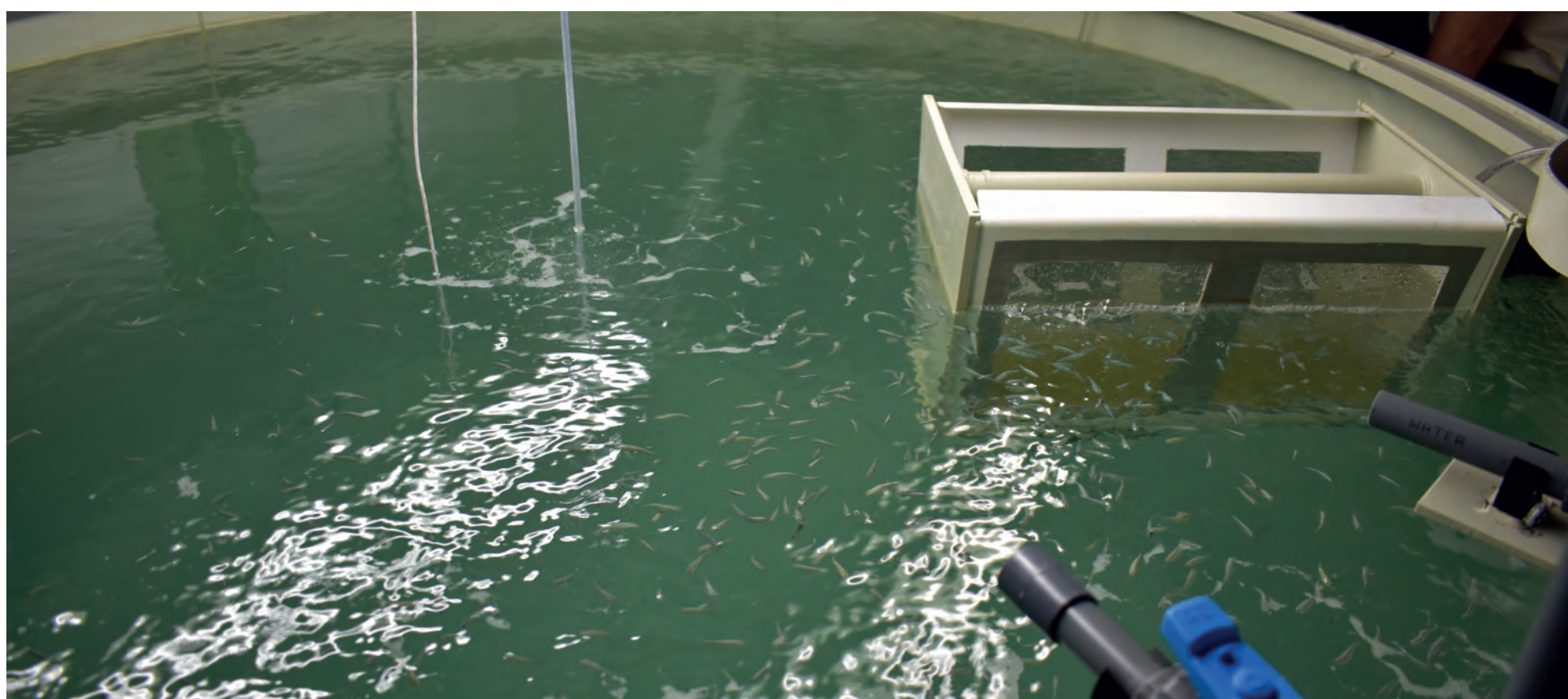


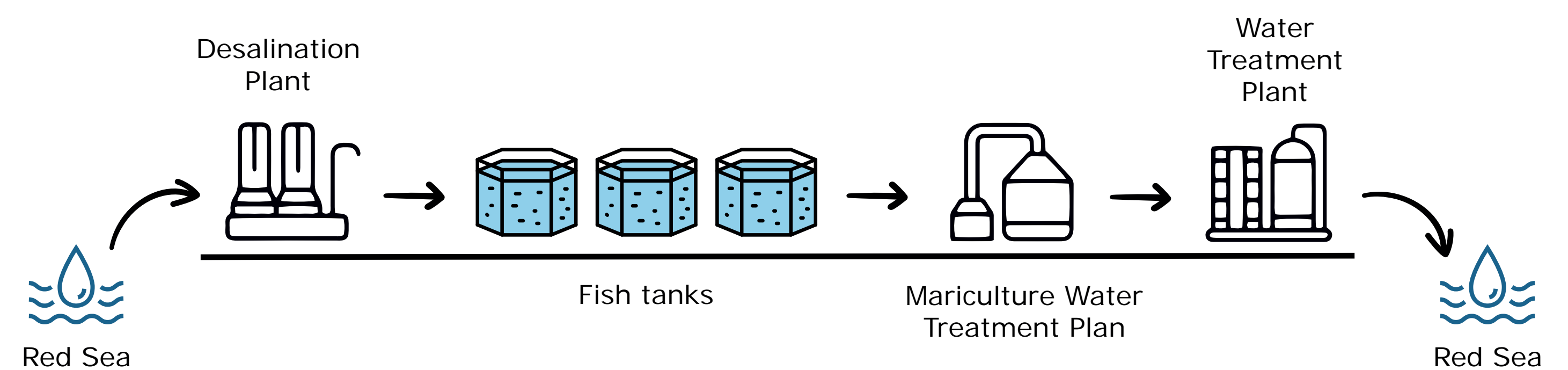
Improving land-based mariculture to meet growing demand and comply with regulations

Background

The National Center for Mariculture promote the development of **mariculture** as a unique branch of aquaculture. Land-based mariculture relies on the recirculation of water to remove waste.

