

## Impact of Climate Change and Anthropogenic Effect on Hilsa Fishery Management in South-East Asia: Urgent Need for Trans-Boundary Policy

**Authors :** Dewan Ali Ahsan

**Abstract :** Hilsa (*Tenualosa ilisha*) is one of the most important anadromous fish species of the trans-boundary ecosystem of Bangladesh, India and Myanmar. Hilsa is not only an economically important species specially for Bangladesh and India, but also for the integral part of the culture of the Bangladesh and India. This flag-ship species in Bangladesh contributed alone of 10.82% of the total fish production of the country and about 75% of world's total catch of hilsa comes from Bangladesh alone. As hilsa is an anadromous fish, it migrates from the Bay of Bengal to rivers for spawning, nursing and growing and for all of these purposes hilsa needs freshwaters. Ripe broods prefer turbid, fast flowing freshwater for spawning but young prefer clear and slow flowing freshwater. Climate change (salinity intrusion, sea level rise, temperature rise, impact of fresh water flow), unplanned developmental activities and other anthropogenic activities all together are severely damaging the hilsa stock and its habitats. So, climate change and human interferences are predicted to have a range of direct and indirect impacts on marine and freshwater hilsa fishery, with implications for fisheries-dependent economies, coastal communities and fisherfolk. The present study identified that salinity intrusion, siltation in river bed, decrease water flow from upstream, fragmentation of river in dry season, over exploitation, use of small mesh nets are the major reasons to affect the upstream migration of hilsa and its sustainable management. It has been also noticed that Bangladesh government has taken some actions for hilsa management. Government is trying to increase hilsa production not only by conserving jatka (juvenile hilsa) but also protecting the brood hilsa during the breeding seasons by imposing seasonal ban on fishing, restricted mesh size etc. Unfortunately, no such management plans are available for Indian and Myanmar territory. As hilsa is a highly migratory trans-boundary fish in the Bay of Bengal (and all of these countries share the same stock), it is essential to adopt a joint management policy (by Bangladesh-India-Myanmar) for the sustainable management for the hilsa stock.

**Keywords :** hilsa, climate change, south-east Asia, fishery management

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