #4				
1	Ghulam Shah	Chilkand	150	40
2	Safdar	Chilkand	100	20
Ghareen Warm - Warm kuch #5				
1	Khoja Hassan (nephew of Khalifa Mohammad Jan)	Chilkand	150	60
Total Livestock in Warm Region:			950	220

Table 65: Wakhi Little Pamir Livestock Totals - Bai Qara Region				
HH #	Head of Household	Village	Sheep & Goats	Yaks
Bai Qara - Bai Qara kuch #1, #2				
1	Rahmat Ali	Sarhad-e Broghil	400	60
2	Aman Shah			
3	Qach Beg			
4	Mohammad Toshi Boi			
5	Dilawar			
Total Livestock in Bai Qara Region:			400	60

The total number of livestock from Wakhi villages grazing in the Little Pamir totals 3,290 sheep and goats, and 680 yaks (see Table 66).

Table 66: Summary Wakhi Little Pamir Livestock Totals			
Region #	Region	Sheep & Goats	Yaks
1	Chapdara	940	255
2	Shpodkis	1,000	145
3	Warm	950	220
4	Bai Qara	400	60
Total:		3,290	680

As previously remarked, these totals should be considered minimum numbers. Livestock numbers are elastic, due to shocks that can greatly reduce herd size. Herders also tend to understate numbers of livestock so as to avoid revealing their actual wealth.

3.5. Summary of Range Usage in Big Pamir & Little Pamir

A total of 121 households have grazing rights in the Afghan Pamir (see Table 67), which represents approximately 24% of households in the villages that have rights to Big and Little Pamir grazing. (This percentage excludes the Nirs cluster, and the villages of Baba Tungi and Goz Khun, which do not have grazing rights in the Afghan Pamir). Hence, 76% of all households have no traditional grazing rights in the Afghan Pamir. However, 58% of all households own sheep, 84% own goats, and 31% own yaks, as reported in the household survey. These livestock require grazing. Where do they go? Households without grazing rights in the Afghan Pamir, or lacking sufficient household labor or financial resources to operate a household in the Afghan Pamir may send livestock as *amanat* with relatives who traditionally graze in the Afghan Pamir. They may also graze their livestock in pastures near their village. Very few households (less than 16%) have no goats or no sheep. In almost all cases, those households not sending livestock to the Afghan Pamir are not substantial livestock owners. Because livestock is the major capital resource of Wakhi people, those lacking rights to the Afghan Pamir, i.e., those lacking significant livestock, are those lacking financial resources, i.e., poor.

Table 67: Comparison of Wakhi Livestock Totals in Afghan Pamir

Region	People			Livestock	
	# Households	# Villages	# <i>Kuch</i>	Sheep & Goats	Yaks
Big Pamir	79	17	13	6,808-6,858	693
Little Pamir	42	4	17	3,290	680
Total:	121	21	30	10,098-10,148	1373

3.6. Winter Range Use in the Afghan Pamir

Sixty-two Wakhi households utilizing Afghan Pamir pastures, which represents 51% of the Wakhi households using Afghan Pamir grazing resources (see Table 68).

For the Big Pamir, forty-five households, representing 57% of households using grazing resources in the Big Pamir, report keeping livestock in winter pastures (see Table 69).

Seventeen households, representing 40% of Wakhi households utilizing pasture in the Little Pamir, keep livestock in the Little Pamir during winter (see Table 69).

