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Baril beel, located in Fulbaria Upazila of Mymensingh district, is a complex wetland ecosystem containing a cluster of 15 water bodies including two rivers. The catchment area of this beel is 376 ha. Wetland ecosystem of this beel is very important for the livelihood of the people, especially for the poor villagers whose living conditions are inextricably linked to the productivity and sustainability of this wetland.

During the early decades of the 19th century, wetland ecosystem of this beel was a very rich depository of vegetation, aquatic plants, reeds, algae etc. In addition, this wetland provided suitable habitat and breeding ground for a large number of fishes, birds, crabs, turtles, snails, oysters, snakes, etc. But at present, these components of the ecosystem are in threatened condition. Different plant and animal species have lost their habitat and breeding ground. Many species like Paniphal/ Shingra (*Trapa bispinosa*), Jhara dhan (*Oryza rufipogon*) have already disappeared. Many species like Helencha (*Enhydra fluctuans*), Aurli (*Leersia hexandra*), Biskatali (*Persicaria hydropiper*) are in rare condition, and many fish species like *Channa marulius* (Gozar), *Channa striata* (Shol), *Lates calcarifer* (Bhetki), *Notopterus notopterus* (Chital), *Sperata seenghala* (Air), *Tetraodon cutcutia* (Tepa), *Wallago attu* (Boal) have also disappeared due to loss of habitat. The beel has converted to a seasonal water body from its perennial state.

During the period 1980-1989, total cultivable land in dry season was only 32% of the total land of the beel. Whereas during 2000-2009, cultivable land increased to 91% of the total land of the beel. Water body of this beel has reduced to 10% of the beel area in 2009 from 66% of the total land of the beel in 1980. People of this area especially poor women and fishermen, have been adversely affected due to these ecological changes of this beel.

Modern technologies and innovations like cultivating machinery, irrigation technology, flood and drought resistant crops, transportation technology, communication technology, sluice gate and change in fruiting and flowering times are the main drivers for ecological changes in the beel. High price of agricultural crops has accelerated the agricultural expansion in the beel. Price of vegetables has increased by 1042% (bean) in 2009 compared to the price in 1980. Application of urea fertilizer has increased by 300% in 2009 compared to urea used in 1980. Soil erosion and siltation have increased manifold due to agricultural expansion in and around the beel. In addition to these drivers of ecological changes, some other causes like population expansion, dependency on agriculture and control of resources to the rich farmers are responsible for ecological changes of the beel.

Livelihoods of the poor fishermen and poor women have been adversely affected by the ecological changes of the beel. During the period 1980-1989, most (70%) of the fishermen's total income was earned from fishing. But during the period 2000-2009, only 25% of their total income has been earned from fishing. Most of the fishermen (about 85%) have been completely displaced from the fishing. Few alternative income sources like bird hunting, collection of wetland grass, producing fishing instruments, and collecting faunal and floral species (snail, oyster, cuicha, turtle, crabs and shingra) have been totally banished.

But income of the large farmers has increased significantly (50.75%) from 1980 to 2009, while landless fishermen have lost their income sources due to decreased open water body and reduction of ecological resources. Though income of the fishermen has increased by only 13.10% within the same period, most of the increase came from other sources than beel resources. The price of fishes has increased many times but availability of fishes has decreased significantly. They have to depend on other sources of income like agriculture, rickshaw pulling, animal rearing, small business, and daylabouring other than fishing.

About 20% fishermen have migrated to different cities and to other hilly places where density of population is less and land price is very low. Income of the women has significantly reduced for various reasons. During 1980-1989, most of the women were engaged in hen, duck, cattle rearing, collection of different flora and fauna for selling purpose. They could earn huge amount of money by selling eggs, ducks, hens, milk, and cattle. But now (2009) they are not involved in such activities because of reduction in fodder supply and reduction of other ecological resources. Landlords of this area have become richer and landless of this area have become poorer due to ecosystem changes of the beel.