



LIVINGAGRO

Cross Border Living Laboratories for Agroforestry

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

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Interview with Angelo Crasta, olive farmer and president of the Oleificio Gallura cooperative, Sardinia

In the following extract from an interview, we hear from Angelo Crasta, an olive farmer active in north-western Sardinia who is also the president of a cooperative that has its own olive mill. The interview was conducted as part of the LIVINGAGRO project in order to help identify the innovation needs of economic stakeholders who work with agroforestry in the Mediterranean region.



“Grazed woodlands and agroforestry are widespread agricultural systems in the north-western Gallura subregion of Sardinia, and in particular in the Berchidda area (Sassari province). The agricultural cooperative to which I belong, [Oleificio Gallura](#), manages 10 hectares of land and produces olives mainly for the production of oil.

The **concept of agroforestry** is not “sexy” nowadays; it is actually being discouraged and made less productive as an agricultural system. All this because it has not yet been understood that other activities such as agritourism, educational farms, and visits during the olive harvest are important sources of diversification of farm income.



In the future, more and more people will ask **agriculture to be able to “restore nature,”**

and all of this will hopefully help to mitigate climate change. (We will present a new project on agrometeorology as soon as possible, either with the University of Sassari or with external consultants.)

Grazed woodlands and agroforestry in general would be profitable again if business management were improved, returning to less invasive practices with regard to fertilization, given that a pasture planted with olive trees provides supplementary income, and the plot acquires greater landscape value.

In relation to the defence against various pathogens, we

feel the **need for organic cultivation.** We have, in fact, made plans to hire a consultant in organic agriculture. We want to develop olive growing that is kind to the environment, not using (for instance) phosphate esters, to reach a fully organic type of cultivation (even to eradicate the olive fly).



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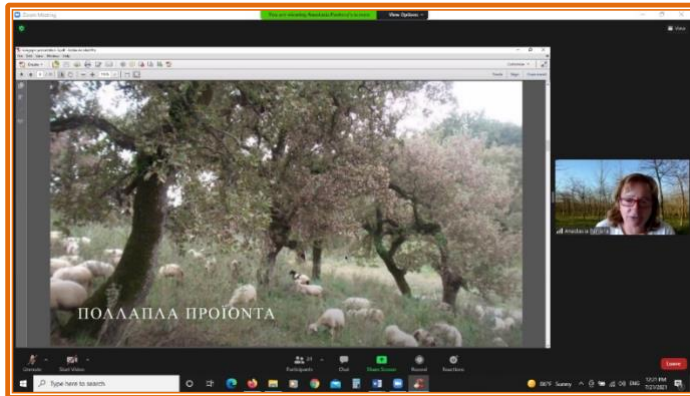
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The first LIVINGAGRO B2B event links innovators and stakeholders online in Greece

On July 20-22, 2021, the [Mediterranean Agronomic Research Institute of Chania \(MAICh\)](#)



coordinated sixteen 15-minute online presentations for the **LIVINGAGRO project's first B2B event**. The free event attracted **58 participants**: farmers, agronomists, marketers, managers, exporters, researchers, and others involved with agri-food products and agroforestry. A number of the participants also scheduled one-to-one meetings with innovators who offered solutions to challenges in the olive oil, olive, and livestock sectors in Greece.

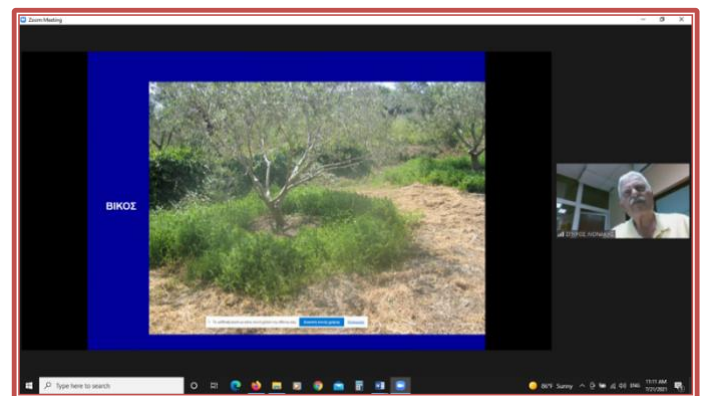
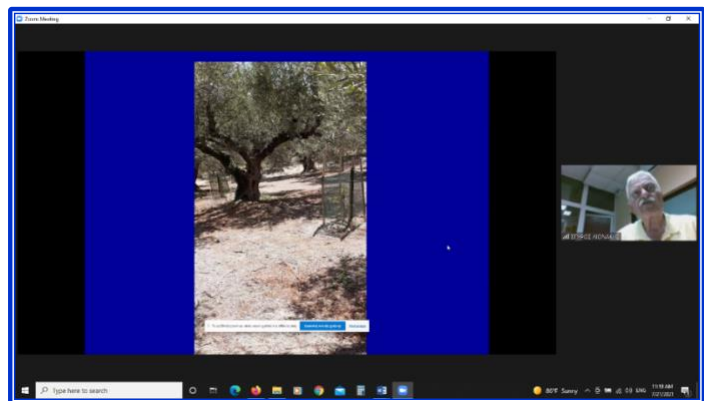
olive, and livestock sectors in Greece.

