



LIVINGAGRO

Cross Border Living Laboratories for Agroforestry

ENI CBC Med Programme 2014 – 2020, first call for standard projects
Grant Contract Number: 38/1315 OP of the 29/08/2019



E-Newsletter Edition no. 8 November 2021

**LIVINGAGRO: Innovation, transfer of
knowledge and technology for Mediterranean
agroforestry**

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Threats and opportunities in the Lebanese agroforestry sector: an interview with Rita Khawand, Co-founder and Executive Director at SOILS Permaculture Association Lebanon

What are the main challenges Lebanese agroforestry is facing nowadays, and what are the main difficulties as well as opportunities for developing and implementing agroforestry projects in Lebanon? LIVINGAGRO partner [Lebanese Agricultural Research Institute \(LARI\)](#) discussed this



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issue with **Ms. Rita Khawand, co-founder and Executive Director at SOILS Permaculture Association Lebanon** in the framework of the interviews performed within the project activity concerning the analysis of

economic stakeholders, a preparatory action for establishing LIVINGAGRO's Living Labs. An extract of the interview follows.

On the **obstacles** side, Ms. Khawand points out that “most **land owners are reluctant when it comes to a long-term (8 years or more) lease of land**, and with perennial shrubs and trees it's not feasible to rent land for a short period of time. We've had this issue when we were looking for land for our aromatic plants, and even after we found land and planted it, when we wanted to add trees, the landowner asked for trees to be added only at the edges next to the wall and in small numbers”.

Lack of data around support species suitable for the Lebanese climate was also identified as a hindrance to the development of agroforestry: “we don't have enough **data on native or non-invasive (or manageable) foreign species** that can be used as support species in local agroforestry systems, such as n-fixers, or plants suitable for windbreaks, etc.”.



She concluded by saying that “as we moved from traditional pastoralism to industrial rearing of animals -- which now relies on imported feed -- we **lost the knowledge of traditional practices of rearing animals in a sustainable way**. The challenge in re-introducing animals in woodlands or in orchards is access to data or demo projects that allow designers and farmers to understand the breed of ruminants and small animals best adapted to our environment and to foraging under trees, so we can then share best practices of rotational grazing”.

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On the other hand, concerning **opportunities**, Ms. Khawand mentioned that a new generation of farmers could implement agroforestry practices, since “**younger people are going back to the land, and are usually more open-minded about complex and diverse systems than conventional farmers**”.

Furthermore, “**landowners (some of them living abroad) are willing to make their land available for community projects in the context of the economic crisis, providing better access to land overall**”.

Finally, according to Ms. Khawand, “**with the high price of imported feed, farmers will be obliged to look for alternative and more local as well as sustainable methods to feed their animals, which might make them interested in silvo-pastoral systems**”.



First Greek B2B event held in July 2021 inspires interest in Olive-Avocado Intercropping

In the framework of the **first online LIVINGAGRO B2B event held in Greece in July 2021**, stakeholders had the opportunity to meet with innovators in one-to-one meetings to learn more about innovations and new uses of traditional practices that had been introduced in short presentations. **One of the collaborations between a scientist and an economic stakeholder that emerged from these LIVINGAGRO B2B meetings focuses on the intercropping of avocado trees in olive groves in Crete.**



In his presentation, **Dr. Spiros Lionakis**, Emeritus Professor of Arboriculture at the Hellenic Mediterranean University, **explained how planting avocado trees between widely-spaced olive trees can boost farmers' income, help prevent pest outbreaks, decrease erosion, and enable higher carbon storage.** As more biodiversity is introduced into the rural ecosystem, less pesticide is likely to be needed, since it becomes easier for the natural enemies of pests — as well as many other creatures — to thrive.



Ms. Eleftheria Mamidaki, manager of Anoskeli Winery and Oil Mill in Crete, was intrigued by the olive-avocado intercropping plan, which may help Anoskeli expand their agricultural activities without purchasing new land or removing healthy olive trees. As Ms. Mamidaki added, avocado



growing is “a low-cost agricultural activity that can have a good yield for the investment—good for our company, good for the existing fields. Intercropping helps the soil, so it might also help the olive trees”.

Of course, it is necessary for experts to evaluate an olive grove’s location, water, and soil to see if appropriate conditions exist for this type of intercropping to succeed. After Dr. Lionakis visited the olive groves under consideration to see if the trees were appropriately spaced, **soil was sent to the Mediterranean Agronomic Institute of Chania (MAICh) for analysis, to check its suitability for avocado cultivation.** Since the results were encouraging, the collaboration will continue with the required olive tree pruning, soil preparation, and avocado tree selection.