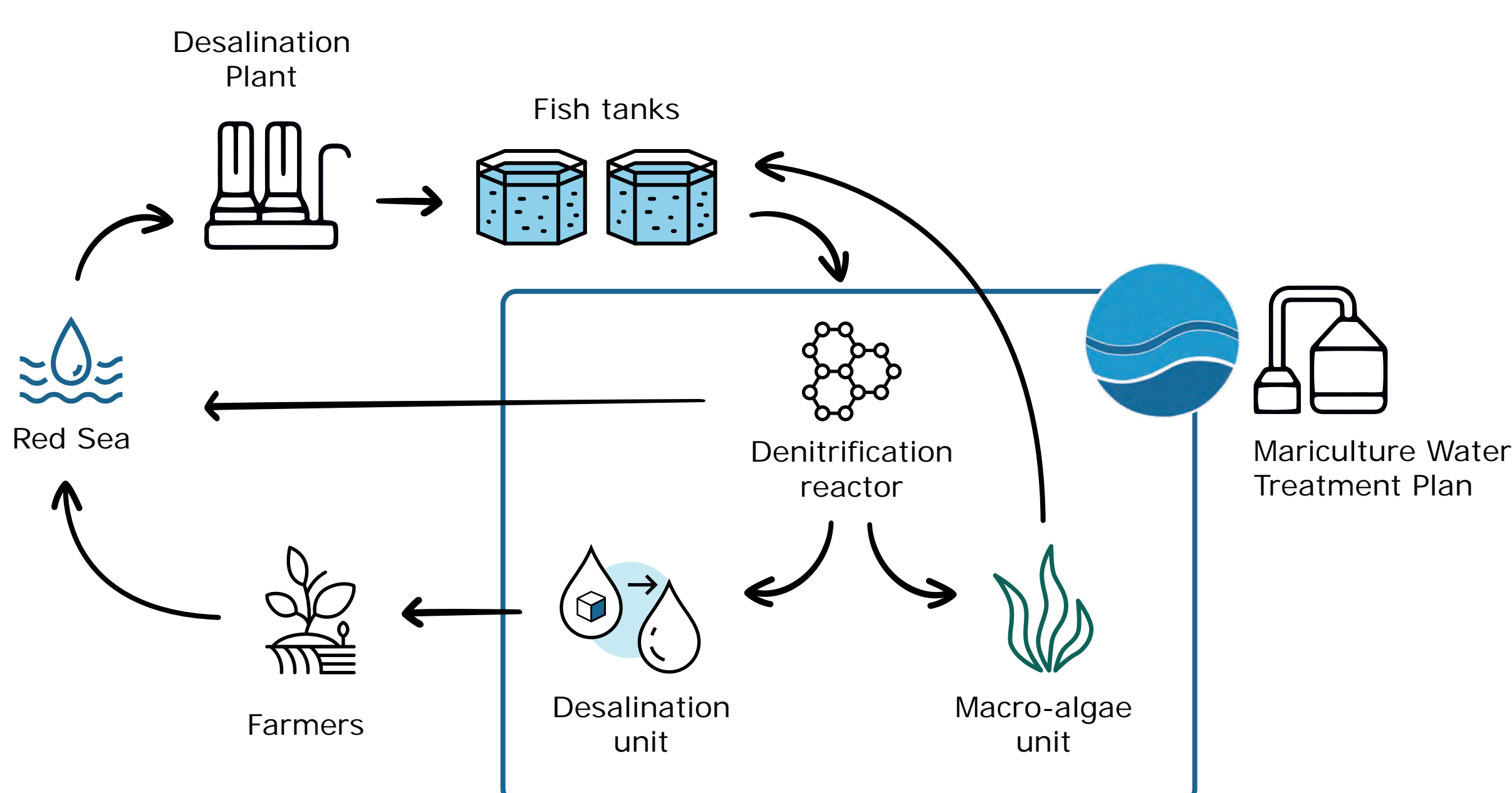


The water is filtered and treated to remove substances like ammonia which is converted to less toxic nitrates but current technology cannot remove nitrates and other pollutants, which can then build up in the tank. Environmental regulations **now require nitrates to be removed**.



Circular Water Economy

Using Project Ô technologies, water use land-based mariculture can apply a circular economy approach, allowing almost 100% closed loop of water reuse.

