

### Editorial

Indeed, time flies. As I look back into these four years of ORGANIKO LIFE+, I am convinced that for some unexplained reason, this project became part of our daily activities. The ORGANIKO LIFE+ project is an important outlet that provides unbiased knowledge and facts to the Cypriot society and beyond, about organic agriculture, market and its products. The ORGANIKO consortium demonstrated the comparative effectiveness of organic agriculture in mitigating greenhouse gas emissions (N<sub>2</sub>O), responsible for part of the ongoing

climate crisis. The team also demonstrated the effectiveness of organic dietary intervention in lowering the body burden of pesticides and consequently lowering biomarkers of oxidative stress/inflammation in primary school children. Using these evidence-based facts, a strategic consultation plan on organic agriculture and its products was submitted to the Cyprus government. We recently came to know that the government will utilize our consultation plan.

Due to ORGANIKO LIFE+ efforts promoting organic food and lifestyle, a momentum has evolved these past 2 years in Cyprus, where policy interventions are implemented via the green public procurement measures with the aim to increase the organic food market share and at the same time to tackle childhood obesity.

For the past 4 years, about 50,000 individuals got to know and interact with the ORGANIKO activities via numerous science communication and citizen awareness activities.

The ORGANIKO LIFE+ project findings have been communicated and transferred to Italian organizations, such as organic NGOs (i.e., FEDERBIO, AIAB), the Italian Ministry of Agriculture and to international organizations whose headquarters are in Italy, such as EFSA and FAO.

In this last issue, among others, we provide a summary of the main project results and the top policy issues that we have successfully addressed. Enjoy!

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## Project results

### Submission of a Strategic National Plan to the Cyprus Ministry of Agriculture

- The strategic plan includes sustainable actions and measures that significantly improve the existing "National Action Plan for the Development of Organic Agriculture" of the Republic of Cyprus.
- It is based on the findings of the project activities and on the analysis of the existing conditions in organic food production and market in the Republic of Cyprus, by taking into consideration all relevant stakeholders.
- **Ministry's Response:** The Strategic Plan will be taken into account when the National Action Plan for the Development of Organic Agriculture will be revised.



### Greenhouse gas emissions estimation and reduction

- Field surveys on crops for 3 consecutive years recorded a lot lower emission factors of direct nitrous oxide (N<sub>2</sub>O) from soil.
- Further results have shown that the application of biological fertilizers and flexible crop rotation led to a significant N<sub>2</sub>O emissions reduction.
- The findings of the Agricultural Research Institute during the project suggest that the magnitude of greenhouse gas emissions from agricultural ecosystems in Cyprus has been overestimated, and consequently the estimated cost for the Republic of Cyprus.



Pilot fields used by the Agricultural Research Institute for the measurement of greenhouse gas emissions

## Project results

### Organic diet and children's health

A randomized clinical trial was conducted in Limassol, Cyprus to investigate the organic diet impact on children's health. About 150 children followed their usual diet for 40 days (a conventional diet which may typically include residues of pesticides in fruits/vegetables and other food items) and for another 40 days they followed an organic diet provided by a certified organic restaurant. The results of the trial have shown:

- I. the clear benefit of an organic dietary treatment by significantly lowering the body burden of pesticides (pyrethroids and neonicotinoids)
- II. significantly lower levels of biomarkers of oxidative stress/inflammation as the likely result of the pesticides' body burden reduction in healthy 10–12 years old children in Cyprus. Such biomarkers of oxidative stress/inflammation are considered as early stage markers for a suite of chronic conditions, such as obesity, type II diabetes, or cancer.

Based on the so far globally published literature, the strengths of this trial are the i) large sample size (149 children), and ii) the large intervention duration (up to 40 days).



### Increasing trend in the organic food market in Cyprus

Prof. P. Symeou team from CUT compared responses between the second consumer survey that was conducted in 2019 and those from the first consumer survey of 2016, showing:

- Increase of consumers who have bought organic foods (75% vs 60%).
- Increase in the percentage of organic food bought by the households compared to the conventional food for all food categories.
- Intention to pay more for organic foods. More specifically, only 11.5% of the participants (2016: 22.3%) do not intend to pay extra money for organic foods, whereas 31% (2016: 19%) intend to pay up to 25% more and 9.5% (2016: 5%) intend to pay up to 50% more.