Ms. Eleftheria Mamidaki recommends that other stakeholders in the olive and dairy sectors attend MAICh’s upcoming hybrid LIVINGAGRO B2B event this December 16-17. She considers LIVINGAGRO’s events “forward-looking” and especially useful for communicating new ideas and practices.

LIVINGAGRO innovations for the Jordanian agroforestry sector: an overview by LIVINGAGRO partner no. 1, the Italian National Research Council (CNR)

In the framework of activities linked to the establishment of the project’s Living Laboratories, **LIVINGAGRO partners have identified potentially useful innovations for multifunctional olive and silvopastoral systems to be included in Jordan’s Business to Business (B2B) Event Catalogue.** Project partners assessed the stage of readiness of each potential innovation and evaluated which type of challenges it addresses. Exchanges between research and economic stakeholders took place online, as it was not possible to organize in-person meetings due to COVID-19 pandemic restrictions. For example, **in January 2021 an online workshop with research stakeholders was organized by the Italian National Research Council (CNR) in order to receive feedback on potential innovations identified by LIVINGAGRO, and to begin planning for the inclusion of the selected innovations in a shared document (i.e. Catalogue).** At





the end of the phase of knowledge sharing, the Jordanian partner, the [National Agricultural Research Centre \(NARC\)](#), expressed interest in having the following **innovations related to multifunctional olive systems (Living Lab 1)** included in Jordan's B2B Catalogue:

- Weed cover and cover crops for the management of olive groves
- Authentication of the genetic origin of extra virgin olive oils
- Valorization of ancient trees, territories and related products and activities
- Increasing plant adaptation to environmental constraints through the selection of best cultivars with local origin
- Gaiasense smart farming services for irrigation, fertilization, and crop protection
- Gaiasense smart farming mobile app
- Zen Irrigate Precision Irrigation System
- FruitFlyNet-ii automated monitoring and control system against the olive fly and Mediterranean fruit fly
- Olive Predictor to help determine when to harvest for adequate quantity and the best health benefits
- DNA-based diagnostic test to authenticate the varietal origin of olive oil



Referring to Living Laboratory 2 (Grazed Woodlands), the selected innovations regarding grazing and pasture management are

- Introduction of adaptive grazing as an innovative management strategy for recovering degraded silvo-pastures
- Use of mixtures for improving qualitative traits of pastures

LIVINGAGRO field visit activities: an overview of the first visit organized in Lebanon by the coordinating partner, the Lebanese Agricultural Research Institute (LARI)

In the framework of the LIVINGAGRO project, **researchers are visiting enterprises in the agroforestry sector, starting with specific cooperation agreements.** The visits are being conducted in order to a) Assess businesses' specific needs for innovation; b) Re-orient research toward satisfaction of firms' needs; and c) Assess the possibility of transferring ready-to-use innovations to stakeholders. **A total of 20 visits will be conducted in all the partner countries (Italy, Lebanon, Greece and Jordan).** Based on a preliminary assessment of the most relevant stakeholders, an action plan was prepared in order to organize this activity.



The first field visit was conducted by the LIVINGAGRO team at the Lebanese Agricultural Research Institute (LARI) on July 27, 2021. Researchers and engineers from LARI, the Ministry of Agriculture (MOA) and the Lebanese University (LU), in addition to ten farmers from the Chouf, Iklim and Saida districts, participated in the visit. The day began at LARI's Tyr station, where the participants were introduced to LIVINGAGRO. LARI project members explained the project's background, activities, objectives and expected results. The day continued with visits to the national collection of local olive varieties and the olive nursery at the station.



After that, the participants went to Lebaa to visit one of best olive groves in the region, the so-called "Bustan El Zeitoun", which is owned by Engineer Walid Mshantaf and planted with different local and Italian varieties. In this orchard, the LIVINGAGRO team established a field trial to study the effect of green cover and green manure on soil characteristics and olive yield within the framework of the LIVINGAGRO project. The technical part of the day ended with a visit to a typical modern olive mill at Abraa, which is owned by Engineer Elias Fares.



Mr. Fares explained all the steps taken to obtain the best quality olive oil and how to take advantage of olive mill by-products in a sustainable way. Finally, the long day concluded with lunch. Participants enjoyed Lebanese food while discussing several possibilities for collaboration between research and economic stakeholders, in addition to interesting opinions about the olive and olive oil sector in Lebanon.



