



*Afghanistan PEACE Project*

# ***Afghanistan Livestock Market Assessment***

**Report on Afghanistan Livestock Market Dynamics  
October 2008 – October 2009**

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**Mazar-e Sharif Mal Bazar, Balkh Province October 2009**

## Executive Summary

**Introduction.** The Kuchi, Afghanistan's dominant transhumant livestock producers, are one of the most marginalized cultures in Afghanistan today. Subjected to decades of war, drought and insecurity, poverty is now the norm for many of them along with food insecurity. In July 2006, the University of California-Davis (UC-Davis) and Texas A&M University (TAMU) began implementation of the PEACE<sup>1</sup> Project, a USAID-funded program aimed at improving livestock production and stabilizing Afghanistan's economy. Currently, the PEACE Project is engaged in helping to draft effective rangeland policies; institutionalizing technologies aimed at improving management of Afghanistan's rangelands; improving human capacity through the provision of training opportunities in conflict resolution and mitigation; conducting research that would improve production and marketing opportunities; and supporting economic diversification efforts. Increased extensive livestock production through better information and management is only possible if an enabling environment is created; capacity building in conflict resolution is also fundamental to this effort.

**Methods.** The data presented here is from a synthesis of four livestock market surveys, which in combination were intended to elucidate the dynamics of Afghanistan's livestock markets; direct efforts to improve marketing opportunities; and, to increase income generation opportunities among Afghanistan's key livestock producers, the Kuchi (see <http://cnrit.tamu.edu/peace/markets.html>). The surveys were conducted in six major trading centers: Herat - Ganj Bazar and Ganj Shash markets; Kabul - Nakhas Company, Chaman Babrak and Darwazai Lahori markets; Kandahar - Ganj Bazar market; Kunduz - Mal Bazar market; Mazar-e-Sharif (Balkh) - Mal Bazar markets; and Jalalabad (Nangarhar) - Angoor Bagh, Shaiwa and Chaparhar markets. The study was based on the following objectives:

- Determine the proportion of the livestock market that is supplied by the different livestock producers
- Determine the role of the Kuchi, the extensive livestock producers, in all sectors of the livestock markets in Afghanistan
- Determine the approximate volume of livestock sales
- Determine the approximate market value of different categories and breeds of livestock and who is responsible for setting market prices

**Results.** The traders<sup>2</sup> present in Afghanistan's major markets were predominately of Pashtun origin with one-third claiming to be Kuchi. Both Kuchi and non-Kuchi participating in the markets reported that they mostly lead a sedentary lifestyle, with trading being their primary means of earning income. The majority of butchers, in contrast, claimed that their ethnicity was Tajik.

Sheep, including Turki, Qaraqal and Qaragh, were the most common livestock supplied to all the trading centers. Estimates of the total volume of livestock, in 2008-2009, was not insignificant: 1,176,400 sheep, 355,600 goats and 259,500 heads of cattle; with volumes highest in the fall and lowest in later winter.

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<sup>1</sup> PEACE: Pastoral Engagement, Adaptation and Capacity Enhancement.

<sup>2</sup> Traders include individual sellers and business men engaged in animal trading

Despite the fact that only one-third of interviewees claimed to be of Kuchi origin, it was widely and consistently reported that the Kuchi were the single most important suppliers of small livestock to Afghanistan's markets. Actual counts in the market indicated that the Kuchi supplied 60% of all sheep and 62% of all goats to the six major trading centers in 2008-2009, whereas sellers/buyers estimates put these figures much higher, 79% and 72% respectively. In contrast, the Kuchi played a very minor role in terms of the numbers of cattle supplied to the trading centers. Given that the transhumant/nomadic Kuchi were poorly represented in these surveys and this group tends to sell their livestock in the field rather than in markets, the latter figures are probably much more realistic estimates. What these data indicate then is that the Kuchi, a group of people representing less than 5% of Afghanistan's population, supply more than 75% of the small livestock found in Afghanistan's markets but very few of the cattle.

Livestock sales were dependent on an open negotiation process. Market prices were primarily obtained by using cell phones to call ahead to friends in the market or by asking others in attendance, with sellers asking other sellers and buyers asking other buyers. The final selling price, however, was based on a one-on-one negotiation with the seller taking into account such factors as species, breed, sex, age and body condition (in order of import) and whether or not the buyer intended to resell their purchase at a later date. In general, there was little price fluctuation throughout the year, with males selling for more than any other category of animal.

The estimated income generated from the sale of the sheep and goats alone, was not insignificant: \$147,826,196 USD; neither was it for cattle: \$107,573,085 USD. The majority of this income was generated in the Kabul, Kandahar and Herat trading centers. Given that the majority of small stock sold in the six major trading centers were traded prior to their arrival to the markets; that the majority of traders reported plans to resell their purchases; and, that the majority of young-of-year purchased each year were bought in order to resell at a later date (generally in the fall), after having fattened them; the actual amount of income generated from the sale of small livestock was more likely closer to three times this amount (i.e., approximately \$443M).

**Conclusions.** The fact that approximately 5% of Afghanistan's population, the Kuchi, are extensive livestock-producers, and that they contribute at least 75% of the small ruminants to the Afghan markets, suggests that extensive livestock producers rather than rural communities with small herds are the people to target to improve livestock production in Afghanistan. This point becomes particularly critical when you consider that these same extensive producers are the primary sources of animals purchased by farmers living in rural communities as the Kuchi pass by a village. Facilitating extensive livestock production will best be accomplished by helping the Kuchi to re-establish their relationships with villagers along the migration corridors.

Afghanistan's livestock producers, the transhumant/nomadic Kuchi, were poorly represented in this survey. This suggests that they do not gain as much value from the sale of their livestock as they could if they had sold their animals themselves directly in the market or through family or business-trade partnerships. Moreover, when approached in the field to sell their animals, they are at a disadvantage in that they do not have access to first-hand, real-time market price information unless they can reach someone in the market place by cellphone. They also do not have knowledge of cycles in the markets that they could use to their advantage when making sales decisions. In previous studies by the PEACE Project, it was also determined that the Kuchi faced many livelihood risks in addition to being poorly

diversified. These factors, in addition to climate-related risks, were all cited as being one of the main reasons for their reluctance to sell their livestock, except under duress.

One obvious solution is the need for real-time market price information to facilitate sales transactions and improve decision-making capabilities. Another is the need for training and capacity building for Kuchi in business development and trading, in addition to supporting productive business linkages (producers, abattoirs, shippers, other traders, markets, etc.). These can be accomplished either on an individual basis or through such mechanisms as a risk management program. The end result will be empowerment of Kuchi communities and individuals; a shift in perception of livestock as a status of wealth to one of income instead, and the reduction of risks associated with a livelihood based on extensive livestock management. Efforts such as these would also facilitate the integration of Kuchi with other Afghans. Additionally, the national economy would grow as a result of an increase in number of jobs related to a thriving livestock economy. Some indirect effects would be increased opportunities for rangeland rehabilitation and the development of sustainable community-based range management plans. Another would be increased political stability by eliminating the probability of this culture of people from joining extremist movements as an act of desperation.



## Background

There is little published on the dynamics of Afghanistan's livestock markets in the past or in recent times. It is generally agreed that herd sizes were much larger in the 1950s and that since then, herd numbers have declined in response to episodic droughts and bad winters, and a succession of conflicts. There are no recent livestock estimates for Afghanistan with the exception of one survey conducted by the FAO in 2002-2003.<sup>3</sup> Unfortunately, this survey was strongly skewed towards sedentary livestock producers with the result that a substantial proportion, possibly up to 70% of Afghanistan's livestock sector, were missed during the survey. Estimates by the PEACE Project in 2009 indicated that the stocking rate for sheep and goats in Afghanistan was 0.35 and 0.25, and 0.25 and 0.17, animals per hectare, on winter and summer rangelands, respectively. It should be noted that some of these rangeland areas, totaling 38,000,000 ha, are unoccupied for at least 3-6 months each year depending on their geographic locality.

Emphasis on improving extensive livestock production requires that focus must be directed towards improving Afghanistan's rangelands, assisting herders to engage in risk management activities that provide opportunities for better herd management and, improving marketing opportunities and the availability of price market information. In July 2006, the University of California-Davis (UC-Davis) and Texas A&M University (TAMU) began implementation of the PEACE<sup>4</sup> Project, a USAID-funded program aimed at improving livestock production and stabilizing Afghanistan's livestock economy. Currently, the PEACE<sup>5</sup> Project is engaged in helping to draft effective rangeland policies; conducting research and institutionalizing technologies aimed at improving management of Afghanistan's rangelands; improving human capacity through the provision of training opportunities in conflict resolution and mitigation; and supporting economic diversification efforts. The PEACE Project is also engaged in researching Afghanistan's livestock industry to better direct policy and planning efforts.

In 2008, the PEACE Project contracted Altai Consulting to conduct four surveys in six of Afghanistan's largest livestock trading centers. This report is a synthesis of the results from these surveys, which in combination were intended to elucidate who were the major suppliers of livestock to Afghanistan's markets, how much was supplied annually, what was the value of the livestock supplied, how market prices were set, and what was the role of the Kuchi in the livestock market sector (for individual survey results, methodology and example questionnaires see: Afghanistan Livestock Assessments Survey, Periods 1 through 4; <http://cnrit.tamu.edu/peace/markets.html>; for methods and questionnaires see Assessment 1).

**Market Characteristics** - The six major trading centers and their respective livestock markets included: Herat - Ganj Bazar and Ganj Shash; Kabul - Nakhas Company, Chaman Babrak and Darwazai Lahori; Kandahar - Ganj Bazar; Kunduz - Mal Bazar; Mazar-e Sharif (Balkh Province) - Mal Bazar; and Jalalabad (Nangarhar Province) - Angoor Bagh, Shaiwa and Chaparhar (Appendix 1 for layout of the largest markets in each trading center).

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<sup>3</sup> Afghanistan Livestock Census: 2002-2003. Final Report. FAO 2008.

<sup>4</sup> PEACE: Pastoral Engagement, Adaptation and Capacity Enhancement.

<sup>5</sup> PEACE: Pastoral Engagement, Adaptation and Capacity Enhancement.

The dates for each of the four surveys were as follows:

- Survey 1 (S1) – 29 October to 15 November 2008
- Survey 2 (S2) – 7 February to 19 February 2009
- Survey 3 (S3) – 30 June to 19 July 2009
- Survey 4 (S4) – 3 October to 15 October 2009

Each market varied somewhat in terms of the number of operating days (Table 1). Operating hours were generally from 6am and 1pm, with the highest observed attendance between 8-10 am.

**Table 1. Operating days of each livestock market.**

City	Market	# Market days per week
Herat	Ganj Bazar	6
	Ganj Shash Noor	6
Kabul	Nakhas Company	6
	Chaman Babrak	7
	Darwazai Lahori	7
Kandahar	Ganj Bazar	7
Kunduz	Mal Bazar	6
Mazar-e Sharif	Mal Bazar Mazar	2
Jalalabad	Angoor Bagh	3
	Shaiwa	2
	Chaparhar	2

**Market Location, Authority and Fees** – The location of the markets varied. Some were fully integrated within the city. These included Mazar-e Sharif - Mal Bazar, Kunduz - Mal Bazar, and Kandahar - Ganj Bazar. Others were located in suburban areas; these included Kabul - Nakhas Company and Herat - Shaiwa Bazar. There were also markets located 10-15 km from the urban areas; this included the Herat - Shash Noor and Jalalabad – Chapahar markets.

All markets were located on land leased by the government. It was reported that leases were renewed annually, with the lease awarded to the highest bidder. Discussions with Herat and Kabul market leasers indicated that they paid between 1,000,000 and 10,000,000 AFA, respectively, to the government for their leases on an annual basis.<sup>6</sup> All sellers and buyers reported paying fees ranging from 5 -15 AFA, per animal, to the market leaser.

<sup>6</sup> These reports are corroborated by calculating total income from sales for all trading centers: market volume multiplied by 2 (# times fee is assessed in one day) multiplied by 10 afs (mean fee assessed by market owner).

## Results

### *Market Players*

A total of 2,445 sellers and 653 buyers were interviewed from October 2008 to October 2009 (Table 2). The following figures do not represent the total number of sellers and buyers present in all survey periods but rather what was considered to be an adequate sample size to assess the dynamics of the major markets in Afghanistan.

**Table 2. Location, market name and total number of respondents.**

Center	Markets				Total
Herat	Market	Ganj Bazar	Ganj Shash Noor		
	# Sellers	231	136		367
	# Buyers	55	39		94
Kabul	Market	Nakhas Company	Chaman Babrak	Darwazai Lahori	
	# Sellers	280	65	50	395
	# Buyers	49	32	15	96
Kandahar	Market	Ganj Bazar			
	# Sellers	493			493
	Buyers	130			130
Kunduz	Market	Mal Bazar			
	# Sellers	428			428
	# Buyers	124			124
Mazar-e Sharif	Market	Mal Bazar Mazar	Mal Bazar Balkh		
	# Sellers	367	4		371
	# Buyers	98	0		98
Jalalabad	Market	Shaiwa	Angoor Bagh	Chaparhar	
	# Sellers	145	161	85	391
	# Buyers	36	48	27	111
Total	# Sellers				2445
	Buyers				653

The ethnicities of the market participants were diverse and included people of Pashtun, Tajik, Uzbek, Arab, Hazara, Turkmen, Baluch, Pashai and Aimaq origin. The majority of the traders, however, reported their ethnicity as Pashtun while most butchers claimed to be Tajik (Figure 1).<sup>7</sup> There were some minor differences among the trading centers. Herat, Kabul and Mazar-e Sharif had more Tajik traders than any other trade center. Their numbers, however, were always fewer than the number of Pashtun traders.

<sup>7</sup> (See: Afghanistan Livestock Assessments Survey, Periods 1 through 4; <http://cnrit.tamu.edu/peace/markets.html>).

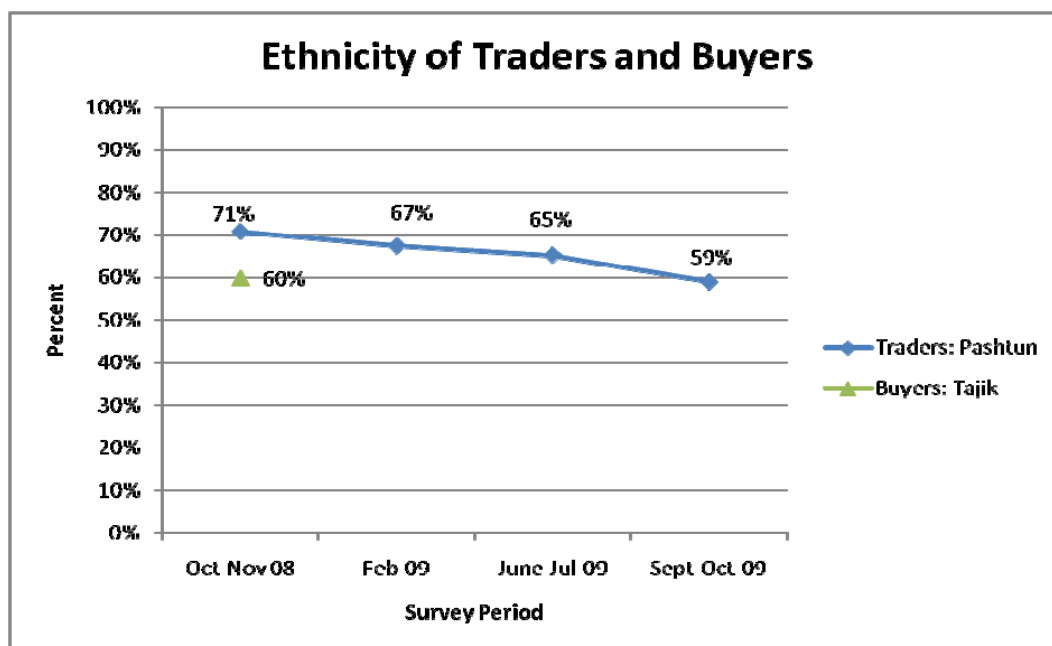


Figure 1. Ethnicity of traders and buyers in all six major trading centers.<sup>8</sup>

On average, 34% of traders claimed Kuchi as their identity (Figure 2). The Kuchi were of varying ethnicity as well, including Pashtun, Tajik, Uzbek, Arab, Hazara, Turkmen, Baluch, Pashai and Aimaq. The majority, however, claimed to be of Pashtun ethnicity and that they led a sedentary rather than a transhumant or nomadic lifestyle (Figure 2).

