



## FLEXIBLE LIVESTOCK GRAZING FOR SOIL AND ECOSYSTEM RESTORATION

Restoring rangelands: the art of flexible livestock grazing to restore soil health, ecosystem function and ecosystem services.

**2024**  
1st Edition

(Photo: Mounir Louhaichi/ICARDA).

Nomadic livestock systems have evolved over millennia in response to seasonal rainfall patterns. In Tunisia, where approximately one-third of the land is semi-arid, arid, or desert, degradation poses a significant challenge. The Gdel resting technique, a low-cost intervention, has been part of the national strategy for rangeland improvement since 1990, and is implemented by developing agencies for rangeland improvement. The pastoralists whose animals would normally graze in these areas are supported through the provision of feed supplements for 3 consecutive years. However, the implementation had its shortfalls. In 2018, unexpectedly high rainfall led to abundant vegetation growth, but the rigid implementation of the resting technique hindered pastoralists from capitalizing on the surplus biomass. In response, ICARDA developed flexible or opportunistic grazing criteria and trained partners to adapt to climate variability. This innovative approach allows pastoralists to optimize resource utilization during favorable years and addressing the shortcomings of previous implementations.



THIS INNOVATION IS CHARACTERIZED AS

### Radical Innovation

Innovations that are new and replace existing products, systems, services and/or policies but do not cause or require major reconfiguration of farming, market and/or policy/business models.



THE NATURE OF THIS INNOVATION IS

### Technological Innovation

Innovations of technical/material nature, including varieties/breeds; crop and livestock management practices; machines; processing technologies; big data and information systems.

### INITIATIVES, PARTNERS AND ESTIMATED USD INVESTMENT

#### LEAD INITIATIVE

INIT34: **Livestock and Climate** – Livestock, Climate and System Resilience

#### CONTRIBUTING INITIATIVES

INIT31: **Agroecology** – Transformational Agroecology across Food, Land, and Water systems

INIT10: **F2R-CWANA** – Fragility to Resilience in Central and West Asia and North Africa

#### CONTRIBUTING CENTRES

ICARDA – International Center for Agricultural Research in the Dry Areas

#### PARTNERS INVOLVED

DGF – Direction Générale des Forêts Tunisie – Scaling, Demand partner

OEP – Office de l'Elevage et des Pâturages – Scaling, Demand partner

GDA El Daher – Agricultural Development Group El Daher Tunisie – Scaling, Demand partner

PRODEFIL – Project for Agro-Pastoral Development and Associated Value Chains in the Medenine Governorate, Tunisia – Scaling, Demand partner

### IMPACT AREAS



Nutrition tag  
**1 - Significant**



Poverty tag  
**1 - Significant**



Gender tag  
**0 - Not Targeted**



Climate tag  
**1 - Significant**

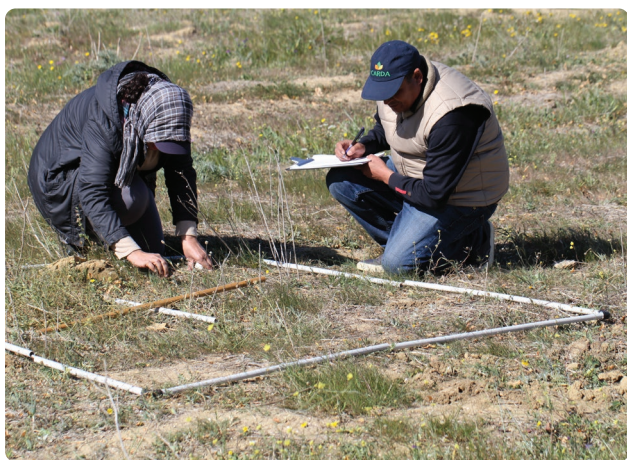


Environment tag  
**1 - Significant**





High intensity short duration grazing. (Photo: Mounir Louhaichi/ICARDA)



Vegetation sampling for estimating carrying capacity. (Photo: Mounir Louhaichi/ICARDA)



