“Positive Grounds for Agroforestry-Based Systems in Tunisia to Transform to more Equitability and Inclusiveness”

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Adaptive Scaling Strategies
Food System Actors Apply Agroecological Principles Suited to Particular Context – from Food Production to Consumption

WP3: Inclusive Business Models with a Focus on Agroecological Principles

WP4: Coherent policies & Institutional Arrangements conducive to Agroecological Transition

WP2: Evidence-Based Agroecology Assessments

WP5: Understanding & Influencing Behavioral Change

Agroecology, an Approach to Enhance Food System Resilience, Equity and Sustainability

Initiative Overview

WP1: Transdisciplinary co-creation of innovations in a Network of Agroecological Living Landscapes (ALLs) to Test and Understand the Benefits of Agroecological Approaches

WP3: Inclusive Business Models with a Focus on Agroecological Principles

WP4: Coherent policies & Institutional Arrangements conducive to Agroecological Transition

WP2: Evidence-Based Agroecology Assessments

WP5: Understanding & Influencing Behavioral Change

Agroecological Living Landscapes

3-Year Outcome

Contextually relevant agroecological principles applied by farmers and communities across a wide range of contexts and supported by other food system actors by 2024.
Visioning as a follow up and initial step of establishing a clear agroecological transition

- It is part (or early beginning) of the process for re-designing agricultural and production systems.
- It encourages creative and unrestricted discussion, and enable the creation of ‘desirable futures’ by the participants to find shared ambitions and go beyond the single interests of specific stakeholders’ groups.

VISIONING

Consideration of Multi-Stakeholders Objectives

Social Categories

Inclusion

Social (values), Environmental Economic Practices

Visioning with Men & Women

These Principles also ensure, to a some extend, a strong inclusiveness and representativeness of local FSA, projects, and institutions

(Triomphe et al, 2022)

Implementation: Vision2Action Process
Experts’ consultation for better refinement of the agricultural systems, value chains, etc.

Regional Workshops at the ALL Level

Facilitation of a National Workshop With research and development Actors

Prioritization of food systems, commodities, value chains, and potential technologies to be object of the project investments (release some of the constraints generated by the visioning)

Refined Prioritization Through Experts Consultation

Which Agroecological Principles?

Key system components, their respective problems and challenges, and possible relevant innovations which can unlock their potential and solve their challenges

Scientific evidences needed by FSA which need to be generated for better and wider scaling/adoption of the suggested agroecological practices and innovations

Transition Pathways (Set of Actions) + Packages of Agroecological Innovations

Visioning

National Multistakeholder Workshop

Codesign of Innovations

Challenges & Co-Selection of main Innovations

Co-Building of Innovation Packages

Co-Design of Experimentation

Prioritization

Packaging

Co-design
A Process of Step-By-Step Vision2Action for Planning Project Activities

(Source: adapted from McKee et al., 2014)
Food System Actors Engaged in the Cocreation of Agroecological Innovations - Tunisia ALL

- Covering a gradient of agroecological contexts of the mixed tree-crop-livestock systems in a semi-arid zone, from the mountainous to plain zones.

- Gradient of AE packages & Partnerships from “existing partnership and AE packages” to “New partner, New AE package”

**Map of Tunisia**

- **Donor**
  - 3
- **Private Sector**
  - 21
- **Gov. agents (National)**
  - 10
- **Policy makers**
  - 35
- **Researchers + NARS**
  - 94
- **Extensionists & Gov. Agents (local)**
  - 96
- **Other**
  - 68
- **Farmers**
  - 607

**AE principles considered for different national policies for the three period**:
(3 programs before 2010, 5 programs during 2010/15, and 3 programs for the period 2016/15)
Kesra Site Characteristics & Main Challenges
Mountainous Agroforestry System

Offering a range of benefits such as diversification of food and income resources for communities, biodiversity conservation, and environmental resilience. Fig trees, olives, carob, vegetables, and honey are common features of this landscape.

