



Methods for Irrigation and Agriculture
لتطوير أساليب الري والزراعة

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RESEARCH AND DEVELOPMENT



MIRRA Strengthens Its Role in Mediterranean Innovation Through Participation in the FUSION General Assembly in Greece

Picture 1: Workers harvesting barley fields as part of the NUSTALGIC project activities.



On May 18, 2026, the team at MIRRA successfully completed the harvest of the Neglected and Underutilized Species (NUS) crops cultivated under the NUSTALGIC Project initiative. The crops were originally planted on December 24, 2025, as part of ongoing efforts to promote climate-resilient agriculture and sustainable dry-farming systems in Jordan.

The harvested crops represent an important step toward reviving traditional and drought-tolerant species that can better adapt to water scarcity and changing climate conditions. Through the NUSTALGIC project, MIRRA is working to strengthen sustainable agricultural practices by combining innovative approaches with traditional knowledge, particularly in arid and semi-arid regions.

The project focuses on improving water efficiency, enhancing soil health, and increasing resilience to climate change through the introduction of NUS crops such as legumes, barley, and cactus varieties. These crops contribute to lower water consumption, improved biodiversity, and stronger farming systems capable of withstanding drought conditions.



Picture 2: Harvested and dried chickpeas supporting sustainable and climate-resilient agriculture.

As part of the next phase of implementation,

MIRRA is currently preparing for seed distribution and sowing activities across 20 demonstration farms.

These farms will serve as practical learning and innovation sites where farmers can adopt sustainable farming techniques and test climate-smart agricultural solutions. The initiative aligns with the NUSTALGIC DRIPS approach, which supports collaboration between farmers, researchers, and local communities to co-develop resilient dry-farming systems.



Picture 3: A field worker harvesting chickpeas during the NUSTALGIC crop harvesting season.

In addition to crop production, the project is also advancing circular economy practices through the development of by-products derived from NUS crops. These include food products, feed solutions, cactus by-products, and other value-added innovations that aim to create new market opportunities and improve farmers' livelihoods.

Through these activities, MIRRA continues to support sustainable agriculture, farmer empowerment, and climate adaptation efforts while promoting the importance of underutilized crops in strengthening food security across the Mediterranean region.



Picture 4: Field workers harvesting crops to promote sustainable farming practices in Jordan.

Empowering Farmers in Mafraq Through Dialogue and Agricultural Innovation

As part of the activities implemented under the AgriTech Field Lab project,

supported by GIZ Jordan, MIRRA conducted a field visit to Mafraq, where an interactive farmers' session was held at Nashmiyyat Ghadir Al-Teir Association to assess farmers' needs and better understand the challenges they face in the agricultural sector.

Picture 1: Eng. Sewar Saleh from MIRRA delivering an interactive presentation and providing farmers with an overview of the initiative.



The session brought together local farmers from different agricultural backgrounds to discuss key issues related to irrigation, post-harvest losses, agricultural technologies, and market access. During the meeting, Eng. Sewar Saleh delivered an interactive presentation introducing the objectives of the initiative and the importance of the farmers' needs assessment survey in **identifying practical and technology-driven solutions for the agricultural community**. The session also included open discussions and direct dialogue with farmers, creating a valuable space for sharing experiences, concerns, and recommendations. Farmers actively participated in completing the survey and highlighting the most pressing challenges affecting their production and livelihoods.



Picture 2 - 3: Eng. Sewar Saleh from MIRRA presenting different agricultural technologies and explaining how innovative solutions can help farmers improve irrigation efficiency, reduce post-harvest losses, and enhance overall agricultural productivity and sustainability.



Picture 4: Khader Al Khazam sharing his experience during the discussion, highlighting the urgent need for proper cooling and storage facilities.

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One farmer shared a powerful reflection during the discussion, stating:

“We lost nearly 50% of our harvest because we do not have proper cooling and storage facilities. The high temperatures damage the crops quickly and reduce their market value.”

This statement reflected a common concern among many participants, who emphasized the urgent need for affordable cooling, storage, and post-harvest solutions to reduce losses and improve product quality.

Picture 5: Ibrahim Al-Azzamah sharing his perspective on the importance of agricultural technologies and how innovative solutions can help farmers overcome challenges.



The discussions further highlighted farmers’ growing interest in adopting agricultural technologies that can support efficient irrigation management, climate monitoring, and improved farm productivity. Participants also stressed the importance of technical support, training, and accessible financing to encourage the adoption of AgriTech solutions.

Through these field activities, MIRRA continues to strengthen engagement with local farming communities and ensure that farmers’ voices remain at the center of developing sustainable and practical agricultural innovations in Jordan.



Picture 6: Farmers participating in the session while filling out the needs assessment survey.

MIRRA Strengthens Its Role in Mediterranean Innovation Through Participation in the FUSION General Assembly in Greece



Picture 1: FUSION partners gathered at FORTH/ICE-HT during the Third General Assembly in Patras, Greece, reaffirming their shared commitment to advancing innovation, sustainability, and regional cooperation to reduce food loss and waste across the Mediterranean region.