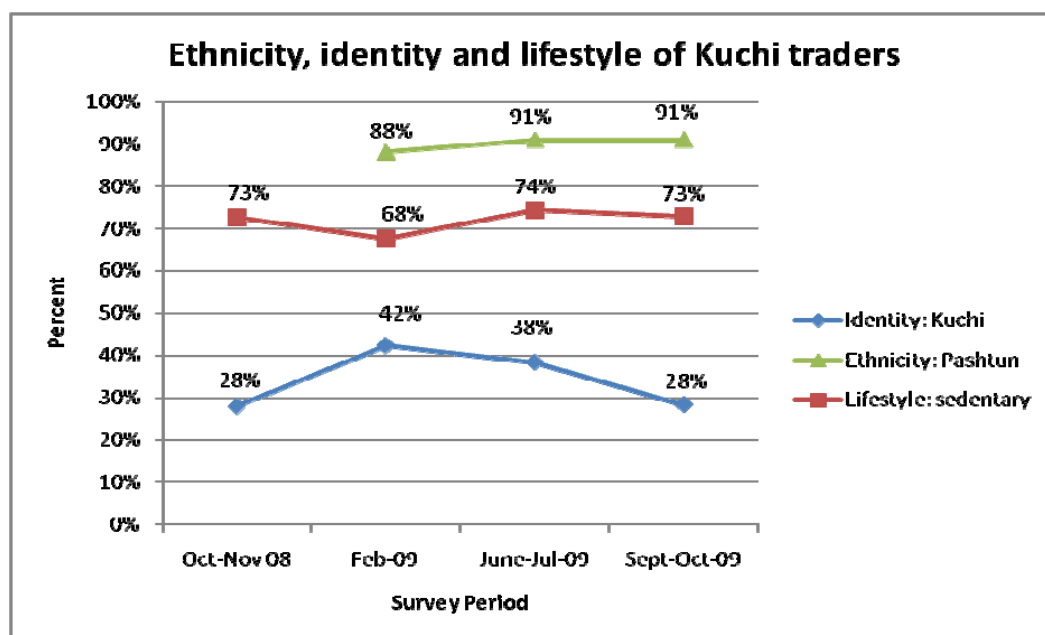


Figure 2. Ethnicity, identity and lifestyle of Kuchi traders.

<sup>8</sup> Buyers were only asked their ethnicity in the first survey



Both transhumant/nomadic and sedentary Kuchi reported that the bulk of their income came from selling livestock, with the transhumant/nomadic Kuchi claiming more income from the sale of livestock and less from trading than the sedentary Kuchi (Figures 3 and 4).

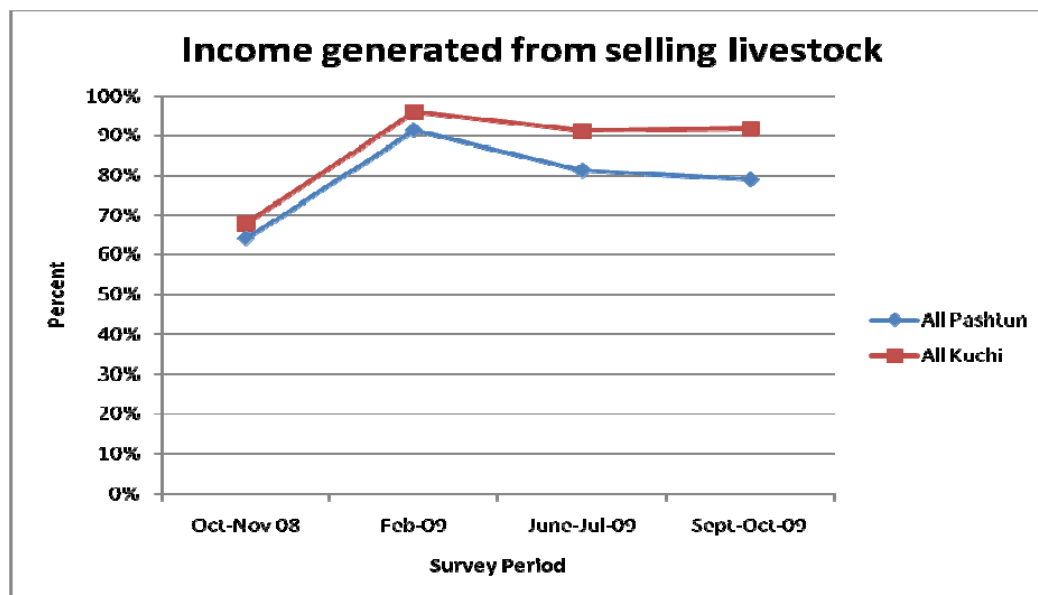


Figure 3. Percentage of income derived from sales of livestock.

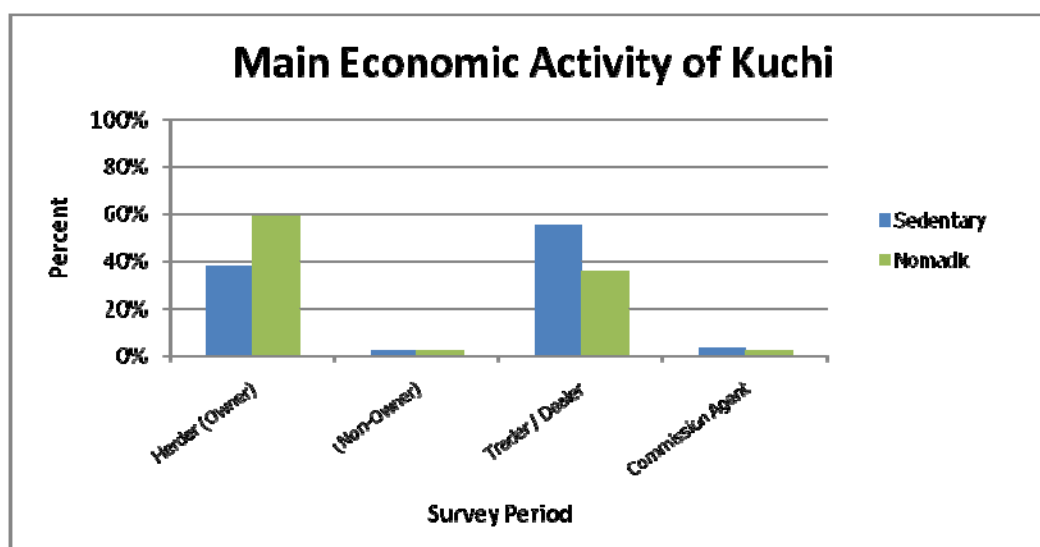


Figure 4. Main economic activity of the Kuchi.

These results are not surprising given that Pashtun are the largest ethnic group in Afghanistan and the second largest ethnic group in Pakistan. Historically, the Pashtun resided in eastern and southern Afghanistan and in the northwest frontier provinces of Pakistan. It is reported that they originally led a transhumant/nomadic lifestyle (source: [http://www.newworldencyclopedia.org/entry/Pashtun\\_people](http://www.newworldencyclopedia.org/entry/Pashtun_people)). Today, the Pashtun can be found throughout Afghanistan engaged in a variety of livelihoods including transhumant

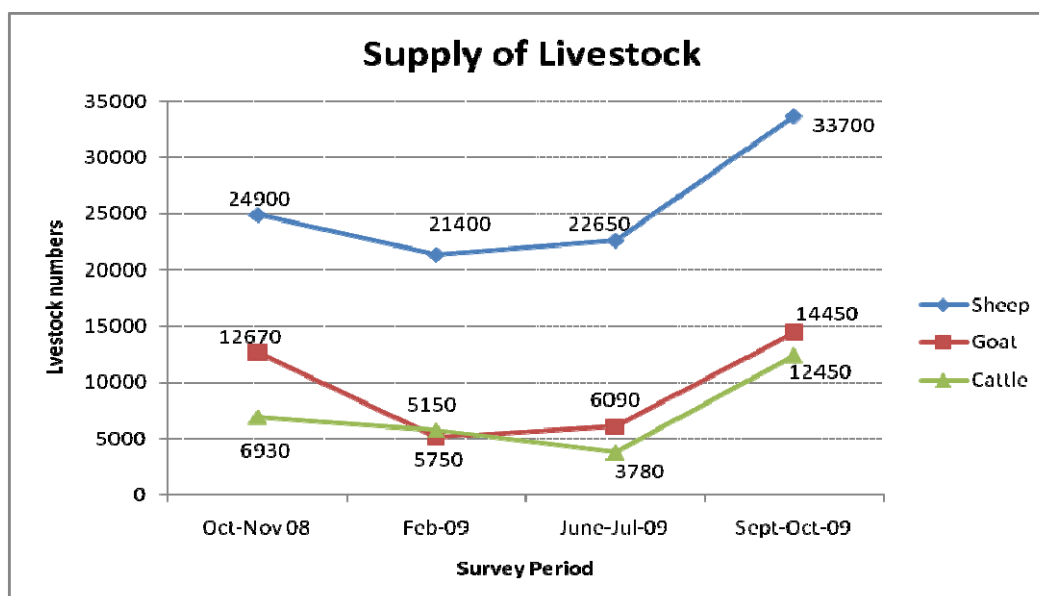
pastoralism. Last estimates suggest that the Pashtun comprise 42% of the population of Afghanistan (source: [http://en.wikipedia.org/wiki/Pashtun\\_people](http://en.wikipedia.org/wiki/Pashtun_people)).

Population estimates for the Kuchi in Afghanistan vary from 2-4 million (<http://www.unhcr.org/refworld/topic,463af2212,47b9986c2,47b99800c,0.html>) while population estimates for all of Afghanistan range from 28-32 million people. The Kuchi, in contrast to the general population of Pashtun, claim livestock production as their primary livelihood. In 2008, they were identified by the UNHCR as one of the most vulnerable populations in Afghanistan due to the fact that they are largely unsettled and dependant on a livelihood rife with risks (<http://www.unhcr.org/refworld/topic,463af2212,47b9986c2,47b99800c,0.html>).

The Tajik trace their ancestry to East Iranian-speaking Bactrians of Iran. Today, they reside primarily in Uzbekistan, Tajikistan and northern Afghanistan. It is estimated that Tajiks comprise between 27-39% of the population of Afghanistan (Source: Wikipedia, Online Edition: [http://en.wikipedia.org/wiki/Tajik\\_people](http://en.wikipedia.org/wiki/Tajik_people)). A greater presence in the northern trading centers and in Kabul is therefore not surprising given their history and current distribution in Afghanistan.

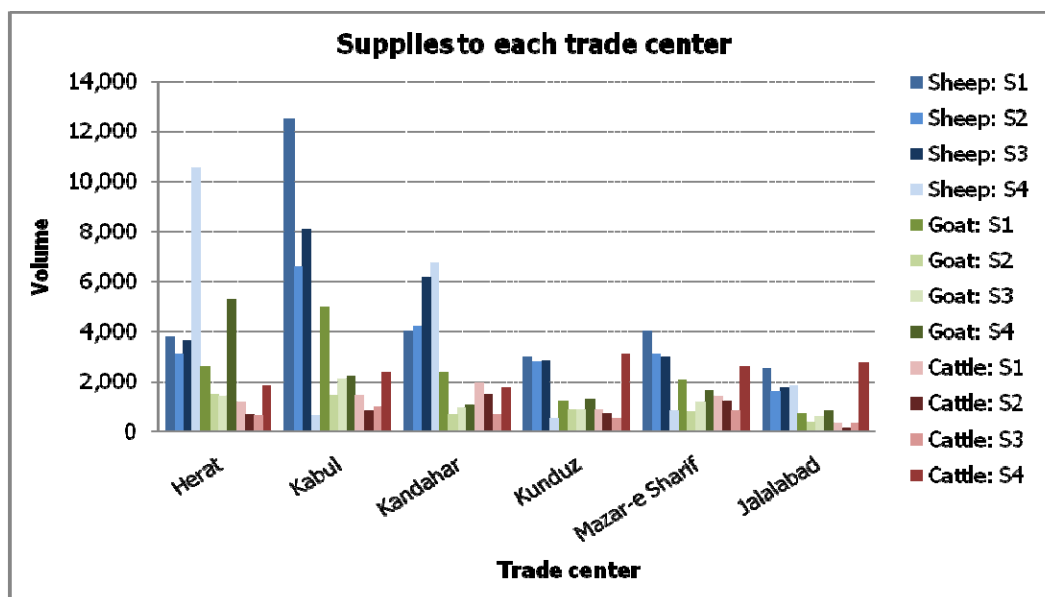
## Livestock Supplies

**Volume** - Multiplying animal counts by the number of operating days in a year for each market and each survey period, with an adjustment for the percentage of animals not sold, it was determined that approximately 1,176,400 sheep, 405,600 goats and 259,500 heads of cattle were traded in six major trading centers between October 2008 and October 2009 (Figure 5). The number of trades was generally higher in the fall and lower in late winter (Figure 5). More livestock were traded in the markets in Herat, Kabul and Kandahar than in any other major trading center (Figure 6).



**Figure 5.** Estimated volume of sheep, goats and cattle traded in the nine largest markets<sup>9</sup> in Afghanistan in 2008-2009 (*based on actual animal counts multiplied by the number of operating days per week and post-weighted by sales expectations*).

<sup>9</sup> Data from nine markets in six major trading centers: Herat (Ganj Bazaar Herat and Ganj Shash), Kabul (Nakhas Company and Chaman Babrak), Kandahar (Ganj Bazaar), Kunduz (Mal Bazaar), Mazar-e-Sharif (Mal Bazaar), and Jalalabad (Shaiwa, Chaparhar). The results from Kabul's Darwazai Lahori market and Jalalabad's Angoor Bagh market were not included because they were not surveyed during the 2<sup>nd</sup> survey period.



**Figure 6.** Mean volume of livestock supplied to each trade center, on a weekly basis (Surveys 1 through 4: S1, S2, S3, S4) showing seasonal variation for each market.

Breeds<sup>10</sup> - Sheep were the most common livestock brought to trade. There were five main breeds of sheep observed during this study: Qaraqul, Turki, Qaragh, Arabi and Shenwari (Appendix 2: Tables 1-4). Qaraqul, Turki, Qaragh and Arabi were the most common breeds observed and of these, the Qaraqul and Arabi were in greater supply in the Mazar-e Sharif Mal Bazar than in any other market (Appendix 2: Tables 1-4). The primary economic importance of these breeds is meat with the exception of Qaraqul whose importance is divided equally among meat, wool, hide and milk (Table 3).

**Table 3.** Breeds of sheep and their economic importance.

Breed\Value	Meat	Milk	Wool	Hide
Qaraqul	X	x	X	X
Turki	X		x	
Qaragh	X			
Arabi	X			
Shenwari	X	x		

Categories – Not surprising, wethers were the most common category of sheep traded in the markets followed by rams and barren ewes (Figure 7). The presence of pregnant ewes and lambs was seasonal, with more of the former appearing in the late winter (just prior to lambing) and more of the latter appearing just after weaning.

<sup>10</sup> No effort was made to distinguish between goat breeds since for the most part, goats in Afghanistan are local breeds. Cattle in this survey only included domestic (*Bos taurus*) and not the Indian water buffalo (*Bubalis bubalis*).