4,660 HH
85% are heavily dependent on this farming system

Difficult Territories:
- Highly susceptibility to climate change
- Signs of degradation & environment stress (Resources scarcity, poor waste management, biodiversity loss of figs and olives, decreased food resources for bees, declining health of soil)
- Fragile ecosystems
- Harsh weather conditions
- Limited accessibility & isolated territories
- Limited availability and accessibility to relevant agricultural technologies & innovations
- Lack of knowledge on adequate farming systems as many introduced systems were originally developed for lower altitudes.
- Lack of knowledge transfer and real valuation of resources and services.
- Limited markets
- Flawed institutional responses

Legend:
- Areas of interest
- Hills
- Streets

Profile section A-A' (Shiri Z & Le Q.B – ICARDA, 2023)
Key Components of the Farming System in Kesra

- Forage Associations between the Rows of Olive and Almond Trees
- Millennia-Old Olive Tree
- Wheat between Olive Trees
- Melliferous Crop (Sulla)
- Beekeeping
- Fig Trees
- Honey
- Carob Tree
- Carob Fruit
Using different sheets, forms, and simplified templates, with visuals for simplification to farmers.
Main Problems For Communities in Kesra

Most of men problems are technical with especially lack of output valorization, advise and support, as well as infrastructure. Men also states some environmental problems especially in relation to climate conditions, drought, and flooding.

Women provide heavy weight for the institutional problems (same as men in terms of advice and extension, infrastructure, etc.) and they also perceive the environmental problems as important (completely like Men).
A clear dominance of technical futures is recorded for men, with preference for better access to knowledge and training. Balanced perspective of the future for women, with desired improved social value (especially honesty, self-confidence, openness, and trust). For technical aspects women are mostly interested in SWC practices and methods, and for economic aspects, better access to financing and credits is a key preference.
Results of the Visioning Implementation: The Resulting Agroecological Transition Pathway

• Articulating the visioning results with agroecology principles and specific production systems (and typologies) in place.

• This resulted into the prioritization of the following clusters of activities:
  - Honey and beekeeping in general
  - Carob cultivation for land restoration and beekeeping
  - Sustainable intensification of fig tree plots
  - Better marketing and commercialization of agrifood products, This includes prioritization of short commercial channels and product labeling
Valorizing the diversity of the fig trees

Promoting Native Legume Tree Species "CAROB"

Collective & Smart Apiary for Learning & SM-System

Healthy Bee
Hive Health Best Management Practices
Animal Health

Input reduction, recycling,
Synergy

Establishing a local "protein pollen substitute" processing unit for bees and creating a specific Melliferous calendar for the region of Kesra

Preserving & Multiplying Kesra’s Caprifigs
Implementing Collective Community Nursery for Caprifigs & Local Fig Varieties

Certification
Support ongoing efforts for a Controlled designation of origin (AOC)

Valorization & Diversification
Introducing locally manufactured solar dryer for stimulating collective Investment in a fruit processing unit

Biodiversity
Social Values and Diets
Recycling

Co-creation of Knowledge
Participation

The idea is not to certify an agricultural product or producer group – but the entire Territory and its development pathway.

Carob Dissemination
Setting up a carob tree nursery and large-scale plantation in private lands & forest landscapes

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Introducing locally manufactured solar dryer for stimulating collective Investment in a fruit processing unit

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To create value and generate Net Positive Social Impact

"CHUSIRA AGROECOLOGY VILLAGE"

Inclusive Business Model
To foster participatory learning through co-creating Knowledge Co-Creation, developing, experimenting and disseminating Best practices

Innovation Package for Kesra Site

Agroecology Principles

- Agroecology Principles

Innate in Kesra
Agroecology
Action: Putting the innovation Bundles in the field

Setting up **collective community nurseries** for carob tree and large-scale plantation in private lands & forest landscapes

**Benefits**

- Tolerates droughts and salinity
- Its deep root systems allow CO2 to sink,
- Grows on a wide range of soils
- Performs as a multipurpose tree
- Produces nutritious fruits (carob beans/ pods)
- Provides shades for livestock during summer
Planting hardy, indigenous crop varieties and trees such as carob or other melliferous plants which are resilient to climate change, on collective and private marginal landscape.

**Native Drought-Tolerant Forage Species for Enhanced Dryland Pasture Restoration**

*Hedysarum coronarium* L.

**Sulla**

**Benefits**

- Drought resistant
- Improves soil fertility and erosion control
- Prefers slightly acid to alkaline soils
- Highly palatable, nutritious, and productive forage
- High-protein forage crop
- Melliferous crop

**Biological Consolidation of Bench Terracing using Action: Putting the Innovation Bundles in the field**
Conclusion & Challenges

- While visioning, engagement, and planning for agroecology were relatively manageable and effective at the community levels, stakeholder engagement at food system level is rather harder and more contextual.

- Other conceptual and practical challenges for piloting similar projects aiming at agroecological transitions are:
  - Representativeness,
  - Agroecology transition is an investment for some stakeholders/farmers, and thus a reward (mostly in terms of labeling?) needs to be considered for quick uptake,
  - Lack of public engagement for facilitation.
Thank you