Taking place on the [Praxi Network platform](#), the event was designed to bring together innovators with Greek farmers and professionals. The presentations covered a wide range of topics:

- Intercropping in Olive Groves
- Precision Agriculture
- Machinery
- Health Benefit Determination
- Olive Tree and Olive Oil Authentication
- Preparation for Climate Change
- Re-using Traditional Practices in Agroforestry

A detailed [Catalogue of Innovations is available on the LIVINGAGRO project web page](#); each innovation was also

described in Greek on the Praxi Network platform. Press releases were distributed to a number of Greek publications, especially those focused on agriculture, as well as being shared on many Facebook and LinkedIn pages, and on Twitter.





For those unable to attend the July event, there will be additional presentations and one-to-one meetings in Chania, Crete in December, most likely in a hybrid online / face-to-face format (conditions and regulations permitting).

LIVINGAGRO experimentation: a field demonstration in Jordan on planting cover crops in olive orchards in the Jerash area

In order to **experiment with innovations to be developed within the LIVINGAGRO project** for Mediterranean multifunctional olive systems and grazed woodlands, the [National Agricultural Research Center \(NARC\)](#) is **implementing a field demonstration for a multifunctional olive system** at a private farm in the Jerash area in northern Jordan. NARC has **set up a study of the effect of planting cover crops in olive orchards**: how does this influence soil fertility and olive yield and quality?



The olive grove was divided into four plots. Legume cover crops (broad beans, peas and chickpeas) were planted in three plots, while the fourth plot was left without cover crops for comparison purposes. The cover crops were planted in December 2020. The farmer is expected to increase his income thanks to the cover crops. Part of the cover crop yield will be used to feed the livestock raised on the farm. After the seeds are harvested, the remainder of the cover crops will be incorporated into the soil to improve its fertility. At the end of the season, soil fertility, olive yield and oil quality will be evaluated.



The importance of utilizing other projects' results to identify grazed woodlands innovations

LIVINGAGRO took its first steps in the **furrows of soil where some recent and ongoing research projects have already provided results.** In their analysis of relevant research stakeholders, project partners selected numerous **recent scientific articles dedicated to grazed woodlands and, more specifically, to Mediterranean silvopastoral systems.**

They also wanted to take advantage of the projects recently conducted on the topic (namely "[PF7 AGFORWARD](#)" and "[LIFE Regenerate](#)") and adapt their conclusions to the socio-economic and



pedoclimatic conditions of the participating countries (Italy, Greece, Jordan, and Lebanon). This **capitalization activity was highlighted in a workshop which took place online on January 28,**



Photo 1: Electric fences for Adaptive grazing (by "LIFE Regenerate" partnership)

2021. During the workshop, partners tried to highlight the most urgent needs for the future sustainable management of grazed woodlands systems, as well as potential solutions, good practices, and innovations useful in the face of challenges to the ecological and economic sustainability of such systems. Coordinated by CNR, a

cross-analysis among the participating countries made it possible to identify four clusters of innovations, within which a total of 15 innovations were identified as most in demand. The four clusters concern 1) animal control; 2) pasture management; 3) pasture improvement; and 4) product valorisation. The innovations were grouped in clusters as follows:

- 1) **Animal control:** Virtual fences and GPS positioning collars;
- 2) **Pasture management:** Adaptive grazing management; Reconciling grazing with cost-effective protection of saplings; Thinning and pruning trees in silvopastoral systems; Use of local plant by-products as dairy product preservatives; Hydroponic fodder system;
- 3) **Pasture improvement:** Mixtures for quality pasture; Shade tolerant species; Clearing shrubs and sowing a mixture of



Photo 2: Field trial for shade tolerant legumes (by A. Franca)

grass and legumes in silvopastoral systems; Restoration of indigenous vegetation cover and improvement of soil conditions to increase the afforestation success rate and animal grazing in a semi-arid region; Assessment of indigenous local legume production in a conventional fodder production system; Use of soil covers to decrease soil moisture evaporation, decrease flammable biomass build-up, and enhance regeneration;

- 4) **Promoting silvopastoral products:** Branding (labels) and market chains; Branding high natural and cultural value agroforestry products.



FROM THE PROJECT PARTNERS – In this edition: Interview with the Director General of the Lebanese Agricultural Research Institute (LARI, PP3), Dr. Michel A. Afram



1. What is LARI, and what role is the organization playing in the development of the agricultural sector in Lebanon?

LARI is a governmental organization under the supervision of the Ministry of Agriculture. It has twelve centers located at different sites throughout Lebanon: Tal Amara (Headquarters), Fanar, Tyre, Lebaa, Abdeh, Kfarchakna, Terbol, Kfardan, Hasbaya, Baaklin, Hermel, Kleiaat - Kesrouan.