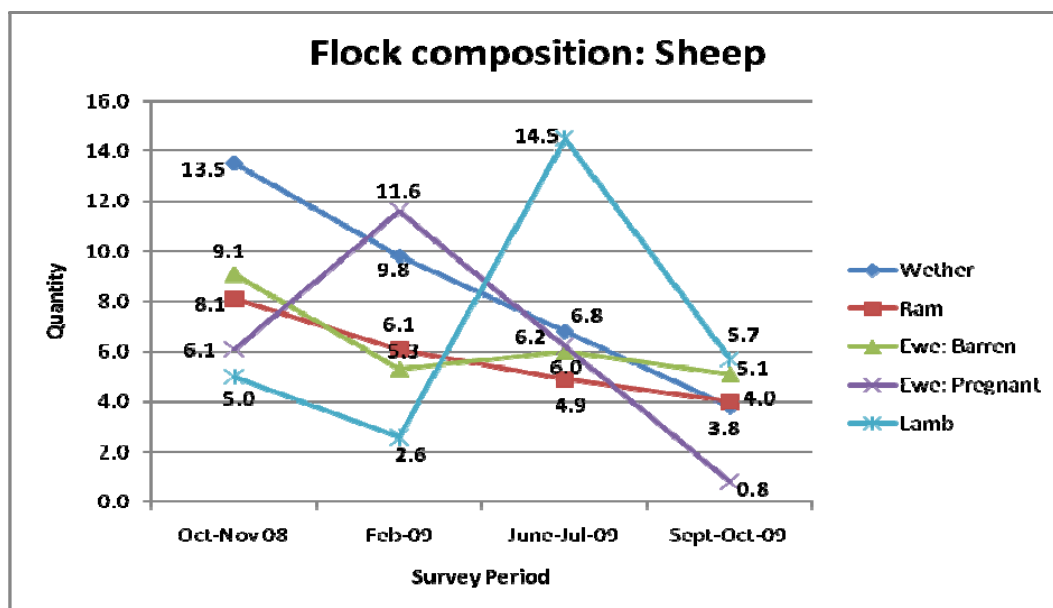


Figure 7. Average flock composition of sheep supplied to the major trading centers.

Barren does followed by pregnant does were the most common categories of goats brought for trade (Figure 8). High numbers of kids in the markets in the early summer was not surprising given this was when most were weaned. What was surprising, however, was the presence of kids in high numbers in the fall of 2008.

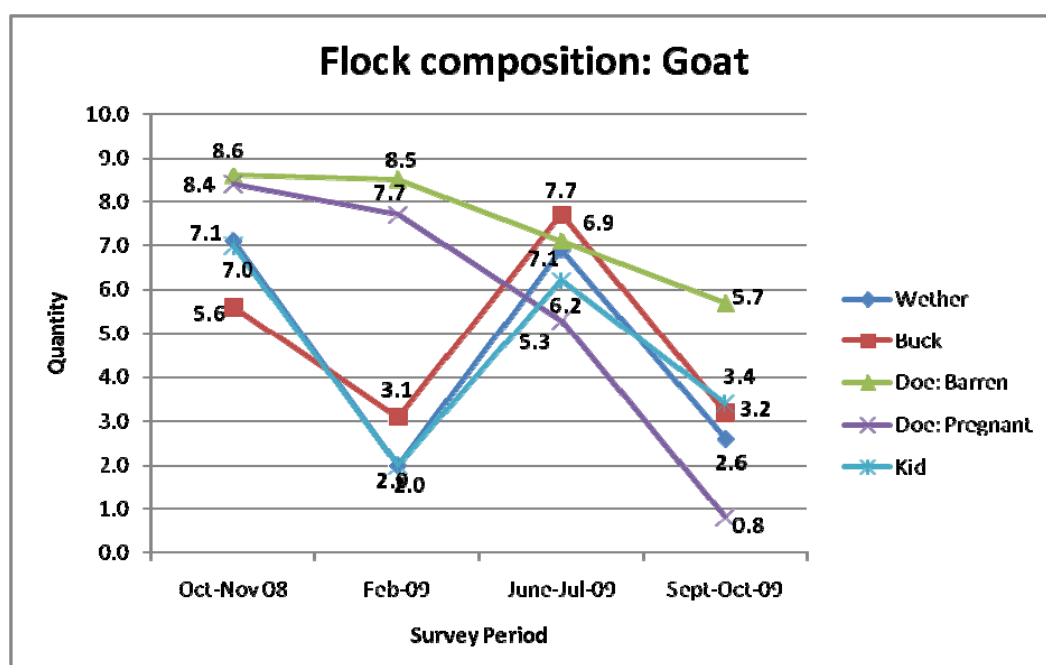
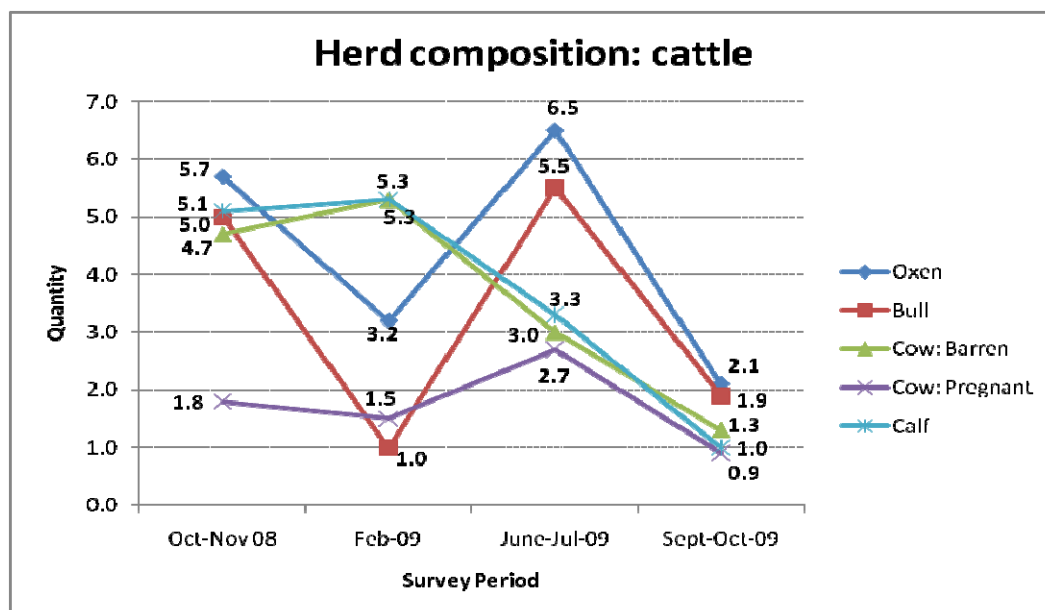


Figure 8. Average composition of goat supplied to the major trading centers.

Oxen, bulls and calves were, in general, the most common category of cattle supplied to the markets, whereas pregnant cows were very uncommon (Figure 9).



**Figure 9. Average herd composition of cattle supplied to the major trading centers.**

There were some interesting and somewhat consistent patterns in flock composition during this study. The most significant of which was the steady decline in the numbers of females in the flocks in the markets. One possible explanation is that because many animals died in the drought of 2008, producers had fewer females to sell in 2009. This would not account for the high numbers of does in the markets, however, during the same period. It is possible that goats weathered the drought better than sheep. The Kuchi in north-western Afghanistan (Badghis, Jawzjan and Faryab) reported that they were steadily shifting to herds comprised primarily of goats because of their lower water and forage requirements. They stated this change was in direct response to the increase in risks (i.e., theft, fines, fees, land conversions, etc.) associated with their seasonal migrations, from low to high elevations. The risks, they reported, were forcing many to shift to smaller flocks comprised mostly of goats, and to abandon moving their seasonal migrations. Given this, it is not unlikely that sedentary goat flocks in the north may have weathered the drought in 2008 slightly better than mobile sheep herds.

Another anomaly noted was the change in goat flock composition in the markets during the early summer (more of every category of goat). What this was related to was unclear particularly given that mean sale prices for all categories of goats at that time were lowest. It should be noted that the data for average flock/herd size does not correlate with the data related to animal counts (volume). Because this study did not count the number of traders in the market during each survey, it is impossible to draw conclusions from these two different data sets.



## Suppliers and Producers of Livestock

The majority of sellers indicated that they had purchased their livestock directly from the Kuchi, with the exception of those selling cattle (Figures 10-12). Cattle, for the most part, were from local sources or from Pakistan, as indicated through further discussions with the sellers.

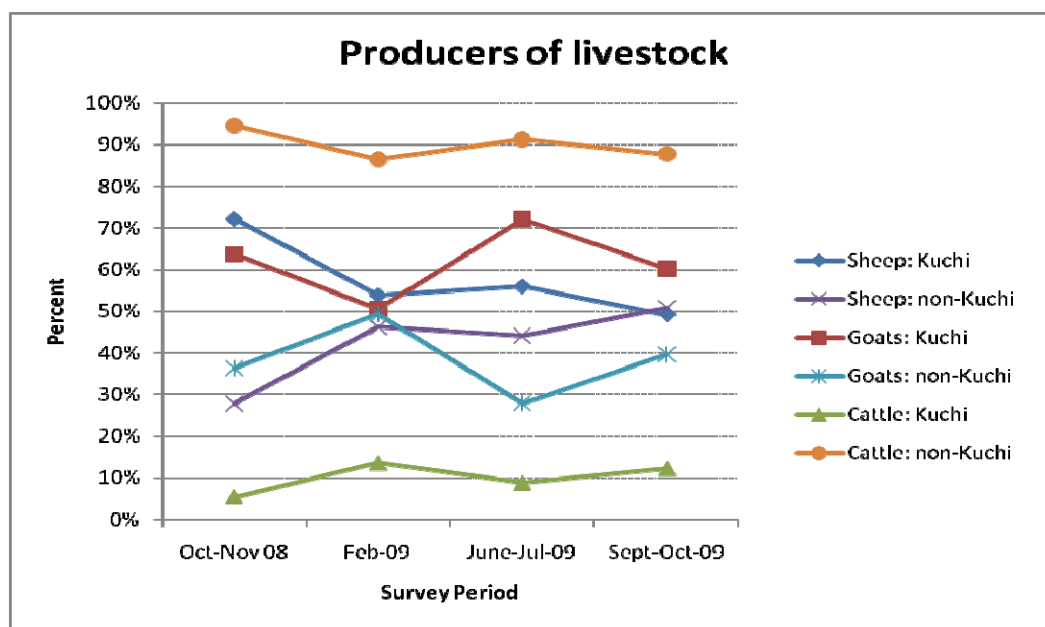


Figure 10. Sellers reports of the number of livestock they purchased from the Kuchi.

Similarly, the perceptions of sellers and buyers were that the majority of all small stock supplied to Afghanistan's markets were bred by the Kuchi.

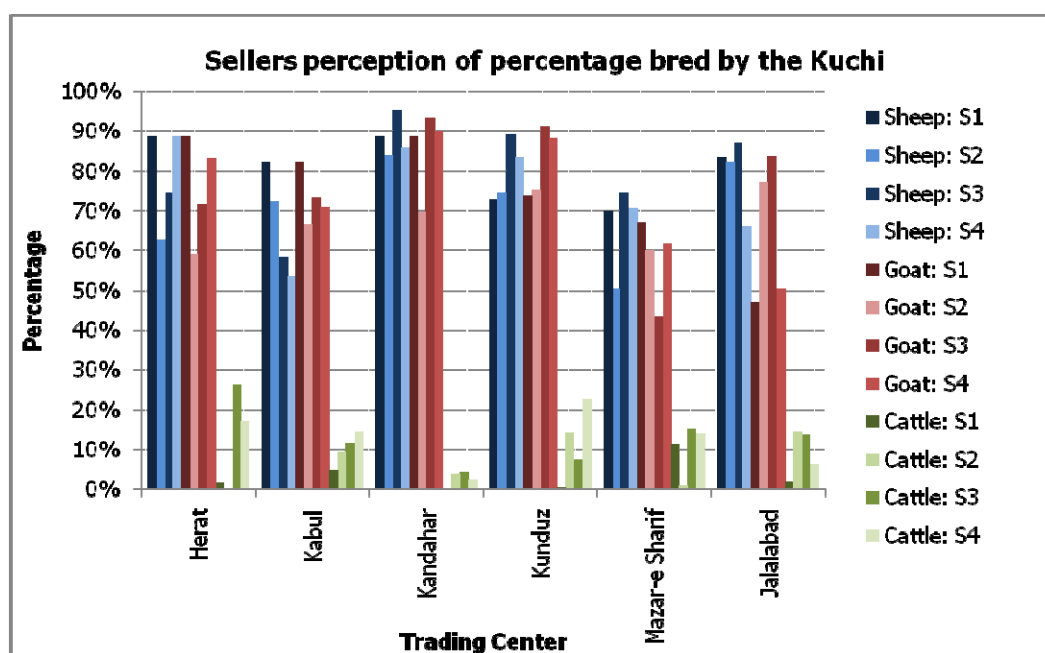
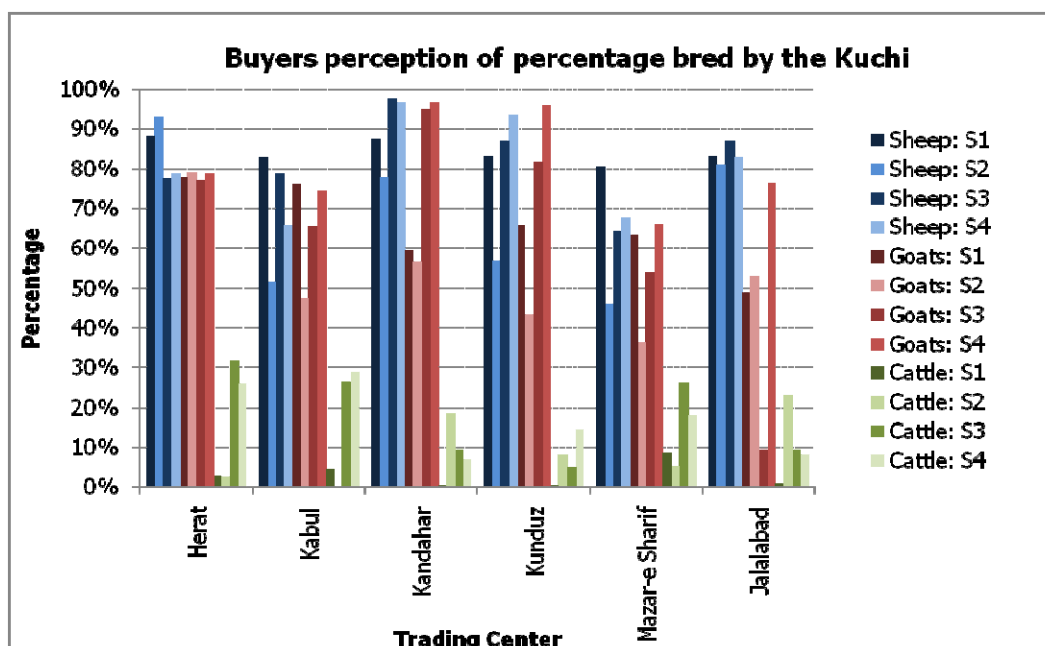


Figure 11. Sellers perception of percentage of livestock bred by the Kuchi (Surveys 1 through 4: S1, S2, S3, S4).



**Figure 12. Buyers perception of percentage of livestock bred by the Kuchi (Surveys 1 through 4: S1, S2, S3, S4).**

These results were not surprising given that rangelands make up the bulk of Afghanistan's landscape and the Kuchi, a group mostly relying on livestock production for their livelihood, are the main group engaged in using Afghanistan's rangelands. The fact that transhumant/nomadic Kuchi were largely absent in the major markets despite the fact that there were large numbers of Kuchi animals in the markets suggests that these groups of Kuchi either sell their livestock in rural and secondary markets or when approached in the field, and that they are then resold later in the major markets by non-Kuchi traders.

## Market Prices

Source of information - The majority of sellers reported that they relied more frequently on other sellers for current market price information, regardless of whether or not they were Kuchi (Figures 13 and 14).