Table 68: List of *Kuch* Staying in Afghan Pamir in Winter

<i>Kuch</i> #	<i>Kuch</i> Region - Name	# Households	# Sheep & Goats	# Yaks
Big Pamir				
1	Jermasirt - Jabar Khan	9	1,230	166
2	Jermasirt - Buqbun	5	499-549	13
3	Jermasirt - Lupghil Kshun	6	400	13
4	Jermasirt - Bulok Kshun	2	350	55
5	Tor Bulok - Nakchirshitk	5	740	83
6	Tor Bulok - Tor Bulok	6	755	62
7	Tor Bulok - Ganj Khatun	6	n/a	51
8	Istimoch - Qabal Gah	3	770	44
9	Istimoch - Darah Big	3	340	44
Total Staying in Big Pamir in Winter:		45	5,084-5,134	487
Little Pamir				
1	Shpodkis - Sot Vijeetk	4	200	30
2, 3	Warm - Chanaq Zherav	3	200	30
4	Warm - Aqbelis	2	350	70
5	Warm - Wuch Raowen-gash	2	250	60
6	Warm - Ghareen Warm	1	150	60
7	Bai Qara	5	400	60
Total Staying in Little Pamir in Winter:		17	1,550	310
Total in Afghan Pamir in Winter:		62	6,634-6,684	797

Table 69: Comparison of Big Pamir & Little Pamir Winter Pasture Usage by Household				
Livestock Location	Big Pamir Usage		Little Pamir Usage	
	# Households	% of Total Households	# Households	% of Total Households
Livestock returns to or near villages in winter	34	43%	25	60%
Livestock stays in Afghan Pamir in winter	45	57%	17	40%
Total:	79	100%	42	100%

Table 70: Comparison of Big Pamir & Little Pamir Winter Pasture Usage by <i>Kuch</i>				
Livestock Location	Big Pamir Usage		Little Pamir Usage	
	# <i>Kuch</i>	% of Total <i>Kuch</i>	# <i>Kuch</i>	% of Total <i>Kuch</i>
Livestock returns to or near villages in winter	4	31%	10	59%
Livestock stays in Afghan Pamir in winter	9	69%	7	41%
Total:	13	100%	17	100%

Winter pasture usage is more in the Big Pamir than the Little Pamir (see Table 71). The comparative lack of grazing land close to villages that use the Big Pamir offers one explanation as to why villages utilizing the Big Pamir pastures keep more livestock in the Big Pamir during winter. Additionally, some villages in Lower Wakhan (Khandud, Yamit, Paghish, Qazideh) that have livestock in the Big Pamir are located at a greater distance and face greater difficulty in moving livestock from remote Big Pamir pastures to the village. The Broghil cluster has more open land available, and can likely support more winter grazing close to the village.

The total number of livestock, however, staying in both the Big Pamir and Little Pamir during winter is significant. Seventy-five percent of the total number of sheep and goats stay in the Big Pamir and 47% stay in the Little Pamir in winter. Seventy percent of the total yaks stay in the Big Pamir and 46% stay in the Little Pamir in winter.

When comparing the Big Pamir to the Little Pamir, 28% more sheep and goats stay in the Big Pamir (75%) than sheep and goats the Little Pamir (47%). Similarly, 25% more yaks stay in the Big Pamir than yaks in the Little Pamir.

The total livestock numbers shown in Table 71 do not account for any sales or consumption. Sales and consumption range from 40% to 50% of sheep and goats for the Big Pamir villages to 30% of sheep and goats for Little Pamir (Broghil cluster) villages. These estimates are derived through subtracting sales and consumption (Tables 30 and 33) from ownership (Table 22).

Table 71: Comparison of Wakhi Livestock Staying in Afghan Pamir in Winter						
Region	Sheep & Goats			Yaks		
	Total Sheep & Goats Using Pamir	Sheep & Goats Staying in Winter	%	Total Yaks Using Pamir	Yaks Staying in Winter	%
Big Pamir	6,808-6,858	5,084-5,134	75%	693	487	70%
Little Pamir	3,290	1,550	47%	680	310	46%
Total:	10,098-10,148	6,634-6,684	66%	1,373	797	58%

Appendix I - Survey Data

Household Survey Data

Original data from the 320 household surveys is tabulated in two spreadsheets, attached to this report:

SES-Population.xls

SES-Livestock.xls

Range Use Survey

The file named pasturelist.xls, which is also attached to this document, provides additional data from the Range Use Survey in a spreadsheet. This data includes pasture names, location by valley and region, elevation, GPS data and source noted in UTM and/or latitude and longitude, map references, the presence or absence of Wakhi or Kyrgyz households, and the date the team visited the pasture. Additionally, the file contains other place names in the Afghan Pamir and relevant data.

