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# Impact of Siltation on Diversity of Crab in Tapi River Near Muktainagar, Jalgaon (MS).

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**ABSTRACT:**

In the present study, we have observed that the impacts on crab diversity due to siltation occurred. Heavy siltation smoother vegetation inhibiting its growth, chokes smoother eggs in swamping area, prevents construction of nest on hard substrate, fills up the reservoir and causing slow reduction in Crab farm. In the present work, we have seen an irreversible negative impact on the eggs productivity in swamp area of Tapi River in an around Muktainagar region of Maharashtra, India. However we conclude that, if the catchment area will be treated by plantation and soil conservation works, its impacts will be multiplier in the area and the crab productivity will be more as compare to present status.

**Keywords**: *Crab, Tapi River, Siltation.*

**INTRODUCTION:**

Sedimentation is a process whereby soil particles are eroded and transported by flowing water or other transporting media and deposited as layers of solid particles in water bodies such as reservoirs and rivers. It is a complex process that varies with watershed sediment yield, rate of transportation and mode of deposition (Ezugwu, 2013). Sediment deposition reduces the storage capacity and life span of reservoirs as well as river flows (Eroglu et al., 2010).The loss of trees, which anchor the soil with their root, causes widespread erosion through the tropics. Only the minority of area have good soil, which after clearing are quickly washed away by the heavy rains. Thus crop yield decline and the people must spend income to import foreign fertilizers or clear additional forestry.

After heavy tropical rains fall on cleared forest lands, the rain- off carries soil in to local creeks and rivers. The rivercarry the eroded soils downstream, causing significant problems. Hydroelectric project and irrigation infrastructure lose productivity from siltation, while industrial installation suspends operation due to lack of water. Siltation also raises river beds, increasing the severity of floods, and creates shoals and sandbars that make river navigation for more trouble-some. The increased sediment load of river smoothers crab eggs, causing lower hatch rates.

The important floodplain wetlands in Assam are oxbow lakes and meander scrolls (Dey and Bhattacharjee,1995). These create natural productivity in the area, which vital to the human communities inhabiting the valley. Significantly these wetlands have been disappearing at alarming rate (Dey and Goswami,1984). Some of the causes can be innumerate. Flash flood and ultimately flood causes heavy siltation and as a result depth is reduced and wetlands are shrinking. In some cases, wetland is lost during flood. Over exploitation of fauna during breeding season and deterioration of water quality leads to depletion of crab fauna.

Crab are harvested by various devices. As there is no replenishment in subsequent season there is gradual depletion in crab diversity. Due to depletion in crab fauna there is reduced fishing activity. The anthropogenic stress on the production of crab on the wetland of Hajo, (Anjali Baishya & Bardoloi, 2008, Deka, et.al. 2005). This paper present a study of crab diversity affected due to erosion source is typically soil degradation due to intensive or inadequate agricultural particles, leading to soil erosion especially the fine grained soils such as loess. The result will be an increased amount of silt and clay in the water bodies that drain the area.

## METHODOLOGY:

The present study data were collected from the study site during January 2017- December 2018. Crabbed are collected in live and preserved in 10% formaldehyde solution for ascertaining their conservation status, with the help of CAMP Report (1998). Nomenclature of crabs has been done after crab base (http//:www. crabbase.org.). Crab catch statistics has been recorded monthly intervals by visiting the crab landing sites. The fishermen families residing in this area have been interviewed and all the gears and methods used by fisher for capturing different crabs were recorded. Total rainfall data were obtained from the Meteorological Department of Jalgaon District, Maharashtra.

## RESULTS AND DISCUSSION:

An abatement of human interference in the catchment areas of these rivers, and fodder/fuel wood plantation through the active participation of local people in their marginal land to decrease the human pressure on natural forests, are considered the two major easy, effective and economic methods to control the siltation hazard that is causing extensive deterioration to the environment in India.

The factor responsible for extinction of fishes in aquatic ecosystems studied by Moyle and Leidy (1991), Warren and Burr (1994),Williams and Naves (1993), Dehadrai et.al. (1994). Among major factors for the decline of fishes in Tapi ecosystems have been identified by different workers (Dutta, O.K. 19874, Deka et.al. 2005).

Present study period we have reported 2 species. Increases in silt load resulting from change imp land or water use accelerate the natural evolution of the river system, but in so doing cause a number of problems. It also renders the substrate unsuitable for use as a spawning ground by those species requiring swift well aerated flows and clear pebble or boulder bottoms. The silt provides an anchorage for vegetation, blocking low order streams.

**Kothali Muktai TempleChangdev Temple**

**Icchapur Road** **Mehun Temple**

**Fig. - Some Siltation spot in Tapi river**

**Table 2:** Different type of Crab species found in different region in Tapi river.

| Name of Fishes | Kothali Muktai Temple | Icchapur Road | Changdev Temple | Mehun Temple |
|---|---|---|---|---|
| *Gubernatoriana waghi* | + | + | + | + |
| *Gubernatoriana alcocki* | + | + | + | + |
| *Barytelphusa cunicularis* | + | + | + | + |

## CONCLUSION:

From the study it is however observed that due to continuous siltation and accused of petrified matters over years, the feeding canal shave become too shallow. This has lead to the spread of waterweeds which are detrimental to crab production, retard planktons growth, cause obstruction to fishing operation and cause hindrance to the auto stocking process of the river. Different human activities such as cattle and buffalo rearing, agriculture and over fishing have resulted in further deterioration of the water quality. The abundant use of pesticides in farming activity has resulted in the accumulation of residue through surface runoff leading to the problem of bio magnification.

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