NEW AGROECOLOGICAL APPROACH FOR SOIL FERTILITY AND BIODIVERSITY RESTORATION TO IMPROVE ECONOMIC AND SOCIAL RESILIENCE OF MEDITERRANEAN FARMING SYSTEMS
AgrEcoMed

Context

The European Green Deal represents a challenge that actually engages the whole scientific community. It aims to support the agricultural production and the economy as a whole through an ecological approach (ecological transition). The Farm to Fork strategy (EC, 2020), an essential component of the European Green Deal, aims to increase the **sustainability of the European agri-food system** through environmental and social goals to be achieved by 2030. In addition, it focuses on the promotion of sustainable food consumption, the intensification of the fight against food waste, making greater investments in research and innovation and promoting the transition to sustainable agri-food chains.

The agroecological approach has a strong territorial connotation that goes beyond the ecological and agronomic aspect and includes the social, economic and cultural dimensions, and the agri-food system policy. Indeed, the proposal on the common agricultural policy (CAP) for the period 2021-27 gives a prominent importance for increasing the sustainability of the agricultural sector through an **agroecological transition**, which together with the economic and social development of rural areas and the competitiveness of farms, should contribute to achieve the environmental and climate objectives of the European Union and the Mediterranean area.

Objective

The **main objective of AgrEcoMed project** is to fill the research gaps for implementing a biodiversity-based strategy for primary crops as cereal farming systems through an Agroecological approach adapted to environments in Mediterranean countries, efficient use of natural resources, reduction of pollution, circular economy. Such goal will be achieved through innovative approaches to support the sustainable production of staple foods in the scenario of present and future climate changes.

The objective will be achieved through:

1. Sustainable agricultural practices and restoration of soil fertility; 2. Increase and valorization of the natural biodiversity of ancient grains and reintroduction of local wheat or old varieties, better adapted to climate change in Mediterranean conditions; 3. Farming and screening of alternative species (medicinal plants); 4. Management of crop residues and processing and valorization of farming crop residues; 5. The valorization of crop residues and by-products of the agricultural chain through bioconversionby the Diptera *Hermetia illucens*; 6. Addressing the economic potentiality and viability of agroecological transition; 7. Valuation of the environmental and Economic assessment (LCA) of agroecological farming systems respect to the conventional one; 8. Fostering women empowerment and youth employment.

The project aims to up-scale field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers' income.

Expected impact and results

The expected impacts concern the environmental, social and economic benefits for farmers and local communities, and the improvement of resilience to climate changes in the Mediterranean

regions. In detail, the expected impact will be on:

• A more sustainable agriculture and food production system with more efficient use of natural resources and better resilience to climate change, adaptation and mitigation.

•Improved economic and social resilience of Mediterranean smallholder farming systems to climate change.

• Contribution to the zero waste farming systems, and new bioconversion of cropping residues in a frame of circular economy.

• Decreasing use of chemical inputs and development of alternative solutions (new bio-based products, new techniques and policies).

• Increasing income of the farmers from biodiversity use.

• Fostering the empowerment of youth and women.

• Greater presence of qualified farmers in agriculture sector and in the Mediterranean area.

It is expected that the AgrEcoMed project, will be able to: 1. facilitate the adoption of innovation; 2. optimize the use of resources through the development of more effective and efficient management systems; 3. improve marketing systems, with the definition of innovative business models; 4. defining new skills that can constitute, especially for young people and women, an employment and permanence opportunity in the most disadvantaged regional internal areas.