MAP 3. **Number of goats per family**

⊙ Kabul

☐ District boundaries

No. per family
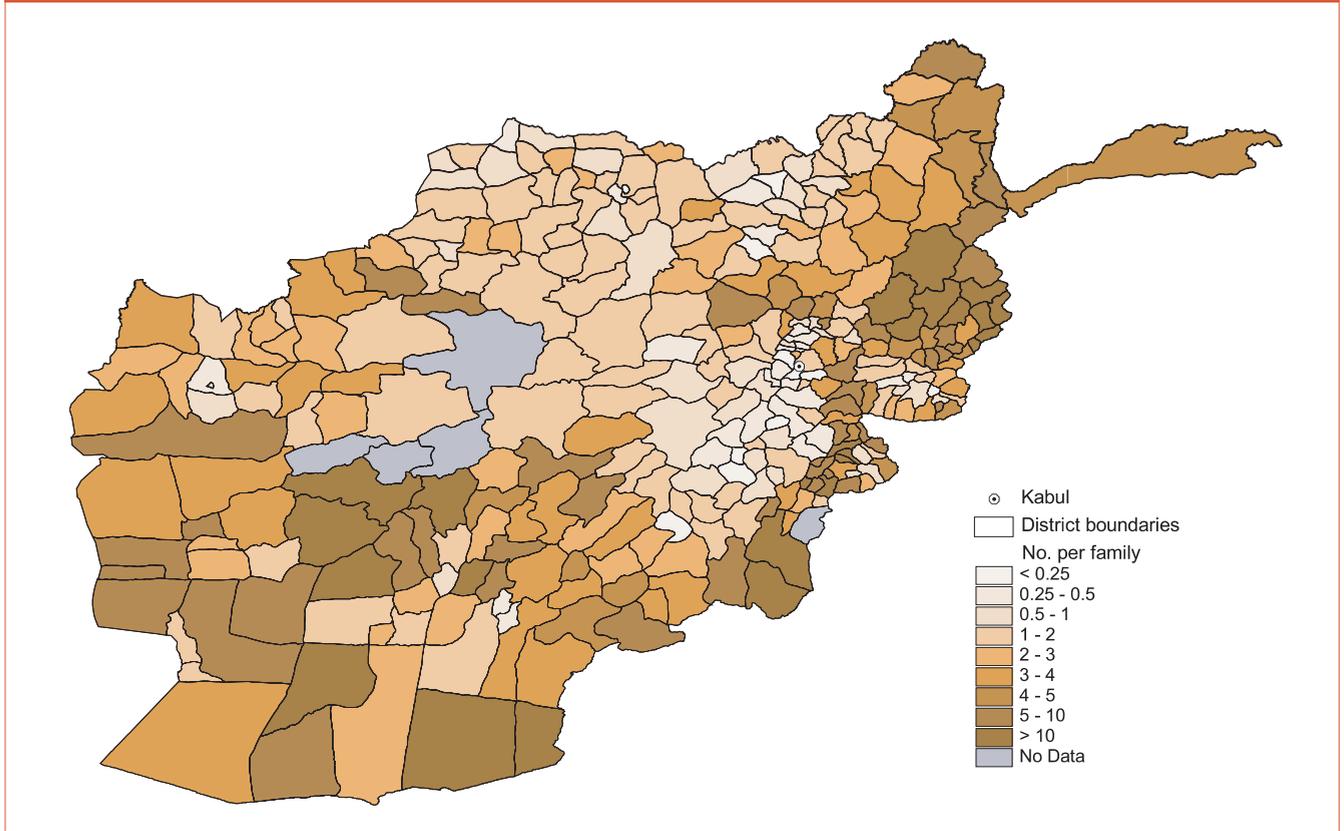- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 10
- > 10
- No Data

5.1.4 Herd Structures

Female cattle older than 2 years
Although most cows do not enter lactation at 2 years in Afghanistan, for the simplification of the Level 1 survey, this age threshold was chosen to provide an upper limit to numbers in meaningful stock classes, in particular cattle available for dairy production and recruitment (see below). Only families in Khost, Kunar, Laghman and Nuristan owned more than 1.5 cows per family. Note that all statistics in this section not referenced on the basis of family were computed from the full data set (which included also records not listing the number of families present in the community surveyed).