Appendix II - Acronyms

AKDN - Aga Khan Development Network
AKF-A - Aga Khan Foundation-Afghanistan
ATO - Afghan Tourism Organization
BPWR - Big Pamir Wildlife Reserve
CBR - Crude Birth Rate
CDR - Crude Death Rate
CDC - Community Development Council
CMR - Child Mortality Rate
FAO - Food & Agriculture Organization
GTZ - Deutsche Gesellschaft für Technische Zusammenarbeit
IMR - Infant Mortality Rate
KNP - Khunjerab National Park
LOP - Life of Project Workplan, a USAID/WCS document
MMR - Maternal Mortality Rate
MRRD - Afghanistan's Ministry of Rural Rehabilitation and Development
NRM - Natural Resource Management, a program of AKF-A
NRVA - National Risk & Vulnerability Assessment
NSP - National Solidarity Program
ORA - Orphans, Refugees Aid International
TDC - Tourism Development Committee
UNEP - United Nations Environmental Programme
UNFPA - United Nations Population Fund
WFP - World Food Programme

Appendix III - Wakhan Place Names

Proposed List of Acceptable Spellings

The following list of spellings for geographical place names in Wakhan District of Badakhshan Province is intended for use by all WCS teams and staff in reports, communication and maps. These names are derived from close transcription of Wakhi names rendered into standard Roman (English) script, and have been field checked.

PLACE NAME	DESCRIPTION	LOCATION
Wakhi Villages/Place Names (Lower Wakhan & Upper Wakhan)		
Ab-e Panja (Panj River)	river	Wakhan District
Amu Darya (Oxus River)	river	Wakhan District
Avgarch	village	Upper Wakhan
Baba Tungi	village, mountain	Upper Wakhan
Chilkand	village	Upper Wakhan
Chiltan	shrine	Lower Wakhan
Dehghulaman	village	Upper Wakhan
Digargund	village	Lower Wakhan
Fitr	village	Lower Wakhan
Goz Khun	village	Upper Wakhan
Ish Murg (Yish Murg)	river	Upper Wakhan
Ishkashim	village	Ishkashim District
Issik	village, river	Upper Wakhan
Kandkhun	village	Upper Wakhan
Karich	village	Upper Wakhan
Keshnikhun	village	Lower Wakhan
Khandud	village, district hdqtrs	Lower Wakhan
Kipkut	village	Upper Wakhan
Korkut	village	Upper Wakhan
Kret	village	Upper Wakhan
Kuzget	village	Upper Wakhan
Neshtkhawar	village	Upper Wakhan
Nirs Bala	village	Upper Wakhan
Nirs Payan	village	Upper Wakhan
Oxus River (Amu Darya)	river	Wakhan District
Paghish	village	Lower Wakhan
Pak	village	Lower Wakhan
Pakuy	village	Lower Wakhan
Panj River (Ab-e Panja)	river	Wakhan District
Pikut	village, river	Upper Wakhan
Ptukh	village	Upper Wakhan
Purwaksh	village	Upper Wakhan
Qazideh	village	Lower Wakhan