LARI Stations



In addition to 120 departments and laboratories with six research areas (Plant Science, Soil Science, Animal Science, Environmental Sciences, Food Science, Economics), LARI has 60 meteorological stations covering all of Lebanon. These stations are linked by GSM and internet. They allow LARI to provide

- Weather forecast
- Early warning system for pests and diseases
- Forest fire warning (fire index)

The institute conducts applied and basic scientific research for the development and advancement of the agricultural sector in Lebanon. In addition, the institute maintains close ties with farmers and tries to develop research activities aimed at solving their problems.

2. What are the main services that LARI provides for farmers?

The services LARI provides for farmers include

- Extension services related to management of soil fertility, water consumption, plant pest and disease control, crop rotation, animal disease treatment and prevention, etc.
- Analyses of soil, plant, water, feed, fertilizers and pesticides
- Analyses for quality control of food
- Production and distribution of foundation and certified seeds
- Production and distribution of improved and selected ruminants
- Organization of field days involving the participation of farmers
- Dissemination of agrometeorological data

3. How would you describe the relationship and cooperation between LARI, a Lebanese research center, and EU countries?

LARI and the EU have been working closely since 2002. During this period, the EU has funded many LARI projects. This cooperation was and is very successful.



4. Since 2019, LARI has been a partner in the LIVINGAGRO project that aims to support education, research, technological development and innovation. How can this project improve the olive and olive oil sector and the grazed woodlands in Lebanon?

LIVINGAGRO is increasing the knowledge of Lebanese farmers on agroforestry in general and more specifically on agroforestry for multifunctional olive systems and grazed woodlands. This is considered a new concept for many farmers in Lebanon and for sure, it will make a difference for olive farmers and woodlands beneficiaries. The exchange of good agricultural practices (GAP) and innovations will improve the quality of olives and olive oil through different techniques delivered by the project and will enhance the profitability of the use of grazed woodlands in Lebanon.

5. How do you think it will impact the socio-economic situation in Lebanon?

The innovations delivered by the project will reduce the production cost, improve products' quality and provide additional products for farmers. This will have a positive impact on the socio-economic situation in Lebanon, especially in rural communities. Here, it is worth highlighting the importance of olives and olive oil for Lebanon; with the support of the LIVINGAGRO project, their quality will be improved, and farmers' profit will be increased. In addition, many practices introduced by the project will reduce the use of chemical products and will save water, which will decrease production costs and protect the environment.



6. Internally, how do you see the added value of the project for LARI's team?

This project is a new kind of EU project with new rules. It is a new experience for LARI's team. It will allow all participants from LARI to improve their experience, scientific knowledge and managerial skills. For example, LARI is working on improving the accounting system according to what is requested by the ENI CBC Programme. Moreover, LIVINGAGRO is introducing the concept of agroforestry within olive orchards and grazed woodlands, which constitutes a new experience for the researchers at LARI. Finally, for sure, the LIVINGAGRO project will open the door to further collaboration within the Programme.

7. How is the Covid-19 pandemic affecting the LIVINGAGRO project, and how are LARI and the project partners dealing with it?



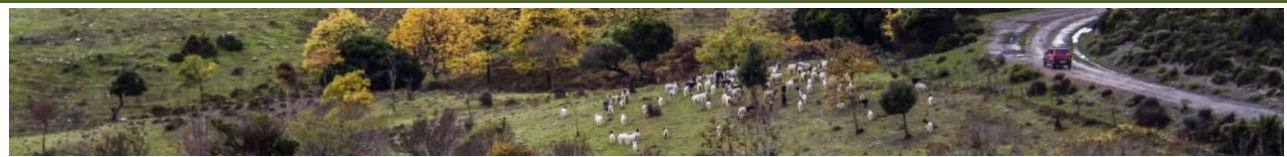
LARI didn't stop its activities because of the Covid-19 pandemic. The main issue was related to a delay in some activities that need people to gather on-site, such as field visits, workshops and B2B events.

8. Lebanon is facing a serious economic crisis. How do you think this crisis will affect the research in agriculture in your country?

Yes, the economic crisis is affecting the research in agriculture, because chemicals are more expensive, all research tools are more expensive, fuel is expensive and not available, fewer funds come to LARI from the government, and it is difficult to do tenders because of the continuous devaluation of the Lebanese lira.

9. How is LARI working to compensate for the effect of the Lebanese economic crisis on the implementation of the LIVINGAGRO project?

LARI is working with higher efficiency reducing expenses to what is necessary in order to ensure continuation of its research activities despite lots of difficulties. The LIVINGAGRO team at LARI is working hard to mitigate the impact of the economic crisis on project activities.



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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.enicbcmmed.eu.

The **European Union** is made up of 27 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms.

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The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders.

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