

BACKGROUND

- Climate variability and extreme have affected the resource components of the farming systems resulting in feed gaps for the livestock sector particularly affecting smallholder farmers in the Limpopo province.
- Feed gaps are results of biological and socio-economics factors that address a period of time throughout the year where feed is inadequate to sustain livestock productivity (Moore et al., 2009).
- A key point for any intervention strategies as a response to forage gaps is a sound assessment of the temporal pattern of feed availability and the understanding of the already existing farmer approach for their mitigation



AIM

Having the background in mind, the objectives of our study to capture farmers' perception by:

- Understanding the cattle production systems in the smallholder systems of Limpopo
- Exploring the vulnerability of the smallholder cattle farming to feed gaps
- Exploring differences in constraints and strategies between farm types

MATERIALS&METHODS

Based on our objectives, we surveyed 90 farms across 7 villages in the Limpopo province (Fig 1)

- We used semi-structured interviews to collect farm-specific information on feed gaps patterns and impacts (measured as farmer's perception), constraints and current strategies to cope/avoid feed gaps.
- Moreover, we used basic descriptive statistics and a non-parametric test to statistically check similarities and differences between percentages.

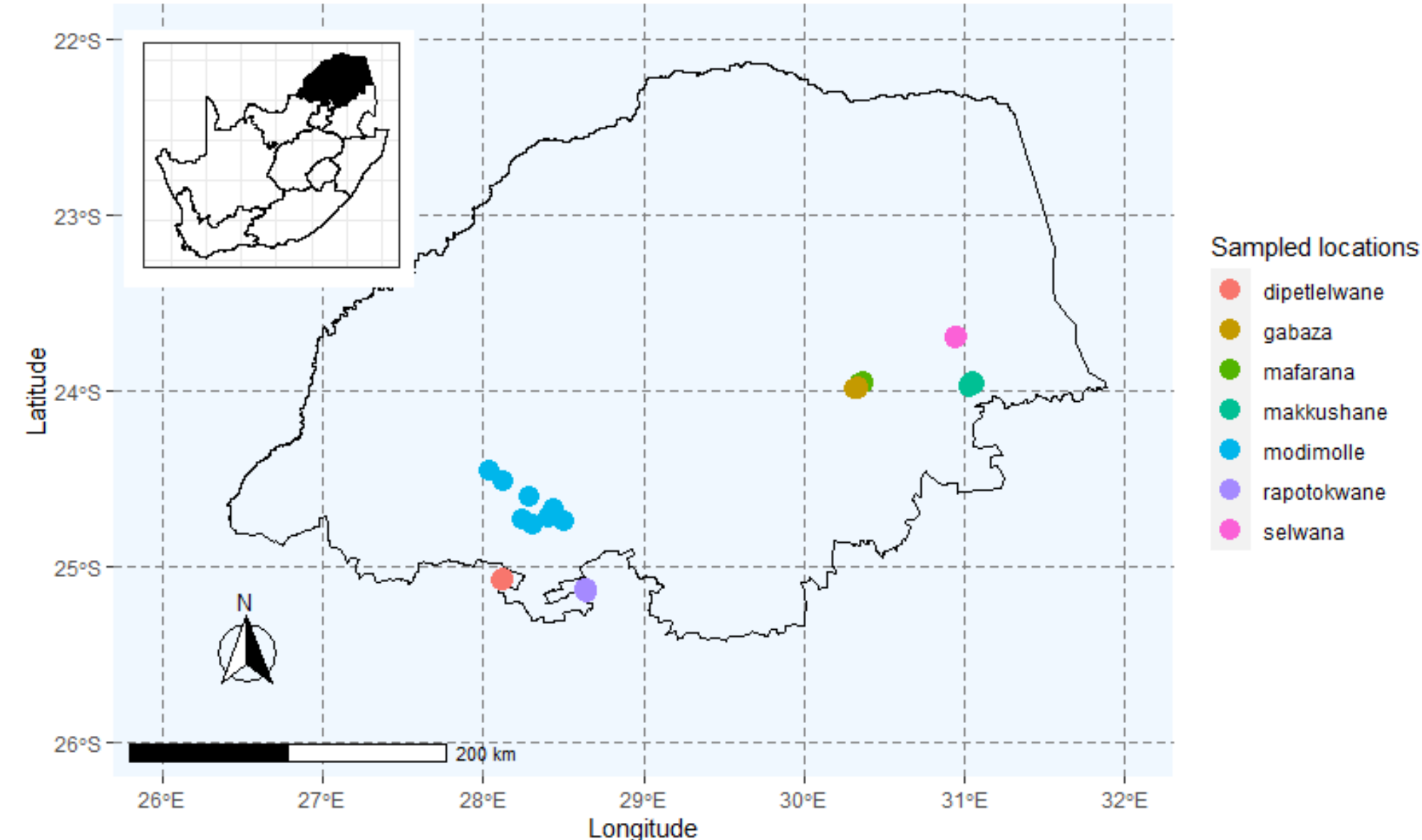


Fig:1 Map of the Limpopo province with selected sites

RESULTS

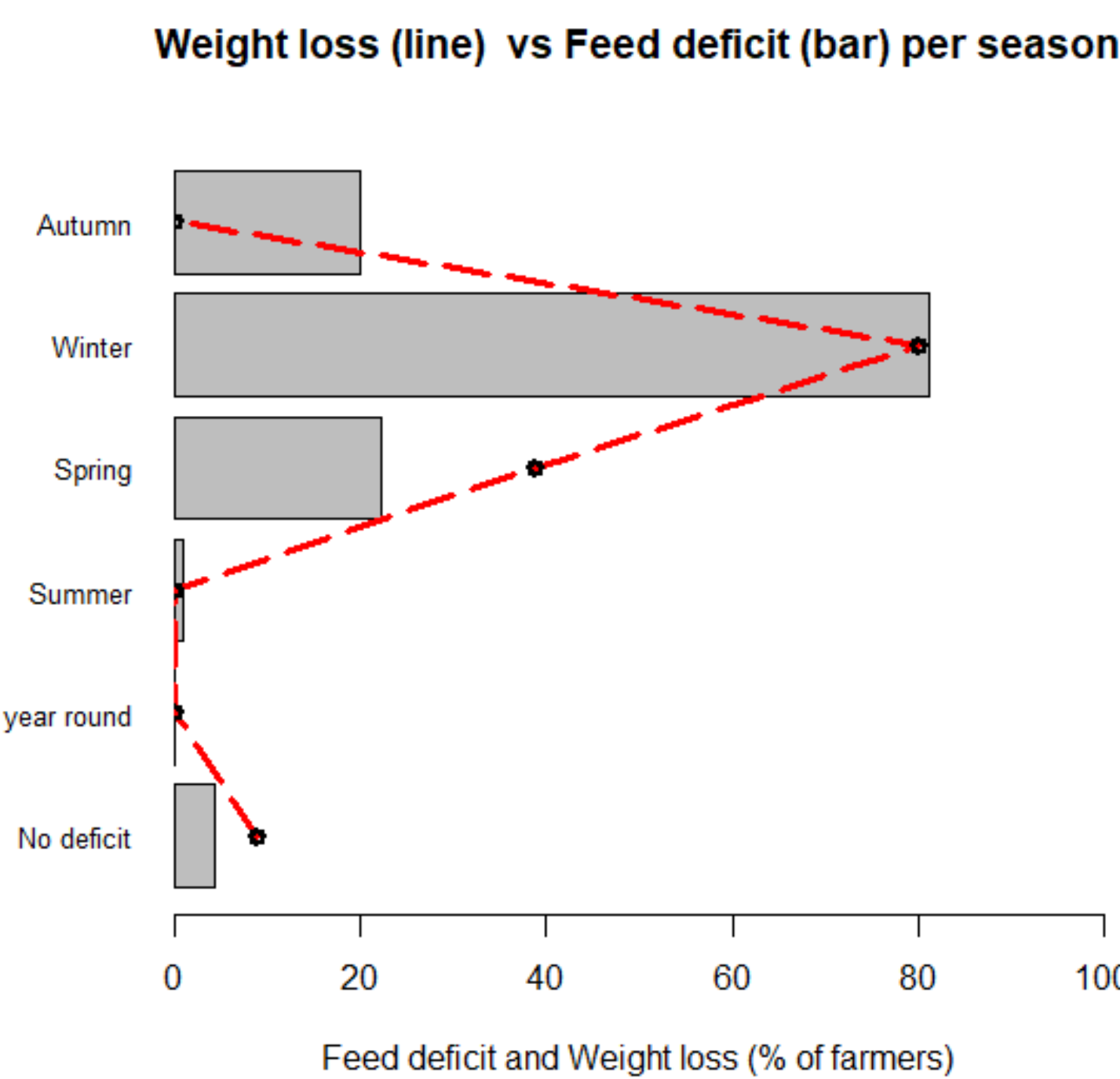


Fig 2: Farmers' perception on period of feed gaps and impact as cattle weight loss

