Sustaining Tamirabarani's Water

What is the issue?

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- Floodplains of rivers have immense potential for ensuring sustained water supplies for urban settlements if preserved.
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- Schemes for preserving and harnessing this resource need to be promoted in regions like the Tamirabarani Basin that is facing a water crisis.
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How do flood plains help in preserving water?

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- Rivers today are facing problems of abysmally low flows due to an indiscriminate extraction of water for use in cities, industries and agriculture.
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- Floodplains are formed over millions of years by the flooding of rivers and deposition of sand on riverbanks.
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- These sandy floodplains are exceptional aquifers and any withdrawal is compensated by gravity flow from a large surrounding area.
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- Notably, some floodplains such as those of Himalayan Rivers contain up to 20 times more water than the virgin flow in rivers in a year.
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- If we conserve and use the floodplain, it can be a self-sustaining aquifer, and the river and floodplain can be preserved throughout.
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- The 'conserve and use' principle demands that annual water withdrawal rate from the aquifer should not exceed the recharge rate.
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- Drawing out any more water than is recharged can contaminate and eventually finish off this precious resource and hence needs to be checked.
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How can the potential of River Tamirabarani's Floodplains be realised?

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- 'Palla floodplain scheme' of Delhi Jal Board, covers a 25 km stretch along Yamuna and is already supplying water for over 1 million people.
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- Similar potential along other rives can be explored to meet the needs of urban settlements in a sustainable manner – and Tamirabarani presents a good case.
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- **The Potential -** Tamirabarani River in Tamil Nadu flows for 100 km through two urban settlements namely - Tirunelveli and Thoothukudi.
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- The cities have a population of close to a million people, and the water requirement is less than 54 million cubic metres (MCM) per year.
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- While 25 Km along the bank has been built over, another 75 Km of the river lies along agricultural land parcels.
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- 1 km of this 75 Km stretch on both sides of the river can be preserved as a water sanctuary (floodplains) and used to provide water to towns.
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- Specific yield of this aquifer is about 15-20% of its volume and if water is drawn sustainably, it can provide 75-90 MCM of water annually.
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- Hence, there is more water than what is needed by these cities, and by commissioning a system of wells, this resource can be harnessed.
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- If water is metered and priced at the domestic Delhi Jal Board tariff of Rs. 30 per kilo-litre, annual revenue of Rs.162 crores can also be generated.
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- **Engaging farmers -** Preserving the 75 Km floodplain is critical for this scheme, which mandates contracting the concerned farm land owners.
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- Farmers in the region are having an erratic income presently, and their holdings can be leased by the government for activating the scheme.
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- Such a partnership with farmers will provide them earn a stable income while simultaneously retaining ownership rights and preserving aquifer.
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- In addition, farmers can actually continue to grow trees for timber, fruit

orchards or nut trees on their land (but not water-intensive crops).
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- Even the economics of the scheme looks good and the revenue generated by the water board would more than offset the cost of leasing.
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- **The advantages -** Ecologically, a water sanctuary would prevent erosion, heal the river ecosystem, and restore the ecological balance in floodplains.
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- Even after withdrawal, floodplains would have enough water to slowly release back into the river in a lean season, which provides the sustenance potential.
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- This scheme would also help in curbing illegal extraction of water, curb pollution by industries and encourage better waste management practices.
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Source: The Hindu

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