Qila-e Panja	village	Upper Wakhan
Qila-e Wust	village	Upper Wakhan
Regijurm (below Paghish)	barren area	Lower Wakhan
Rochun	village	Upper Wakhan
Rorung	village	Upper Wakhan
Rukut (Wakhi), Archa (Farsi)	village	Upper Wakhan
Sanin	village	Upper Wakhan
Sargez	village	Upper Wakhan
Sarhad-e Broghil (Broghil)	village	Upper Wakhan
Sarkand	village	Lower Wakhan
Sast Bala	village	Upper Wakhan
Sast Payan	village	Upper Wakhan
Shelk	village	Upper Wakhan
Shiyupk	waterfall	Upper Wakhan
Shkhawar	village	Lower Wakhan
Shushp	village	Upper Wakhan
Suikunj	village	Upper Wakhan
Suru Shkhawar	village	Lower Wakhan
Wardev	village	Upper Wakhan
Wardi	stream	Upper Wakhan
Wark	village	Lower Wakhan
Wergund Bala	village	Lower Wakhan
Wergund	village	Lower Wakhan
Wuzed	village	Upper Wakhan
Wuzhdagh	village	Lower Wakhan
Yamit	village	Lower Wakhan
Yazuk	village	Lower Wakhan

Wakhi Pastures/Place Names Big Pamir

Aba Khan	river, valley	Wakhan Range
Ali Su	river, valley	Wakhan Range
Asan Katich	Wakhi pasture	Wakhan Range
Bakhal (Ali Su)	Wakhi pasture	Wakhan Range
Bulok	Wakhi pasture	Jermasirt
Bulok Ben (Qui Hil)	Wakhi pasture	Jermasirt
Bulok Kshun	Wakhi pasture	Jermasirt
Buqbun (Abdullah Jan Kshun)	Wakhi pasture	Jermasirt
Darah Big (in Shikargah)	Wakhi pasture	Wakhan Range
Frakchakor (in lower Istimoch)	Wakhi pasture	Wakhan Range
Galitsgal (near Pamir River)	Wakhi pasture	Wakhan Range
Ganj Khatun	Wakhi pasture	Wakhan Range
Gormatek (near Pamir River)	Wakhi pasture	Wakhan Range
Istimoch	river, valley	Wakhan Range
Jabar Khan	Wakhi pasture	Jermasirt
Jermasirt	pasture area	Big Pamir

Khun (in lower Istimoch)	Wakhi pasture	Wakhan Range
Khushabad	Wakhi pasture	Wakhan Range
Kotal-e-Agh	pass	Wakhan Range
Kund-a-Thur	Wakhi pasture	Wakhan Range
Kukghil (Ali Su)	hot spring	Wakhan Range
Kut Hil (in lower Istimoch)	Wakhi pasture	Wakhan Range
Lupghil Kshun	Wakhi pasture	Jermasirt
Manjulak	valley, Wakhi pasture	Wakhan Range
Mulung Than	Wakhi pasture	Wakhan Range
Nakchirshitk	valley, Wakhi pasture	Wakhan Range
Pamir River	river	Big Pamir
Qabal Gah (in Shikargah)	Wakhi pasture	Wakhan Range
Qui Hil (Bulok Ben)	Wakhi pasture	Jermasirt
Sargez Zherav	river, valley	above Sargez
Sarsin (in lower Istimoch)	Wakhi pasture	Wakhan Range
Sekr (mouth of Manjulak)	Wakhi pasture	Wakhan Range
Shamar Big Ghil	Wakhi pasture	Sargez Zherav
Shikargah	valley	Wakhan Range
Shukharen (below Nakchirshitk)	Wakhi pasture	Wakhan Range
Tor Bulok	Wakhi pasture	Wakhan Range
Tor Bulok Uween	pass	Wakhan Range
Vagd Boi	Wakhi pasture	Wakhan Range
Wingus Kuk	spring	Sargez Zherav

Kyrgyz Pastures/Place Names Big Pamir

Bai Tibet	river, valley	Big Pamir
Beshkunak	river, valley	Big Pamir
Ilgonak	river, valley	Big Pamir
Irshad Rabot	Kyrgyz settlement	Shaur
Mazar Tash	plain	Tila Bai-Bai Tibet
Sar Maqur	river, valley	Big Pamir
Shaur	river, valley	Big Pamir
Sirt	Kyrgyz settlement	Ilgonak-Tila Bai
Tasht Wutek	Kyrgyz settlement	Shaur
Tila Bai	river, valley	Big Pamir
Zeragan	Kyrgyz settlement	Shaur-Beshkunak
Zorkol	lake	Big Pamir

