



TRANSFORMING AGRIFOOD SYSTEMS WITH FORESTS

29 Sept 2022 | 13:00–17:00 CEST (UTC+2)



Food and Agriculture
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HOW CAN EXTENSIVE GRAZING BE BENEFICIAL FOR THE RESTORATION OF DRYLAND ECOSYSTEMS?

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Livestock, Climate
and System
Resilience



Science for resilient livelihoods in dry areas

Overall Objective

Improve the livelihood of agro-silvopastoral communities through increasing resilience, income and capacity of the local population.



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Science for resilient livelihoods in dry areas

Approach

To achieve this objective, the initiative is axed on the following pillars:

- Adopt a **participatory multidisciplinary approach**
- Implement selected proven technology aimed at sustainable development of the silvopastoral production system with focus on climate change adaptation (choice intervention, choice of species, etc.)
- **Enhance capacity** of all concerned parties.



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What kind of landscape we want to have?



- **History:** How did we come to where we are? [What lead to the degradation?]
- **Context:** What is the context within which the restoration or rehabilitation is going to take place?
- **Risks and drivers of change:** What are the risks and drivers of change that we need to take into account?



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Choice of Species

- Favoring as much as possible the use of indigenous and well-adapted species.
- Select species that require minimum care and protection:
 - Less capital and labor demand
 - Social fencing versus physical fencing
 - Carefully considering the use of exotic species

Ceratonia siliqua
(Carob tree)



Medicago arborea
(tree medic)



Hedysarum coronarium L. (S



Pistacia lentiscus L.
(lentisque pistachier)



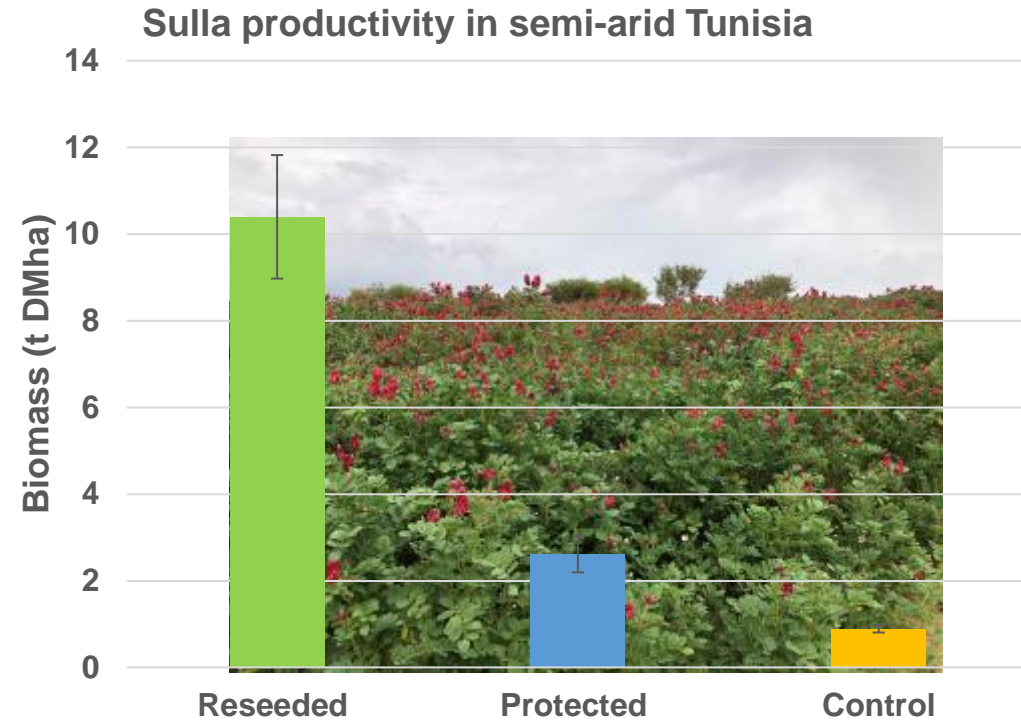
Grazing Management

- Perennial grasses plants need grazing to stay alive
- Forage trees should be grazed but they have to be pruned every 2 to 3 years so the grazable biomass (leaves) can be accessed by animals (browsers)
- Grazing duration is estimated based on the carrying capacity (number of animals and forage availability – taking ~ 50% and leaving 50%)



Project impact

- In a relatively short time, the project showed considerable impact summarized below:
 - Increased biomass (10 folds) and reduced feeding cost by 70%.
 - Afforestation survival rate higher than 80%
 - Reduced soil erosion ~ 5 T/km²/year while storing at least 280 m³ of water as well as reducing runoff water loss by approximately 800 m³/ha.
 - Enhanced capacity development (500 trainees).





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Success factors

- Multi-stakeholder engagement and institutional collaborations that leverage resources and knowledge and improve overall efficiency of the actions
- Long-term investments by financing agencies and long-term commitment by actors
- Favorable and supportive national and local policy processes
- Use of local practices and knowledge in the implementation scheme
- Empowerment of the community to own the process



Summary

- Use of a particular intervention in the restoration of degraded silvopastoral site is site specific – no one single rule to apply anywhere!!
- Restoration/rehabilitation without management is useless
- Inappropriate policies cause damage
- Need to develop further capacity of national institutions (new tools monitoring, grazing management)



Thank you!

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