

# Socio-economic changes and their effects on agro-pastoral goat husbandry systems in semi-arid, sub-tropical mountain regions

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## Introduction

In Oman's mountain regions, lifestyles and infrastructure in rural communities are rapidly modernizing, which profoundly changes the local goat husbandry system. Aim of this study was therefore to analyse the effects of recent socio-economic changes on the traditional goat husbandry, farmers' pasture management practices.

## Materials and methods

- Semi-quantitative interviews were conducted with one adult of all goat-keeping households (HH) in three villages of the central Al-Jabal-al-Akhdar region (57°40'E, 23°02'N, 1000-2000 m a.s.l., n=28) in autumn 2006.
- HH composition, goat herd sizes, and labour input into goat husbandry were quantified.
- Size and stocking rates of village pastures were determined in 10 map-based key informant interviews.
- In September 2007, herbaceous ground cover and dry mass (DM) were estimated in 10x10m<sup>2</sup> plots along transects at grazed (n=14) and ungrazed (n=11) plateau sites.



Fig.1. Traditionally managed goats on Al Jabal al Akhdar, Oman.

## Results and discussion

Table 1. Herd sizes of goat-keeping households (HH) and sizes and stocking rates of village pastures of three oases villages.

Village	HH		HH members Mean±SD	Goats (n)	Herd sizes Mean±SD	Village pasture (ha)	Stocking rate (n ha <sup>-1</sup> )
	Total	Goat-keeping					
Ash Sharayjah	12	10	10.6±5.7	74	6.4±3.2	7.1	0.10
Qasha'	10	6	18.3±6.8	126	21.0±22.7	11.4	0.11
Masayrat ar Ruwajah	16	12	10.5±5.2	306	25.5±15.6	10.5	0.29

