SUSTAIN COST Action

International Workshop Series

SUSTAIN

Sustainable use of salt-affected lands

SUSTAIN WORKSHOP

Regenerative Soil and Water Solutions for Salt-Affected Agroecosystems in Arid Regions



September 29–30, 2026

Cairo—Alexandria Desert Road
Green Desert Resort, Egypt

Event Details & Registration
sustaincostaction.eu/SUSTAIN-IW

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EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

AD GA

NRC
National Research Centre

INNOVATIVE RESEARCH | SUSTAINABLE SOLUTIONS | GLOBAL COLLABORATION | RESILIENT FUTURE

Workshop at a Glance

Event: SUSTAIN International Workshop
COST Action: SUSTAIN CA22144
Theme: Regenerative Soil and Water Solutions for Salt-Affected Agroecosystems in Arid Regions
Dates: 29–30 September 2026
Location: Cairo, Egypt
Main venue: Dina Al-Madawy Hotel, Cairo–Alexandria Desert Road

Organizers

The workshop is organized under the framework of COST Action SUSTAIN CA22144, in cooperation with:

- National Research Centre (NRC), Egypt
- ADGA Agriculture, Egypt

The event will bring together scientists, policymakers, international organizations, universities, and agricultural practitioners working on soil salinity, water scarcity, irrigation, and climate-resilient agriculture.

Workshop objectives

The workshop aims to:

- Exchange knowledge on regenerative agriculture under saline and water-limited conditions
- Discuss practical approaches for improving soil health, water-use efficiency, and crop resilience
- Present research, policy, and field-based solutions for salt-affected agroecosystems
- Strengthen cooperation between European and Egyptian institutions
- Connect scientific innovation with practical implementation on commercial farms
- Identify scalable solutions for drought, salinity, irrigation, drainage, and sustainable crop production

Organizing and Scientific Committee

Dr Islam Frahat Zaky Hassan (Egypt), Dr. Eleftheria Dalmaris (Greece), Dr. Katarzyna Negacz (Netherlands), Dr. Nadia Bazihizina (Italy)

SUSTAIN Grant Holder Manager

Colette Gerards (Netherlands)

Main contact	
Dr Islam Frahat Zaky Hassan **National Research Centre, Egypt** **Local Organizer, SUSTAIN International Workshop**	**Dr Eleftheria Dalmaris** **SUSTAIN Training School Coordinator**

Featured Speakers

SUSTAIN International Workshop | Regenerative Soil and Water Solutions for Salt-Affected Agroecosystems in Arid Regions

The workshop brings together policy leaders, scientists, international organisations, and agricultural practitioners to develop practical responses to soil salinity and water scarcity.

Dr Kate Negacz
Action Chair, COST Action SUSTAIN
Focus: Introduction to the SUSTAIN COST Action and its objectives.

Dr Tycho Vermeulen
Agricultural Counsellor to Egypt and Jordan, Dutch Embassy in Cairo; Wageningen University and Research
Focus: Policy pathways for the transition towards climate-smart agriculture.

Dr Islam Farhat Zaky Hassan
National Research Centre, Egypt; Local Organizer
Focus: Egypt's host-country perspective on regenerative agriculture under saline and water-limited conditions.

Dr Samar El-Taheer
Principal Water Scientist, ICARDA CGIAR
Focus: Water scarcity, salinity, and irrigation pathways in dryland agroecosystems.

Dr Maria Konyushkova
Global Soil Partnership Secretariat, Food and Agriculture Organization of the United Nations FAO
Focus: Sustainable pathways for saline and sodic soils.

Dr Mohie El Din Omar
Professor of Irrigation and Water Management, ICARDA CGIAR; Acting Representative in Egypt
Focus: Regenerative irrigation and integrated soil-water management in Egypt.

Mr Sven Thomas
Global QA/QC and Agricultural Developments, Jaguar, The Fresh Company B.V., Netherlands
Focus: A new citrus rootstock for water-scarce and increasingly saline conditions in Egypt.

Dr Sharon Elizabeth Benes, Ph.D.
Professor of Soils and Plant Nutrition, Department of Plant Sciences, California State University, Fresno, USA
Proposed presentation: Soil Health and Plant Nutrition for Regenerative Management of Salt-Affected Agroecosystems.