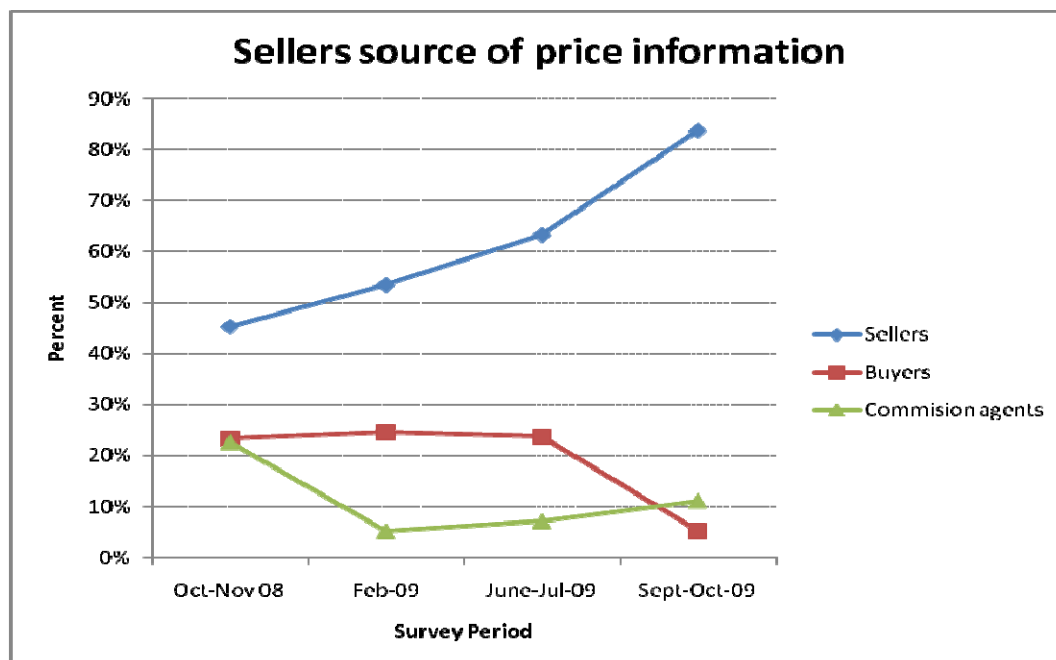


Figure 13. Source of initial price information as reported by all traders.

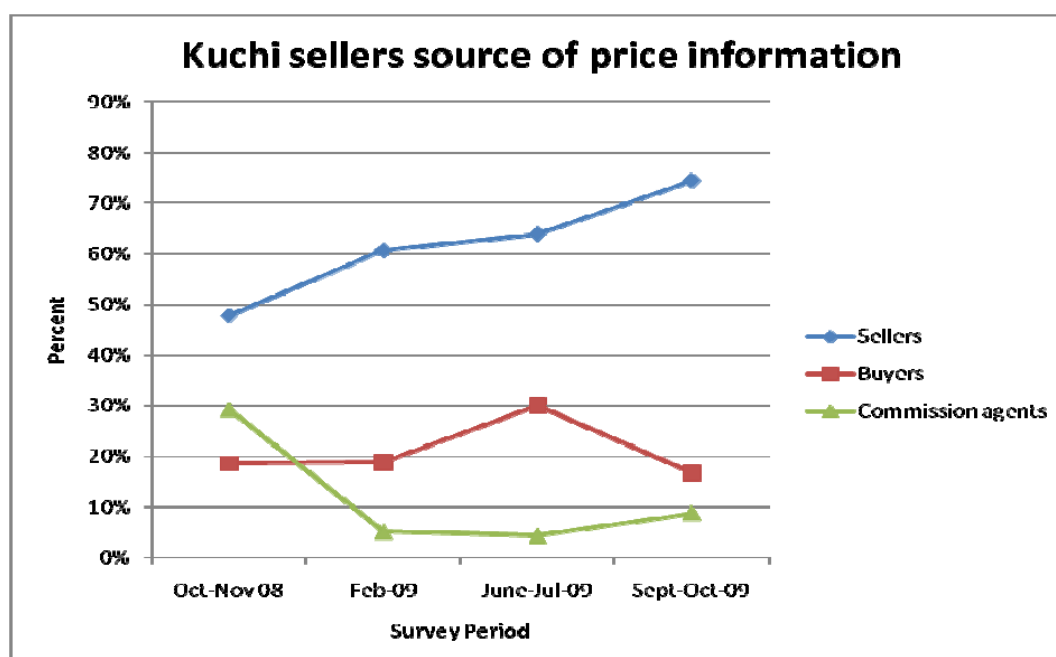
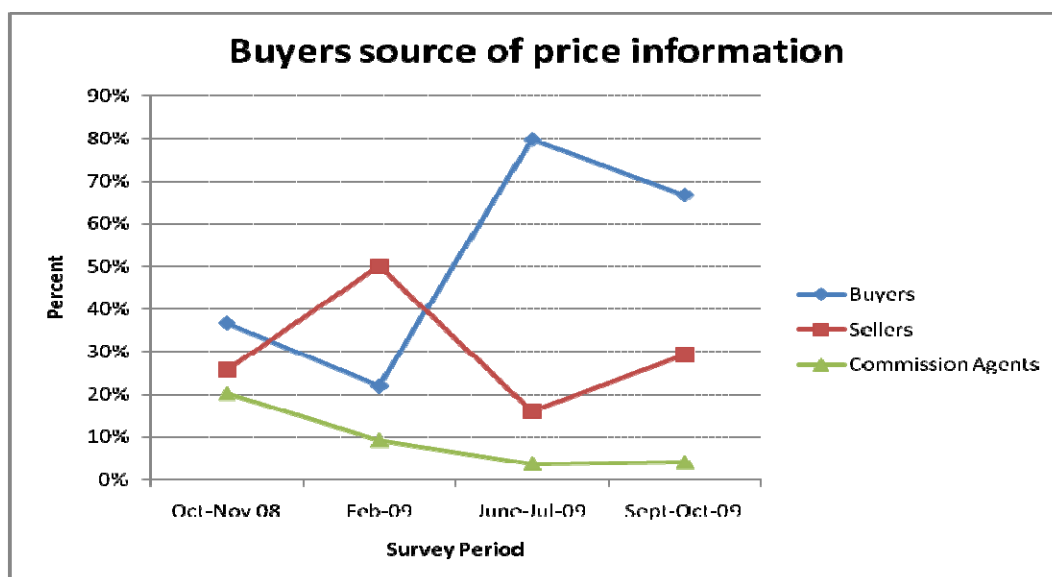


Figure 14. Source of initial price information as reported by Kuchi traders.

Not surprising, buyers reported relying more frequently on other buyers for their initial information about current market prices (Figure 15).



**Figure 15. Source of price information as reported by buyers.**

When it came down to the actual transaction, however, the final sale price involved an negotiation process between the seller and buyer (see Survey Report 1). Factors taken into account during the negotiation process included animal type (e.g., sheep, goat, cow), breed, age, gender, and body condition. Whether or not the buyer was interested in an individual animal or group of animals also played a role in the final sale price.

These results are not surprising given that the most reliable way of sharing information in Afghanistan, at this time, is by cell phone or in person in the market. While it is the Ministry of Agriculture, Irrigation and Livestock's ultimate responsibility to provide a market price service, their lack of capacity and continued re-structuring has meant that this sector is still largely under-developed.

Selling price and sales expectations - Prices fluctuated little over the course of the study, within each category of animal (Figures 16-18). There were a few large price differences, however, in what each category sold for at any specific time. Specifically, adult males sold for more than any other category with the exception that pregnant cows sold for almost as much as oxen.

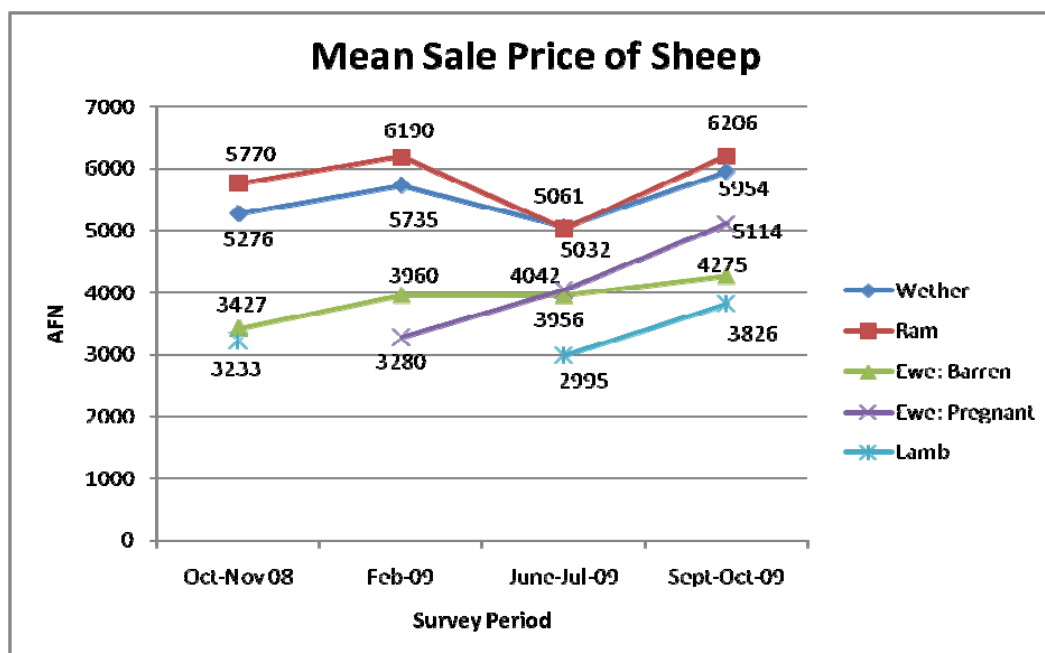


Figure 16. Mean sale prices for sheep, by category.

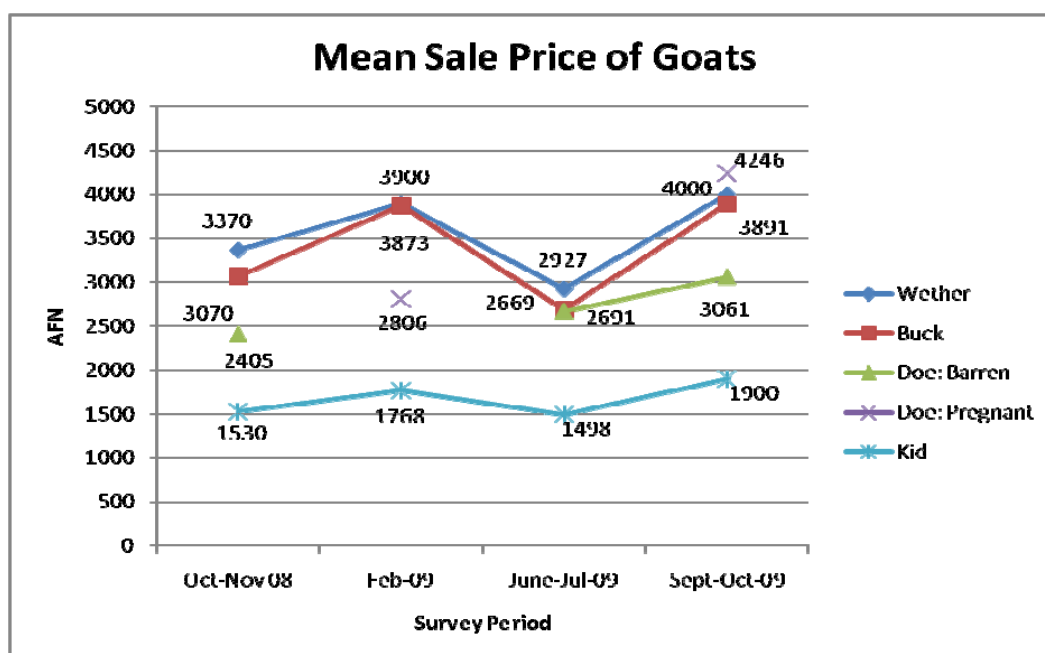


Figure 17. Mean sale prices for goats, by category.

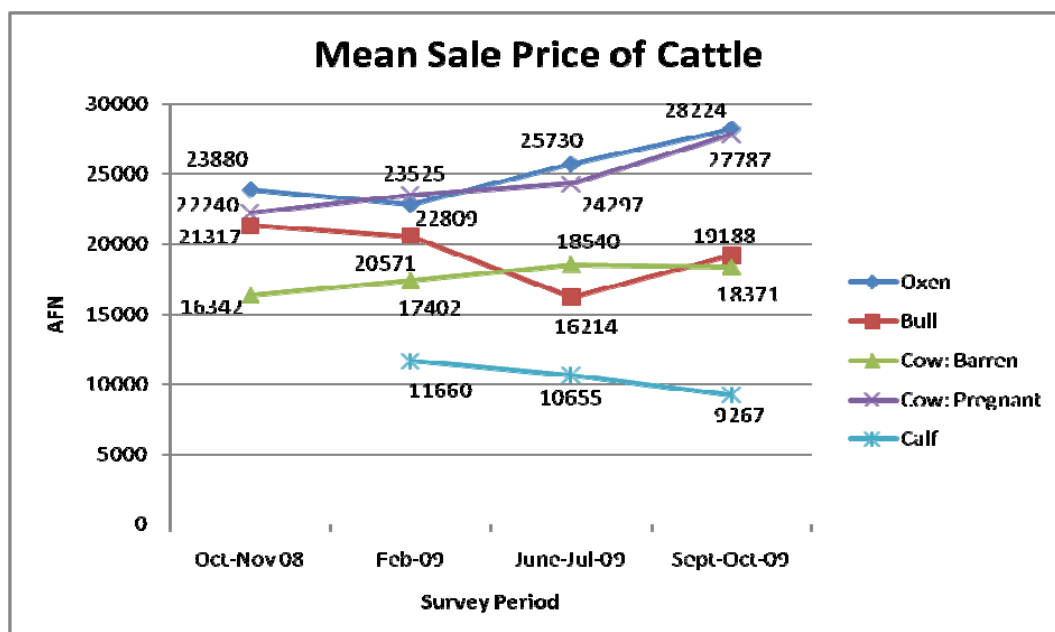


Figure 18. Mean sale prices for cattle, by category.

The fact that males sold for more, in general, was not surprising given that males are much larger in terms of body size (particularly wethers). Consequently, they are the first to sell and the ones most likely to be purchased for slaughter whereas females and young-of-year are more commonly purchased as breed stock or for the purpose of reselling at a later date after first fattening (and castrating) them.

Sales expectations varied over time, with late winter being the time when respondents expected to sell fewer animals than at any other time (Figure 19).

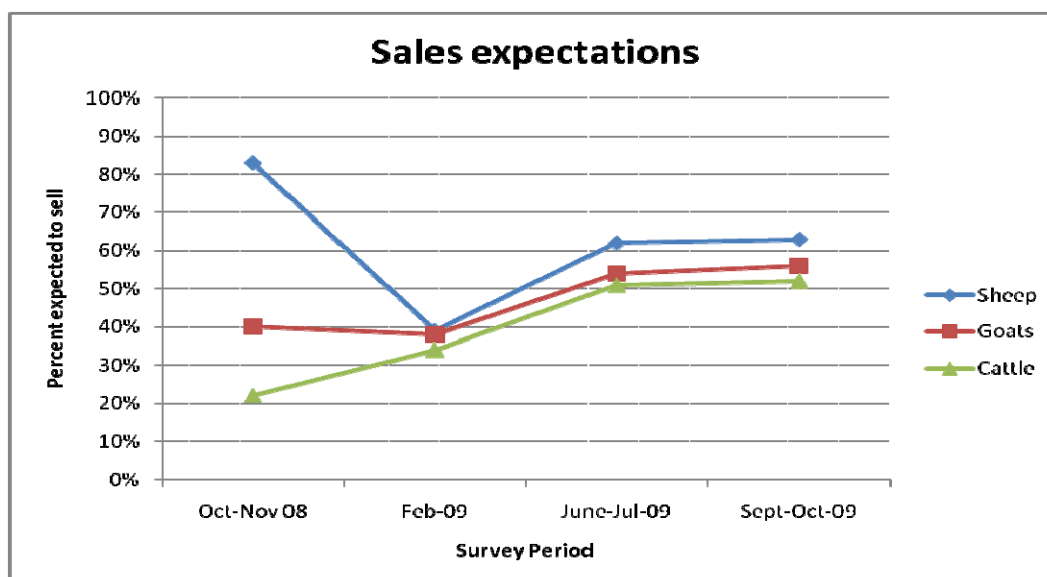


Figure 19. Sellers expectations of selling their stock.



It was interesting to note that when sheep numbers were down in the fall of 2008, sales expectations were higher but the price of each category of sheep remained consistent (with the other survey periods).

Market chain - Most animals were destined either for consumption or resale (Figures 20-22) with the exception of Kabul, Mazar-e Sharif and to some extent, Herat trading centers, where more appeared to be destined for consumption.