Young stock
A simple approach to summarising the state of reproduction is to compute a ratio of young stock to number of reproductive females. If data are of acceptably accuracy (this can be only expected if the simplest of numbers are used, e.g. two age classes), this ratio can provide some insight as to whether populations are stable, declining or have potential to increase. Of course there will be effects such as time of the year, regional markets and so forth that will influence the numbers, since not all data can be collected simultaneously. Therefore, these data, on their own, are not sufficient to suggest high priority areas nor do they give reason for complacency. The data are computed as the sum of categories (younger than 2 years) and current year's young (calves, lambs, kids, foals). These categories were kept clearly separate in the census. In many cases, no-entry cells were interpreted as true zeroes. This may not always be correct. Therefore, the values reported in Table 7 must be viewed as a lower limit.

Cattle
The data indicate that restocking of depleted herds in many areas will not be possible with current reproduction rates. This is further substantiated by Level 2 data and will be discussed below. The available information suggests that cattle reproduction in the east-central area (Ghazni, Wardak, Logar, Parwan, Kapisa Kunar) and in Kunduz and Badghis at 0.7 calves per adult female per year indicates a calving interval of > 15 months after allowing for 10 percent mortality. At the other end of the scale, the calving interval in Jawzan appears to be 3.5 years or greater. Note that these calculations do not consider female sterility. Given the extreme poverty of farmers in Afghanistan, rigorous culling based on deficient reproductive performance is unlikely. Depending on results from Level 2, more in-depth analysis of this critical problem is clearly indicated, for example by way of spot surveys and market surveys. It is also important to compare these data with available information about regional extent and severity of drought.

Smallstock
The basic data in Level 1 do not differentiate between Karakul and other sheep breeds. Provinces with higher levels of Karakul could expect lower proportions of two year old young stock. The data shown below suggests lamb numbers/ewe/year of 1.5 available for restocking and above only in Logar, Nangarhar and Wardak, allowing for a mortality rate over two years of 25 percent subject to the same caveats as the cattle values. Similarly for goats, 1.5 kids/doe/year is only reached in Badghis, Nangarhar and Nuristan.

Table 6 Cows owned per family in 2002-2003			
Agro-Ecological Region	**Province**	**Average**	**Standard Deviation**
Badakhshan		**1.08**	**0.88**
East	Khost	2.35	1.56
	Kunar	1.86	4.72
	Laghman	1.90	1.70
	Nangarhar	1.32	2.51
	Nuristan	1.87	1.15
	Paktika	0.65	0.55
	Paktya	1.33	0.97
	Average	**1.49**	**2.25**
Centre-East	Kabul	0.35	0.38
	Kabul City	0.05	0.10
	Kapisa	0.83	0.44
	Logar	0.65	0.55
	Parwan	0.44	0.40
	Wardak	0.39	0.35
	Average	**0.45**	**0.44**
Centre	Bamyan	0.56	0.39
	Ghazni	0.47	0.45
	Ghor	0.60	0.35
	Uruzgan	0.97	0.91
	Zabul	0.32	0.45
	Average	**0.60**	**0.65**
North	Baghlan	0.70	0.78
	Balkh	0.26	0.35
	Faryab	0.13	0.13
	Jawzjan	0.18	0.26
	Kunduz	1.11	1.28
	Samangan	0.18	0.27
	Sari pul	0.37	0.48
	Takhar	0.76	0.69
	Average	**0.48**	**0.71**
West	Badghis	0.14	0.21
	Farah	0.52	0.68
	Hilmand	0.77	0.62
	Hirat	0.27	0.36
	Kandahar	0.47	0.44
	Nimroz	0.35	0.44
	Average	**0.47**	**0.54**
Overall Average		***0.68***	***1.12***

