

FR2.3: “Even the Goats Feel the Heat:” Gender, Livestock Rearing, Rangeland Cultivation, and Climate Change Adaptation in Tunisia

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- Far less is known about the **impacts of climate change on livestock production** in the region.
- Women's **involvement in rangelands** in Tunisia and the **effects** of climate change upon their **livelihoods** are both **policy blind spots**.
 - To make women's contributions to **rangeland use more visible** and to **provide policy inputs** based on women's needs and priorities into the reforms currently being made **in the pastoral code in Tunisia**, we conducted fieldwork in three governorates of northern and southern Tunisia which differ in socio-economic and ecological dynamics.

- Over the **past 30 years, the total area of rangeland has decreased by 30%** (the corresponding losses are estimated at 74 million TND every year – or **18% of the economic value of rangeland goods and services**):
- **Livestock rearing** tends to be a **significant** (if not the primary) livelihood activity for rural households and communities, especially in the **South** which have more extreme climates where **crop cultivation is not as reliable**
- In both dry and non-dry areas, **livestock can serve as a reliable food source** by providing milk and meat and as a **support for agricultural work**, for example by providing traction for carts and pulleys and manure for fertilization of crops, thereby serving as a **security mechanism which allows households to earn income and build resilience.**

- The three communities **differ in socio-economic and ecological dynamics**:
 - While people in **Medenine and Tataouine** graze their livestock and usually collect livestock feed from the rangelands, in **Zaghouan** people are more likely to harvest feed and forage from crops such as rapeseed, barley, and wheat.
- In **Tataouine**, livestock rearing is often carried out at a **commercial scale**: the average number of livestock owned by a household in **Tataouine is 82 heads**, whereas on average the herd sizes are **13 heads in Medenine** and **9 heads in Zaghouan**.

Taking a **comparative approach** toward the three communities enables us to identify **diverse experiences not just of women's involvement in livestock rearing but also gendered impacts and outcomes of climate change**, rendering our recommendations relevant for a **diverse array of dry and desert communities in the MENA region**.

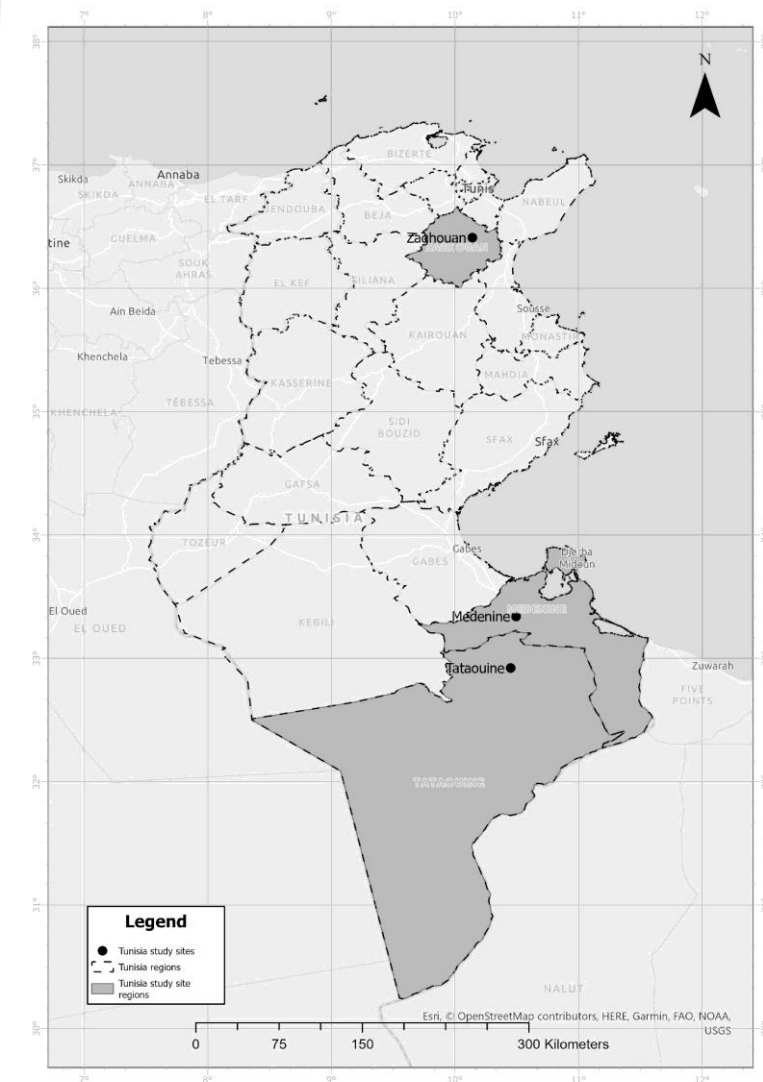


Figure 1. Study Sites in Northern and Southern Tunisia.
Source: Map produced by GIS Unit at ICARDA.