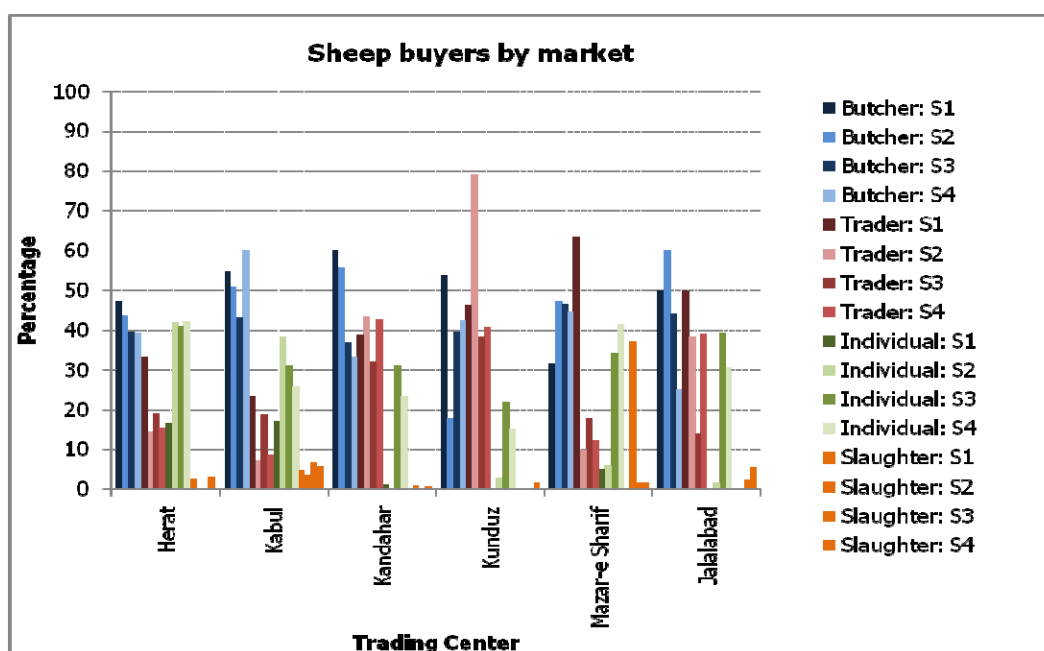


Figure 20. Main buyers of sheep in each major trading center (Surveys 1 through 4: S1, S2, S3, S4).

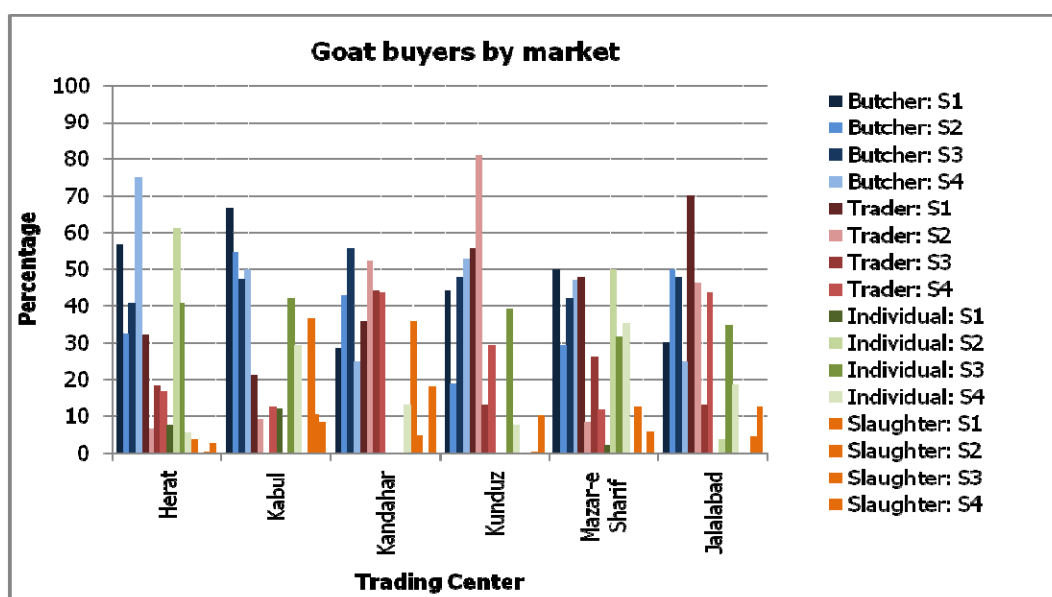


Figure 21. Main buyers of goats in each major trading center (Surveys 1 through 4: S1, S2, S3, S4).

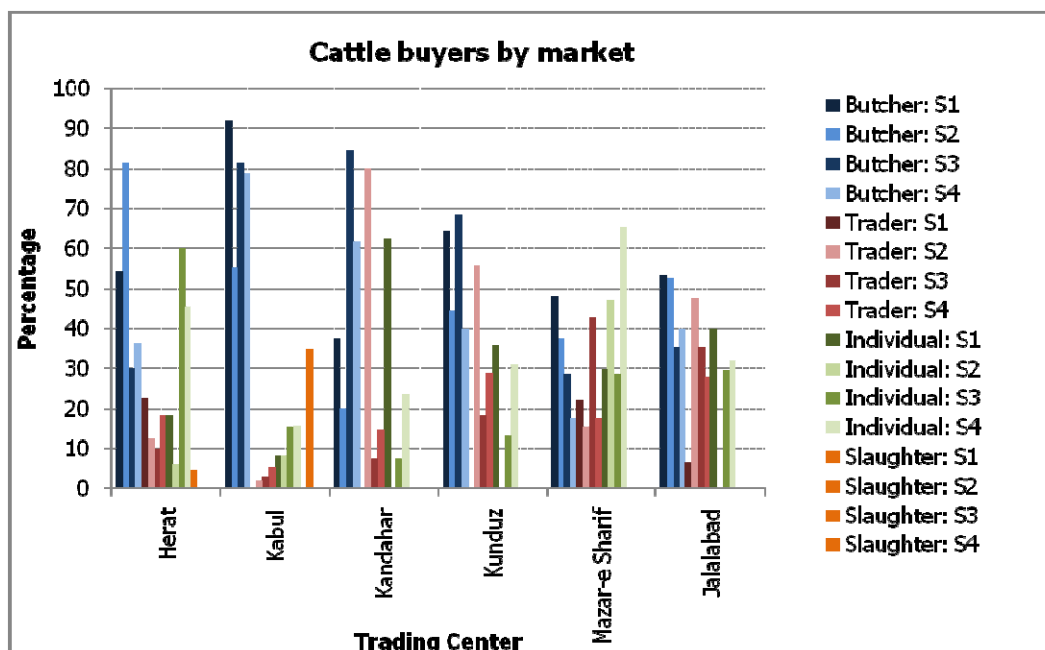


Figure 22. Main buyers of cattle in each major trading center (Surveys 1 through 4: S1, S2, S3, S4).

The majority of traders and individuals indicated that they had plans to resell what they had just purchased (Figure 23). Whether or not respondents were likely to resell did appear dependant on where they had made their initial purchase (Figure 24).

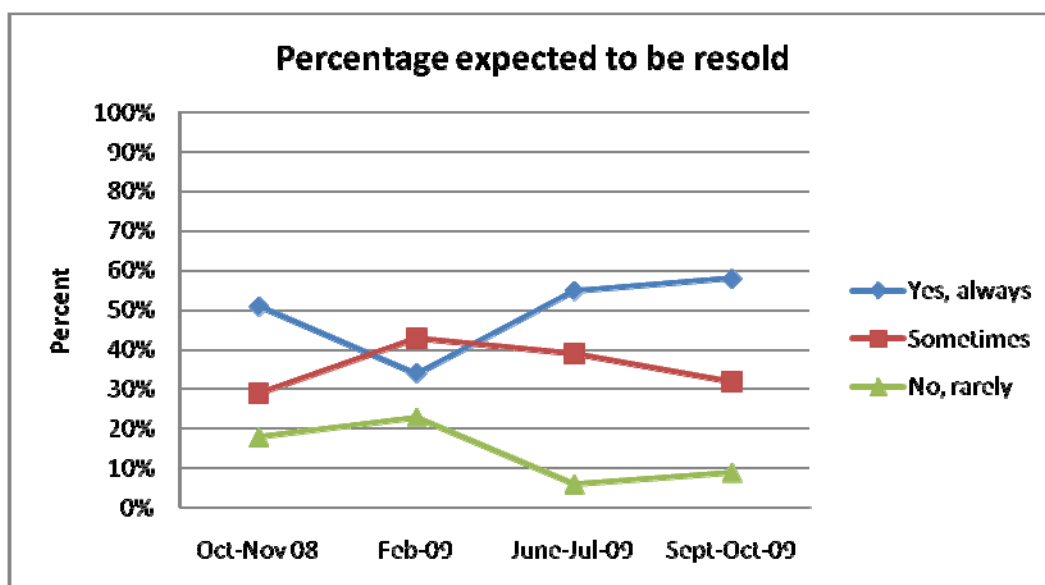
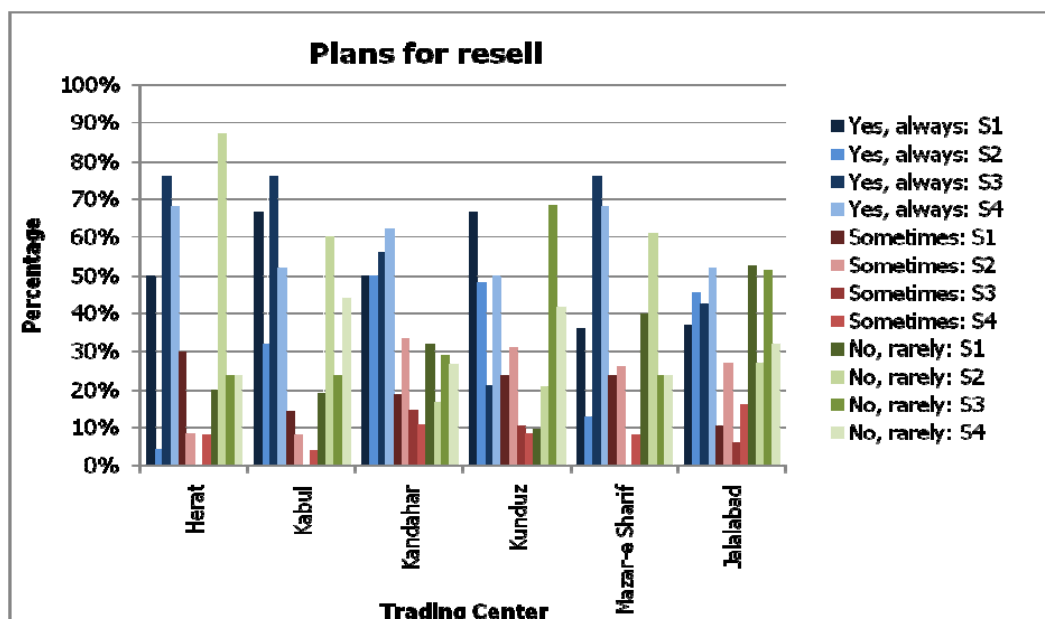


Figure 23. Percentage of livestock expected to be resold, over the course of the study.



**Figure 24. Percentage of livestock expected to be resold in each market, over the course of the study (Surveys 1 through 4: S1, S2, S3, S4).**

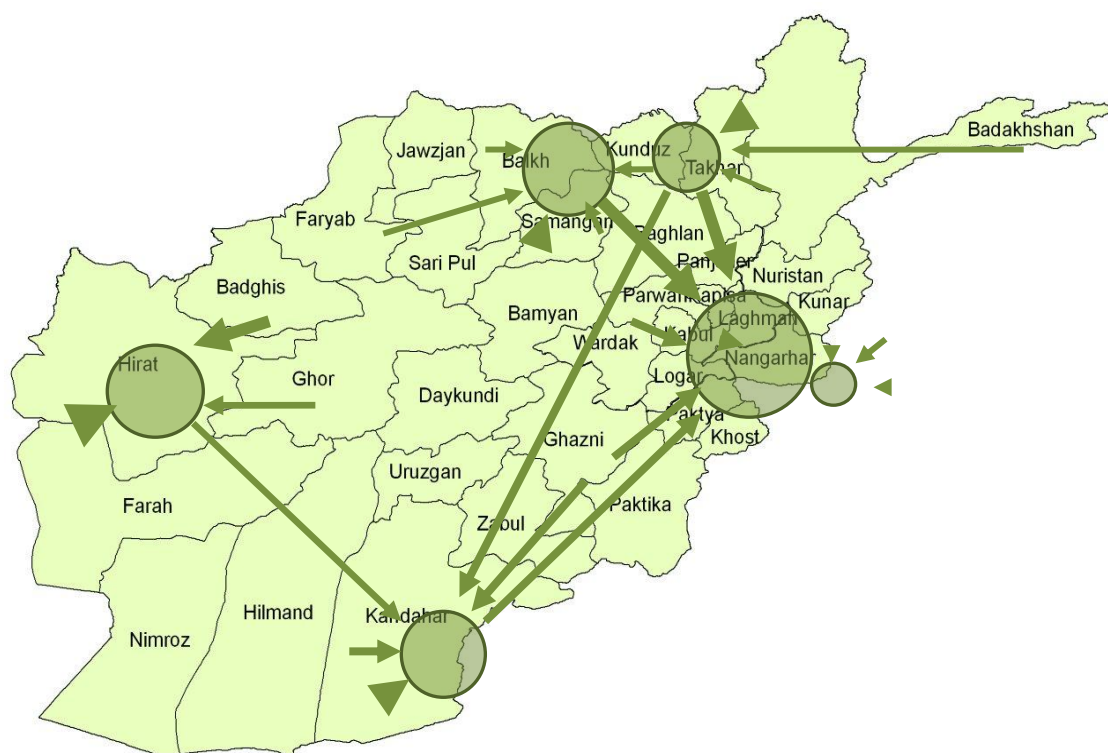
In particular, the likelihood of reselling an animal appeared less common in the Kabul, Herat and Mazar-e Sharif trading centers than in any other center. This correlated with results related to who were the primary buyers.

The fact that more animals were destined for consumption in the Kabul markets was not surprising since Kabul is the capital of Afghanistan with an urban work force largely dependent on the market place. The same might be said for Herat and Mazar-e Sharif, to some extent, in that these are large urban areas with the additional constraint of being cut-off from the rest of the country at times due to insecurity issues or winter weather. Jalalabad and Kunduz, and Kandahar, on the other hand, are rarely cut-off from their larger urban neighbors, Kabul and Mazar-e Sharif, and Herat, respectively.

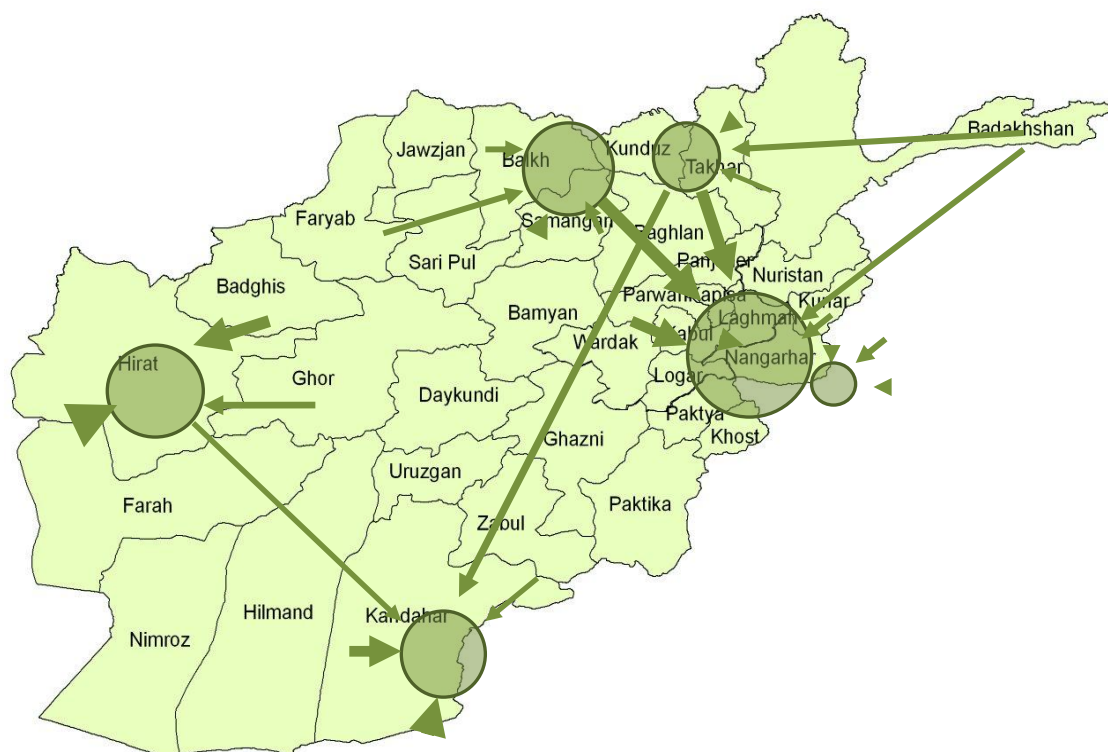
## Supply routes

Responses to the question about the geographic origin of one's livestock helped to identify which of the trade centers and the surrounding provinces served as major supply centers/locales, and which served as end distribution centers (Figures 25-27).