FROM THE PROJECT PARTNERS – The Mediterranean Agronomic Institute of Chania (MAICh) is organizing its second brokerage event in Crete on December 16-17, 2021, which will focus on innovations for the olive and livestock sectors 🇬🇷

Stakeholders in the Greek olive and livestock sectors who are facing challenges are invited to a free B2B event where they can connect with innovators who offer solutions to common problems. Hybrid online and face-to-face presentations and one-on-one meetings will take place in Chania, Crete on December 16-17 as part of the LIVINGAGRO project funded under the ENI CBC Med Programme 2014-2020.

This hybrid conference will take place at the Mediterranean Agronomic Institute of Chania (MAICh) in Crete. There, nineteen 15-minute presentations in Greek will introduce innovations

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in the **olive, olive oil, and livestock sectors** to producers, cooperatives, agricultural enterprises, company representatives, millers, and other interested stakeholders.

Innovators, researchers, and representatives of private organizations will give presentations on a **wide range of innovations related to** the following topics:

- Re-using traditional practices in agroforestry
- Intercropping and preparing for climate change in olive groves
- Precision agriculture
- Olive mill machinery and health benefits
- Olive tree and olive oil authentication

Free registration for both the online and face-to-face versions of the event is now open. Registration for the face-to-face event will remain open until December 8, with participation strictly limited as required by Greek law.



On the days of the event, **both online and face-to-face audience members will be invited to schedule one-on-one meetings to learn more from innovators** during the afternoon sessions. This will allow participants to ask specific questions relevant to their own situations, and to learn more about the innovations of greatest

interest to them.

Part of LIVINGAGRO's Living Laboratories, such **connections between audience members and presenters** will enable the **establishment of new contacts and the sharing of information on innovative ideas, machinery, techniques, and services**. The aim is to bring together innovators and those who may use their innovations, encouraging mutually beneficial discussions that could inspire collaborations. A similar LIVINGAGRO **B2B event that occurred online in July** did lead to **new collaborations between presenters and audience members**.

For more information, the event's program, and registration, [consult the event's web page \(Greek\)](#). An overview of each innovation will be available in Greek and [English Catalogues](#) before and during the event. The [Catalogues for the July edition of the event can be viewed here \(in Greek\)](#) and here [\(in English\)](#). While many of the same innovations will be discussed, several new innovations will also be added for this second event.

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Rather than simply doing research in isolated labs, LIVINGAGRO partners in Italy, Lebanon, Jordan, and Greece have **asked farmers, company representatives, policy makers and other stakeholders who work with olive oil and grazed woodlands for input about the types of problems they need to solve, as well as the most workable solutions.**

Many survey respondents indicated a desire to **increase their product's quality, improve plant health and/or soil fertility, reduce their production costs, increase the quantity produced, and reduce their use of chemical products.** Innovations have been identified that can meet those needs as well as others. The LIVINGAGRO team invites all who are interested to learn more, whether online or in person, at the B2B event in December which will take place in Greece. (For more information in English, [please consult the project's website.](#))

While all are welcome to attend the event online, entrance to MAICH's conference center will be permitted only to those presenting a certificate of vaccination or a certificate of recovery from the SARS-CoV-2 virus infection issued by a public authority or a certified laboratory 30 days after the day of the first positive COVID-19 test, but within 180 days of the B2B event.



*The **LIVINGAGRO** project has been funded by the EU under the ENI CBC Mediterranean Sea Basin Programme 2014-2020.*

*The total budget of the **LIVINGAGRO** project amounts to 3.3 million € with an EU contribution of 2.9 million € (90%).*

This publication has been produced with the financial assistance of the European Union under the ENI CBC Mediterranean Sea Basin Programme. The contents of this document are the sole responsibility of the Regional Forest Agency for Land and Environment of Sardinia (Fo.Re.S.T.A.S.) and can under no circumstances be regarded as reflecting the position of the European Union or Programme management structures.

*The **2014-2020 ENI CBC Mediterranean Sea Basin Programme** is a multilateral Cross-Border Cooperation (CBC) initiative funded by the European Neighborhood Instrument (ENI). The Programme objective is to foster fair, equitable and sustainable economic, social and territorial development, which may advance cross-border integration and valorize participating countries' territories and values. The following 13 countries participate in the Programme: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain, Tunisia. The Managing Authority (JMA) is the Autonomous Region of Sardinia (Italy). Official Programme languages are Arabic, English and French. For more information, please visit www.enicbcmed.eu.*

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