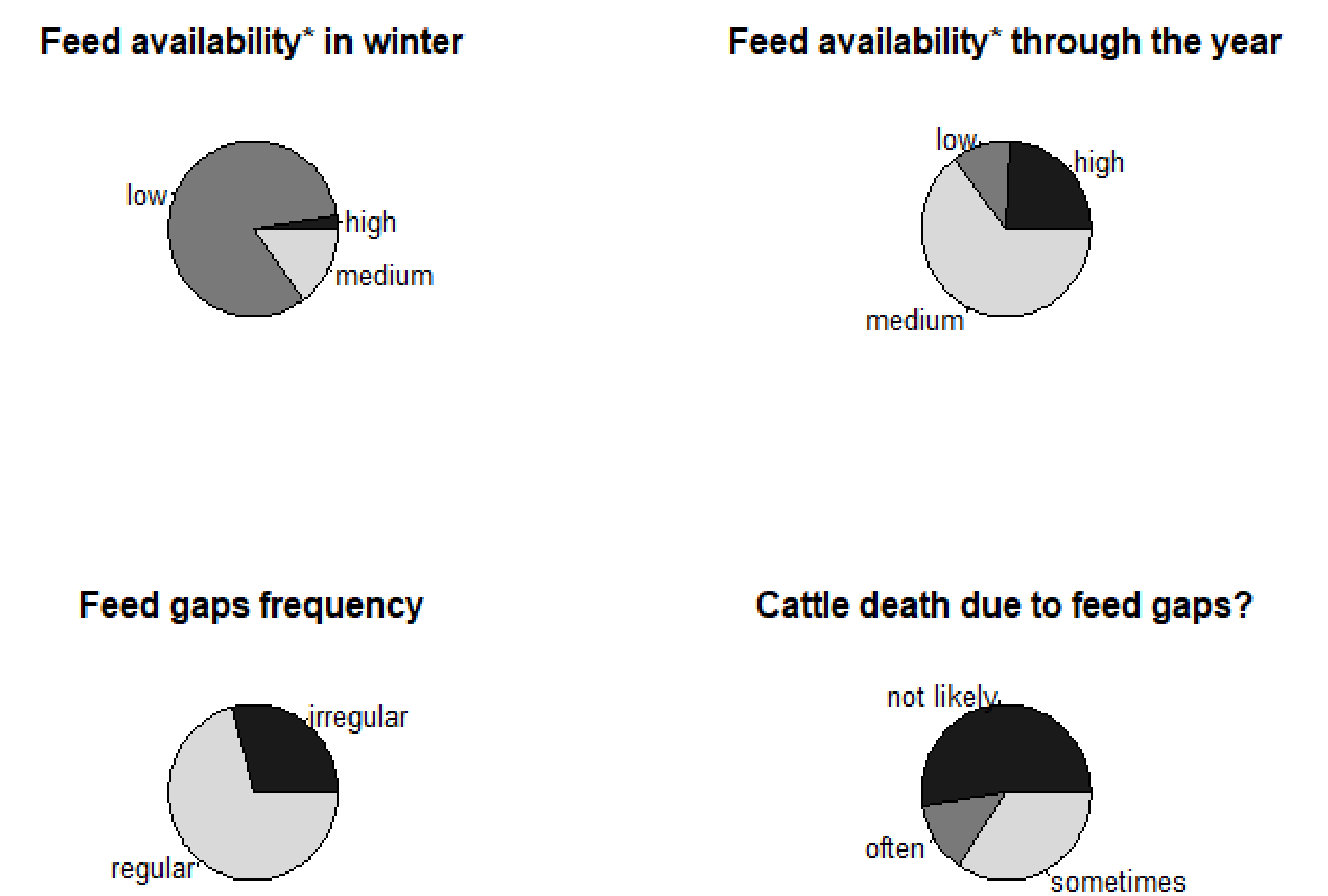


Fig 3: Farmers' perception on feed availability, feed gaps frequency and impacts on cattle productivity

Typically, farmers characterized feed shortages as dependent on the summer rainfall and distribution, linking the phenomenon to the intensity and the extreme weather events affecting the province. Consequently, the majority of the farmers (80%) observed feed gaps in the winter dry-season (June – August), followed by 20% of the farmers that observed feed gaps in Spring (September – November) (Fig 2). In addition, the impact of feed gaps were perceived as cattle weight loss mostly in the winter (80%) and spring (40%) seasons.