Wakhi & Kyrgyz Pastures/Place Names Little Pamir

Aqbelis	pass, lake	Little Pamir
Aqtash	Kyrgyz settlement	Wakhjir
Bai Qara	river, valley, Wakhi pasture	Little Pamir
Baj Goz (Limil)	Wakhi pasture	near Shpodkis
Bajqir	Wakhi pasture	Chapdara

Barnoz	Wakhi pasture	Shpodkis
Borak	Wakhi pasture	river route
Bozai Darya	river	Little Pamir
Bozai Gumbaz	tombs	Little Pamir
Buriqto	Wakhi pasture	near Borak
Buzherav-gash	Wakhi pasture	Chapdara
Chanaq Zherav	Wakhi pasture	Warm
Chapdara	river, valley	near Wutsir
Chaqmaqtiin	lake	Little Pamir
Char Wus	Wakhi pasture	near Borak
Chiragtang	Wakhi pasture	Little Pamir
Daliz Pass	pass	Broghil
Digarch	Wakhi pasture	Shpodkis
Diwanasu	river	Wakhjir
Duldul	Kyrgyz camp	Wakhjir
Fa Big	Wakhi pasture	Chapdara
Ghareen Shpodkis	Wakhi pasture	Shpodkis
Ghareen Warm	Wakhi pasture	Warm
Ghulam Haidar Kshun	Wakhi pasture	Chapdara
Gormituk (near Kashch Goz)	Wakhi pasture	Little Pamir
Guretuk	Kyrgyz camp	Wakhjir
Kamansu	river	Wakhjir
Karatash	Kyrgyz settlement	Wakhjir
Kashch Goz	Kyrgyz settlement	Little Pamir
Keskentash	Kyrgyz camp	Wakhjir
Khajam Khakdan	Wakhi pasture	Chapdara
Khitai Qeldi	Kyrgyz camp	Wakhjir
Komituk	Wakhi pasture	Little Pamir
Kotal-e-Qarabel (Qarabel)	pass	Wutsir-Shpodkis
Langar	Wakhi pasture	near Warm
Limil (Alimi, Baj Goz)	Wakhi pasture	near Shpodkis
Matak (Matak Chapdara)	river, valley	Broghil
Math Kuf	Wakhi pasture	Shpodkis
Mirza Murad Dasht	Wakhi pasture	Little Pamir
Mulungik Kshun	Wakhi pasture	Chapdara
Past Tasaman	Wakhi pasture	Matak Chapdara
Pirkharen	Wakhi pasture	Broghil
Ptukh Shur	river, valley	Chapdara
Qarabel (Kotal-e-Qarabel)	pass	Wutsir-Shpodkis
Qizilotuq	Kyrgyz camp	Wakhjir
Rabot (southern base Kotal-e-Shaur)	travellers' shelter	Wutsir
Ruun Zherav	river, valley	Chapdara
Rukhen Zherav	river, valley	Wutsir
Sang Nevishta	Wakhi pasture, petroglyphs	Shpodkis
Saraqiraw	Wakhi pasture	Wutsir
Shalok	Wakhi pasture	Wutsir

Shaur
Shpodkis
Sot Vijeetk
Spreg Shir Uween
Tash Kuprek
Tash Kazuk
Tekeli
Uween-e-ben Kshun
Uween-e-sar
Wakhan River
Wakhjir
Warm
Weener (above Langar)
Wuch Raowen
Wuch Raowen-gash
Wutsir
Zang Kuk
Zerdi Bar

stream
river, valley
Wakhi pasture
pass
Wakhi pasture
Kyrgyz camp
Kyrgyz camp
Wakhi pasture
pass
river
river, valley
river, valley
Wakhi pasture
Wakhi pasture
Wakhi pasture
river, valley, Wakhi pasture
stream
Wakhi pasture

near Borak
Shpodkis
Shpodkis
Chapdara
Little Pamir
Little Pamir
Wakhjir
Chapdara
Shpodkis-Warm
Wakhan District
Little Pamir
Warm
Langar
Shpodkis
Warm
Wutsir
Borak-Langar
Broghil