Dr Dionysia-Angeliki Lyra
Halophyte Chief Agronomist; Former Principal Agronomist Scientist, FAO
Focus: Halophytes, productive saline landscapes, and emerging value chains.

Programme

Knowledge exchange, innovation, policy dialogue, and field insight

Day 1 | Tuesday, 29 September 2026

Venue: Green Desert Resort, Cairo–Alexandria Desert Road

Time	Session and contribution
08:00–08:30	**Registration**
08:30–09:00	**Welcome coffee and Ice-breaker**
09:00–09:30	**Introduction to the SUSTAIN COST Action** **Kate Negacz** *Action Chair, COST Action SUSTAIN*
09:30–10:15	**How to Transition Towards Climate-Smart Agriculture** **Dr Tycho Vermeulen** *Agricultural Counsellor to Egypt and Jordan, Dutch Embassy in Cairo; Wageningen University and Research* Opening keynote: policy and transition
10:15–10:30	**Implementing Regenerative Agriculture in Salt-Affected Lands: The Role of Egypt's National Research Centre and ADGA** **Dr Islam Farhat Zaky Hassan** *Local Organizer, National Research Centre, Egypt* Host-country perspective
10:30–11:00	**Coffee break**
11:00–11:45	**Water Scarcity, Salinity, and Irrigation Pathways in Dryland Agroecosystems** **Dr Samar El-Taheer** *Principal Water Scientist, ICARDA CGIAR* Scientific keynote
11:45–12:30	**Degradation to Regeneration: Sustainable Pathways for Saline and Sodic Soils** **Dr Maria Konyushkova** *Global Soil Partnership Secretariat, FAO* Senior visionary keynote
12:30–13:30	**Lunch break** Lunch at participants' own expense First official photos
13:30–14:15	**Advancing Regenerative Irrigation and Soil-Water Management in Egypt** **Professor Mohie El Din Omar *(Delivered by Dr Samar El-Taheer)*** *ICARDA CGIAR; Acting Representative in Egypt* National and institutional perspective

Time	Session and contribution
14:15–14:45	**A New Citrus Rootstock for Water-Scarce and Increasingly Saline Conditions in Egypt** **Sven Thomas** *Jaguar, The Fresh Company B.V., Netherlands* Implementation and delivery
14:45–15:30	**Turning Saline Lands into Productive Landscapes: Halophytes, Potential, and Value Chains** **Dr Dionysia-Angeliki Lyra** *Halophyte Chief Agronomist; Former Principal Agronomist Scientist, FAO* Bio-saline applied innovation
15:30–16:45 pm	**Flash talks** Three -minute presentations: 1. **Ibrahim Ortas** Effects Of Mycorrhiza On Plant Development Under Different Salt Stress Conditions In Soil And Growing Medium. *University of Çukurova, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Adana, Türkiye.* 2. **Javier Arizmendi Ruiz** Fruit Shape Responds To Interannual Heat–Drought Stress Under Contrasting Orange Orchard Management. *Universidad de Zaragoza (UNIZAR), Spain & ZERYA Producciones sin Residuos, S.L., Spain.* *3.* **Debosmita Chakraborty** Microbiome Patterns And Food-Safety-Relevant Bacteria Across The Salicornia Europaea Soil–Plant Continuum. *Department of Microbiology, Faculty of Biological and Veterinary Sciences, Nicolaus Copernicus University, Toruń, Poland.* 4. **Irene Christoforidi** Drought- and Salt-Tolerant Plants of the Mediterranean and Their Diverse Applications. *Department of Agriculture, Hellenic Mediterranean University, 71410 Heraklion, Greece.* 5. **Muhammad Tahir Khan** Transgenic Approaches for Enhanced Salt Stress Tolerance in Perennial Crops. *Vytauto Didžiojo universitetas, Lithuania.* 6. **Messaoud Lazereg** Regenerative Soil and Water Solutions for Resilient Mediterranean Agroecosystems: Lessons from COSBAMED in Algeria. *Centre de Recherche en Economie Appliquée pour le Développement, Algeria.*

