



Management of sustainable grazing systems in Morocco

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Abstract: *Pastoralism is a defining feature of Morocco's rural economy and culture, yet the sustainability of this practice is a key issue in an era of climate change and resource scarcity. This work summarises the findings of three months of fieldwork conducted in spring 2025 in central Morocco (Meknès-Ifrane), examining various grazing-based systems supporting sheep and goats through interviews, observations, and expert consultations. These systems included semi-intensive private farms with rotational grazing, community/tribal pastures with traditional regulations, and urban/peripheral grazing. The results highlight the diversity of Moroccan grazing practices, in which traditional ecological knowledge is combined with responses to modern challenges such as overgrazing, drought and land use conflicts. Success requires the integration of local knowledge and the active involvement of pastoral communities, which could be facilitated by organisations such as ANOC.*

• Introduction

Pastoralism, especially sheep and goat farming, remains vital to Morocco's rural economy and heritage. Yet its sustainability is threatened by drought, overgrazing, and land competition. The national Green Generation 2020–2030 strategy seeks to modernize agriculture while preserving rural livelihoods. This study explores how traditional grazing knowledge interacts with these modern challenges in Central Morocco.

• Material and method

Three months of fieldwork (Spring 2025) were conducted in the Meknès-Ifrane region through farm visits, semi-structured interviews, and expert consultations (ANOC, ANEF). Sites ranged from private rotational farms near El Hajeb to mountain pastures in the Atlas. Observations covered grazing practices, land tenure, local breeds (Sardi, Timahdite sheep), and adaptive techniques.



• Results and discussions

Morocco's grazing systems are highly diverse:

- Private semi-intensive farms use rotational grazing and supplementary feed.
- Community pastures operate under tribal rules, including the Agdal seasonal-closure system.
- Urban peripheral grazing relies on fragmented green spaces near cities.
- Mountain pastures remain extensive but face feed shortages and reduced vegetation.
- Overgrazing & erosion: Loss of traditional lowlands to privatization increases pressure on communal land.
- Climate change & drought: Supplementary feeding and water scarcity add costs and stress.
- Land use & coordination: Policy-driven land conversion weakens traditional management structures.

Shepherds apply long-standing ecological knowledge—timing rotations, conserving forage, digging wells, and selectively breeding resilient rams. Agdal governance still supports regeneration, though enforcement varies. Blending this local knowledge with science-based monitoring could enhance resilience.

• Conclusions

Morocco's grazing systems are dynamic but fragile. Integrate grazing measures into the Green Generation strategy. Empower ANOC to connect shepherds and policymakers. Promote participatory co-design of pilot projects and model farms. Reinforce community rules (e.g., Agdal) and support local adaptation plans for feed and water management.