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The Complex and Gender Differentiated Objectives of Livestock Keeping for Somali Pastoralists

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ABSTRACT: This study describes the livestock keeping objectives of female and male Somalia pastoralists, for camel, sheep, goat and donkey. The objectives were assessed using a matrix scoring approach, implemented during participatory rural appraisals conducted in 20 settlements in northwestern Somalia, involving 254 female and 252 male participants. All species were kept for multiple objectives (up to 14), with the most important objectives including domestic milk consumption and milk sale, income from the sale of slaughter as well as breeding animals, savings and insurance, domestic meat consumption, transport / loads, drawing water from wells, ceremony / dowry, and hide use. There were strong gender differences in the scoring of objectives, notably with 'savings and insurance' and 'sale of breeding animals' being more important to female and male pastoralists, respectively. This work is part of a larger project aimed at pro-poor livestock development in Somalia.
Keywords: Somalia; Pastoralist; Livestock keeping objective

Introduction

Somalia, located in the horn of Africa, is one of the poorest countries in the world, with more than 80% and 65% of the population classified as poor and severely poor, respectively, via the multidimensional poverty index (2006 data; Oxford poverty and human development initiative (2013)). The livestock sector is a main contributor to Somali livelihoods, engaging an estimated 65% of the population (FAO-Somalia (2014)). In the north and central areas of Somalia most livestock keepers are pastoralists, whilst there is a mix of pastoralists and agro-pastoralists in the south. In contrast to many pastoral systems, the Somali system has a heavy domestic trade and export orientation. Somalia currently exports millions of animals annually to the Gulf states, particularly Saudi Arabia, and animals are also marketed in neighbouring African countries (FAO-Somalia (2014)).

In order to ensure that pastoralists and other stakeholders along this export value chain receive maximal benefits from this market opportunity, a pro-poor livestock development project was initiated (see http://www.ilri.org/node/1212). This project has several components including (amongst others): a) understanding pastoralists' management practices in relation to their animal genetic resources, in particular breeding practices, b) identifying domestic and importing country market requirements, and c) identifying and promoting changes in animal management practices to better meet these market requirements. This study presented here is part of this larger project, and specifically examines the objectives of keeping livestock for female and male pastoral groups. This is the first report of this nature of which we are aware, and provides information critical to the process of identifying and prioritizing livestock interventions.

Materials and Methods

Overview and sampling strategy. Data presented in this report was obtained from participatory rural appraisals (PRAs) of pastoral livestock keepers, as part of a larger data collection process. PRAs were carried out in the Togdheer region of northwestern Somalia, specifically the West Golis pastoral livelihood zone of the Sheikh district and the Toghdeer agro-pastoral livelihood zone of the Burco district (FSNAU-Somalia (2014)). Within each livelihood zone, settlements were stratified as being less than, or more than, 30 km from a major market and within each of these stratification levels five settlements were randomly selected, giving a total of 20 selected settlements. In each settlement, PRAs were conducted separately for male and female livestock keepers, using facilitators of the same gender, with group sizes ranging from 7 to 19 persons. PRAs were conducted from November to December 2013, in the Somali language.

A total of 506 pastoralists were involved in the PRAs, with equal gender representation (Table 1). A result of the availability of the pastoralists, male group members mainly represented settled households, whilst female group members mainly represented both semi-nomadic and settled households (Table 1). Few members of truly nomadic households were present, due to the difficulty in locating these households. It is also of note that many traditionally nomadic pastoralists in the region are settling, due to externalities such as civil war, drought, and restricted access to grazing land (this study, results not shown). Typically one member per household attended the PRA session, joining either the male or female group.

Table 1. Participatory rural appraisal group details.

PRA group	# of PRAs	# of participants	Number of households of different types		
			Nomadic	Semi-nomadic	Settled
Female	20	254	1	102	151
Male	20	252	12	16	224

= number

Objectives for keeping livestock. Objectives for keeping livestock were assessed using a rating matrix with livestock species (differentiated by male and female for some species) as column headings and objectives (both preset and 'other' as defined by group members) as row headings (see Table 3). Participants scored the matrix by placing between 0 and 10 stones (or similar objects) in each matrix, with 0 stones indicating an objective of no importance and 10 stones indicating a very important objective (Ejlersten et al. (2012)). Each male and female PRA group filled one matrix, omitting any livestock species they did not keep, and using at least one score of 10 per matrix. For male animals, the milk objectives were considered structurally empty**.** Whilst the exercise was performed for five species (camel, cattle, sheep, goat and donkey), cattle were only kept by 3 female and 7 male PRA groups, and thus these results are not reported here. Given the semi-quantitative nature of the exercise, results are interpreted based on broad trends.

