

# Hilsa, the potential sector of our country

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Hilsa is the favorite fish of Bengalis. Hilsa fish is closely related to Bengali culture. In monsoons, steamed hilsa, curd hilsa, panta hilsa, hilsa paturi, hilsa eggs are not enough for a Bengali. Hilsa fish is as tasty as it is rich in nutrients. Hilsa fish is a marine fish that comes to the river to lay its eggs. This fish roams especially in the Padma, Meghna, Jamuna and Karnaphuli rivers of Bangladesh. From Mirsrai in Chittagong to Lalmohan Upazila in Bhola, the largest breeding area of hilsa is in Bangladesh. Especially Manpura, Dhalchar, Balicharar, Moulveerchar - these are the biggest spawning points of hilsa. Chittagong, Bhola, Lakshmipur, Noakhali, Chandpur, Patuakhali, Barguna in an area of about 7 thousand square kilometers, hilsa fish spawns the most eggs. For this reason, in the months of March-April of the year, there is a ban on all kinds of fishing in the areas where hilsa is bred.

The role of fisheries and livestock sector is very important in the socio-economic development of the country, including meeting the food and nutrition needs of the vast masses of the country, creating employment, reducing unemployment, alleviating poverty, earning foreign currency through export earnings. The contribution of hilsa to the total fish production of the country is about 12.22 percent, the market value of which is more than 20 thousand crore taka. Hilsa's contribution to GDP is more than one percent. Bangladesh is the first among 11 countries producing hilsa. Hilsa is our national fish. This very popular and delicious fish of Bengali has been meeting the needs of the people of the country for ages and this fish has a unique role in providing non-vegetarian food. Hilsa is the national resource of the country. It is very important for every citizen of the country to come forward to protect this resource. In order to maintain sustainable production of hilsa, it is very important to protect the mother hilsa with eggs. If mother hilsa is protected, the production of hilsa will increase. On 17 August 2017, Bangladesh Hilsa is now recognized in the world market with its own identity after receiving the Geographical Registration Certificate (GI Certificate) titled Bangladesh Hilsa.

Apart from economic importance, Hilsa carries immense socio-economic and cultural importance. Hilsa fish is the source of livelihood of 4 million people of Bangladesh directly or indirectly. Beyond that, an estimated 2.5 million people are involved in the wider Veluchain. It is very difficult to find a Bengali in the country and abroad who does not like hilsa. Hilsa is truly unmatched in taste and quality. Both the sea and the river are the habitats of the hilsa. In the past years, the hilsa had almost disappeared and in such a context, the breeding and production of hilsa has increased significantly due to various measures taken by the government, including the ban on mother hilsa hunting.

Padma and Meghna are the main habitats of hilsa. Due to pollution, the water quality of these rivers is gradually deteriorating. At the same time, the amount of food required for hilsa is decreasing. Hilsa researchers say that this has a negative impact on the breeding and production of hilsa. Hilsa production in the river has already decreased. Pollution in aquatic environments is harmful to any fish. However, hilsa is a very sensitive fish and hilsa cannot take small changes in environment due to pollution.

In a joint study by the Institute of Biotechnology and Genetic Engineering of Bangabandhu Sheikh Mujibur Rahman Agricultural University of Bangladesh and the University of Nottingham in the United Kingdom, probiotics have been found in the intestines of hilsa in Bangladesh. Using metagenomics technology, new probiotic bacteria are identified in the gut of hilsa fish, which helps the fish stay disease-free at all times. The researchers said that there was no information that the hilsa fish that migrated from the sea to the river had ever been infected. Therefore, the identification of unique new probiotic bacteria discovered by advanced metagenomics is believed to be related to the disease resistance and other unique

properties of hilsa. The possibility of isolating these bacteria and using them commercially as probiotics in the country's fish farming is also bright.

The researchers used metagenomics technology to determine the species diversity and their relative numbers of gut bacteria in hilsa fish collected from different regions of Bangladesh. They analyzed the phylogenetic characteristics and distinctiveness of the intestinal bacteria of hilsa fish living in Chandpur, Patuakhali, Cox's Bazar, Munshiganj and Rajshahi, respectively, the main habitats of Bangladesh, and found some new bacteria with unique characteristics in the intestine of hilsa fish. The researchers said that there was no information that the hilsa fish that migrated from the sea to the river had ever been infected. Therefore, the identification of unique new probiotic bacteria discovered by advanced metagenomics is believed to be related to the disease resistance and other unique properties of hilsa. The possibility of isolating these bacteria and using them commercially as probiotics in the country's fish farming is also bright.

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The mother hilsa generally lays eggs twice a year, September-October and January-February. However, the reproductive rate is higher in the first season than in the second season. A mother hilsa lays a maximum of 1 to 2.3 million i.e. 10 to 23 lakh eggs per season. Hilsa chicks grow from 12 cm to 20 cm in 6-10 weeks. Then they are called Jatka. It takes 1 to 2 years for a jatka fish to develop into a full-fledged hilsa. It is 32 cm to 60 cm in size and 1 to 3 kg in weight. Jatka goes to the sea with Ma Hilsa. There, it turns into a full-fledged hilsa and returns to the river for breeding. There are mainly three types of hilsa available in our country. Hilsa, Chandana Hilsa and Gurta or Kangurta Hilsa. Torpedo-shaped silvery fish with a slightly darker tint. Four more species of hilsa are found in the upper reaches of Bangladesh. Hilsa is hailed as the 'king of fish' in Bengali society, surpassing other fish in taste, smell and appearance. Not only in terms of quality, this river king from the sea is ahead of other fish in terms of nutritional quality. Hilsa fish is also helpful in disease prevention. Hilsa fish keeps the heart healthy, blood circulation and rheumatism control helper, prevent night sweats, fight cancer, prevent asthma, relieve depression, skin care, help brain formation of children. Studies have shown that hilsa has high protein content. It also contains omega-3 fatty acids, which lower blood cholesterol and insulin levels, thereby keeping the heart healthy. So hilsa oil is beneficial for heart patients. Hilsa fish is very low in saturated fat.

Hilsa production has increased unexpectedly due to various initiatives of the government. In the fiscal year 2008-09, the extraction of hilsa was 2.98 million metric tons. In the fiscal year 2022-23, it has increased to 5.71 lakh metric tons. According to statistics, hilsa production has increased by 92 percent in 15 years. Even if the hilsa resources increase, if its originality cannot be maintained, then in the near future people's attraction to hilsa will decrease in the country and abroad. In order to create public awareness among the participants in the conservation of mother hilsa and jatka, regular awareness meetings should be convened, financial assistance should be provided to the affected fishermen and facilities should be increased. Everyone should play an effective role in creating a supportive environment for preventing river pollution and increasing the production of hilsa.

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