



Water and Environment Support

in the ENI Southern Neighbourhood region

This project is funded
by the European Union



Early Lessons from ongoing WES DEMO Projects

Cairo Water Week 2021

27 October 2021

12:00 p.m. to 13:30 p.m.





**Water and
Environment Support**
in the ENI Southern Neighbourhood region



Water efficient Innovative Solutions Portfolio for Enhancing Resilience – WISPER

Jordan, Tunisia



I. General Information



**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Lead applicant / Company:	Istituto per la Cooperazione Universitaria Onlus – ICU Onlus		
Start & End Dates	Start Date: 15 October 2020	End Date: April 2023	Duration (Months): 30 months
Total Budget (€):	1.250.316,40		
EU contribution (€):	1.000.000,00		
Country:	Jordan, Tunisia		
Partners:	Institut National de Recherches en Génie Rural, Eaux et Forêts (INRGREF – Tunisia) and The National Agricultural Research Center (NARC – Jordan)		



II. Specific information



**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Overall objective:	To contribute to the promotion of efficient use of water in rural areas in Tunisia and Jordan in order to adapt and enhance resilience to water-related impacts of climate change
Specific objectives:	Improved technical, institutional and market context that supports the adoption and scaling up of innovative solutions leading to efficient use of water in agricultural irrigation, in Nabeul Governorate in Tunisia and in Balqa, Karak and Mafraq Governorates in Jordan
Target Area:	Tunisia: Korba, El Mida and Menzel Temime municipalities in Nabeul Governorate Jordan: Balqa, Karak and Mafraq Governorates
Target population:	In Tunisia: family farmers, GDA's, technicians/agronomists from the CRDA & CTV In Jordan family farmers, Agricultural/water users associations, extension agents
Key problems addressed:	<ul style="list-style-type: none">▪ Limited availability of water for agricultural irrigation▪ High cost of getting irrigation water to agricultural plots▪ Sea water intrusion into fresh water aquifers▪ Soil fertility deterioration by inappropriate use of brackish water



II. Specific information (Continued)



**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Main outputs:

In Tunisia: - 40 efficient water management systems based on humidity sensors calibrated to soil and water characteristics (Microwave Remote Sensing -MRS)

- Photovoltaic pumping systems, rainwater and evapo-transpired water collection systems
- Experimental study on the use of different water mixes (brackish, rainwater, evapotranspired water) on 3 different crops
- Experimental study on technical/market solutions for the reuse or disposal desalination of sub-products

In Jordan

- 30 efficient PV irrigations innovative models
- 3 decentralized efficient TWW systems for isolated communities
- 1000 m² (1 dunum) of open soil and 240 m² greenhouse treated with a polymer for water retention prototype
- 1 Field test on new water retention boxes on 3 different tree crops in 3 different areas
- 1 Experimental study on a new irrigation tape system
- 1 Soil-less system with cooling pads and blowers fully automatized
- 1 low-cost and simple soil-less system prototype tested in two greenhouses
- 1 experimental study on technical/ market solutions for reuse or disposal of desalination sub products

In Tunisia and Jordan

- 6 GDA's in Tunisia and agricultural associations in Jordan trained
- 30 technicians and agronomists of the Commissariats Régionaux au Développement Agricole (CRDA), Cellules Territoriales de Vulgarisation (CTV's), Extension agents (EA) trained
- Proposal to include tested innovative solutions in public funding programs examined by relevant institutions
- 10 business plans on innovative solutions evaluated and 3 business plans co-financed by the project per country
- Equipment and service providers per country participated in 2 fairs
- Events for dissemination of project results

II. Specific information



Water and Environment Support
in the ENI Southern Neighbourhood region

Beneficiaries:	<p>716,650 people in Total → In Tunisia: about 251,950 in Nabeul Governorate (rural population) In Jordan: about 120,600 in Balqa, about 161,900 in Karak, about 182,500 in Mafraq Governorate equal to 465,000 people in Jordan</p>
Key Stakeholders involved:	<ul style="list-style-type: none"> ▪ Co-applicants: INRGREF in Tunisia and NARC in Jordan developed the project proposal in close coordination with ICU. ▪ National Public Institutions; ▪ Technology Research and Application Poles; ▪ Local authorities: Municipalities and Governorates ▪ Public and private associations in agricultural sector: CRDA's, GDA's in Tunisia; and AA, Extension agents in Jordan ▪ Bank and financial Institutions ▪ Equipment/service providers of irrigation solutions ▪ Farmers in the intervention areas ▪ Rural population of Nabeul Governorate in Tunisia and Balqa, Karak and Mafraq Governorates in Jordan will benefit from a sustainable and efficient water management.
Notes about the project that you might see important:	<ul style="list-style-type: none"> ▪ Beneficiary contribution in terms of funding to guarantee sustainability ▪ Involvement of public institutions to address the challenges of the agricultural sector
Current situation:	<ul style="list-style-type: none"> ▪ Preparation of the implementation of activity A.1.1 "Elaboration of efficient and eco-friendly water management systems" in Tunisia (tenders launched) ▪ Publication of tenders for the purchase of equipment needed in the activity A 1.9.1 "Automation of the fertigation soilless system with cooling pads" and Activity A 1.10.1 "Development and testing of 1 low cost soil-less system prototype in greenhouses" in Jordan ▪ Discussion on technical specification for the implementation of the activity A 1.5.1 "Demonstration of TWWP decentralized systems for isolated communities in 3 different structures" and activity A.1.7.1 "Demonstration of new water retention boxes in 3 different crops" ▪ Preparation of a training courses for GDA in Tunisia
Lessons learned	<ul style="list-style-type: none"> ▪ The importance of community participation: It is only through participation that communities will have a sense of ownership and should therefore feel motivated to operate and maintain the system. Through the WISPER project, ICU must adopt flexible policies and procedures that allow communities to explore ideas and make their own decisions.