Livestock ownership for all households represented in the PRAs is summarized in Table 2. Across both male and female groups the most common species kept was goat (97% of all households), followed by sheep (64%), camel (37%), donkey (20%) and cattle (9%). There were, however, more camel keeping households in the male PRA group than the female PRA group, possibly due to female household members not considering camels part of their household herd. Herd sizes varied considerably across households, with the largest herds found for goats (up to 500 per household). Breeds kept, where they could be named by the pastoralists, are also given in Table 2.

Table 2. Livestock ownership, as percent of households keeping species and minimum to maximum household herd size (in brackets), as well as main breeds kept.

PRA group	Camel	Cattle	Sheep	Goat	Donkey
Female	17 (1-30)	8 (3-19)	54 (2-300)	99 (1-500)	15 (1-5)
Male	58 (1-80)	9 (1-21)	75 (1-200)	95 (1-500)	25 (1-4)
			Main breed kept		
	Dromedary	North Somali	Blackhead Somali	Somali short – ear	Not known

Results and Discussion

The scoring of livestock keeping objectives for camel, sheep, goat and donkey, by female and male pastoralists, is given in Table 3. As expected, all species were kept for multiple objectives (up to 14), with differences in the relative importance of objectives across both species and PRA group gender.

The main objectives for keeping livestock, across species, can be broadly classed as domestic milk consumption and milk sale, income (mainly from sale of animals for slaughter, but also hire-out in the case of donkeys), domestic meat consumption and transport / carrying loads, for both male and female pastoralists, savings and insurance and drawing water from wells for female pastoralists, and sale of animals for breeding purposes for male pastoralists.

For camels, the most important objectives were milk sale, domestic milk consumption and carrying loads / transport, for both male and female pastoralists; drawing water from wells and savings / insurance for female pastoralists; and sale of animals for breeding purposes for male pastoralists. The scores indicated that male camels are strongly preferred for tasks such as load carrying and drawing water from wells, but that female camels are also used for these tasks.

For the small ruminants (sheep and goat) the most important objectives were domestic milk consumption, milk sale (goats only), domestic meat consumption (particularly sheep), and income, for both male and female pastoralists, as well as sale of animals for breeding purposes for the male pastoralists. It is of note that whilst domestic milk consumption was an important objective for both goats and sheep, sale of milk was only important in the case of goats.

Donkeys were kept for fewer objectives in comparison to the other species, with the most important objectives being drawing water from wells and transport / carrying loads (particularly important to the female pastoralists).

In addition to the most important objectives described above, all species where kept for further objectives. These were: ceremony / dowry, the use of hide / skin (used in the construction of housing, and also sold for cash or exchanged for goods), manure (used as a soil fertiliser for own cropping land, exchanged for access to fodder, or sold), ghee (a type of clarified butter), and human medical treatment (this requires further investigation, though it was mentioned that milk is used to treat snake bite and snake venom spit into eyes), for both male and female pastoralists. Further, male pastoralists indicated the use of bone (in foods / soups, also for oil). In addition, one male and female PRA group indicated keeping camel for ploughing and 'blood compensation' (camel payment for crime), respectively (results not shown in Table 3).

There were significant gender differences in the scoring of livestock keeping objectives, as described above and indicated in Table 3. The most striking of these is the sale of animals for breeding purposes, which scored highly for the male pastoralists and zero for all but one of the female pastoralist groups, over all species. Follow-up discussions confirmed that animals were specifically sold for breeding purposes by male, and not female, household members. The apparent strong market for breeding animals requires further investigation, but may be driven by pastoralists restocking after an extreme 2011 drought which depleted livestock numbers. Another objective that was scored considerably higher by the male pastoralists, in comparison to the female, was domestic meat consumption for camel. It

is also notable that female pastoralists scored savings and insurance (for camel, sheep and goat) higher than the male pastoralists, perhaps indicating that female pastoralists are more risk adverse than male pastoralists. Female pastoralists also scored transport / carrying loads and drawing water from wells (for camel and donkey) higher than the male pastoralists, likely reflecting the importance of these activities to daily female life.

