Food and Agriculture Organization of the United Nations

Water Scarcity Initiative (WSI)

USE OF NON-CONVENTIONAL WATER IN AGRICULTURE
IN SUPPORT TO SUSTAINABLE AGRI-AQUACULTURE DEVELOPMENT IN DESERT AND ARID LANDS IN THE NEAR EAST AND NORTH AFRICA REGION

BACKGROUND

The Near East and North Africa (NENA) region with its generally arid climate, predicted population growth and increased water scarcity, needs a coordinated regional approach, among others, to increase fish production and consumption, rural employment and the sustainable use and conservation of the aquatic resources. In this respect, the "Integrated Aquaculture Agriculture" (IAA) represents an irreplaceable source of animal protein and essential minerals for the most vulnerable populations.

The modern and responsible IAA production systems can use non-conventional water resources, opening new frontiers for production in inhospitable areas such as desert and arid lands. In fact, such systems can reduce water requirement for the production of high quality protein and fresh vegetable products.

However, the lack of knowledge, technical competences and availability of good quality inputs (feed and fingerlings) represent the main development challenges faced by the aquaculture sector in the NENA region; much more needs to be done in terms of development of IAA in the region.

For this reason, the goal of this ongoing project was to promote a regional framework with exchange of knowledge and expertise among participating countries. The project comprised cases from Algeria, Egypt and Oman. Algeria has started already to work on IAA with the support of FAO and is willing to exchange experiences with other countries with the same challenges and opportunities. Egypt is considered one of the leading countries in aquaculture production and water management in the region. Oman has successfully started using advanced IAA production systems such as aquaponics in remote water-scarce areas.

COUNTRY

Algeria Egypt Oman

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RESULTS

IAA National Reports:

The National Task Forces (NTFs) of this project developed national desert and arid lands agri-aquaculture sector studies along its entire value chain from production to consumer, and collecting all the findings, experiences, challenges and opportunities to develop a national report.

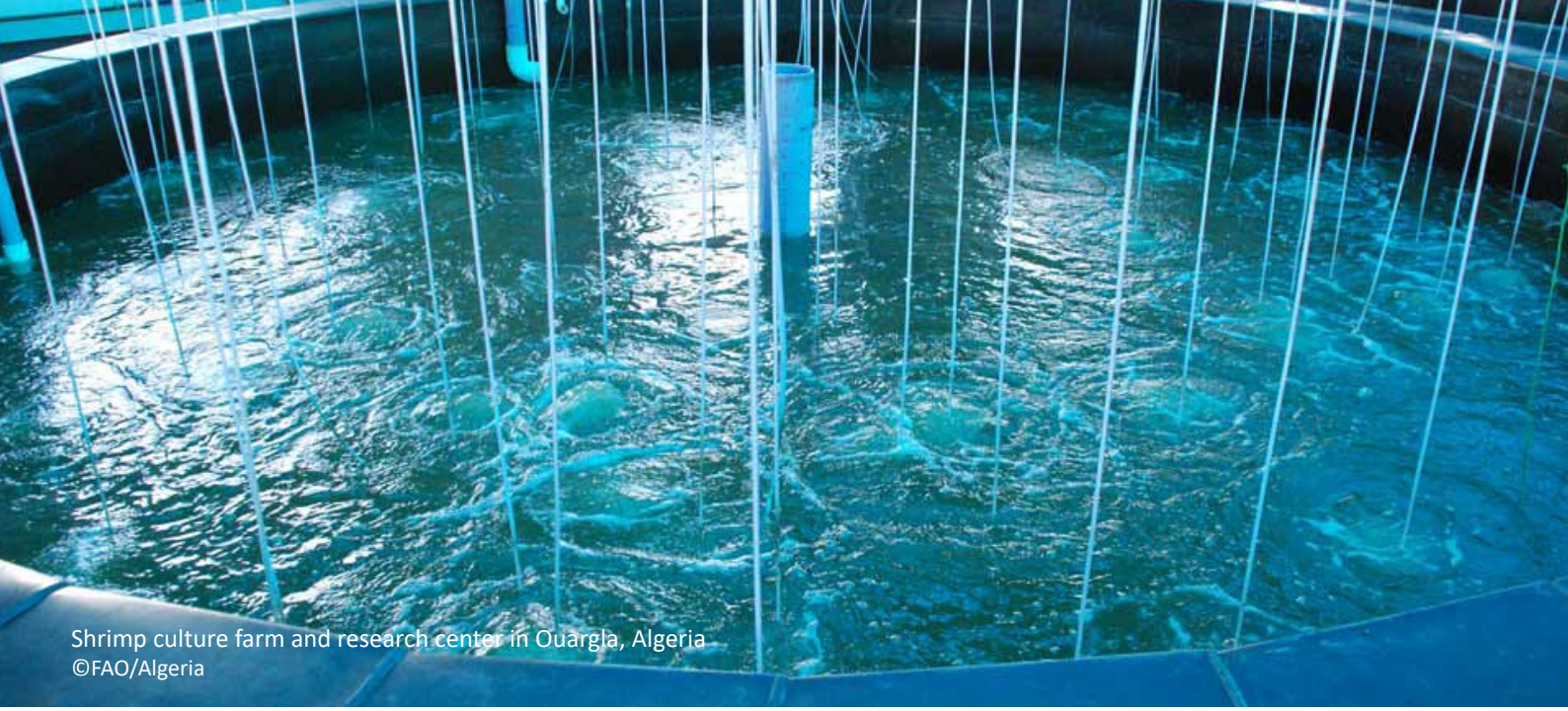
Farmer-to-farmer Study Trips:

Organized in Algeria, Egypt and Oman with participants from the three countries, with the aim to promote sharing knowledge, lessons learned, experiences, ideas, challenges, opportunities and expertise to strengthen farmer-to-farmer cooperation, transfer of technologies and support further dissemination of best practices among countries.

Integrated agri-aquaculture farms in Oman ©FAO/Oman

The farmer-to-farmer study tour visited several aquaponic farms.©FAO/Egypt

West Nile tilapia produced through aquaculture ©FAO/Egypt



Shrimp culture farm and research center in Ouargla, Algeria
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ACTION

The main objective of this project was to promote and develop national potential on effective sustainable non-conventional water use practices for integrated agriculture-aquaculture production systems in the NENA Region through capacity development of key national stakeholders.
The main expected outcome was to promote a regional framework with exchange of knowledge and expertise among countries as well as an exchange of experiences, ideas, opportunities and strengthening farmer-to-farmer cooperation. In addition, to encourage the coordinated work within the relevant stakeholders: the different ministries (water, environment, fisheries and aquaculture, livestock, etc.), the pertinent institutions, the private sector and the farmers.

BENEFICIARIES

- Farmers and rural communities, including women and youth
- Aquaculturists
- National aquaculture authorities and ministries staff
- Private sector

PARTNERS

- **Gouvernements:** Direction de la Pêche et de l'Aquaculture d'Algérie; General Authority for Fish Resources Development, Ministry of Agriculture and Land Reclamations in Egypt; and Ministry of Agriculture and Fisheries Wealth in Oman
- **Research institutions:** Laboratoire National de Contrôle et de l'Analyse des Produits de la Pêche et de l'Aquaculture et de la Salubrité des Milieux, in Algeria; Center of Sustainable Development, American University and Desert Research Centre in Cairo; Sultan Qaboos University, in Oman
- **Civil society:** Farmers Cooperatives
- **Private sector:** Aquaculture farms

NEXT

- The afterwards goal would be to strengthen the regional framework of IAA regional capacities through the development of a Regional Strategic Development Plan which will be developed with the maximum stakeholder participation, including the development of national larger programs.
- The establishment of Integrated Agri-Aquaculture Regional Center of Excellence, where experts from all the region would be able to acquire and exchange knowledge, is envisaged among the future targets of the project.