Table 7 Ratio of young per adult for cattle, sheep, goats and donkeys									
		Young per Cow		Young per Ewe		Young per Doe		Young per Jenny	
Agro-Ecological Region	Province	AVG	SD	AVG	SD	AVG	SD	AVG	SD
Badakhshan		1.3	0.8	1.3	1.2	1.3	0.9	1.4	1.6
East	Khost	0.9	0.7	0.7	0.8	0.9	2	0.5	0.6
	Kunar	1.4	0.9	1.4	1	1.3	1	1.3	1.4
	Laghman	1.1	1	1.3	3.1	1.2	1.1	0.7	1
	Nangarhar	1.2	1	2.1	3.7	1.5	3.1	0.6	0.9
	Nuristan	1.3	0.8	1.4	0.9	1.9	11.4	1.3	1
	Paktika	1.1	0.6	1.2	1	1	1.2	0.3	0.5
	Paktya	1.1	0.6	1.3	1.6	1.1	1.7	0.3	0.5
Centre-East	Kabul	1.2	1.0	1.5	1.9	1.3	3.2	0.8	1.5
	Kabul City	1	0.8	1.7	2.1	1.2	0.9	0.8	1.5
	Kapisa	1.6	0.8	1.8	1.5	1.3	1.2	0.8	0.8
	Logar	1.3	0.9	2.3	2.8	1.3	1.3	0.2	0.4
	Parwan	1.5	1.0	1.4	2.1	1.2	1.3	0.8	0.9
	Wardak	1.5	0.8	1.9	3	1.4	1.2	0.4	0.6
Centre	Bamyan	1.0	0.6	0.9	0.6	1.0	0.7	0.6	0.6
	Ghazni	1.4	1.1	1.5	1.6	1.3	1.3	0.3	0.9
	Ghor	1.3	1.1	1.2	0.9	1.3	1.0	0.9	0.9
	Uruzgan	1.1	1.0	1.2	2.3	0.9	0.9	0.7	1.1
	Zabul	0.8	0.7	1.3	2.6	0.9	1.0	0.5	0.9
North	Baghlan	0.9	0.8	0.4	0.8	0.5	0.9	0.4	0.6
	Balkh	0.6	0.8	0.5	0.6	0.6	0.9	0.4	0.7
	Faryab	0.7	0.8	0.8	1.7	1	1.7	0.4	0.7
	Jawzjan	0.5	0.4	0.6	0.9	0.7	0.9	0.3	0.3
	Kunduz	1.5	0.8	1.5	1.5	1.4	1.1	1.1	0.9
	Samangan	0.7	0.9	0.5	1	0.5	0.9	0.7	1
	Sari Pul	0.7	0.6	0.4	0.3	0.5	0.5	0.3	0.5
	Takhar	1.2	0.6	1.1	0.7	1	0.6	1.1	0.6
West	Badghis	1.7	1.9	1.6	1.5	1.7	1.4	1	2.7
	Farah	1	1.3	1.5	2.4	1.4	1.7	1.4	1.6
	Hilmand	1.1	1.1	1.5	2	1.1	1	0.9	1.1
	Hirat	1.1	1.1	0.9	1.2	0.9	4.7	0.7	0.9
	Kandahar	0.8	0.6	1	1.5	0.9	0.9	0.4	0.8
	Nimroz	0.7	1.4	0.5	0.7	0.6	0.6	0.3	0.8
Overall Average		*1.1*	*0.9*	*1.2*	*1.9*	*1.1*	*2.1*	*0.7*	*1.1*

5.1.5 Changes in Livestock Ownership

Preliminary data and evidence suggested a massive and widespread reduction in livestock numbers due to a 4 year long drought. Lacking dependable survey data prior to the onset of that drought, it is not easily possible to obtain an accurate estimate of the extent of the impact of the drought. It was decided to ask in all communities the numbers of families without livestock now, and the number of families without livestock 4 years before the interviews took place (a time that corresponds to pre-drought conditions). In addition to drought, two additional factors must be considered: (i) The appreciation of the Afghan currency after the ousting of the Taliban regime forced many to sell stock in order to finance loans, and (ii) the substantial number of refugees returning home to Afghanistan. This migration impacted the number of families in the communities, a distortion compounded by the fact that many returnees initially left their livestock behind outside Afghanistan. This is particularly obvious in the case of Kabul City. Data for Kabul City were excluded from the calculation of the average of the Centre-East region.