Appendix IV - Illustrations

The comparison of the division between Wakhi and Kyrgyz territory in the Afghan Pamir prior to the 1979 Kyrgyz exodus and in 2006 is illustrated in the attached file:

pasture_comparison_1970s_2006.jpg

Glossary

- Afghan Pamir - two named *pamir* in Wakhan including both the Big Pamir and Little Pamir
- amanant - An item or items owned by one person given to another person to use for a fixed period of time and then to be returned undamaged, i.e., safekeeping. For example, a livestock owner gives his livestock to a herder to tend, it is the *amanat* of the livestock owner with the herder. (Persian)
- Bam-i-Dunya – “roof of the world” (Farsi), a general term for the Afghan Pamir (Persian)
- Big Pamir - one of two major regions of Afghan Pamir, also known as Great Pamir (Pamir-e Kalan, Pamir-e Buzurg, (Farsi); Past Pamir (Wakhi)
- boi - term used by Kyrgyz and adopted by Wakhi for wealthy livestock owner (Kyrgyz)
- buji - a measurement of weight equal to three *seer*
- garzandoi - a term meaning ‘tourism’ in Wakhan, which refers to the ATO’s trophy hunting programs in the 1970s (Pashtu)
- jerib - a measurement of land equal to the amount needed to plant five *seer* (35 k.g.) of seed (Persian)
- krosh - grass pea, *Lathyrus sativa* (Wakhi)
- kuch - semi-nomadic migratory practice of livestock management (Persian)
- Kyrgyz (Kirghiz) - a Turkic pastoral nomadic group living in the Afghan Pamir, also the name of their northwestern Turkic language (Kyrgyz)
- Little Pamir, Small Pamir (Pamir-e Khurd, Pamir-e Kochak (Persian); Wuch Pamir (Wakhi)
- Lower Wakhan - the Wakhi villages between Ishkashim and Qila-e Panja
- Mir - title of the former rulers of Wakhan (Persian)
- mirgund - salaried employees who enforced hunting bans during the Mir’s time (Wakhi)
- pamir – referring in general to unique U-shaped, high-elevation mountain valleys distinctive to Central Asia – where there are more than half a dozen named *pamir*, eg, Little Pamir; spell *pamir* using lower case
- Pir - a hereditary religious leader of the Isma’ili community; the central role of *Pir* is now being replaced by the *Mukhi* who is appointed (Persian)
- Qarayador - village headman, now being replaced by the *rais* under NSP (Persian)
- qarz - a loan in Wakhan given by traders, *tijor* (Persian)
- qurut - cheese made after butter extracted from milk (Wakhi)
- rais - head person, president, e.g., of a village or a committee (Persian)
- seer - a measurement of weight equal to approximately seven kilograms in Afghanistan (Persian)
- shpun - small group of Wakhi herders who tend livestock during winter; literally “night watchmen” (Wakhi)
- shura - village governing council, also known as CDC (Persian)
- tijor - trader (Persian)
- turiyoq - opium (Wakhi)
- turqi - fat-tailed sheep; *dumba* (Persian)
- Upper Wakhan - villages from Qila-e Panja to Sarhad-e Broghil
- Wakhan Corridor - the narrow strip of land between Ishkashim and Qila-e Panja
- Wakhan District - district of Badakhshan Province, which includes the Wakhan Corridor, Lower Wakhan, Upper Wakhan, and the Afghan Pamir
- Wakhi - people of the larger Tajik ethnic group who live in Wakhan and call themselves Khik (people), also the name of their Pamir group of Iranian languages (Khikwor)

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Glossary

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