## Policy Impact

### Strengthening the organic market by the implementation of the Strategic National Plan

The Strategic National Plan was recently submitted to the Ministry of Agriculture, Rural Development and Environment. The implementation of the Plan is expected to revitalize the organic market and chain, from farm to consumer and to benefit the climate, biodiversity and human health.



### Reduction in the national costs of greenhouse gas emissions

- On-site N<sub>2</sub>O emission measurements from soil, in barley production systems, as calculated by the Agriculture Research Institute, are expected to reduce the Government of Cyprus costs by € 2.270.000 per year (unpublished calculations from the Department of Environment).
- The Agriculture Research Institute has prepared an official report in order for the Ministry of Agriculture to use it for the adoption of lower emission factors by the Cyprus National Greenhouse Gas Inventory.
- The results of the project can be transferred to other EU countries and the wider region of the Southeast Mediterranean with similar climatic conditions as those of Cyprus.

Emission factors for 2016–2017 and 2017–2018

	Barley	Vetch	Pea	Barley	Vetch	Pea
	----- 2016–2017 -----			----- 2017–2018 -----		
<b>Compost</b>	0.11	0.15	0.15	0.19	0.15	0.03
<b>NH<sub>4</sub>NO<sub>3</sub></b>	0.25	0.17	0.16	0.24	0.34	0.11
<b>Manure</b>	0.23	0.24	0.25	0.21	0.23	0.18

### Cyprus National Council of Organic Farming

A member of the ORGANIKO LIFE+ team (Dr. Michalis Omirou) was appointed as a member of the Cyprus National Council of Organic Farming. Through this Council, it was decided to promote the project findings to farmers and the general public in Cyprus through training activities.



## Policy Impact

### Integration of organic products into school canteen menus

The project team contributed to the discussions on integrating organic products in the recently revised Green Public Procurement Plan for Cyprus, especially to schools, by integrating a new rule requiring from the authorities of primary schools to include specific organic products in the school canteens menu. The team of the ORGANIKO LIFE+ project helped the Cyprus Organic Farmers Association to prepare a list of local organic products that will be available throughout the year with sufficient supply in large quantities for most of the time.



### Short-chain organic markets at the university

The project and its actions have been adopted by innovative initiatives taken at the Cyprus University of Technology (CUT), such as the CUT Green Office and the Work-Life Balance Committee. The Green Office, after contacting the Cyprus Organic Farmers Association, attempted to integrate organic products into the university cafeteria and participated as a co-organiser in the two short-chain organic markets organised by the project team at CUT. The Work-Life Balance Committee, responsible for the CUT administrative staff, organised a lecture on organic products as they consider organic food as part of a healthy lifestyle.

### The organic lifestyle starts at school

The project team submitted a proposal on the EU Call for Organic Innovations 2017 entitled "Organic lifestyle starts at primary school". This proposal was among the runners-up and the jury found it promising. The EU TP Organics platform presented it at the Innovation Arena on its [website](#).

## Policy Impact

### Discussion of project results at the European Parliament and the Cyprus House of Representatives

Project findings were discussed at the House of Representatives of Cyprus in early April 2018 through questions from Members of the Parliament regarding the project's impact. These conclusions, as well as the findings of the ORGANIKO LIFE+, were presented at a European Parliament conference in Brussels in May 2018 in the presence of five prominent MEPs who were briefed on the so far results of the project on the role of organic diet in improving health indicators and the role of organic farming in mitigating climate change.



The aim of the European Parliament event was to showcase organic agriculture as a means to mitigate climate change and present scientific evidence of possible links between organic diet and human health.

### Continuous promotion of organic farming

The ORGANIKO LIFE+ project has mobilised the competent authorities to expand the scope of continued investment in organic farming and products. The activities after the completion of the project aim at promoting organic farming and products through important channels, such as the Ministry of Agriculture, Rural Development and Environment, the Ministry of Education and Culture, the Commissioner for the Environment, public universities in Cyprus and the Cyprus Organic Farmers Association.



## Policy Impact

### Green Public Procurements

The Public Procurement Directorate in Cyprus has made a significant step in implementing the Green Public Procurement policy, following the agreement they signed with suppliers/producers of organic food. A recent letter (26 March 2018) addressed to the general directors of the three Ministries (Education and Culture, Health and Defense)



presented the list of registered organic products and recommended that the above-mentioned ministries purchase organic food either on the basis of the list or through tenders. The ORGANIKO LIFE+ project welcomes the agreement as it has made several efforts towards this direction, such as meetings with stakeholders, seminars and short-chain systems for the marketing potential of organic products at the university.

