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FACT SHEET

Artemia4Bangladesh

Background

In Bangladesh, 95 percent of crude salt is produced in Cox's Bazar by 50,000 artisanal salt farmers across about 27,000 hectare (ha) of land. With roughly half a million people directly or indirectly involved in salt production, it is an important industry to the region. Yet the industry faces several major challenges, such as increased operating land and labor costs, unemployment during the rainy season and low productivity in aquaculture. These are the biggest obstacles to improving the livelihoods of salt farmers in Bangladesh.

However, a promising new type of aquaculture technology could turn things around for the country's salt industry. Brine shrimp *Artemia nauplii*, a small brachiopod crustacean, constitutes the most widely used live feed item for the larviculture of crustaceans and marine fish. Yet recent observations and workshop findings from the Artemia4Bangladesh project suggest that the country's salt/aquaculture farmers are unaware of *Artemia* farming and the potential technological improvements it offers for shrimp and fish production in their salt farms. The unique property of *Artemia* to form dormant embryos, called "cysts," accounts to a great extent for its designation as a convenient, suitable and excellent larval food source. Currently, Bangladesh imports 40-50 metric tonnes (MT) of dry *Artemia* cysts annually, worth approximately USD 5 million. In addition to its use in aquaculture, *Artemia* is also used for human consumption because of its high protein and fatty acid content.

Across Asia, several other countries, particularly Vietnam and Thailand, have adopted new technologies to improve the profitability of their salt farms through the production of *Artemia* cysts and biomass. Integrated salt-*Artemia* production is a lucrative business, and it has improved the socioeconomic conditions of thousands of families in places like Vinh Chau-Bac Lieu in Vietnam.



Donor

European Union

CGIAR Research Program

Climate change, food security

Collaborating Partners

- Department of Fisheries (DoF)
- Bangladesh Small and Cottage Industries Corporation (BSCIC)
- Bangladesh Fisheries Research Institute (BFRI)
- Bangladeshi universities
- *Artemia* and aquaculture farmers
- Shrimp, prawn, fish hatcheries
- Ghent University, Belgium
- Can Tho University, Vietnam
- Non-government organization (NGO); Shushilan, Mukti Cox's Bazar, COAST Foundation

Project Duration

March 2020–February 2024

Project Area

Cox's Bazar district

Objectives

The overall objective of the Artemia4Bangladesh project is to enhance agricultural and food systems in the Cox's Bazar area of Bangladesh. The specific objective is to increase productivity of salt producers and aquaculture farmers linked to *Artemia*-related innovative initiatives in the Cox's Bazar area.

Approach

The project aims to build capacity through demonstration, training, research and innovation.

- Demonstration: Integrate *Artemia* cysts and biomass into aquaculture production in salt farms and recirculation systems in shrimp hatcheries.
- Training: Provide training for relevant government and nongovernment officials, representatives from private companies, salt/fish farmers, hatchery technicians, extension agents, local service providers and young professionals.
- Research and innovation: Develop climate-smart technologies, process and use locally produced *Artemia* cysts and biomass, improve seed quality and availability, and use hatchery/nursery rearing techniques of crustaceans.

Key outputs/activities

- Developed a feasible *Artemia* cyst, biomass and salt and aquaculture integrated production system for the Bangladesh context.
- Increased capacities of local farmers for *Artemia* cyst, biomass and salt integrated production.
- Improved knowledge of local aquaculture producers for business innovation and diversification.
- Enhanced awareness among local aquaculture farmers on new technologies and practices that improve the quality, profitability and sustainability of their production.

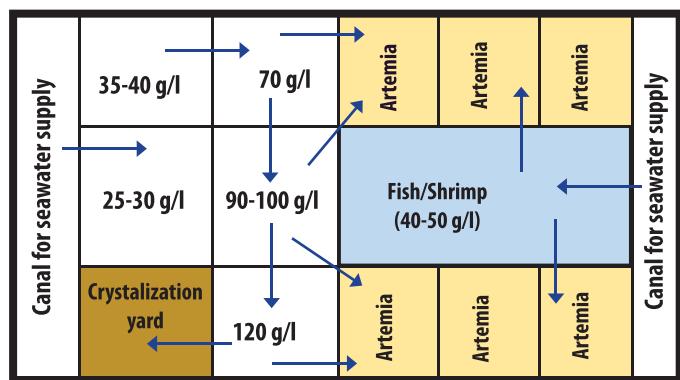


Figure 1. Model of an integrated *Artemia*-salt-aquaculture farm.

Target indicators

- Set up 50 *Artemia* pond culture demonstration farms.
- Train 500 farmers on *Artemia* and aquaculture technologies.
- 2500 farmers adopt innovative *Artemia* and aquaculture technologies covering 1000 ha area.
- Produce 200 kg of *Artemia* cysts and 5 MT of *Artemia* biomass.
- Produce 50 MT shrimp, 250 MT fish, 4.0 MT crab in 1000 ha.
- 30% increase income of salt and aquaculture producers.

Cross Cutting

Gender integration and youth participation through implementation of project activities.

Contact

Dr. Muhammad Meezanur Rahman, Technical Team Lead, Artemia4Bangladesh, WorldFish Bangladesh; House 335/A (Old) 42/A (New), Road 114, Gulshan-2, Dhaka 1212, Bangladesh. Phone: +88-02-8813250. Email: Muhammad.Rahman@cgiar.org

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