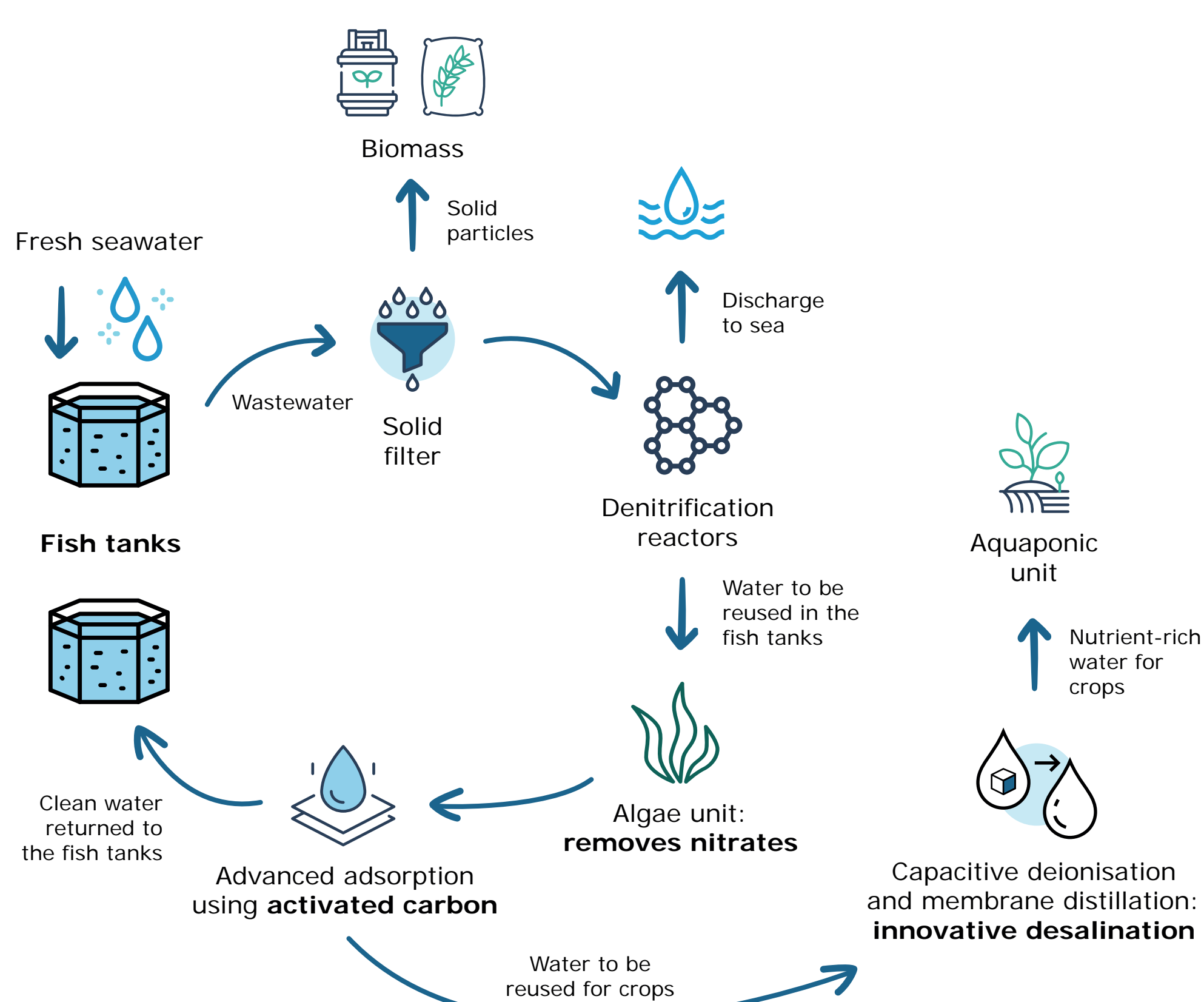


By participating in Project Ô, the potential benefits to this region include:

- » **Improving the local environment** through a decrease in seawater extraction and decrease of used water discharged into the Red Sea.
- » **More efficient removal** of nitrogen, phosphate and total suspended solids meeting tighter environmental regulations.
- » **Commercial opportunities** are possible by selling algae already grown for the denitrification treatment and by selling nutrients extracted during desalination.
- » Allowing land-based mariculture to **move away from coastal areas** relieving pressure on the land, bringing production closer to consumers and reducing the environmental footprint related to food transport.
- » Closing the loop, requires new infrastructure and land uses which can lead to an **increase in local jobs in the environmental sector**.
- » **Water quality ensured** through strict regulations, quality standards, management plans, permits and water policy instruments.

Technology

SALTECH technology removes nitrates and other pollutants and helps recover nutrients from land-based mariculture systems. It has been designed to meet environmental regulations for good mariculture practise.



The benefits of **SALTECH technology** include:

- » Reducing costs incurred through pumping new input water as well as taxes from discharging wastewater.
- » A more stable water temperature, which can lead to an improved fish growth rate.
- » Efficient management of fish disease control, which can improve yield and quality.

Project Ô has also developed a **Circular Economy Platform (CEP)** to allow key players involved in water treatment activities to interact by sharing requests, offers, treatment technologies and logistics.

- » A digital marketplace for the supply and demand of water and by-product resources
- » Water streams sorted as inputs or outputs, with specific chemical compositions.
- » A platform for users to reuse water as part of a circular water economy.
- » Space for communities to support local water management.