The following province-level summary shows that overall there was a substantial reduction in number of families owning livestock. However, this was not the case for all provinces. At the time the census was taken, many returned refugees had probably still part or all of their livestock holdings left at their homes in exile. Many refugees needed to settle property claims and were unsure about security, so this attitude is understandable. While we have verbal evidence for this behaviour, we cannot substantiate this speculation with numbers, however.

It goes without question, however, that drought and war substantially reduced the overall livestock population and the average livestock holdings per family.

photo by: Thieme

Table 8 Summary of changes in livestock holdings (families owning no livestock)

Agro-Ecological Region	Province	Families without livestock 1998	Families without livestock 2002/2003	Percent Change during Drought	Families with only poultry 2002/2003
Badakhshan		11,274	14,522	28.81	9,156
East	Khost	633	1,008	59.24	882
	Kunar	1,781	2,453	37.73	1,447
	Laghman	3,314	4,777	44.15	3,644
	Nangarhar	1,491	26,720	52.76	19,705
	Nuristan	1,422	2,290	61.04	1,735
	Paktika	6,623	7,612	14.93	5,971
	Paktya	2,959	4,093	38.32	3,690
	Total	**34,223**	**48,953**	**43.04**	**37,074**
Centre-East	Kabul	17,730	14,994	-15.43	10,419
	Kabul City	24,739	265,401	972.80	163,682
	Kapisa	2,818	4,258	51.10	3,666
	Logar	14,908	15,927	6.84	14,293
	Parwan	11,197	16,206	44.74	8,447
	Wardak	26,452	32,466	22.74	25,466
	Total	**97,844**	**349,252**	_**14.7**_*	**225,973**
Centre	Bamyan	9,383	12,874	37.21	4,260
	Ghazni	38,724	33,083	-14.57	30,297
	Ghor	5,298	8,006	51.11	3,346
	Uruzgan	16,440	15,366	-6.53	8,523
	Zabul	18,467	21,575	16.83	11,703
	Total	**88,312**	**90,904**	**2.94**	**58,129**
North	Baghlan	25,644	32,319	26.03	9,611
	Balkh	47,752	66,182	38.60	20,789
	Faryab	42,955	49,366	14.92	16,054
	Jawzjan	34,304	43,412	26.55	9,970
	Kunduz	6,816	8,506	24.79	4,614
	Samangan	22,016	28,277	28.44	7,422
	Sari Pul	9,609	14,859	54.64	2,793
	Takhar	27,852	24,147	-13.30	16,406
	Total	**216,948**	**267,068**	**23.10**	**87,659**
West	Badghis	26,207	31,354	19.64	11,041
	Farah	19,712	23,144	17.41	11,584
	Hilmand	14,245	15,222	6.86	10,888
	Hirat	75,183	136,168	81.12	57,469
	Kandahar	21,278	28,114	32.13	17,354
	Nimroz	10,599	13,051	23.13	5,230
	Total	**167,224**	**247,053**	**47.74**	**113,566**
**Overall Sum**		_615,825_	_1,017,752_	_65.27_	_53,1557_

*Data for Kabul City were excluded from Centre-East for the calculation of the average change in numbers of families without livestock (see text)

5.2 REGIONAL PRODUCTION SYSTEM CHARACTERISTICS

In order to structure the results of the survey, especially the detailed Level 2 analysis, distinct agro-ecological zones were defined based on regional production characteristics including climatic and topographic aspects. The following table summarises the classification of provinces into these regions and the corresponding number of respondents for each region in the Level 2 survey. Some provinces were not visited with the Level 2 survey. Badakhshan, for its unique properties, constitutes an agro-ecological region of its own.


