

Ecology and environmental interactions of aquaculture

**Design and implementation of a semi-closed system for fish farming on the banks of the Shatt al-Arab river,
Basra governorate, Iraq.
Dr. Arafat Rajab Ahmed**

The University of Basra, Marine Science Center, Basra, IRAQ

Abstract:

The aim of this study is to find new systems that fit the current situation of the Iraqi environment that suffer from a decrease in water resources and an increase in the level of salinity of the available water. We designed and implemented a semi-closed system for fish farming on the banks of the Shatt al-Arab river in Basra governorate, in the south of Iraq. The new system consists of 40 concrete basins, with dimensions of (3 × 4 × 1,5) m. These basins were built on a distance of 160 m of the Shatt al-Arab coast. Water comes to the rearing basins from the supply tank, where the raw water from the Shatt al-Arab river is mixed with a proportion of processed water coming from the desalination plant to reduce salinity levels and improve the quality of water culture. The water drawn from the system is rich with fish waste and nutrients and is used to irrigate farmland area of 60 acres and the remainder is returned to the settling basin and then into the main supply tank. This type of rearing system is eco-friendly aids in water conservation and reducing pollution.

Keywords: Semi-closed system, fish farming, eco- friendly aquaculture system