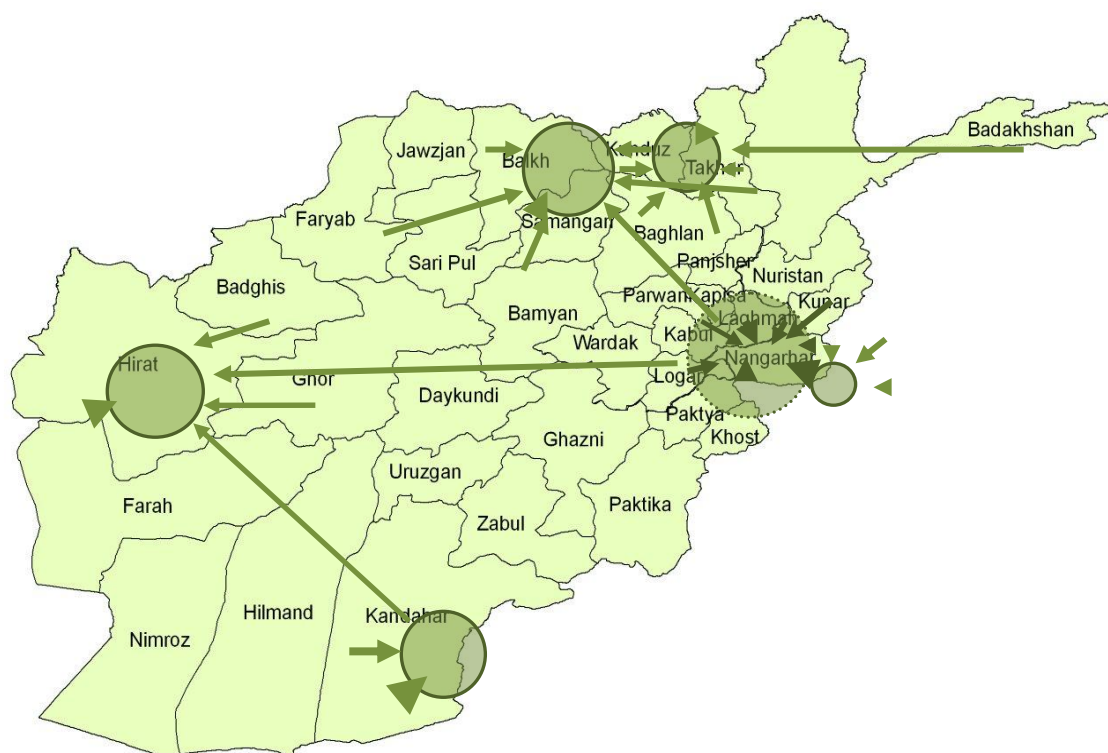
Kabul markets appeared to be the main end point for many livestock originating all over the country, followed by Mazar-e Sharif and Herat. The Mazar-e Sharif and Kunduz markets appeared to be major hubs for livestock originating from provinces as far away as Faryab and Badakshan, after which they were transported in large numbers to markets in Kabul.



**Figure 25. Origin and trade routes (arrows) and final destination (circles) of sheep supplies.**



**Figure 26. Origin and trade routes (arrows) and final destination (circles) of goat supplies.**



**Figure 27. Origin and trade routes (arrows) and final destination (circles) of cattle supplies.**

What was interesting was how few animals came from the Jalalabad area. What was also interesting was how many livestock were moved from the Northern provinces to Kandahar in the South, particularly with respect to sheep. There was little interchange between Herat and all the other major trading centers with the exception of Kandahar; and with the exception of the supply of cattle coming from Kabul. Livestock originating in Badghis, Faryab and Ghor, were transported to the markets in Herat, exclusively. These data further reinforce the fact that more animals were destined for consumption in the Kabul, Mazar-e Sharif and Herat markets than anywhere else.

## Discussion

Surveys indicated that the extensive producers, the transhumant/nomadic Kuchi herders, were not commonly found selling their animals in the major markets. Instead, livestock traders were the primary sellers. However, sellers and traders in the major trading centers reported that most of the animals they sold came from Kuchi herders. This was not surprising given that it is well known that the transhumant/nomadic Kuchi own and produce more animals than any sedentary individuals or community, including the sedentary Kuchi. The transhumant/nomadic Kuchi livestock are also known to be a source for rebuilding the herds of sedentary herders through sales to individuals as they pass by sedentary communities. Sedentary communities are vulnerable to herd losses during droughts, particularly with respect to sheep, because they are unable to move to areas with better forage resources and because the simultaneous failure of rain-fed crops creates a lack of field stubble and fodder around villages. Currently, transhumant/nomadic Kuchi herders primarily engage in selling to individuals, in secondary or tertiary markets or while en route as a means to earn income. Often times, they will also sell some of their animals to pay access fees, many of which are illegally assessed, to use corridors (which were once free for all) or upon arrival at their final destination for the season (pers. comm.). Given these patterns, sellers and buyers perceptions of how many livestock the Kuchi provide to markets, 79% and 72%, respectively, were likely more reliable estimates of the actual percentages of sheep and goats supplied to the major trading centers of Afghanistan, in 2008-2009.

Because transhumant/nomadic Kuchi sell more often when passing through a community or when approached by traders when in the field, they are more vulnerable to selling at lower prices than if they had made the sale in the market place because there are: 1) fewer buyers in the field; 2) they lack current information on market prices; and, 3) they are held hostage when trying to negotiate the price for access (many times the access fee ends up being paid in the form of live animals). This suggests that there are opportunities to support the development of transhumant/nomadic Kuchi trading communities as a means of facilitating more direct sales to markets to ensure higher earnings. Providing current market prices through easily accessible mechanisms would also ensure higher earnings per sale in the event they must sell in the field. The issue of charging access fees, however, would require government intervention and enforcement to prevent illegal fee assessments, both of which will be discussed below.

Results also indicated that more sheep were supplied to the markets than any other type of animal. It is well known that Afghans prefer beef over mutton and mutton over goat. The supply of sheep and for that matter livestock, however, fluctuated little throughout the course of the study with the exception of greater volumes of sheep and cattle in the fall markets. The likelihood that volumes were higher in the fall because earnings would naturally be greater after fattening one's animals over the summer was not supported by the data. Rather, prices fluctuated little during the course of the survey with the exception of the June survey. The extent to which fall supplies were correlated with several religious holidays in 2008-2009, most notably Ramadan, Eid al Fitr and Eid al Qudran, was also considered. Without data from years when these events occurred much earlier or much later in the year, the full extent to which these religious holidays played a role remains unknown. However, because the two fall surveys occurred after all the holidays, the abundance of animals in the markets in the fall surveys could not be entirely attributed to the holidays. Given that there is always a shortage of winter fodder supplies in Afghanistan, the extent to which is always unpredictable, herders were more likely reducing their risks by selling any animal deemed as surplus (risk in this instance means losing one's animals



mostly notably to starvation during the winter months). As reported by the Kuchi during informal discussions and in field surveys conducted by the PEACE Project in 2007-2009, the loss of winter grazing habitat and a general lack of winter fodder (whether or not it was purchased or harvested freely) were the two most significant constraints to animal survival. They cited these as being the primary reasons for why more livestock were observed in the fall markets than at any other time. However, they also gave a second reason – the need to buy winter supplies for the family before the winter storms which would keep them from the markets. During the same interviews, the Kuchi also reported that in drought years they were more likely to sell more animals than they liked, in order to buy enough fodder to keep at least a core herd alive over the winter.

More animals were observed in the markets in to the fall of 2009 than in the fall of 2008. This was likely due to better grazing conditions and fewer livestock mortalities in 2009 as a result of record rainfall conditions. Record spring and early summer rainfall may also explain why traders reported making fewer purchases from the Kuchi in the fall of 2009. Given the extent of their losses during the previous drought year, the Kuchi reported a reluctance to sell any of their animals particularly given the fact that many were able to collect enough winter fodder to support their herds during the coming winter. This would explain the decrease in the number of animals originating with the Kuchi, in the major markets for the same period. It would also explain the increase in supplies from sedentary livestock owners. Many have limited winter grazing opportunities which would lead to the sale of all surplus animals.

The timing of sales of young-of-year in the market was related to one main factor, when they were weaned. Young-of-year are commonly sold to reduce risk (sell now rather than risk their succumbing to drought or disease later on) or in response to having to pay for grazing access (access/grazing fees are based on flock numbers). They are also commonly sold to generate income at a time when there is a need for cash-based products and when there is a surplus of young-of-year. In the latter instance, the role of the lactating female switches from providing for the young-of-year to providing for the needs of humans. Young-of-year tend to be weaned 3 months after birth which means that if there is a desire to sell, they will start to appear in the markets in March/April in the far north (Balkh), with numbers peaking in late June/early July. The latter time period is just prior to when the last Kuchi start their move from mid-elevation calving areas into the higher elevation summer pastures (Kuchi coming from Jalalabad/Kunar/Paktiya/Paktika etc. areas).

Prices were clearly not correlated with supply nor were they correlated with flock/herd composition, with the exception of the negative correlation between market price and young-of-year in June. Lower market prices in June 2009 in general, particularly with respect to sheep, may have been due to the fact that there were more goats being sold at that time as well as more young-of-year. Given that individual buyers tend to be strapped for cash in June, it seems reasonable to conclude that if they were looking to buy meat they would buy a lower priced animal, e.g. goats; and if they were looking for an investment, they would buy a young-of-year animal such as a sheep for the purpose of fattening and selling later.<sup>11</sup> The only discernible pattern in market prices had to do with the category of animal: males sold for more than any other category of animal, with the exception of pregnant cows which tended to sell for the same price as oxen. These data suggest that the supply may not yet be meeting demand, particularly with respect to cattle. Otherwise,

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<sup>11</sup> The one anomaly that remains unexplained was the increased number of wethers and bucks in the June survey. Further studies are required to determine the exact reason for this.

prices would have dropped in the fall when there were more animals in the market, and prices for cattle would not be on an increasing trajectory.

The six major trading centers involved in this study, to varying extents, served one or more roles: as an end market – where animals are purchased primarily for consumption; and as a source market – where more are purchased for resale than for immediate consumption. Moreover, some markets tended to recycle animals more than once (Figure 28).



**Figure 28. Types of markets, primary actors in each and their major functions.**

The annual income generated in these six major trading centers was significant. From the sale of the sheep and goats combined it was estimated that \$140,223,138 USD was generated from the sale of sheep and \$107,573,085 from the sale of cattle (Appendix 2: Tables 6-8). Given that most animals in the markets had been sold at least once prior to these surveys and that more than 40% of respondents indicated the likelihood of resale, the actual amount of income generated by the livestock sector in Afghanistan was more likely three times higher than the approximately \$248,000,000 previously reported. Instead, we estimated that the amount generated was more likely around \$750,000,000 for this survey period.

These results highlight several important points: that the primary function of the major trading-centers is to meet the demand for meat; that there are more sheep sold in the markets than any other type of animal; and that Afghanistan's extensive livestock producers, the Kuchi, are responsible for supplying the majority of small livestock found in Afghanistan's markets. Other important points are that the meat supplied to the markets

appears to be driven more by the need to avoid risk than anything else and that currently, the Kuchi see their livestock as a form of wealth rather than as income. In this context, they are reluctant to sell their animals except under duress. Given that the environment in which the Kuchi raise their animals is becoming increasingly hostile and unpredictable, market efficiency will decline accordingly. Furthermore, as the situation for the Kuchi extensive producer further deteriorates, it is probable that their participation in the markets will become even less driven by economic factors and more by risk factors.

Afghanistan as a whole will also suffer if the situation continues to deteriorate for the Kuchi. The country can expect that its productive rangeland resources will be less effectively turned into economic gain. There is also the risk that the entire livestock production system of the country could fail along with the Kuchi because of their essential role in helping sedentary communities rebuild their herds and economically diversity. Reducing risk for the Kuchi, therefore, is critical to transforming the livestock sector from one dominated by economically inefficient risk management behaviour into one of income generation that can spur national economic growth.

### *Livestock Production in the Context of the Afghan Economy*

Since the conflicts of the 1980's, moving livestock from winter to summer rangelands is fraught with many forms of conflict. Extensive producers, such as the Kuchi, face conflicts from rogue commanders, powerful people, villagers, and in some cases, each other. The conversion of rangelands to rain-fed agriculture is so prevalent that in some areas it blocks what were once historical travel corridors. Fees are now imposed on the Kuchi to cross the converted areas when travelling to and from open rangelands. In addition some public rangelands have been usurped and converted for housing by expanding villages.

The Ministry of Agriculture, Irrigation and Livestock (MAIL) currently has no control over the conversion of, or the fees being assessed on, public rangelands. Moreover, there is some debate within the Ministry and the development sector as to whether or not the Kuchi should be settled. So why would we want to facilitate the livelihood of the Kuchi as it currently exists in Afghanistan? There are several good reasons for doing so.

Afghanistan has a temperate semi-arid climate with vegetation characterized as semi-arid steppe. What this means is that approximately 75-80% of the country's area is considered rangeland. Under the current scenario, the majority of the rangeland areas in Afghanistan cannot support rain-fed agriculture. Of equal import is that the best use of this land is for seasonal grazing by small ruminants. Furthermore, the amount of rangeland suitable for grazing will continue to decline if predictions of a drier climate come true for Afghanistan.

The fact that around 5% of Afghanistan's population is extensive livestock-producers, and they contribute at least 75% of the small ruminants to the Afghan markets, supports the need to insure that these producers are somehow facilitated. This point becomes particularly critical when you consider that these same producers are the primary source of animals purchased by farmers. Village communities also stand to lose if the Kuchi's livelihood is not facilitated because they will no longer have the opportunity to restock their herds following a die-off or to invest in short-term fattening schemes to earn income when the stock is resold later.

Another factor to take into consideration is that if the Kuchi's livelihood were to disappear, some of the most important industries that currently form the foundation of Afghanistan's

economy would be lost: meat, wool, carpet, and leather industries. Currently, products from these sectors account for more than 50% of Afghanistan's export revenue. Together, these data underscore the important role that the Kuchi play for the food and economic security of Afghanistan. Forced settlement of extensive livestock producers could be very risky for the country's economy. Providing land to the Kuchi is also unlikely to stop the Kuchi from moving with their livestock. Additionally, if their livelihood were to disappear, there would be increased risk of their joining extremist movements as a desperate act to feed their families due to the lack of an alternative livelihood. This underscores the important role that the Kuchi play in the political security of Afghanistan.

We are not suggesting that the way extensive production is accomplished in Afghanistan should not evolve for Kuchi. On the contrary, improving the way extensive livestock production operates in the country is extremely important. Facilitation of the extensive livestock sector in Afghanistan can be accomplished by reducing risks associated with extensive livestock production.