photo by: Thieme

Table 9 Classification of provinces into agro-ecological regions			
Agro-ecological Region	**Province**	**Number of Villages**	**Interviewed farmers**
East	Khost	6	30
	Kunar	NV*	NV
	Laghman	4	29
	Nangarhar	16	130
	Nuristan	NV	NV
	Paktika	6	30
	Paktya	7	32
	All	39	251
Centre-East	Kabul	13	40
	Kabul City		33
	Kapisa	3	10
	Logar	7	50
	Parwan	12	42
	Wardak	6	30
	All	41	205
Centre	Bamyan	18	76
	Ghazni	9	57
	Ghor	5	25
	Uruzgan	NV	NV
	Zabul	10	54
	All	42	212
North	Baghlan	21	97
	Balkh	5	32
	Faryab	4	28
	Jawzjan	4	29
	Kunduz	16	30
	Samangan	8	64
	Sari Pul	5	39
	Takhar	10	20
	All	73	339
West	Badghis	5	25
	Farah	16	77
	Hilmand	4	20
	Hirat	15	136
	Kandahar	NV	NV
	Nimroz	4	19
	All	44	277
Badakhshan		NV	NV
All		239	1284
*NV: not visited			

Some key statistics from Level 1 are presented as graphical summaries, indicating regional differences apparent in the most basic indicators. Numerical differences between regions and response variables are represented proportionally by the diameter of the circles.

Figure 1 Livestock per family across regions
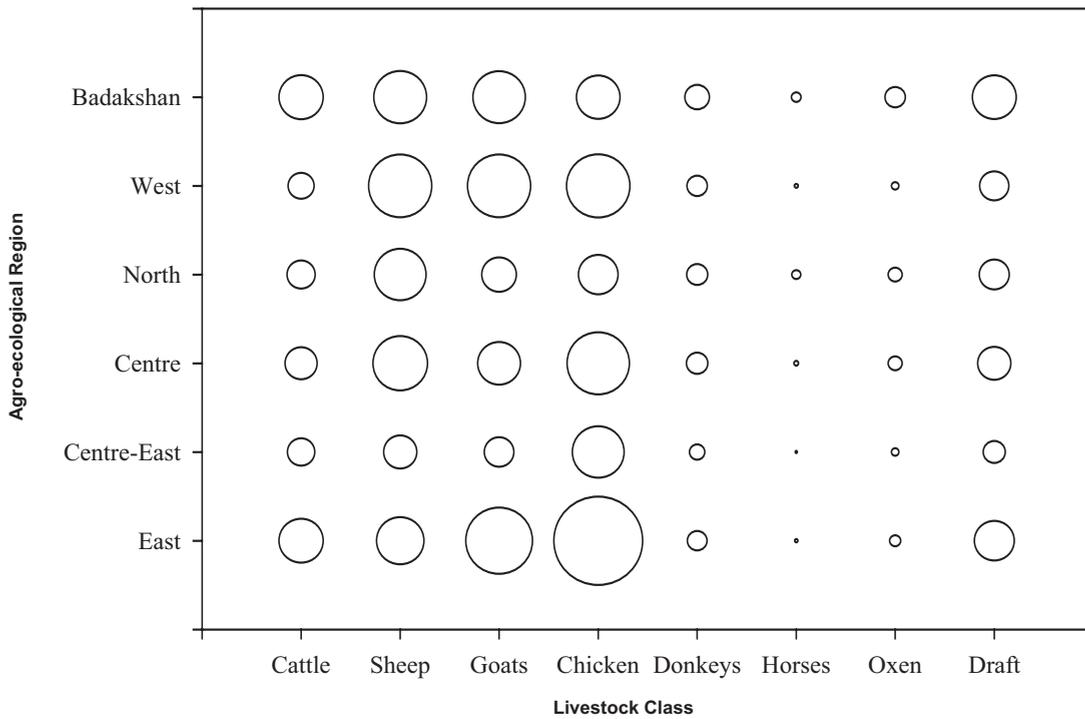
Figure 2 Cows and draft animals across regions