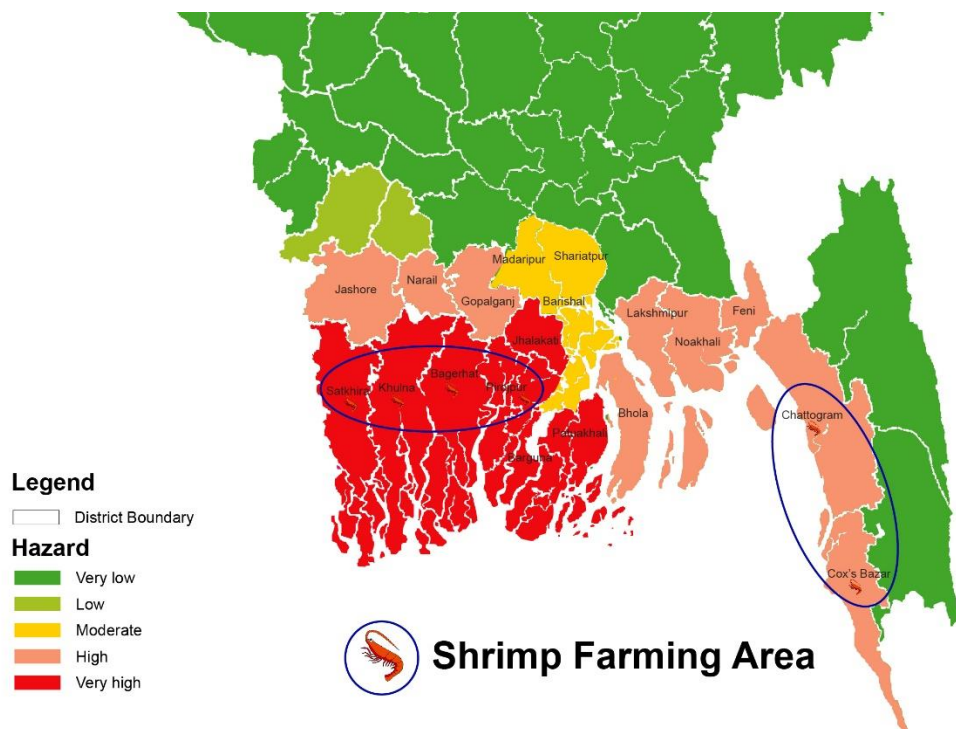


Time to Rethink Our Shrimp Farming



The last 50 years indicate a sharp growth in both shrimp and prawn production, especially in the coastal region of Bangladesh. Having high economic importance Chingri is locally known as "White Gold". In addition, it is a matter of pride for us that shrimp has recently been certified as the country's 10th geographical indication. These days, shrimp is the 2nd most significant valued product in Bangladesh and is listed as one of the top 5 countries in producing shrimps and prawns.

Chingri production grew exponentially in Bangladesh after the Second Five-Year Plan (1980-1985) accumulated the industry. The farm area covered by production was 22,000 ha in 1980 which increased to almost 11% comprising 258681 ha in 2018. This is definitely one of the most exciting financial opportunities for Bangladesh, as the country holds 85% of the world's cultivated shrimp coverage.

Yet, the question remains: are we on the right path? Do we know the consequences of this unplanned shrimp culture practice? What is the future of that? The shrimp farming process in the coastal region is highly critical for the environment. Shrimp farming occurs in saline water, and farmers open a sluice gate for saline water by the canal when the salinity in the shrimp pond decreases. During this, the saline water exchange occurs from the river.

In my understanding, we lack common sense and management practices and a weak application of the existing laws. Harms usually are related to environmental aspects. Local farmers and sometimes even related stakeholders do not follow strict rules and regulations. Day by day, without proper planning or a well-managed structure, farming is expanding haphazardly from the southeast towards the south-western parts that allocate almost 95% of the country's total cultured production.

Due to the dire conditions of the coastal region, we must act now. It's actually now or never. It is expected that long-term waterlogging increases water salinity and changes soil chemistry. As the saline water passes through the soil layer, it penetrates the nearby agricultural land and even sweet water sources used for drinking. Deep tube well waters are highly saline during the dry season in the east part of Bagerhat.

Due to shrimp farming and frequent flooding, salinity intrusion creates a shortage of grazing land and fodder crops for livestock production. Thus the shortage of milk and cattle in the coastline areas has had severe economic and nutritional consequences, especially for pregnant women and children. In 2018, in Koyra, Khulna, among 3 lakh villagers, almost 80 thousand were affected by diarrhoea, primarily pregnant women and children. Due to the shortage of nutritional value and intake of saline water, elevated levels of gestational hypertension were found in pregnant women on the south-western coast of Bangladesh.

Over the last 35 years, salinity has increased by around 26 per cent in the coastal region of Bangladesh. Some coastal regions of Bangladesh offer coconut tea instead of cow milk tea to visitors, leaving an unfavourable impression on environmental specialists. The day may not be far away when Bangladesh will have nothing but a saline water inhospitable area. Accordingly, this consequence will alter livelihoods, people will migrate to the town, biodiversity will be lost, and finally, economic returns will be below the current levels.

Shrimp farming activities employ almost 0.7 million people in the country. So, the financial explanation quickly emphasizes the importance of shrimp farming, and Bangladesh earns a considerable export and local economic benefit from this single sector. So, it is not wise to think the country's economic development stopping the growth of this valuable sector. Sustainable propulsion could be a wise guideline for this period. But it's true that take the action now or never.

Bagerhat, Satkhira, Pirojpur, Khulan, Cox's Bazar, and Chattogram are the major shrimp producing regions. If we match the areas with the vulnerable salinity map, these areas are highly climate-vulnerable, and the most popular hazard is salinity intrusion. We may ask for soil and water tests. As climate change is a common phenomenon globally and Bangladesh is highly vulnerable to climate change, we can take advantage of naturally occurring hazards. Shrimp farming may be feasible in areas under salinity intrusion threat and already flooded, rather than affecting sweeter sources.

Bangladesh is particularly prone to natural disasters because of its geophysical position and low lying deltaic characteristics. Sea-level rise due to global warming and glacier melting in the Himalayas will inundate most of coastal areas of Bangladesh since the country's topography is very flat and low-lying, with two-thirds of the land area less than 5 m above sea level. The results studying the effects and potential of Integrated Multi-Trophic Aquaculture (IMTA) on greenhouse gas reduction could significantly mitigate climate change using a multitrophic system, utilising a single area.

Human-induced land degradation should be stopped to protect the coastal region from loss of living standards, enhance the economic development of the country, and utilize unused land scientifically and effectively. Already 18.25% of the coastal area is being used for only

chingri farming and research should be done immediately to find out how far a chingri pond can contaminate the soil and surrounding area by retaining saline water, for sure the result will shock us!!

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