Small ruminant grazing in southern Tunisia. (Photo: Mounir Louhaichi/ICARDA)



## ANTICIPATED INNOVATION USER(S)

### ORGANIZATIONAL CLIENTS



**Farmers / (agro)pastoralist / herders / fishers**

♂ Youth ♂ Non-youth



**Policy actors (public or private)**

Sex and age disaggregation does not apply

### ORGANIZATIONS

**Government**

🏠 National

**RESPONSIBLE INNOVATION**

## PROMOTE GENDER EQUALITY AND SOCIAL INCLUSIVITY

 No actions taken yet

## LIMIT UNINTENDED CONSEQUENCES

 No negative consequences or impacts expected

## INNOVATION TEAM DIVERSITY

 Gender diversity

 Diversity in years of experience

 Diversity in expertise

**THIS INNOVATION IS EXPECTED TO CONTRIBUTE TO THE FOLLOWING IMPACTS**

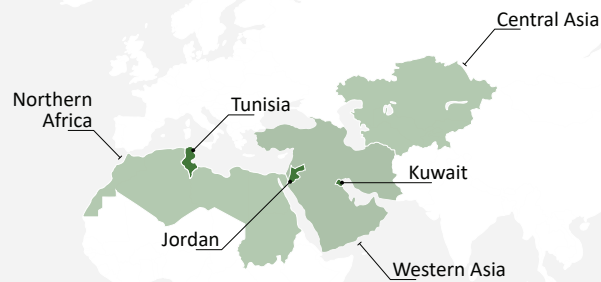
## CGIAR IMPACT AREAS &amp; COLLECTIVE GLOBAL TARGETS



## SDGs AND SDG TARGETS



## DEVELOPED, TESTED AND/OR SCALED REGIONALLY



 Pilot countries  
 Pilot regions





Herd's mobility is key to opportunistic grazing. (Photo: Mounir Louhaichi/ICARDA)



## ACKNOWLEDGEMENTS

We would like to thank all Funders who support this innovation through their contributions to the **CGIAR Trust Fund** ([www.cgiar.org/funders](http://www.cgiar.org/funders)). Additional bilateral investment for this innovation has been provided by the Livestock and Climate initiative, DGF, OEP, PRODEFIL and GDA El Daher.



## MORE INFORMATION

### WEBSITES AND DOCUMENTATION

- <https://repo.mel.cgiar.org/handle/20.500.11766/13291>
- <https://hdl.handle.net/10568/125785>
- <https://hdl.handle.net/20.500.11766/10498>
- <https://hdl.handle.net/20.500.11766/66517>
- <https://hdl.handle.net/10568/125779>
- <https://hdl.handle.net/20.500.11766/13291>

### CONTACT PERSON

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### CITATION

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<https://hdl.handle.net/--->



## CURRENT INNOVATION READINESS

9

### PROVEN INNOVATION

The innovation is validated for its ability to achieve a specific impact under uncontrolled conditions

8

### UNCONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under uncontrolled conditions

7

### PROTOTYPE

The innovation is validated for its ability to achieve a specific impact under semi-controlled conditions

6

### SEMI-CONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under semi-controlled conditions

5

### MODEL/EARLY PROTOTYPE

The innovation is validated for its ability to achieve a specific impact under fully-controlled conditions

4

### CONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under fully-controlled conditions

3

### PROOF OF CONCEPT

The innovation's key concepts have been validated for their ability to achieve a specific impact

2

### FORMULATION

The innovation's key concepts are being formulated or designed

1

### BASIC RESEARCH

The innovation's basic principles are being researched for their ability to achieve a specific impact

0

### IDEA

The innovation is at idea stage

### INNOVATION READINESS JUSTIFICATION

Two workshops were organized with all concerned stakeholders including pastoralists. Since the innovation is based on common sense which were validated by science.

### EVIDENCE

[shorturl.at/hfSca](https://shorturl.at/hfSca)

[shorturl.at/lreOn](https://shorturl.at/lreOn)