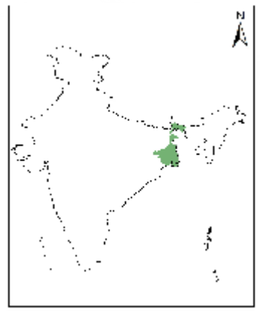
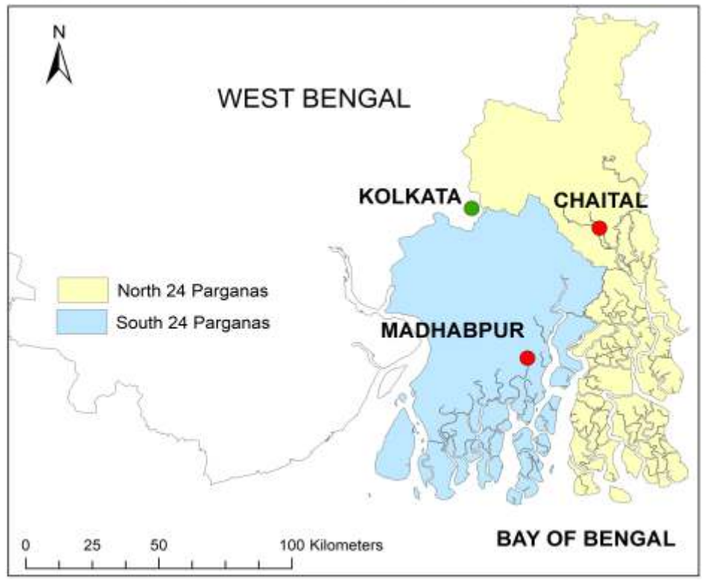
MULTI-STAKEHOLDER PARTNERSHIP TO STRENGTHEN TRANSFORMATIVE PROCESSES IN SHRIMP TRADE AS A BASIS FOR THE PROTECTION OF MANGROVE ECOSYSTEMS IN SOUTH ASIA.



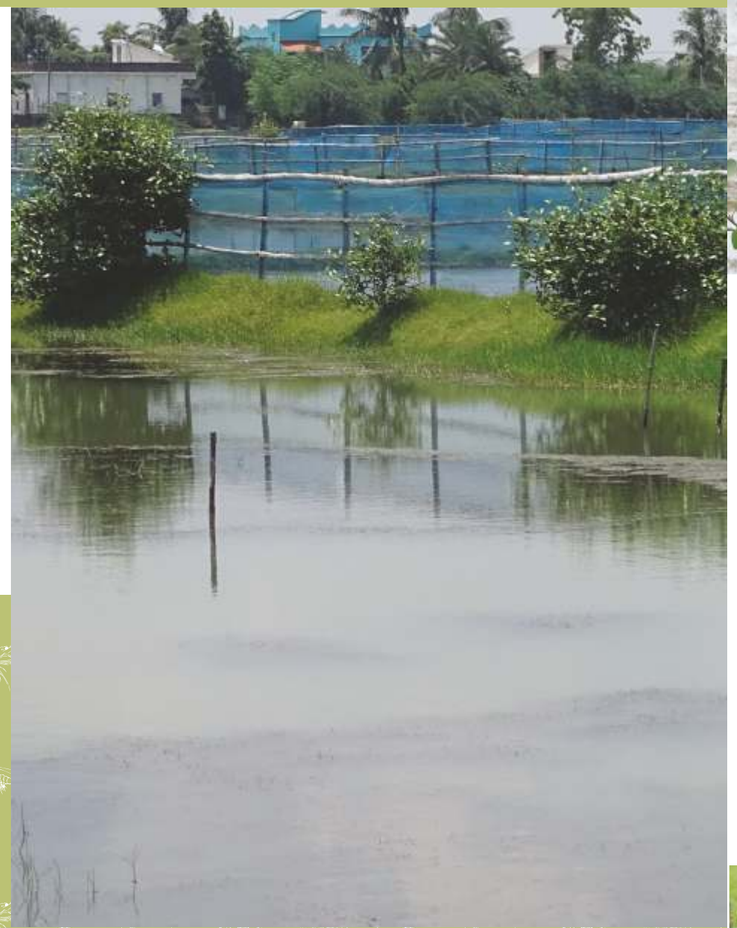


Published on: July 2023
Published By:

www.naturewildlife.org

Nature Environment & Wildlife Society (NEWS),
10 Chowringhee Terrace, Kolkata - 700 020
Administrative Office : No.5, Bakul Bagan Row, Kolkata - 700 025
contact@naturewildlife.org
+9133357 40180

SUSTAINABLE AQUACULTURE IN MANGROVE ECOSYSTEM (SAIME)



KEY FEATURES:

- CLIMATE-ADAPTIVE SUSTAINABLE brackish water aquaculture in the Indian Sundarban in the context of global sea level rise (SLR) and as a basis of protection of mangrove ecosystem.
- Adopting Good Aquaculture Practices minimizing environmental stressors.
- Promoting Indigenous Shrimp species- the Black Tiger Shrimp as a candidate species which has high export potential.
- Enabling conditions leading to certification of the produce needed for export.
- Enabling sustainability in production and business while maintaining biodiversity.
- Promoting a community-governed livelihood through nature-based solutions
- Endorsing responsible Production and Consumption.
- Reducing BLUE CARBON Emission.