### Consensus Declaration on healthy eating at schools

A consensus declaration on healthy eating at schools as a primary means of tackling childhood obesity was unanimously signed by universities, governmental departments from three Ministries, parental and primary school associations, school teachers and NGOs at the [event](#) organized by the ORGANIKO LIFE+ team on December 13, 2018. The participants suggested



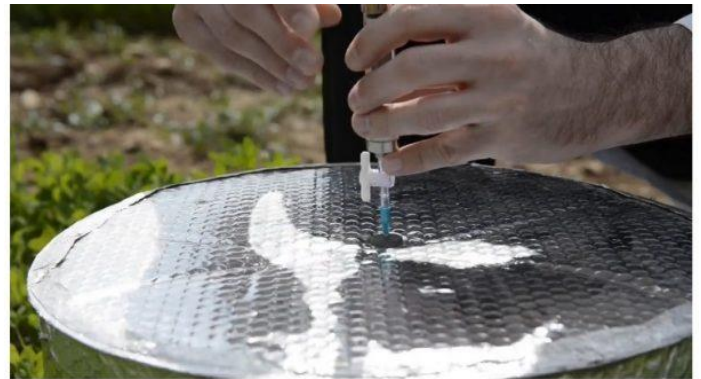
a number of targeted recommendations to policy makers of education and health with the objective to substantially promote the health and well-being of children in primary education.

- Enhancement of physical exercise time and teaching by specialized teachers
- Revision of contracts with canteens and upgrade of the operation of the Canteen Supervisors
- Compulsory education for all parents on child nutrition and exercise through the Parents' Committee
- Creation of restaurant in each school
- Further strengthening of bilateral ministerial partnerships since obesity is a multifactorial disease
- Conversion of all elementary schools to full-day schools with a specific diet that promotes healthy eating
- Creation of a systematic and in-depth intervention plan for school nutrition
- Establishment of a State Food Authority with a holistic approach to nutrition and health issues

## Recent Project Activities

### New video: Organic farming and climate change in Cyprus

You can watch [here](#) the results of the Agricultural Research Institute's actions in assessing direct nitrogen oxide (N<sub>2</sub>O) emissions from the soil, evaluating organic farming performance for climate change mitigation and designing improved organic farming practices.



Measurement of GHG fluxes using the closed-chamber method

### 3<sup>rd</sup> Dissemination event in Italy

As part of the Energy Festival, on June 14th Kyoto Club held the Organiko 3<sup>rd</sup> dissemination event in Italy, with the participation of Kyoto Club Member and Partner business companies and NGOs. The meeting was chaired by the two Kyoto Club Vice Presidents Gianluigi Angelantoni, CEO of the Angelantoni Group and President of ANEST, the Italian thermosolar companies association and Francesco Ferrante, Vice president of the FREE – Renewables and energy efficiency – National Coordination. [Read more...](#)



Kyoto Club's Governing Board reiterated its commitment to continue the engagement against climate change and its commitment to adaptation and mitigation efforts, with specific emphasis on organic farming.

### CLIMATICO 2019 conference

ORGANIKO LIFE+ project hosted the CLIMATICO 2019 international conference on 11-12 April at Elias Beach Hotel in Limassol, Cyprus. Attendees represented several countries, including Cyprus, Serbia, Germany, Greece, The Netherlands, Lebanon, Serbia, and Italy. The conference focused on the impact of climate change on key societal sectors, such as public health, agriculture, and food. [Read more...](#)