Furthermore, farmers asserted that feed gap is a regular within year phenomenon that may lead to cattle death (Fig 3) affecting the overall productivity of their livestock farms.

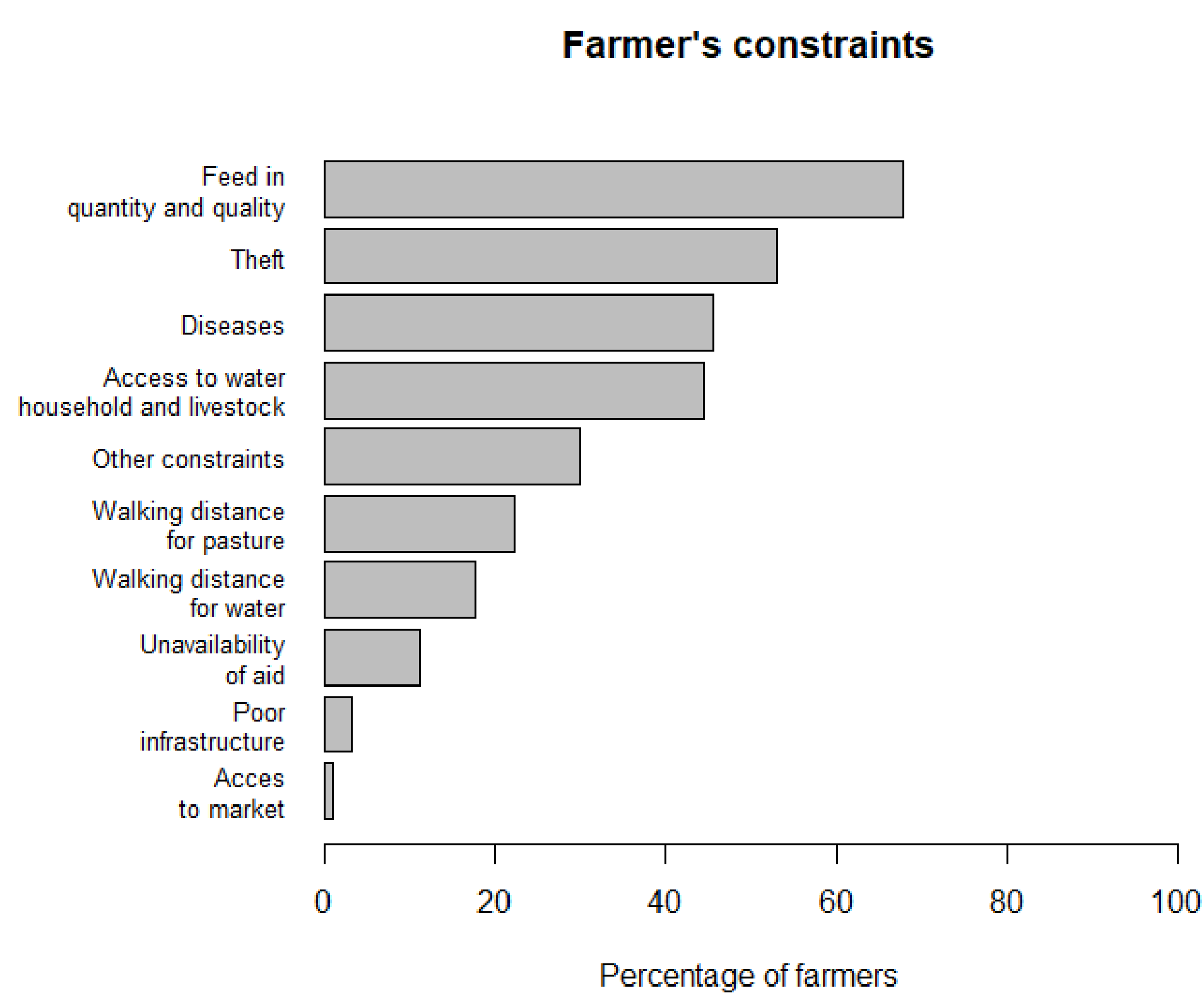


Fig 4: Farmers' perception on the top constraints affecting cattle farming

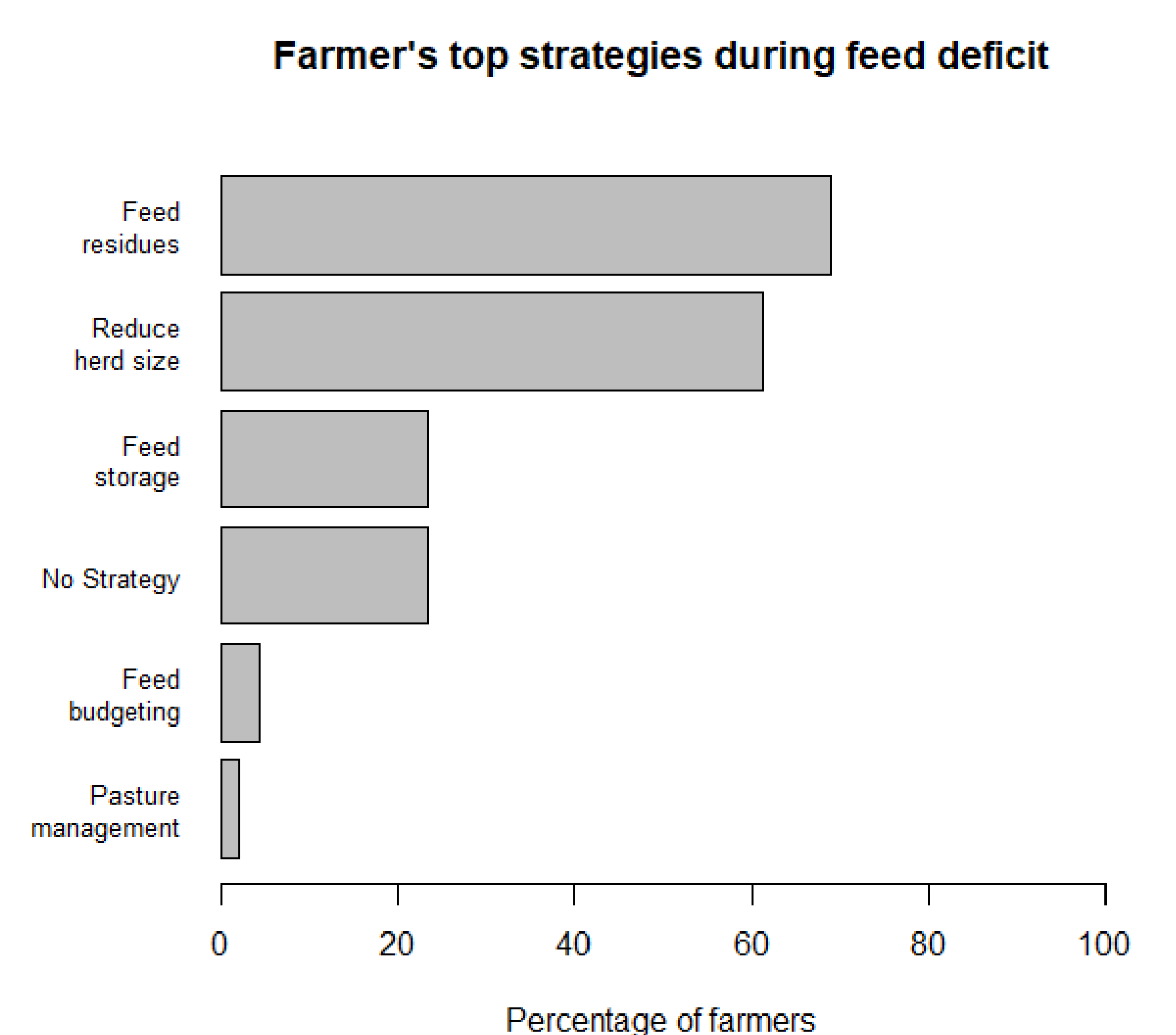


Fig 5: Farmers' perception on the top strategies to cope with feed gaps

In general, farmers claimed that feed availability in quantity and quality is the biggest constraints to cattle farming (Fig 4) and to counter this, farmers either feed crop residues or reduce herd size (Fig 5).

CONCLUSION

- Farmers perceived regular within year and year to year variability in the feed supply. Reducing the intensity and the frequency of the feed gaps on smallholder farms can greatly improve cattle productivity in the province.
- Among strategies to cope with climate induced feed gaps, crop residues provide the opportunity for farmers but offer limited benefits (poor quality)
- There is a need to alleviate the frequent and intense occurrences of feed gaps through strategical rangelands management and tactical forage base integrative responses



REFERENCES

Moore, A. D., Bell, L. W., Revell, D. K. 2009. "Feed gaps in mixed-farming systems: insights from the Grain & Graze program." *Animal Production Science* 49 (10): 736. <https://doi.org/10.1071/AN09010>