The impact of the river linking project

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Highlights

- India's massive civil engineering project, the National River Linking Project (NRLP), will not only reduce inflow of the northern rivers, but also significantly reduce the sediments deposited by the rivers in deltas, a study shows.

After effects

- Fertile deltas will be under threat, with coastal erosion expected to threaten the land and livelihoods of local economies that support 160 million people.
- Four researchers from the University of Colorado sought to fill critical knowledge gaps in the understanding of the impact of the project: reduction in river discharge due to extensive canal works, and silt trapping in newer reservoirs and barrages.
- The study was published earlier this year in the journal Elementa: Science of the Anthropocene.
- The NRLP, which comprises 29 canals totalling 9,600 km, will involve the movement of 245 trillion litres of water, the study shows.
- Researchers supplemented data from the National Water Development Agency, which is implementing the project, with over 500 documents culled from various sources.
- On implementation, water discharge in 23 out of 29 rivers will reduce considerably, they say.
- The Ganga will see a 24% decrease in flow.
- Its tributaries Gandak (-68%) and Ghaghara (-55%) will be the worst affected. While the Brahmaputra will see only a 6% loss, its tributaries will see massive flow reductions: Manas (-73%), Sankosh (-72%) and Raidhak (-53%).
- Changes in water flow and trapping of silt in reservoirs will see a dip in the sediment deposited by rivers.

Ganga-Brahmaputra Delta

- In the Ganga-Brahmaputra delta, projected aggradation (the amount of silt deposited by rivers in its delta) will decrease by 30% to 2.5 mm per year on average.
- This will aggravate loss of land in a delta where sea level rise is estimated to be 5.6 mm on average annually.

Other deltas

- The story for other deltas is similarly worrying.
- Already, reduced inflows due to natural and man-made processes has led to shoreline losses in the Krishna, Godavari and Mahanadi rivers.

- The NRLP will compound the problem.
- Though the Cauvery will see increases in flow (33%, with its tributary Penna seeing a staggering 450% increase), there will be almost no impact in its sediment discharge.

“Rare ecosystems and vital agricultural areas would become more vulnerable to storm surges, river flooding, and heightened salinity… the system will push the deltas further in the wrong direction,” warns the study.

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