First day of the CLIMATICO 2019 conference



[Read more](#) about the project activities



## Project Dissemination

29000

people participated in the project's activities

18000

people were reached through website and social media

2012

students and parents participated/were informed about the project

74

companies selling organic products were involved in the project

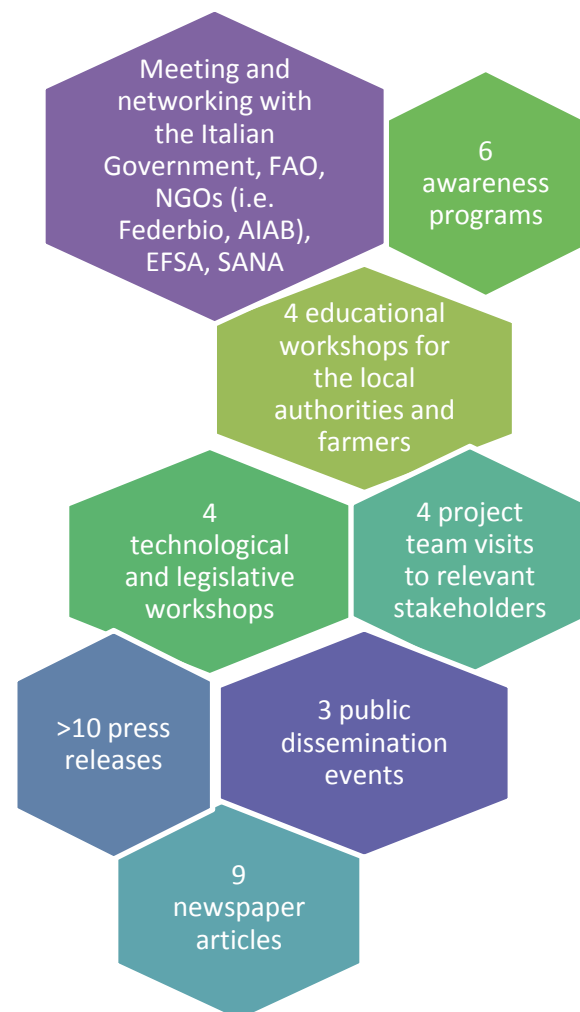
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NGOs and other types of stakeholders were involved in the project

### In Cyprus



### In Italy



## Deliverables

- ❑ [The impact of organic diet intervention on antioxidant capacity and biomarkers of inflammation and oxidative stress: A systematic review](#)
- ❑ [Organic farming and climate change: Literature Review](#)
- ❑ [Stakeholder Organic Sector Mapping in Cyprus](#)
- ❑ [Stakeholder Organic Sector Mapping in Europe](#)
- ❑ **Informative material (flyers in Greek)**
  - ❑ [Πέντε Λόγοι για να Προτιμήσετε Βιολογικά Τρόφιμα](#)
  - ❑ [Βιολογική Γεωργία και Κλιματική Αλλαγή](#)
  - ❑ [Βιολογικά Προϊόντα στη Ζωή μας](#)
- ❑ [Newspaper articles](#)
- ❑ [Plant Nutrition Fertility Scheme in organic farming systems: Apples and Barley](#)
- ❑ [Review Report on Irrigation Management Scheme](#)
- ❑ [Review Report on Soil Fertility Improvement Scheme](#)
- ❑ [Βιολογική καλλιέργεια κριθαριού – Protocol for organic farming practices in barley](#)
- ❑ [Βιολογική καλλιέργεια μηλιάς – Protocol for organic farming practices in apples](#)
- ❑ [The Behavioral Model of the Cypriot Consumer of Organic Food: The Foundation of a National Strategic Plan for Promoting the Consumption of Organic Food](#)
- ❑ [Consumers' survey report \(2<sup>nd</sup>\) – Comparison between 2016 and 2019](#)
- ❑ [Ecosystem function restoration study](#)

## Videos

- [Research study “Organic diet and children’s health”](#)
- [Discussing the behavior model of the Cypriot consumer of organic products](#)
- [Preparation of organic meals for children participating in the study “Organic diet and children’s health”](#)
- [Organic farming and its links to climate change and health](#)
- [Results of the Agricultural Research Institute activities related to emissions measurements and improvement of organic farming practices](#)
- [Results of the second consumer survey on the behaviour towards organic food products](#)
- [Interview on the potential of organic fruits and vegetables to enhance healthy eating in children](#)

## About the project

ORGANIKO LIFE+ is a LIFE-co-funded project with duration of 4 years (2015–2019), coordinated by the Cyprus University of Technology jointly with the Agricultural Research Institute, the Department of Environment, Ministry of Agriculture, Rural Development and Environment and the Kyoto Club (IT). The ultimate goal of the project is to demonstrate the comparative advantages of organic versus conventional farming and products using indicators of:

- I. Mitigation efficiency to climate change
- II. Agronomic and environmental quality
- III. Exposure indicators to pesticides and biomarkers of oxidative stress / inflammation in relation to systematic consumption of organic food by children [Read more...](#)

## Contact us