### *Risks Associated with Extensive Livestock Production in Afghanistan*

#### **1. Loss/destruction of winter grazing lands combined with the lack of winter fodder.**

The northern provinces of Afghanistan are the primary sources of small livestock for the larger rural and urban markets including those in Balkh, Nangarhar and Kabul. They also serve the main wintering rangelands areas used by Kuchi and non-Kuchi alike. In the last 10 years, the northern rangelands of Afghanistan have been destroyed at an unprecedented rate by farmers attempting rain-fed cultivation. The consequences of this conversion has been the loss of important winter foraging areas but more importantly, the destruction of the rangelands due to the fact that few if any of the rain-fed cultivation schemes are sustainable due to low rainfall conditions and poor soils. The losses are both direct and indirect. The direct losses include –conversion of rangelands to crop land and the invasion of abandoned fields by poor quality and sometimes toxic, annual plant species. Indirect losses include the takeover of important grazing areas by villagers roaming further afield with their own animals after cultivating lands closer to their villages and, competition with villagers during fall harvest of (native) winter fodder. The result has been a decline in herd-condition and size over time and if unchecked, it will result in the extinction of the Kuchi's livelihood and decimation of Afghanistan's small livestock industry.

#### **2. Limited or lack of access to grazing lands while en route and on summer grazing areas.**

There is only one obvious solution for addressing the insecurity that both villagers and Kuchi herders are experiencing. Resolving conflicts at the grass-roots level is imperative. At the same time an effort must be made at the government level to establish a future plan for the extensive livestock industry in Afghanistan. It is well understood that all Afghans have been subjected to unspeakable wrongs in the past. The point we are making is that if we want to make improvements for the future we cannot be looking backwards.

#### **3. Lack of current market price information which would facilitate efforts to negotiate a fair price.**

Access to price market information was another factor limiting a seller's ability to negotiate a fair price when approached in the field. It is also known to limit one's ability to decide when

the best marketing opportunity for a specific category of animal is. Livestock market information is also an integral part of early warning systems in that it is possible to determine when conditions for livestock have changed based on changes recorded in the markets (volume, body condition, etc.). Market information also helps keep track of changes in trade, particularly with regard to comparing trends in livestock marketing, to identify potentially critical food shortage trends.

The PEACE Project has recently resolved the issue of limited and selective access to livestock market prices by developing a Livestock Marketing Information System (LMIS) program in Afghanistan, in collaboration with the Ministry of Agriculture, Irrigation and Livestock (MAIL). The LMIS program is already in use in other countries, providing regular livestock prices and volume information on most of the major livestock markets in Ethiopia, Kenya, Tanzania and Mali along with information on forage conditions, disease outbreak, conflict and water supply to support decision making at multiple scales. The system was developed by Texas A&M University (TAMU) in partnership with the University of California-Davis. To manage and use the system requires internet service/access and a dedicated server.

This Afghanistan LMIS program can be accessed by users anywhere in the world both by cell phone and by internet: <http://afghanmarketprices.org/lmis>. Users selecting the internet option have the further option of choosing between English, Pashto or Dari website versions. The program also provides market price information for a range of time periods, depending on which option one chooses. The text option involves sending a numeric-coded text message with a request for current market prices. The server for the LMIS responds by sending a text message back with the price information for the market of interest. The benefit of this system is many-fold: it provides current market prices for any market and for any category of animal; it is also cost effective in that the cost is only a few pul (e.g. cents) per message. Additionally, a user can make specific data requests such as price information from the Kabul Nakhas Company market for the following category of Turki Sheep: adult, male, fat condition. Alternatively, they can request current prices for all breeds and categories of sheep in the Kabul Nakhas Company market. The advantage of the internet option is somewhat broader in that internet users can receive not only current price market information but they also have the option of generating a range of reports for a range of time periods including weekly, biweekly, monthly quarterly, and yearly. Other advantages to web users, but more specifically to the Government of Afghanistan (GoA), is that it allows one to analyze patterns and trends in livestock volumes by category, breed, sex, gender, age and condition. With this data, the GoA has a new mechanism for evaluating market trends, volume, composition and economic importance of livestock, at different geographic scales.

The Ministry of Agriculture, Irrigation and Livestock (MAIL) are partners in this effort. Following training, MAIL staff are now gathering the data from the markets each week and entering the data into the LMIS database. The PEACE Project is now in the final phase of implementing this program. The final phase is an awareness-raising phase and includes public radio announcements and handing out pamphlets and cards to market attendees with demonstrations on how to prepare coded text messages. PEACE will transfer the system and dedicated server to MAIL on 30 June 2010 with TAMU providing management/repairs and upgrades to the website via internet access in the coming years.

#### 4. Dependence on herding livestock as a sole source of income.



There are two other marketing issues. One involves the transhumant/nomadic Kuchi's reluctance and at times, lack of capacity to trade livestock themselves in the major markets and trade centers. The other involves the major markets themselves.

Weathering risks in rural-dependent economic situations can take many forms, the most successful of which revolve around economic diversification to ensure limited rather than wholesale losses. The Kuchi, as a culture, are poorly diversified when it comes to income generation. In addition, they face many serious risks in life due to the nature of their livelihood – wandering Afghanistan's landscapes in search of forage and water for their livestock (see reports by PEACE Project on risk assessment conducted with the Kuchi in 2009: <http://cnrit.tamu.edu/peace/riskmgmt.html>). In a study conducted by AREU in 2007, it was reported that it takes 8-10 animals, per family member, to survive (Applied Thematic Research into Water Management, Livestock and the Opium Economy. AREU 2007). If a family's herd size drops below the number of animals needed to support the entire family, they enter into an untenable situation unless they can earn income from other sources. The Kuchi reported that they do earn some cash as they move through the landscape as laborers. Many reported, however, that they are not earning enough income this way to prevent the inevitable, the steady decline in herd size. Above the minimum needed to survive, animal reproduction can result in an increase in animal numbers until such time as there is an environmental catastrophe or, loss due to criminality, illegal/legal fee assessment or appropriation of the herd by the latest commander in power.

One possibility of reversing this trend is to implement a risk management program for the Kuchi with the objectives of reducing their vulnerability, improving their livelihoods, and promoting human welfare (see reports by PEACE Project on risk management pilot project conducted by PEACE Project in July 2009: <http://cnrit.tamu.edu/peace/riskmgmt.html>). Recent efforts by the Global Livestock Collaborative Research Support Program's PARIMA (Pastoral Risk Management) project to do the same among other traditional pastoral societies, particularly those residing in East Africa, successfully demonstrated the benefits of a non-traditional approach to risk management along with their inherent sustainability (see Coppock et al, 2009; 2010). The mechanisms for achieving these include human capacity building, micro-finance savings-led investing, and improved livestock marketing involving collective action. Details on how to implement this type of program with the Kuchi are outlined in Desta and Schloeder (2010) in a report on initiating a pilot risk management project in northern Afghanistan in 2009 (see <http://cnrit.tamu.edu/peace/riskmgmt.html>). This would solve two problems at the same time: enabling the Kuchi to economically diversify and improving their marketing abilities. Diversification will also produce the additional result of a gradual settling of Kuchi that decide not to pursue a herding livelihood but instead a different profession.

## Recommendations

### *Reducing Risks*

Risk is clearly a major constraint on economic growth in the livestock sector in Afghanistan today. Improving marketing and income generation opportunities clearly hinge on reducing the risks associated with raising livestock:

- **Loss/destruction of winter grazing lands combined with the lack of winter fodder.** Recommendations to prevent further rangeland losses:



- Moratorium on further rangeland conversions
  - Halt of distribution of rain-fed wheat varieties to families
  - Extension services to inform farmers of hazards of land conversions
  - Rehabilitation of rangelands using native species
  - Establish large-scale irrigated fodder crop production in Afghanistan to address winter feed shortages
- **Limited or lack of access to grazing lands while en route and on summer grazing areas. Recommendations to address land access and tenure issue:**
    - Build peace building capacity for Afghan leaders and citizens
    - Return of traditional summer, winter and corridor grazing rights to the Kuchi
    - Further development of a rangeland law that includes all stakeholders (Villagers and Kuchi)
  - **Lack of current market price information which would facilitate efforts to negotiate a fair price. Recommendations to address market price information for herders and all Afghans:**
    - MAIL should support and expand the current Livestock Market Information System
  - **Dependence on herding livestock as a sole source of income. Recommendations to address economic risks of extensive livestock producers:**
    - Initiate a comprehensive risk management program for Kuchi producers that includes literacy and small business development training

The Kuchi, the primary livestock producers in Afghanistan, face the greatest risks of all and the environment they live in gets riskier every day. Their behavior in the livestock sector is to use their animal resources to cope with risk. This behavior does not result in efficient markets. Remove the risk from the Kuchi and they will likely generate more income for themselves. This in turn will be the driving force to spur national economic growth in the livestock sector.

The risks and associated actions to reduce or eliminate them, as reported here, are not new or unknown to Afghanistan or its donor communities (see reports by PEACE Project: <http://cnrit.tamu.edu/peace/riskmgmt.html>). What has been lacking, however, is action by the government and donors to minimize the risks associated with this livelihood with the result that livestock industry in Afghanistan cannot meet the demands of Afghans but more importantly, Afghanistan's debt to its neighbors is on the rise due to the need for meat imports.

**Appendix 1: Layout of the six largest markets in Afghanistan: Herat – Ganj, Mazar-e Sharif – Mal Bazar Mazar, Kunduz – Mal Bazar, Kandahar, Kabul – Nakhas Company, and Jalalabad – Shaiwa Bazar.**

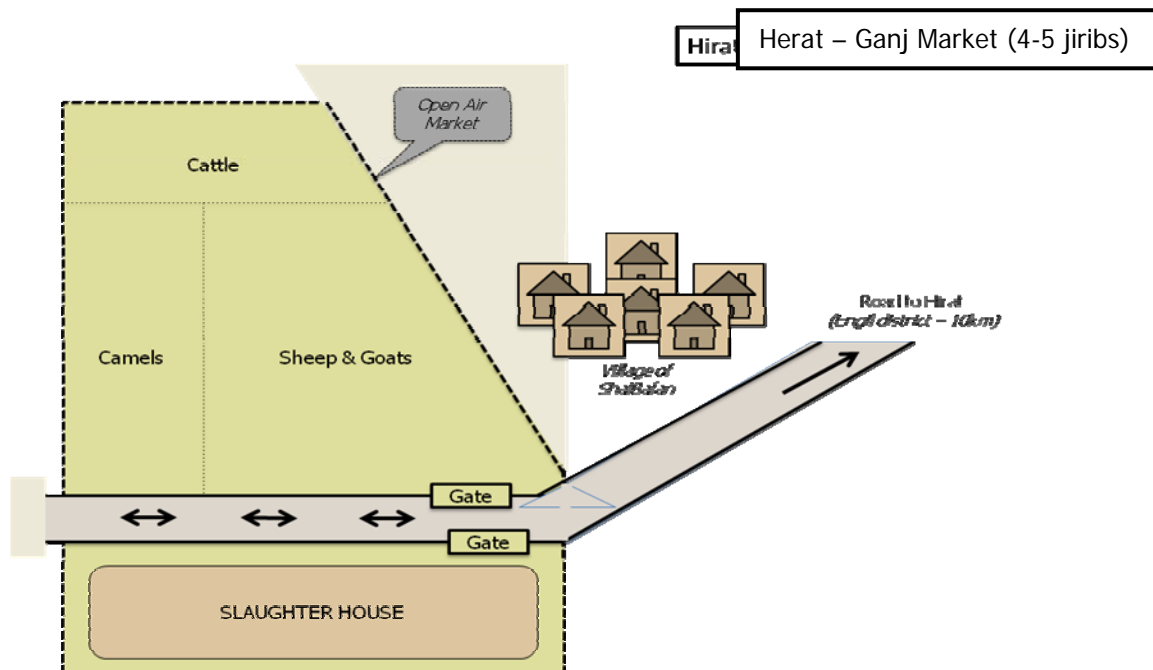


Figure 1. Layout of the Herat - Ganj livestock market.

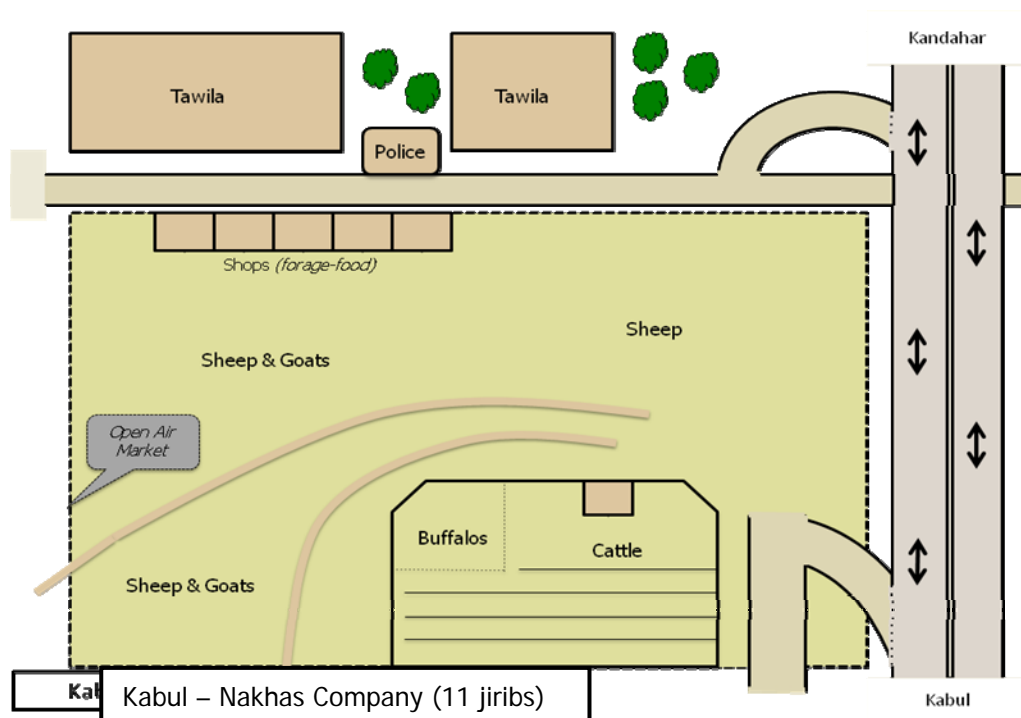


Figure 2. Layout of the Kabul - Nakhas Company livestock market.

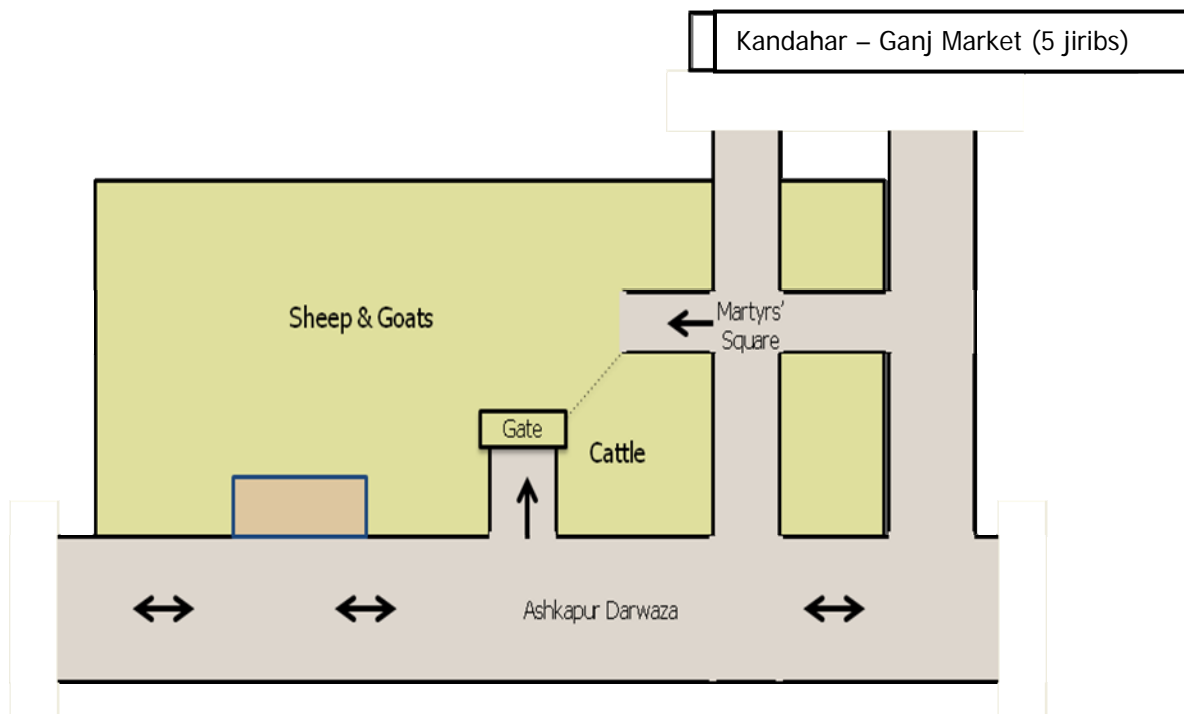


Figure 3. Layout of the Kandahar - Ganj livestock market.