II. Specific information



**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Beneficiaries:

716,650 people in Total → In Tunisia: about 251,950 in Nabeul Governorate (rural population)

In Jordan: about 120,600 in Balqa, about 161,900 in Karak, about 182,500 in Mafrq Governorate equal to 465,000 people in Jordan

Key Stakeholders involved:

- Co-applicants: INRGREF in Tunisia and NARC in Jordan developed the project proposal in close coordination with ICU.
- National Public Institutions: Tunisian Ministry of Agriculture (MOA) (General Directorate of agricultural engineering and exploitation of water resources – DG GREE), Jordan MOA , Jordan Ministry of Water and Irrigation (also consulted to share information on institutional strategies).
- Technology Research and Application Poles: Technopole of Borj Cedria and the Jordan University of Science and Technologies
- Local authorities: Korba, El Mida and Menzel Temime Municipalities in Tunisia. Balqa , Karak, Mafrq Municipalities and the Jordan Valley Authority
- Public and private associations in agricultural sector: CRDA's, GDA's (Groupements de développement Agricole) in Tunisia and Agricultural associations and water user Associations, Extension agents in Jordan
- Bank and financial Institutions
- Equipment/service providers of irrigation solutions
- Farmers in the intervention areas
- Rural population of Nabeul Governorate in Tunisia and Balqa, Karak and Mafrq Governorates in Jordan will benefit from a sustainable and efficient water management.

Notes about the project that you might see important:

- Beneficiary contribution in terms of funding to guarantee sustainability
- Involvement of public institutions to address the challenges of the agricultural sector

Current situation:

- Preparation of the implementation of activity A.1.1 “Elaboration of efficient and eco-friendly water management systems” in Tunisia (tenders launched)
- Publication of tenders for the purchase of equipment needed in the activity A 1.9.1 “Automation of the fertigation soilless system with cooling pads” and Activity A 1.10.1 “Development and testing of 1 low cost soilless system prototype in

III. Challenges & Lessons learnt



**Water and
Environment Support**
in the ENI Southern Neighbourhood region

1. Preparation for the demo project,

- impact of Covid pandemic situation on the financial situation of farmers
- the increased impact of the sea intrusion phenomenon, which caused them to stop using greenhouses for cultivation.
- decrease in rainfall between 2019 and 2021

2. Mobilising resources

- Most of the planning has been done by the project design team and partners. Project management staff have been involved in the implementation phase and sometimes this has an impact on activity planning dynamics

3. Process

- The importance of community participation: It is only through participation that communities will have a sense of ownership and should therefore feel motivated to operate and maintain the system.
- In Tunisia, working within the existing political and administrative framework frustrating and time-consuming, but ICU is aware that such partnerships are central to implementation and sustainability of the project.
- Complexity of the VAT exemption procedure in Jordan which has caused delays in the publication of tenders in this first year

4. Implementation

- Delay in signing partnership agreements with public institutions.
- Lack of availability of public partners
- Difficulties in travelling to the field and starting the implementation of activities due to the health situation caused by Covid-19

5. communication & visibility

- No problems experienced in the first year





IV. Recommendations for replicability and sustainability

1. Preparation for the demo project,

- When designing the proposal, the initial needs assessment should be done in consultation with Stakeholders to identify potential risks and climate changes that may affect project implementation
- Attempts should be made to determine the feasibility of the project by developing the strategic and operational plans in consultation with partner organizations.
- The project should design in a way that creates not only attractive and interesting opportunities for youth to engage in dialogue on reconciliation but also the sustainability of the youth-led projects.

2. Mobilising resources

- Having a financial forecast for unexpected expenses. (Capacity building training, purchase of equipment etc.)
- Encourage partner organizations to explore co-funding/ alternative funding opportunities for the project.

3. Process

- Search together with partner organizations used multiple approaches in community mobilization
- Clear roles and responsibilities of the implementers are needed for each component of the project.
- have a clear idea of the VAT exemption and customs procedures in the countries of implementation of the project before the start of the implementation

4. Implementation

- Ensure the project goals are clearly articulated and understood by stakeholders at the beginning of project implementation.
- Establish all partner agreements through a Memorandum of Understanding (MoU) prior to implementation.
- Establish a decision point for confirmation of the project and confirming or revising a timeframe that is realistic for project completion. • Provide continuous support and maintain networking among partner organizations throughout the project implementation.



V. Images



Water and Environment Support
in the ENI Southern Neighbourhood region



Water storage pool in GDA Dar Hajjej Nabeul Governorate



**Installation site for an Automatic Hydroponic System
NARC - Jordan**



**Plastic tunnels for strawberry cultivation – GDA Lebna
Nabeul Governorate**



**Installation site for two soilless system prototypes
NARC - Jordan**





**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Contact Information

Name	Senda Gharbi WISPER Agricultural expert
Email	senda.gharbi@icu.it





**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Thank you for your attention!

