



Reuses of Water Hyacinths of Santragachi Jheel

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From increasing the likelihood of extinction to changes in genetics and behaviour, climate change is causing serious and often unexpected impacts on water hyacinths growth in the water bodies. Such astounding growth of water hyacinths reduce the birds arrival in the Santragachi Jheel as reported from 6984 in 2015 to 5232 in 2016, 2920 in 2017, 800 in 2018. The number count recorded in 2019 increases to 2889 after scientific eradication of water hyacinths from the water body of Santragachi known for domain of the migratory birds like whistling ducks, grey heron, gad-wall, moor hen, purple heron etc. Complete removal of hyacinths unscientifically by the man power of Howrah Municipal Corporation decreases the count of migratory birds to only 800 leaving no trace of hyacinths-woven floating islands to rest, roost and reproduce for the winged guests. In 2018-19, local nature lovers took proper steps for the clean-up work of water hyacinths with sensitivity and the migratory birds came many a number spotting the water surface of the jheel during their arrival. In this season, 2019-20, West Bengal Biodiversity Board, Howrah Municipal Corporation, South Eastern Railway and Nature Mates took joint initiatives and carried out clean-up work of water hyacinths in 13.5 acres Santragachi Jheel where West Bengal Biodiversity Board funded Rs 3.3 lakhs and Howrah Municipal Corporation provided 1500 man-hours leaving 30% of the jheel areas with 13 floating water hyacinths islands that will help the migratory birds to rest and roost. Removal of hyacinths in the Santragachi Jheel is carried out only during the session of migratory birds' arrival in winter allowing the water body to regenerate water hyacinths that cover the entire water body for the rest of the year. Overloaded with the water hyacinths cover, Santragachi Jheel not only faces environmental degradation, but the huge quantity of water hyacinths diminishes the ecological balance of the entire aquatic ecosystem

of the jheel. The jheel is losing oxygen, threatening aquatic life including fishes, snails and mussels. The excessive hyacinths, because of its extremely high rate of reproduction may be used as an excellent source of biomass and biogas. As one hectare (2.5 acres) of water hyacinths likely to produce more than 70,000 m³/ha of biogas, the water hyacinths of growth in 13.5 acres water areas of Santragachi Jheel might produce plenty of such biogas that assist the locals for domestic help reducing their expenditure for cook. A biogas plant might be erected in the empty land of South Eastern Railway in the vicinity of the Santragachi water body by the concerned authorities immediately. Needless to mention that biogas is composed of 70% methane and 30% carbon dioxide. Further, farmers of the Howrah district may be allowed to collect adequate water hyacinths from the Santragachi Jheel for the uses of their crop produce after converting water hyacinths into the compost. Water hyacinth is very useful as a source of organic matter for composting in organic farming. Water hyacinth is considered for floating bed vegetable cultivation, a common practice, particularly in the south-western low-lying region of Bangladesh. Applying this method of floating cultivation, locally known as *Dhapa chas*, the local farmers surrounding the Santragachi Jheel should be trained properly for the same during the rest of the year when the migratory birds remain absent from their winter habitat. Overall, the water hyacinths has the capability to absorb heavy metals and various other toxins from the contaminated sewage water released from the drains of the Howrah Municipal Corporation. In this era, when world is getting warmer and more dangerous faster than we ever thought possible, water hyacinths play important roles for keeping and cooling the water body covering with their luxuriant broad thick glossy ovate leaves and buoyant like nodules with attractive lavender to pink coloured flowers.

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