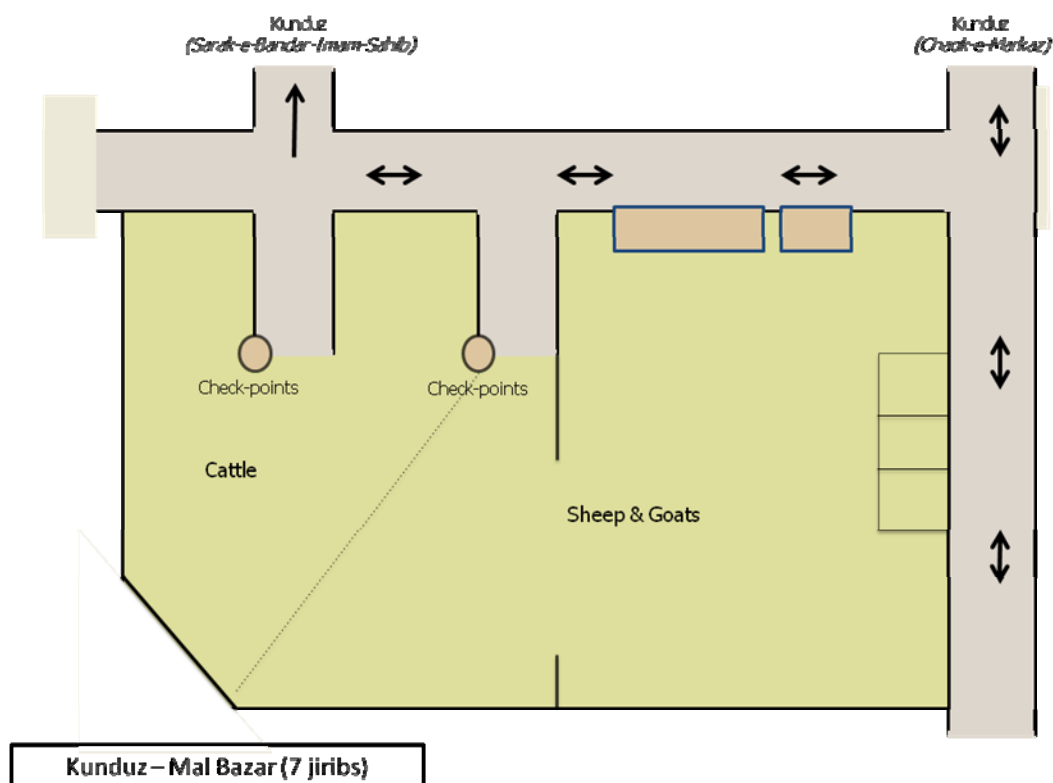


Figure 4. Layout of the Kunduz - Mal Bazar livestock market.

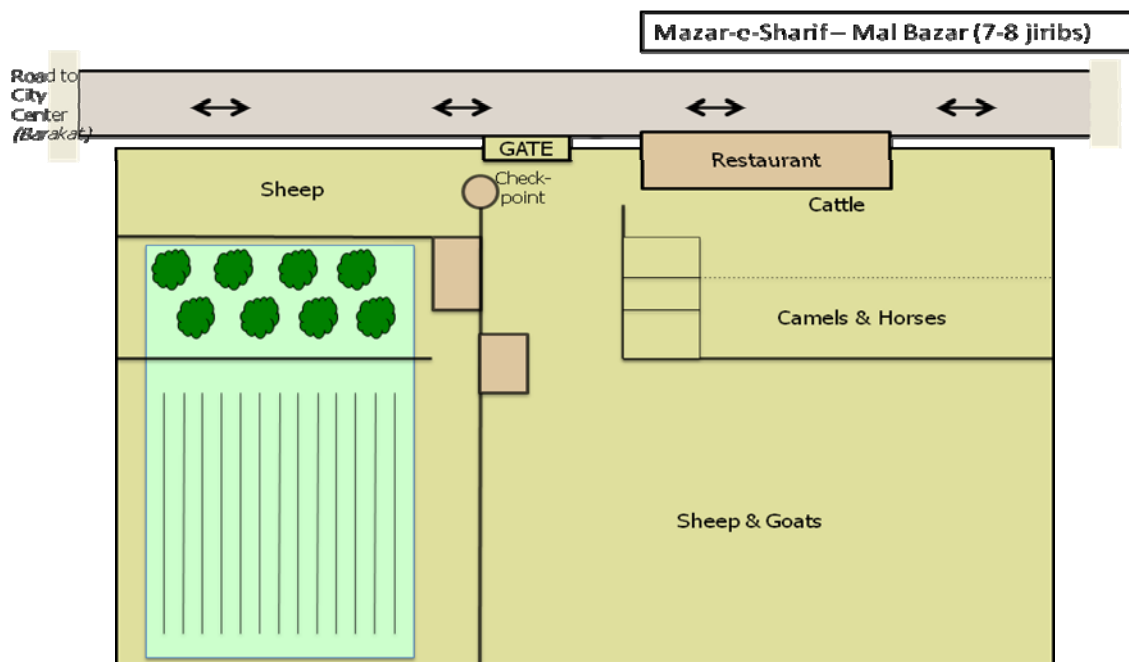


Figure 5. Layout of the Mazar-e Sharif - Mal Bazar livestock market.

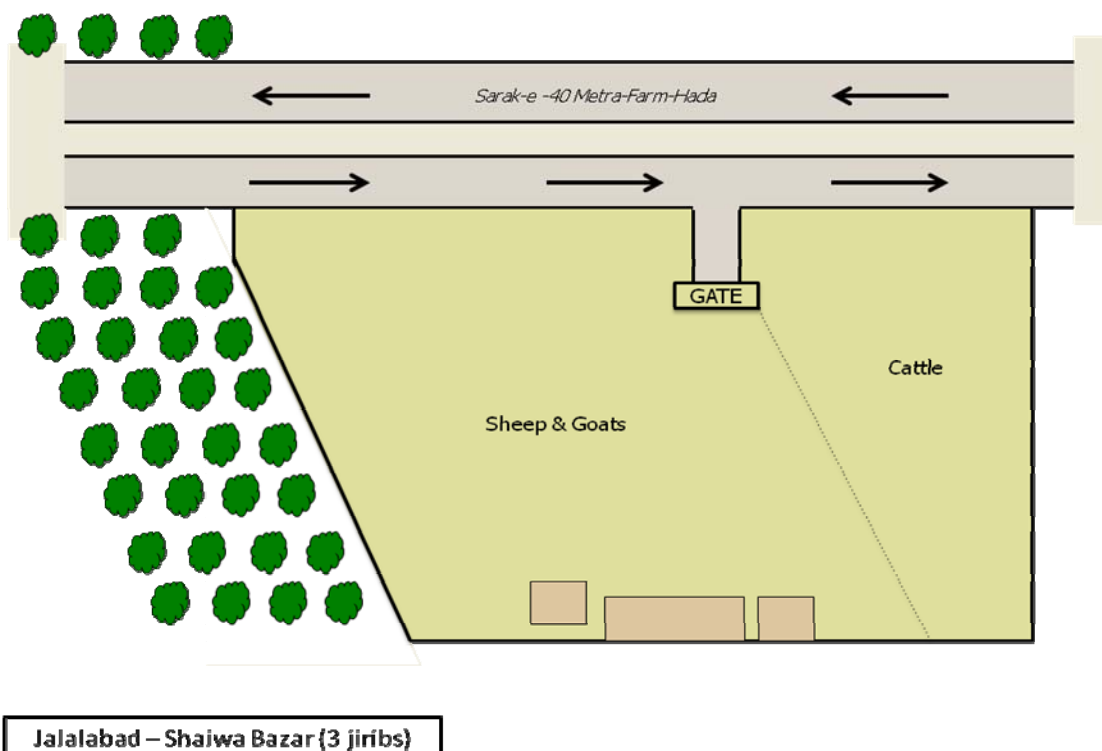


Figure 6. Layout of the Jalalabad - Shaiwa Bazar livestock market.

## Appendix 2: Tables

**Table 1. Estimated number of sheep, goats and cattle supplied during the week of Survey 1 (based on actual animal counts multiplied by the number of operating days per week).**

City	Market	Sheep	Goat	Cattle
Herat	Ganj Bazar	2,400	1,400	1,050
	Ganj Shash Noor	1,400	1,200	140
Kabul	Nakhas Company	6,000	3,400	1,200
	Chaman Babrak	2,500	500	110
	Darwazai Lahori	4,000	1,100	120
Kandahar	Ganj Bazar	4,000	2,400	1,950
Kunduz	Mal Bazar	3,000	1,200	900
Mazar-e Sharif	Mal Bazar	4,000	2,100	1,400
Jalalabad	Shaiwa	1,000	350	120
	Angoor Bagh	900	250	150
	Chaparhar	600	120	60

**Table 2. Estimated number of sheep, goats and cattle supplied during the week of Survey 2 (based on actual animal counts multiplied by the number of operating days per week).**

City	Market	Sheep	Goat	Cattle
Herat	Ganj Bazar	2,100	1,000	600
	Ganj Shash Noor	1,000	500	100
Kabul	Nakhas Company	4,500	1,200	800
	Chaman Babrak	2,100	250	50
	Darwazai Lahori	NS	NS	NS
Kandahar	Ganj Bazar	4,200	700	1,500
Kunduz	Mal Bazar	2,800	900	750
Mazar-e Sharif	Mal Bazar	3,100	800	1,200
Jalalabad	Shaiwa	1,100	300	100
	Angoor Bagh	NA	NA	NA
	Chaparhar	500	100	50



**Table 3. Estimated number of sheep, goats and cattle supplied during the week of Survey 3 (based on actual animal counts multiplied by the number of operating days per week).**

City	Market	Sheep	Goat	Cattle
Herat	Ganj Bazar	2,600	790	480
	Ganj Shash Noor	1,050	610	170
Kabul	Nakhas Company	4,700	1,070	730
	Chaman Babrak	1,300	330	140
	Darwazai Lahori	2,100	710	140
Kandahar	Ganj Bazar	6,200	960	710
Kunduz	Mal Bazar	2,850	910	530
Mazar-e Sharif	Mal Bazar	3,000	1,160	870
Jalalabad	Shaiwa	550	150	110
	Angoor Bagh	820	350	190
	Chaparhar	400	110	40

**Table 4. Estimated number of sheep, goats and cattle supplied during the week of Survey 4 (based on actual animal counts multiplied by the number of operating days per week).**

City	Market	Sheep	Goat	Cattle
Herat	Ganj Bazar	9,050	4,400	1,550
	Ganj Shash Noor	1,500	900	300
Kabul	Nakhas Company	5,250	1,650	2,100
	Chaman Babrak	600	200	150
	Darwazai Lahori	900	400	150
Kandahar	Ganj Bazar	4,850	1,100	1,750
Kunduz	Mal Bazar	4,150	1,300	3,100
Mazar-e Sharif	Mal Bazar	5,550	1,650	2,600
Jalalabad	Shaiwa	150	250	550
	Angoor Bagh	1,200	500	1,500
	Chaparhar	500	100	700

**Table 5. Estimated volume of livestock sold in six major markets, from 2008-2009.**

Volume annually	Sheep	Goats	Cattle
Sum*	1,176,400	405,600	259,500
Mean**	1,156,716	350,779	258,505

\*Sum of annual volume, by category

\*\*Average of annual estimates

**Tables 6a-c. Mean number of sheep, goats, and cattle, by category, per flock/herd.**

a. Mean number of animals, by category, per flock: sheep						
Sheep	Wether	Rams	Ewe Barren	Ewe Pregnant	Lambs	Total
Mean S1	13.5	8.1	9.1	6.1	5.0	33
Mean S2	9.8	6.1	5.3	11.6	2.6	35
Mean S3	6.8	4.9	6.0	6.2	14.5	38
Mean S4	3.8	4.0	5.1	0.8	5.7	19
Mean	8.5	5.8	5.5	6.2	7.0	33
Adjusted weighted annual total	0.26	0.18	0.17	0.19	0.21	
Annual volume, by category	303,577	206,863	195,818	221,191	248,951	1,176,400

b. Mean number of animals, by category, per flock						
Goats	Wether	Bucks	Doe Barren	Doe Pregnant	Goat Kid	Total
Mean S1	2	3.1	8.5	7.7	2	23
Mean S2	6.9	7.7	7.1	5.3	6.2	33
Mean S3	2.6	3.2	5.7	0.8	3.4	16
Mean S4	3.8	4.7	7.1	4.6	3.9	24
Mean	3.8	4.7	7.1	4.6	3.9	24
Adjusted weighted annual total	0.16	0.19	0.30	0.19	0.16	
Annual volume, by category	64,604	78,648	119,658	77,525	65,166	405,600

c. Mean number of animals, by category, perherd						
Cattle	Oxen	Bulls	Cow barren	Cow pregnant	Calf	Total
Mean S1	2.1	1.9	1.3	0.9	1	7
Mean S2	3.2	1	5.3	1.5	5.3	16
Mean S3	6.5	5.5	3	2.7	3.3	21
Mean S4	3.9	2.8	3.2	1.7	3.2	15
Mean	3.9	2.8	3.2	1.7	3.2	15
Adjusted weighted annual total	0.27	0.19	0.22	0.11	0.22	
Annual volume, by category	68,811	48,984	55,982	29,740	55,982	259,500

**Table 7a-c. Mean sale price, by category.**

a. Mean sale price, by category					
Sheep	Wether	Rams	Ewe Barren	Ewe Pregnant	Lamb
Mean S1	5,147	5,506	3,458	3,235	3,235
Mean S2	5,735	6,190	3,960		3,280
Mean S3	5,061	5,032	3,956	4,042	2,995
Mean S4	5,954	6,206	4,275	5,114	3,826
Mean	5,474	5,733	3,912	4,130	3,334

b. Mean sale price, by category					
Goats	Wether	Bucks	Doe Barren	Doe Pregnant	Goat Kid
Mean S1	3,370	3,070	2,405		1,530
Mean S2	3,900	3,873	2,806		1,768
Mean S3	2,927	2,691	2,669		1,498
Mean S4	4,000	3,891	3,061	4,246	1,900
Mean	3549	3381	2735	4246	1674

c. Mean sale price, by category					
Cattle	Oxen	Bulls	Cow barren	Cow pregnant	Calf
Mean S1	28,224	19,188	18,371	27,787	9,267
Mean S2	22,809	20,571	17,402	23,525	
Mean S3	25,730	16,214	18,450	24,297	10,655
Mean S4	28,224	19,188	18,371	27,787	9,267
Mean	26,247	18,790	18,149	25,849	9,730

**Table 8a-c. Annual income generated by type and category of animal**

a. Annual income generated						
Sheep	Wether	Rams	Ewe Barren	Ewe Pregnant	Lamb	Total
AFN, by category	1,661,833,654	1,186,037,652	766,104,953	913,591,165	830,004,080	5,357,571,504
USD, by category	\$35,358,163	\$25,234,844	\$16,300,105	\$19,438,110	\$17,659,661	\$113,990,883

b. Annual income generated						
Goats	Wether	Bucks	Doe Barren	Doe Pregnant	Goat Kid	Total
AFN, by category	229,295,314	265,929,224	327,293,499	329,169,680	109,087,300	1,260,775,017
USD, by category	\$4,878,624	\$5,658,069	\$6,963,691	\$7,003,610	\$2,321,006	\$26,825,000

c. Annual income generated						
Cattle	Oxen	Bulls	Cow barren	Cow pregnant	Calf	Total
AFN, by category	1,806,071,307	920,426,673	1,015,989,735	768,760,878	544,686,418	5,055,935,011
USD, by category	\$38,427,049	\$19,583,546	\$21,616,803	\$16,356,614	\$11,589,073	\$107,573,085

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