- Recognizing a need to integrate gender more effectively into Tunisia's livestock and rangeland management projects and policies, ICARDA brought together key government institutions, local communities, and international actors - under the auspices of the CGIAR Research Program on Livestock - to design practical research tools (interviews and focus groups) to guide research activities.

- The questions that emerged from this consultation guided our interview and focus groups for this project, which were aimed at understanding women's and men's ownership and control of assets such as land and livestock, access to livelihood training and innovations, their respective roles in grazing of livestock, all within the context of understanding the impacts of climate change and coping strategies.

Table 1. Interviews conducted in the three regions.

	Medenine	Zaghouan	Tataouine	Total
Women farmers	30	19	30	79
Men farmers	30	21	30	81
Key Informant Interviews	2	2	2	6
Total	62	42	62	166

Table 2. Focus groups conducted in Medenine and Zaghouan.

	Medenine			Zaghouan			Total	
	N° of FG	Number of participants in each FG	Total number of participants	N° of FG	Number of participants in each FG	Total number of participants	N° of FG	Total number of participants
Women	4	10	41	2	11	22	6	63
		12						
		11						
		8						
Men	4	10	38	2	11	22	6	60
		10						
		10						
		8						
Total	8	79	4	44	12	123		

- Participants in **Medenine** reported a **lack of youth engagement in agriculture** and a **reduction in size of livestock herds** over the years due to **increases in feed prices and limited availability of labour**.
 - This resonates with our finding that the **average age for male farmers in Medenine was 57 years versus 45 years for women**.
 - Although grazing livestock is traditionally considered a male activity and women did not report grazing as a key activity in Medenine, **men** from the same community **identified grazing as increasingly becoming women's responsibility**.
- In Tataouine, **men were deemed solely responsible for camel rearing** while women, especially if the herd size was smaller, took on responsibility for **goats and sheep rearing**.
- Male and female respondents in the three communities identified **men** as almost exclusively responsible for **marketing, particularly for selling and purchasing livestock, feed, and other inputs such as fertilizer**. However, both male and female respondents noted that **women in Medenine were also increasingly performing these market roles**, albeit to a lesser extent than the men in their families, probably a consequence of male outmigration and declining male (including youth) participation in agriculture in Medenine.

- **In addition to collecting feed and stall cleaning, our findings revealed that significant numbers of women graze livestock in all three communities.**
- **Such findings contradict misperceptions held in policy circles, including those expressed in the stakeholder workshop preceding our study, that women rarely carry out livestock grazing activities.** Failing to consider women's needs and priorities in formulating policy about rangelands not only deprives women of voice and representation in policymaking, but also deprives rangeland management policy of women's insights and knowledge.




- **“When we talk about inheritance in Southern Tunisia we do not talk about the law or religion, we talk about customs: sisters want to preserve natal relations with their brothers and avoid conflict over property and resources, as such they do not claim their legal or religious rights to land,”** explained a key informant from Tataouine.
- Nonetheless, male and female respondents in the three areas reported **being able to access and use land for farming and grazing, irrespective of the gender of the owner.** Our findings from these communities suggest that women contribute significantly to livestock and farming despite their limited ownership of land. **This finding may also explain why women have more equitable access with men to rangelands collectively owned by communities.**

Unlike land, larger numbers of women owned livestock in the three communities, either independently or jointly with their spouses.




- In Zaghouan women **mostly owned sheep** while they were more likely to **own goats in Tataouine and Medenine**.
 - Women who owned livestock had either inherited them from parents, purchased livestock independently or with a family member with their own savings, received them as gifts from spouses or from a livestock development project.
- However, a different scenario presents itself for **camels**, which are only reared in the Tataouine site and **owned exclusively by men**. We found only one woman who owned camels in Tataouine.
- **Women also had significant agency over livestock acquisition and use**, which we define as the ability to decide to buy, sell, butcher, or trade livestock. **Male respondents in both communities reported joint-decision making with their spouses much more frequently for livestock than for land.**




- Our research in Tunisia revealed other details specific to region and type of livestock.
 - For example, **both men and women were more likely to report joint-decision-making for goats than for sheep.**
 - Households in Tataouine were the **least likely to report joint decision-making, especially with regards to camels, which were almost exclusively controlled by men.**
- **Additionally, male and female respondents provided different reasons for consulting with their spouses about decisions relating to livestock.**
 - **Men** explained that they **consulted** with their spouses about livestock because their **spouses did most of the feeding and tending of livestock.**
 - However, **women** were more likely to **justify consulting with their husbands in order to abide by traditional patriarchal social norms of male household headship:** “I consult with my husband for any big or small issue. Even if I want to get water, before he leaves to work, I tell him that I will be getting water today. We discuss to make decisions, but the final decision belongs to my husband.”