Sustainabel Aquaculture in Mangrove Ecosystems (SAIME) IN INDIAN SUNDARBAN:

Why SAIME?

In the last three to four decades, many shrimp-producing countries have been experiencing disease outbreaks due to environmental degradation resulting from indiscriminate mangrove deforestation for shrimp cultivation. Chemical-intensive shrimp farming, monoculture, poor seed quality, excessive use of artificial feed, the introduction of exotic species (Penaeus vannamei), increased input costs are considered to be the important contributory factors resulting in unsustainable shrimp cultivation. Besides biodiversity loss, this is also limiting the scope of business in export market.

In this setting, SAIME is an ecosystem-based alternative sustainable aquaculture practice providing a nature-based solution to the challenges related to shrimp-based aquaculture. SAIME advocates culture of fish, shrimps, and crabs with mangrove plantation, thereby contributing to mangrove restoration, the natural coastal bio-shield. In the context of climate change induced sea-level rise in Sundarban, if at all there happens a northward migration of human habitation in the future, these areas will continue to remain productive with SAIME. Thus, it acts as a climate-adaptive measure to build sustainable livelihood leading to healthy mangroves.

Objectives:

- To adapt a model to demonstrate Sustainable Aquaculture in Mangrove Ecosystems (SAIME) in the typical Sundarban context.
- To capacitate the existing brackish water aqua culturists for adopting SAIME
- To establish a standard practice in the culture methodology of Integrated brackish water aquaculture integrating Penaeus monodon as a candidate species
- To integrate aquaculture produce from SAIME, into the value chain through the formation of farmers' institutions for better price realization and connect the small and medium farmers to markets- domestic and international.
- To identify the scope of reduction of blue carbon emissions associated with brackish water aquaculture through the integration of mangroves as a major carbon-sequestering species.
- To establish partnerships along the value chain across countries and regions to provide benefits to small and marginal fish farmers.

MAJOR ACHIEVEMENTS TILL NOW:

- Successfully implemented SAIME in 29.48 hectares area in the Indian Sundarban, one at Chaital (North 24 Parganas) and another at Madhabpur (South 24 Parganas) on a pilot scale since 2020.
- 42 shrimp farmers forming two farmers' groups, have adopted Integrated Mangrove Aquaculture with a mangrove coverage of 5-25% in their farms and are practicing SAIME in a polyculture mode where the Black Tiger Shrimp is one of the candidate species.
- Farmers are capacitated on pond health management
- Farmers have invested in 30-40% of the total land shaping cost of the SAIME farms
- Farmers are regularly stocking hatchery-bred seeds of Black Tiger Shrimp instead of locally available wild seeds.
- Culture has been diversified with another valuable candidate species, Giant freshwater Prawn (Macrobrachium rosenbergii) to compensate for loss from the mortality of Black Tiger Shrimp by White Spot Syndrome Viral Disease (WSSVD)
- Farmers have been capacitated to keep records of aquaculture and mangrove monitoring data in their 'Farmers' Diary' which is helping them in better farm management and to get a clear picture of their production
- The SAIME farms are being registered under The Marine Products Export Development Authority (MPEDA) so that their producee can be exported easily.
- Farmers' groups have been linked with a farmers' producer company, the Badabon Farmers' Producer Company (BFPCL), to reduce the involvement of middlemen and thereby realize a higher profit from their produce.

- The annual income of the farmers has been increased ranging from 7-12 % during the project period.
- Collaboration with ICAR-Central Institute of Brackish water Aquaculture, (Ministry of Agriculture and Farmers Welfare), an apex fisheries research institute for technical guidance and knowledge exchange.
- Collaboration with Indian Institutes of Science Education and Research (IISER), Kolkata for R & D on the contribution of mangrove leaf litter in the nutritional dynamics of SAIME ponds.
- Collaboration with SEACOM Skills University for Soil Carbon study in Indian Sundarbans.
- Farmers are obtaining an average yield of 535 kgs per hectare, out of which Black Tiger Shrimp amounts to 200 kgs per hectare.

OUR MESSAGE/APPEAL

- COLLABORATE for reforestation and restoration of the degraded mangrove ecosystem in Sundarban
- Invest in Sustainable Business driven by REGENERATIVE use of NATURAL RESOURCES
- Invest in business and uphold Biodiversity Ethics
- Invest to reduce the CARBON FOOTPRINT
- Invest in people that bring shared vision and benefit
- Build partnerships for co-creation
- Consider PEOPLE, PLANET, PROFIT