Time	Session and contribution
	7. **Signem Oney-Birol** Nature-Based Solutions from Extreme Environments: Utilizing Burdur Lake Halophytes and Associated Rhizobacteria to Enhance Crop Resilience Under Salinity Stress. *Department of Molecular Biology and Genetics, Mehmet Akif Ersoy University, 15030, Burdur/Türkiye.* 8. **Jaqueline Quirino Ferreira** Hydroclimatic Variability Controls Salinization In a Semiarid Tropical Estuary. *University of Geneva, Geneva, Switzerland.* 9. **Najat Sarkouh** Mapping Salinity Risk And Supporting Regenerative Management Of Salt-Affected Landscapes : A Case Study From the Moroccan Atlantic Sahara. *Faculty of letters and human sciences department of geography, university Mohamed V ,Rabat, Morocco.* 10. **Kārlis Švirksts** Subsurface Drip Fertigation in Vegetables: Subsoil Nutrient Dynamics, Moisture Deficits, and Yield Trade-Offs. *Bulduri Biotechnology Center, Latvia.* 11. **Peter Prins** Bundling Expertise For Action On The Ground. *SALTA (Institute for Agriculture in Salinizing Deltas).* 12. **Amalia Filippaki** From Southern Europe to Northern Africa: The Same Challenges in Sustainable Management of Resources the Same Need for Regenerative Agriculture. *Tbilisi State University / Ivane Javakhishvili, Georgia.* 13. **Eman Mostafa Mohamed Ibrahim Abdalhady** Genomic Features of Agrobacterium Divergnes Azo12 and Wheat Responses to Salinity Stress. *Cairo University, Egypt.* 14. **Aridon Ramaj** Challenges and Opportunities for Cultivating Medicinal and Aromatic Plants in Salt-Affected Soils: A Perspective from Albania. *Institute of Plant Genetic Researches of Albania (Genebank)/ Agricultural University of Tirana.* 15. **Zenepe Dafku** Nature-Based Solutions for salinity management in Mediterranean agroecosystems: What Do We Know? *Agricultural University of Tirana, Albania.* 16. **Turana Isgandarova** From Stress Adaptation to Irreversible Damage: Molecular Mechanisms of Wheat Responses to Drought and Salinity under Climate Change. *Institute of Molecular Biology, Ministry of Science and Education of the Republic of Azerbaijan.*

Time	Session and contribution
16:45–17:15 pm	**Management of soils affected by salinity and sodicity and decision support tools for forage production under saline irrigation** **Professor Sharon Elizabeth Benes, Ph.D.** *California State University, Fresno, USA*
17:15–17:25 pm	**SUSTAIN teaching material** **Dr Eleftheria Dalmaris** *Training School Coordinator for SUSTAIN*
20:00	**Joint networking dinner** Green Desert Resort

Field Validation and Applied Learning

Day 2 | Wednesday, 30 September 2026

Field visits to commercial agroecosystems under arid and salt-affected conditions

Time	*Duration*	*Session and contribution*
07:30-07:45	*15 min*	*Participant assembly and registration check*
07:45-08:00	*15 min*	***Safety and logistics briefing*** *Field safety, transportation arrangements, emergency contacts, learning objectives, and distribution of field-observation sheets*
08:00-08:20	*20 min*	*Departure and transfer to El Madaway Farm*
08:20-09:05	*45 min*	***Field Visit 1 - El Madaway Farm*** *Field-scale salinity indicators; irrigation-salinity interactions; and practical entry points for regenerative soil and water management*
09:05-09:25	*20 min*	*Transfer to Eva Farms*
09:25-10:10	*45 min*	***Field Visit 2 - Eva Farms*** *High-efficiency irrigation, water productivity, soil-moisture management, and production under saline conditions*
10:10-10:30	*20 min*	*Transfer to Dina Farms*
10:30-11:15	*45 min*	***Field Visit 3 - Dina Farms*** *Integrated large-scale agribusiness, resource-use efficiency, and sustainable production under arid conditions*
11:15-11:45	*30 min*	*Transfer and refreshment break*
11:45-12:30	*45 min*	***Field Visit 4 - GM and El Hegaz Farms*** *Comparative observations of soil reclamation, crop establishment, irrigation management, and resource-use efficiency*

