

## ICBA wins Expo 2020 Dubai grant for innovative project

**Dubai, UAE, 3 August 2017** — The International Center for Biosaline Agriculture ([ICBA](#)) has been awarded a grant from the Expo 2020 Dubai's Expo Live Innovation Impact Grant Programme to conduct an innovative research project on inland and coastal modular farms in the United Arab Emirates (UAE).

The center is among only three organizations in the UAE and [29 global innovators](#) from around the world to have won this grant.

Totalling 100,000 USD, the grant will support the development of inland and coastal modular farms in the UAE.

Expo Live is an innovation and partnership programme launched by Expo 2020 Dubai to fund, accelerate and promote creative solutions that improve lives while preserving the planet. Through Innovation Impact Grants, the programme awards grants, and offers guidance and promotion to support the growth of social enterprises, start-ups and grassroots projects around the world.

Dr. Dionysia Angeliki Lyra, a halophyte agronomist at ICBA and a lead scientist in the project, said: "The quality of land and water has deteriorated over the last decade, significantly decreasing vegetable production in the UAE. Saline groundwater cannot be used for the cultivation of traditional crops, so in many cases farmers are installing small-scale desalination units to produce good quality water for irrigation. However, reject brine, a by-product of this process, is disposed of into the soil, thus contaminating further with salts underground water reserves. Modular farming approaches focus on exploiting reject brine for fish farming and production of halophytes (salt-loving plants) on inland farms, and seawater and aquaculture effluents for cultivation of halophytes in coastal desert areas, bringing into production degraded or barren lands with economic benefits for local communities."

"The grant from Expo Live will help ICBA to develop and optimize inland and coastal multi-component farms using marginal saline water resources to grow non-traditional crops to enhance food, nutrition and income security of rural communities that are struggling to produce in desert environments," Dr. Lyra added.

It is estimated that globally over 8.7 million cubic meters of desalinated water is used for irrigation and over 3.5 million cubic meters of reject brine is produced every day. Therefore, it is extremely important to ensure safe disposal and sustainable use of reject brine.

Jointly with the Ministry of Climate Change and Environment of the UAE (MoCCaE), ICBA has operated for several years innovative inland and coastal modular farms to study the use of reject brine and seawater for farming.

Since 2013, ICBA has been running a modular farm irrigated from a reverse osmosis unit to develop a cost-effective production scheme that transforms reject brine into a source of profit for farmers.

The inland farm uses desalinated water to grow vegetables, reject brine for tilapia and seabream, and then fish effluent for halophytes. The coastal farm uses seawater directly to grow fish and the resultant effluent for halophytes.

ICBA also operates a seawater-based system at the MoCCaE's Marine Environment Research Center in a coastal area of Umm Al Quwain, UAE, where aquaculture effluent is used for the cultivation of *Salicornia*, a halophytic crop with multiple uses (vegetable, forage, biofuel).

The uniqueness of this approach when compared to other integrated production systems is that fish is grown in saline water and it is not dependent on groundwater or freshwater. Modular farms rely on water and nutrient recycling and offer a wide variety of nutrient-rich food sources to farming communities in hot and dry areas.

The grant will help in many areas, including technical improvement of the infrastructure of the pilot farm at ICBA's experimental station, financial analyses of the multi-component farms, preparation of halophytic recipes, and assessment of the market potential of fish, *Salicornia* and halophytic forages.

The UAE will host the Expo 2020 in Dubai between October 2020 and April 2021 and will be a great opportunity for organizations such as ICBA to showcase their innovative solutions at the World Expo, which is expected to bring together over 180 nations and millions of international audiences.

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**About ICBA**

The International Center for Biosaline Agriculture (ICBA) is an international, non-profit, research-for-development organization that aims to strengthen agricultural productivity in marginal and saline environments through identifying, testing and facilitating access to sustainable solutions for food, nutrition and income security.

[www.biosaline.org](http://www.biosaline.org)