In a significant step toward strengthening regional collaboration and advancing sustainable agri-food innovation in the Mediterranean region, Methods for Irrigation and Agriculture (MIRRA) participated in the Third General Assembly of the FUSION Project, held in Patras, Greece, from 11–13 May 2026 and hosted by Foundation for Research and Technology Hellas (FORTH/ICE-HT).

Representing MIRRA, Ammar Namarnah attended the General Assembly meetings and technical sessions on behalf of the organization, actively contributing to discussions focused on project implementation, work package coordination, demonstration planning, and strengthening operational collaboration among project partners.

The FUSION project, funded under the PRIMA Programme, brings together leading research institutions, NGOs, technology providers, and development organizations from across Europe and the Mediterranean to address one of the region’s most pressing challenges: food loss and waste (FLW). Through an integrated and multidisciplinary approach, the project aims to develop innovative technologies, practical training systems, sustainable preservation methods, and digital monitoring tools to improve food security and sustainability across the agricultural value chain.



Picture 2: Project partners from across Europe and the Mediterranean came together in Patras, Greece, during the FUSION General Assembly, strengthening collaboration, exchanging expertise, and building a unified vision for more resilient and sustainable agri-food systems.



Over the course of the General Assembly, partners reviewed the progress achieved across the project's technical and operational work packages, including innovative solutions related to food preservation technologies, cold plasma applications, renewable energy integration, transportation systems, digital traceability tools, and sustainable demonstration activities planned across Mediterranean countries.

One of the most remarkable highlights of the meeting was the advanced technical sessions and laboratory demonstrations hosted by FORTH/ICE-HT, where participants explored cutting-edge cold plasma technologies and their applications in food safety, disinfection systems, and post-harvest protection. These sessions offered valuable scientific and practical insights into emerging technologies that can significantly contribute to reducing food waste and improving food quality across the region.

The General Assembly also served as an important platform for strengthening collaboration and coordination among consortium partners, particularly regarding upcoming demonstration activities and knowledge-transfer initiatives that will be implemented in several Mediterranean countries, including Jordan. Within this framework, MIRRA continues to play an active role in supporting local implementation, stakeholder engagement, dissemination activities, and the promotion of sustainable agricultural innovation.

MIRRA's participation in this international event reflects the organization's growing role within regional and international research and development initiatives focused on climate resilience, sustainable agriculture, food systems transformation, and innovation-driven solutions for Mediterranean communities.

Picture 3: Technical and coordination sessions during the General Assembly focused on accelerating implementation progress, strengthening work package collaboration, and aligning consortium efforts toward the successful deployment of FUSION technologies and demonstration activities.



Beyond the technical discussions, the meetings also created a valuable opportunity to exchange experiences, strengthen institutional partnerships, and align collective efforts toward achieving long-term sustainable impact throughout the agri-food sector.

MIRRA would like to extend its sincere appreciation to the project coordinator, Dr. Encarnación Aguayo, the hosting partner FORTH/ICE-HT, and all consortium members for the excellent organization, productive discussions, and collaborative spirit demonstrated throughout the General Assembly.

As the FUSION project moves into its next implementation phase, MIRRA remains fully committed to contributing its expertise, field experience, and regional engagement capacities to support the successful achievement of the project's objectives and to help advance more sustainable, resilient, and innovative food systems across the Mediterranean region.



Picture 4: Experts and researchers presented advanced technological solutions and innovative approaches during the technical sessions hosted by FORTH/ICE-HT, highlighting the role of science and innovation in tackling food loss and waste challenges in the Mediterranean region.

Hello! My name is Eleanor Goodell, and I am a student at Ohio State University pursuing a Bachelor of Science in Environmental Policy and Decision Making with a specialization in Communication and Behavior Change, as well as a Bachelor of Arts in Arabic. I am very excited for the opportunity to intern with MIRRA during my time in Jordan.

My academic interests focus on water security, environmental governance, and the ways policy shapes unequal access to natural resources. Much of my recent research has examined water scarcity and transboundary water management in the Jordan River Basin, particularly how environmental pressures, infrastructure, and political agreements influence water access across the region. I am especially interested in understanding the water challenges facing Jordan and the broader Middle East and North Africa region as climate change, population growth, and resource constraints continue to intensify existing pressures.

What drew me to MIRRA is its interdisciplinary and community-centered approach to sustainable development. I am excited to learn more about sustainable agriculture, irrigation, and water management directly from the organization's work with local communities and stakeholders. I also look forward to strengthening my understanding of the social and environmental dimensions of water policy while continuing to improve my Arabic and deepen my connection to the region.

I am incredibly grateful for the warm welcome from the MIRRA team, and I look forward to learning from and contributing to the organization throughout my internship.



Welcome

Introducing MIRRA's Newest Intern:
Eleanor Goodell joins our Team!



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