Time	Duration	Session and contribution
12:30-12:50	20 min	*Transfer to El Shafi Farm*
12:50-13:35	45 min	***Field Visit 5 - El Shafi Farm*** *Specialized cherry tomato production, precision irrigation, soil management, and production efficiency under arid conditions*
13:35-14:30	55 min	*Transfer to Green Desert Resort and contingency buffer*
14:30-16:00	90 min	***Lunch at Green Desert Resort***
16:00-16:40	40 min	***Field reflection and synthesis*** *Rapporteur summaries from the five visits; key observations; shared challenges and solutions; and transferable practices*
16:40-17:00	20 min	***Research, policy, and innovation priorities*** *Identification of knowledge gaps, collaboration opportunities, and potential follow-up activities*
17:00-17:30	30 min	***Awards and official closing ceremony*** *Best-poster and flash-talk awards; attendance certificates; honorary plaques; acknowledgements; closing remarks; and official photographs*
17:30-19:30	120 min	***Transfer to the Nile-cruise embarkation point*** *Includes allowance for Cairo traffic*
19:30-20:00	30 min	*Arrival, boarding, and participant check*
20:00	-	***Optional Nile dinner cruise and networking programme***

Field Visit Practical Briefing

Date: Wednesday, 30 September 2026
Activity: Field Validation and Applied Learning
Region: Cairo–Alexandria Desert Road and selected commercial agroecosystems

Purpose of the field visit

The field visit will connect the workshop's scientific discussions with practical examples of regenerative soil and water management in Egyptian agricultural systems. Participants will observe irrigation and fertigation practices, soil-management strategies, drainage, salinity-mitigation measures, crop performance, and approaches for improving water-use efficiency under arid conditions.

Cairo–Alexandria Desert Road Agricultural Corridor

The Cairo–Alexandria Desert Road forms an important agricultural development corridor in Egypt's western desert. The surrounding areas host large-scale commercial farms and desert-reclamation projects supported by modern irrigation, fertigation, drainage, and soil-management systems. The field visits will demonstrate how productive agriculture is developed under arid conditions and how farms respond to water scarcity and soil salinity.

Practical arrangements

Participants will travel together by organized transport from the workshop venue.

- **Meeting point:** At the lobby
- **Departure time:** 08:00
- **Expected return:** Approximately 18:30
- **Transport:** Organized group transport
- **Lunch break:** 12:30–14:00
- **Workshop reflection and official closure:** 17:30–18:30
- **Nile cruise dinner:** 20:00

Participants are requested to remain with the group, respect the agreed timetable, and follow the instructions of the workshop and field-visit coordinators.

Planned field visits

The provisional programme includes visits to:

- El Madaway Farm
- Eva Farm
- Dina Farms

- El Ziny and Blue Nile Farm
- GM or Fresh Energy

The final sequence may be adjusted according to farm access, operational conditions, traffic, and weather.

Recommended clothing and equipment

Participants should bring:

- Light, breathable clothing suitable for warm and sunny conditions
- Comfortable closed shoes suitable for uneven or cultivated ground
- Hat, sunglasses, and sunscreen

Refillable water bottle

- Personal medication and essential medical information
- Notebook and pen
- Mobile phone and power bank
- Insect repellent, if required

Open footwear, high-heeled shoes, and unsuitable clothing are not recommended.

Health, safety, and biosecurity

Participants should drink water regularly and avoid prolonged exposure to direct sunlight. Any medical condition, allergy, mobility limitation, or special dietary requirement should be reported to the organizers in advance.

For safety reasons, participants should not:

- Enter restricted areas without permission
- Approach agricultural machinery or irrigation channels
- Enter chemical-storage or livestock areas
- Handle pesticides, fertilizers, plants, or farm equipment without authorization
- Move between farm areas without guidance from the local technical team

Participants should follow all farm biosecurity procedures and comply with any instructions concerning footwear, access, and hygiene.

Suggested technical observations

During the field visit, participants may pay particular attention to:

- Water sources, irrigation systems, and irrigation scheduling
- Soil salinity, drainage, and visible symptoms of salt stress
- Soil-moisture conservation and organic-matter management
- Fertigation practices and nutrient-use efficiency
- Crop and rootstock selection under drought and salinity

- Cover crops, compost, mulches, and beneficial microorganisms
- Monitoring tools used for irrigation and soil management
- Practical costs, constraints, scalability, and farmer adoption

Photography, interviews, and collection of data or plant material should only be conducted with permission from the farm managers and workshop organizers.

Field-visit reflection

At the end of the field programme, participants will take part in a short reflection and synthesis session. This session will focus on the main observations, transferable practices, remaining challenges, and opportunities for applying regenerative soil and water solutions in different arid and salt-affected regions.