SD standard deviation

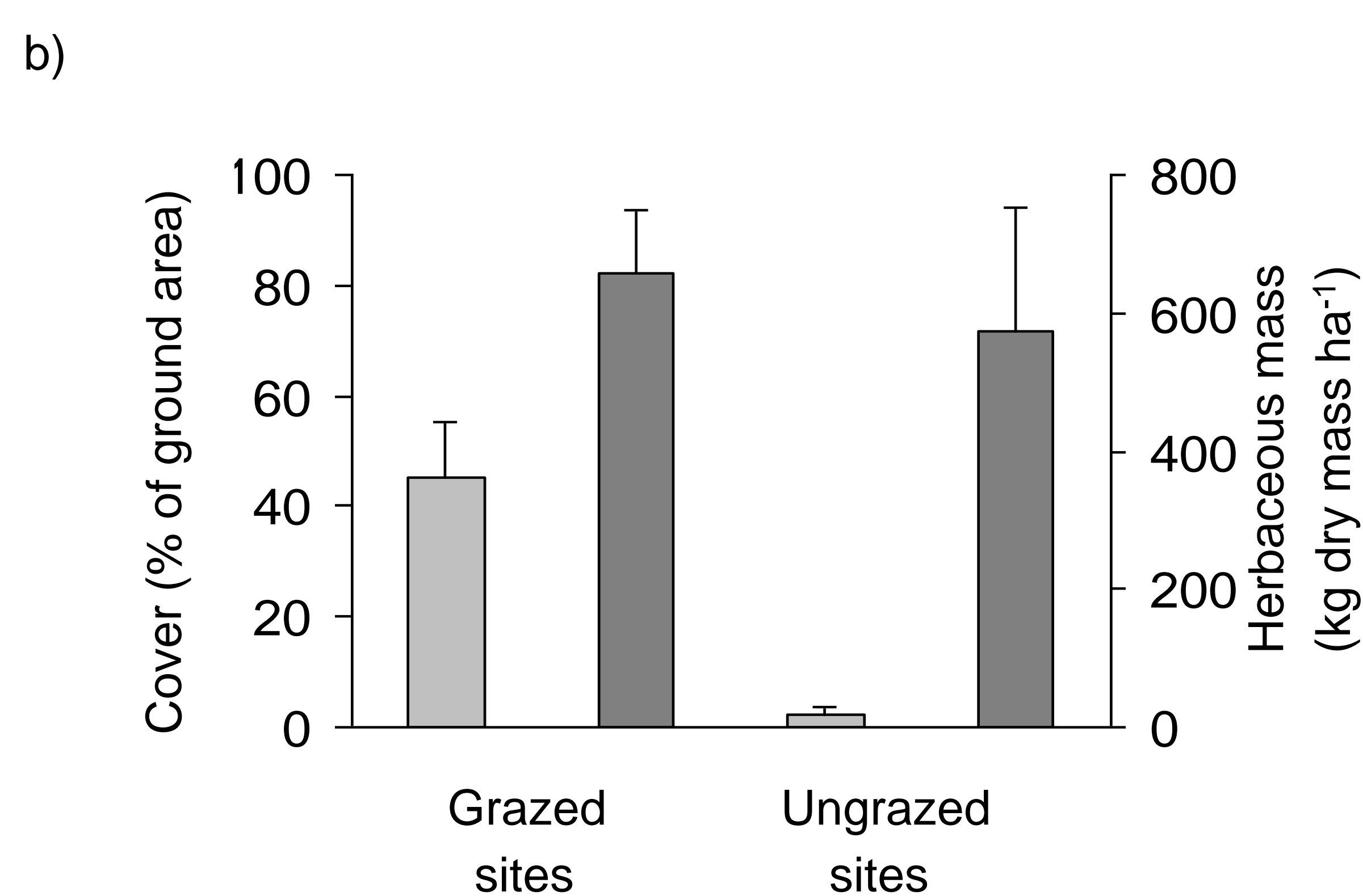
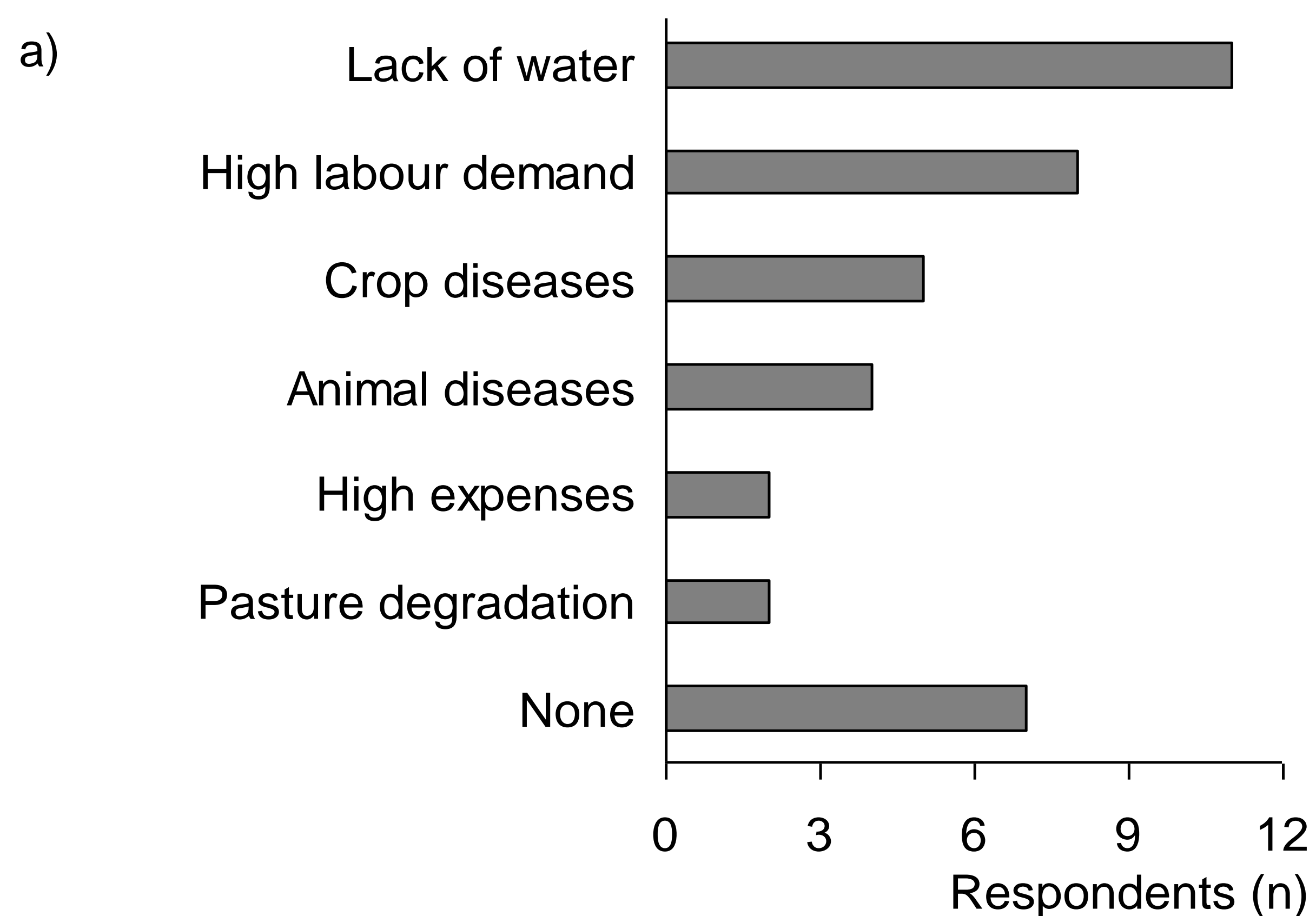


Fig. 2. a) Problems in crop and livestock husbandry perceived by farmers (n=28) in three villages (multiple answers were possible); and b) ground cover (primary y-axis) and mass (secondary y-axis) of the herbaceous vegetation at grazed (light grey, n=14) and ungrazed (dark grey; n=11) sites.

## Conclusions

Recent modernization processes in Oman's mountain communities have profoundly altered traditional goat husbandry, leading to a year-round grazing of the shrinking pasture areas. The abandonment of livestock herding due to labour shortage and of the traditional coordination of pasture use among villages amplify the degradation of the natural vegetation and therefore threaten the future of the agro-pastoral goat husbandry.

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