Table 3. Pastoralist scoring of livestock keeping objectives (average across groups)[&]. An asterisk (*) indicates a significant difference between the female and male pastoralists' scores[+]: the higher of the significantly different scores is underlined.

Objective[§]	Male camel	Female camel	Sheep	Goat	Donkey
Female pastoralists					
Groups[#]	*12*	*12*	*20*	*20*	*12*
Sav. and Ins.	8.2*	8.2*	6.0*	6.3*	0.2
Dom. milk	-	9.5	8.3	9.8*	0.0
Dom. meat	1.7*	1.0*	8.2	6.2*	0.0
Milk sale	-	9.3	0.5	9.0	0.0
Income	5.2*	5.6	9.5*	8.4	2.8
Breeder sale	0.0*	0.0*	0.1*	0.1*	0.0*
Transport	9.6	1.3	0.0	0.0	9.5*
Well water	9.8*	0.8	0.0	0.0	9.8*
Cer. / Dow.	4.9	6.8	5.2	5.2	0.0
Hide / skin	2.0*	1.9*	3.1*	3.2*	0.0
Bone	0.0*	0.0*	0.0*	0.0*	0.0
Manure	1.1	1.1	1.5	1.5	0.0
Treatment	0.0	0.0	0.5	0.2	0.0
Ghee	0.0	0.0	2.0	1.7	0.0
Male pastoralists					
Groups[#]	*18*	*19*	*20*	*20*	*12*
Sav. and Ins	5.3*	4.0*	3.7*	3.5*	2.2
Dom. milk	-	8.7	7.6	9.2*	0.0
Dom. meat	6.1*	6.3*	8.4	7.4*	0.0
Milk sale	-	9.5	1.7	8.4	0.0
Income	7.4*	6.1	8.5*	7.8	5.6
Breeder sale	8.1*	8.2*	7.8*	7.7*	3.9*
Transport	8.8	2.3	0.3	0.4	5.8*
Well water	6.4*	1.5	0.6	0.5	6.3*
Cer. / Dow.	6.2	6.6	5.1	6.1	0.7
Hide / skin	3.8*	3.8*	4.7*	4.7*	0.0
Bone	2.3*	1.4*	0.9*	1.3*	0.0
Manure	1.5	1.4	1.8	1.8	0.5
Treatment	0.0	0.4	0.8	0.6	0.0
Ghee	0.0	0.0	0.5	0.4	0.4

[&]Scores ranged from 0 to 10, where 0 = not important and 10 = very important

[+] p-value < 0.05 via Student's t-test

[#] The number of PRA groups keeping the species

[§] Sav. and Ins = savings and insurance; Dom. milk = domestic milk consumption; Dom. meat = domestic meat consumption; Breeder sale = sale of animals for breeding purposes; Transport = transport and carrying loads; Well water = drawing water from wells or other water sources; Cer. / Dow. = ceremonial / dowry; Treatment = human medical treatment; Ghee is a type of clarified butter

Over the 14 objectives listed in Table 3, nine were scored significantly differently by the male and female pastoral groups, for one or more species, indicating the importance of assessing livestock keeping objectives on a gendered basis. When comparing the female PRA group scores between PRAs with mainly settled household representatives (which numbered 11) and those with mainly semi-nomadic household representatives (which numbered 6) results were similar, suggesting that the differences between the male and female PRA groups were indeed due to group gender rather than household type representation.

It was also of interest that the typical differentiation of large animals being kept for savings and insurance purposes and small animals being kept for income (due to their relatively small currency unit and high liquidity) (Ejlersten et al. (2012)) was much more pronounced for the female pastoralists than the male. That income and sale of breeding animals always rated higher than savings and insurance for the male pastoralists (even for camel) attests to the reported market orientation of this group of livestock keepers.

Conclusion

This study provides interesting insights into the livestock keeping objectives of Somalia pastoralists. Whilst the methodology employed (a rating matrix scored by the livestock keepers) is semi-quantitative, it provides sensible results in a relatively rapid and low resource manner.

As part of the larger project under which this data was collected, information has also been obtained on the pastoralist's selection criteria for livestock, as well as livestock attributes desired by both market traders and the importing Gulf countries. Combined analysis of these results will be performed with the view of identifying whether or not there are simple breeding interventions, such as changes in selection practices, which can be implemented to produce animals that better match the needs of both the pastoral livestock keepers and end consumers.

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