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## Introduction

Global population growth will require a 60% increase in food production by 2050 (FAO, 2022). However, the current food system has failed to provide nutritious food for all and contributes to environmental and natural resources degradation. Therefore, a profound transformation towards ecological practices and techniques can bring responses for designing and managing agricultural and food systems that are productive, resilient, sustainable and equitable.

In Tunisia, olive-based farming system prevails as one of the dominantly agricultural production systems.

In the transect of El Kef-Siliana, in the semi-arid region of Tunisia, olive plots are overwhelmingly owned by small scale producers, which comes with a set of challenges related to escalated soil degradation and extremely poor soil health, low productivity and incomes, and lack of commercial integration into effective value chains (Attiaoui and Boufateh, 2019).



## Study area

'Tunisian transect El Kef-Siliana', is located in the semi-arid zone of the northwest of Tunisia and identified as priority zone by the national partners.



Figure 1. Kef-Siliana transect

The Tunisian ALL landscape over the transect El Kef-Siliana characterized by

- ✓ Rugged relief
- ✓ Deep soil erosion problems
- ✓ Climate change effects



Figure 2. Localisation of FOs (ICARDA, 2022)

In the agroforestry systems, four farmers organizations (FOs) have been selected along a gradient of partnerships (with international, national, and local partners) and AE technical packages.

- SMSA Ankoud El Khaier** 100 and 400 olive trees
- SMSA Kouzira** Olive trees are planted in collective land
- SMSA Attawen** An average of 150 olive trees by farmer

The aim of this work is to develop and validate a reflection on the transition feasibility to agroecology in olive-based farming system, and generate a possible transition pathway that can be piloted and implemented in a given action site.

## Methodology

The methodology used to build the most appropriate agroecological transition pathway is based on participatory approaches

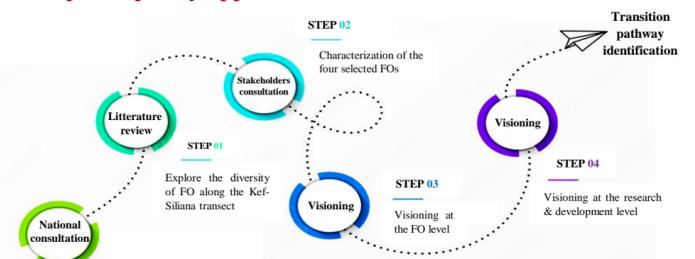


Figure 3. Participatory approaches for transition pathway

Visioning is a focus group discussion

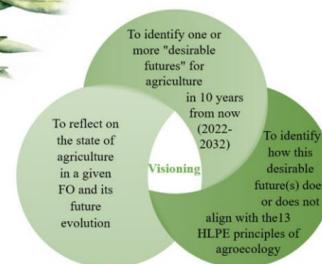


Photo 1. Visioning activity

## Results

The AE transition pathway identified in semi-arid olive-based system suggests an emphasis on the valorization of the olive products and by-products (recycling and certified products) in addition to other agricultural practices such as input reduction, synergies across system components, biodiversity, animal health, etc.

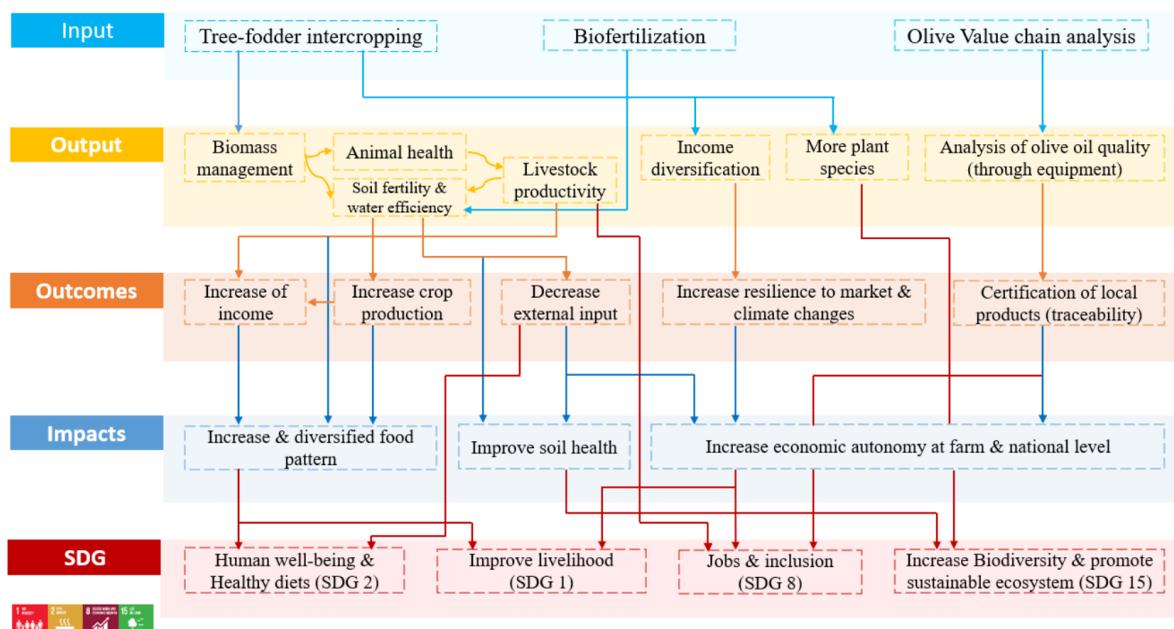


Figure 4. Transition pathway « Valorization of olive products (recycling and certified products) »

## Conclusion

The resulting impact pathway records promotes diversified food pattern, improving soil health, increasing economic autonomy at farm and national level, diversifying market, and promotion of local products.

A set of action research and development activities have been developed and will be implemented during 2023 and 2024 to pilot the suggested transition pathways.

## Acknowledgment

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