These findings suggest that “**jointness**” in decision making may mean different things to **women and men** and may **not translate into equity in decision making.**

- Both men and women respondents reported that climate change has led to **reduced crop yields and crop failure, reduced purchasing power** due to higher dependence on purchased feed, **reduced grazing time** due to higher temperatures and degradation of rangelands, **reduced work opportunities in the rangelands, greater fatigue among women** due to the extra work involved in fetching fodder from farther locations, **and a loss of interest and hope in rangeland cultivation and livestock production as viable livelihoods**, particularly among young people. 
- Both male and female respondents reported that **although women's greater involvement in activities such as grazing and gathering grass as livestock feed had become more noticeable in Medenine in recent years, women in Zaghouan had also become more actively engaged in agriculture and livestock rearing because of male outmigration.**
- **Men** from the three communities were reported to be **leaving in greater numbers** in recent years for off-farm opportunities in the cities, in manufacturing, for example. 
- **Male respondents** from all three communities noted that the **land available for rangeland cultivation and livestock rearing had shrunk because of increased tree planting, particularly olives**, which many farmers had resorted to in order to slow down soil erosion and desertification, especially in Tataouine. 

- Study respondents also mentioned feeding livestock **more often in their stalls to protect them from dehydration and overheating instead of allowing them to graze outdoors.**
- As one female respondent noted, “Even the goats feel the heat.” Whereas goats and sheep were likely to graze and defecate in the rangelands previously, **higher temperatures were forcing farmers not just to feed livestock and keep them in their stalls for longer periods but also to bathe them occasionally to protect them from overheating.**
- Since women were more likely to be responsible for collecting livestock feed, bathing livestock and cleaning the stalls in which sheep and goats are sheltered, **these changes have considerably increased women’s workloads in recent years.**

- Female participants in the focus groups we conducted in both Medenine and Zaghouan emphasized that PRODESUD (36 million USD) as well as other **rangeland support projects almost exclusively targeted men**. [Only 4.14% of PRODESUD's beneficiaries were women.] 
- **Female participants** in the focus groups we conducted listed the following **measures** as critical for improving livestock production in their communities: **support for digging wells and subsidizing feed; protecting rangelands and allowing farmers to graze their livestock on larger tracts of land** (they emphasized that although tree planting reduced soil erosion, trees also had the effect of reducing the rangeland available for grazing); **providing women with financial and technical support for livestock rearing and dairy production; and introducing measures to control fires on rangelands and to reduce theft of livestock.** 
- In addition to prioritizing the protection of rangelands to enable grazing, male respondents also identified the importance of **planting cactus as livestock feed, creating tree and shrub canopies to provide shade for livestock to rest under, improving access to labour to compensate for youth outmigration, and locating feed markets closer to grazing areas to reduce transportation costs.** 

- **Although men did not explicitly identify support for women to participate in livestock rearing and dairy production** as a priority, it was clear from our focus group and interview findings that women were already actively engaged in livestock rearing and dairy production. **That women's needs and priorities were frequently ignored or trivialized in rangeland management projects and policies was emphasized repeatedly by female participants in our study.** 
- The training prioritized by all respondents correlated well with the training that was already offered by agricultural extension services. One notable exception based on gender was the training on **drought and water management**, which appear to have been **provided almost exclusively to men**. While female respondents in Medenine and Zaghouan expressed an interest in receiving this type of training, not a single female respondent reported having received this training in either community. 
- **Male respondents also wanted training in cheese making, which is currently only offered to women, to also be made available to men.** 

- **Understanding how women use rangelands is a necessary first step to ensuring that they benefit from rangeland management at par with men.** Women's feedback and priorities should be considered critical for the sustainable and equitable use and management of rangelands.
- **Women's growing involvement in livestock rearing and agricultural production must be supported with commensurate social and economic policy interventions.**
 - **As an example, it is crucial that women gain access to drought management and adaptation training at par with men.**
- **Most of the training about drought management focused on supplementary and alternative irrigation techniques and practices.** Complementary drought mitigation and management strategies e.g., **the introduction of cacti, including as livestock feed, and other drought tolerant crops and animal breeds** were not explored by extension system and are worth exploring.
- **While preventing further degradation of rangelands is vital for enabling farmers to continue food and forage production, creating access to fodder markets and providing subsidies to enable farmers to purchase fodder** are also important as complementary measures to **ensure that livestock have fodder supplies and that rangelands are occasionally allowed to remain fallow to regenerate.**

- Skills and training related to drought and irrigation were targeted almost exclusively to men. **It is crucial that women gain access to drought management and adaptation training at par with men.**
- Alongside increasing women's access to such training, it is important to **create more visibility and social acceptance for women in roles such as irrigation, grazing and marketing that are deemed masculine.**
 - This will **enable more women to participate** in rangeland cultivation and livestock rearing **on a more equal footing with men and to voice their concerns** and priorities in policy dialogues.
- Just as women expressed interest in learning skills that were traditionally only offered to men, we found that many **men were interested in learning skills such as cheesemaking that were traditionally only offered to women.**
 - Since **livelihood diversification and rangeland protection are shared priorities for rural Tunisians, irrespective of gender**, it is also important for **men to have opportunities to pursue livelihood opportunities that were traditionally deemed “women's work” without experiencing social stigma or censure.**