# TATHASTU ICS

## DAILY CURRENT AFFAIRS

**22 SEPTEMBER, 2023**

| S.NO. | TOPIC |
|---|---|
| 1. | CAUVERY RIVER WATER DISPUTE |
| 2. | QUANTUM TECHNOLOGY |
| 3. | GREEN NUDGES |

# CAUVERY RIVER WATER DISPUTE

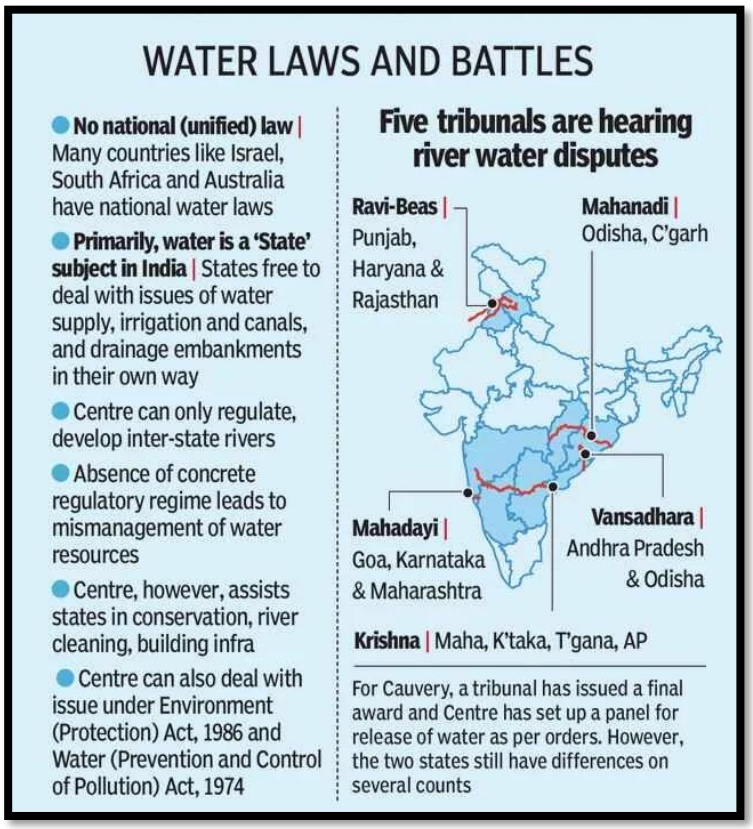
**SOURCE:** THE HINDU

## WHY IN NEWS?

- The Supreme Court decided not to take sides in the Cauvery water dispute **between Karnataka and Tamil Nadu.**
- Instead, it relied on the collective knowledge and capabilities of the **Cauvery Water Regulation Committee (CWRC)** and the **Cauvery Water Management Authority (CWMA)** to oversee the fair distribution of water between these two neighbouring states.

## WHAT IS THE DISPUTE?

- The Cauvery water dispute **between Karnataka and Tamil Nadu began in 1974** when **Karnataka started diverting water without Tamil Nadu's consent.**
- In **1990 the Cauvery Water Disputes Tribunal (CWDT) was established** to address the dispute.
- It took 17 years for the CWDT to issue its final order in 2007, **allocating Cauvery water among the four riparian states**.
- In 2018, the Supreme Court declared the Cauvery River a national asset and upheld most of the CWDT's water-sharing arrangements.
- The Central government then established the **'Cauvery Water Management Scheme'** in 2018, creating the **'Cauvery Water Management Authority'** and the **'Cauvery Water Regulation Committee'** to oversee fair water distribution among the states and Union Territory.




## CONSTITUTIONAL AND LEGAL PROVISIONS FOR SOLVING RIVER WATER DISPUTES:

- **Seventh Schedule:**

- **State list entry no. 17**-matters related to water resources, including water provision, irrigation, canals, drainage systems,
- **Union list Entry 56:** Authorizes the Union government to oversee and promote the management and growth of interstate rivers and their surrounding areas, as determined by Parliament in the interest of the public.

➢ **ARTICLE 262:**

- Parliament has the authority to establish a legal framework for resolving conflicts or grievances related to interstate rivers or river valleys.
- Parliament has the power to enact laws that explicitly exclude the jurisdiction of both the Supreme Court and any other court in matters concerning such disputes or complaints.

➢ **Under Article 262, Parliament has passed the following laws:**

**1. <u>RIVER BOARDS ACT:</u>**

- The government of India has the authority to form boards dedicated to managing interstate rivers and river valleys, in consultation with state governments.
- No such river board has been established till now.

**2. <u>INTERSTATE WATER DISPUTE ACT,1956</u>**

- When a state or states ask the Central Government for a tribunal to resolve a dispute, the Central Government must first try to resolve the issue through discussions with the concerned states.
- If these discussions fail to reach a solution, the Central Government can then establish the tribunal.
- The Supreme Court can't question the tribunal's award or formula, but it can examine how the tribunal operates.
- In 2002, amendments were made to the Inter-State Water Dispute Act, of 1956.

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| **Cauvery Water Disputes Tribunal** | Kerala, Karnataka, Tamil Nadu, Puducherry | June 1990 | Report and Decision given on 5 February 2007. Supreme Court modified the decision on 16 February 2018. The Cauvery Water Management Authority (CWMA) and Cauvery Water Regulation Committee (CWRC) were constituted to implement the modified decision. |
| **Krishna Water Disputes Tribunal -II** | Karnataka, Andhra Pradesh, Maharashtra, Telangana | April 2004 | Report and decision given on 30 December 2010. SLPs filed pending in the Court. The term of the Tribunal has been extended after the bifurcation of Andhra Pradesh. The matter is under adjudication in the Tribunal. |
| **Vansadhara Water Disputes Tribunal** | Andhra Pradesh, Odisha | February 2010 | Report and decision submitted on 13 September 2017. Further Report is pending. |
| **Mahadayi Water Disputes Tribunal** | Goa, Karnataka, Maharashtra | November 2010 | Report and decision submitted on 14 August 2018. Further Report is pending. |
| **Mahanadi Water Disputes Tribunal** | Chhattisgarh, Odisha | March 2018 | Under adjudication by the Tribunal. Report and decision are awaited. |

- These amendments were based on recommendations from the Sarkaria Commission.
- The amendments introduced a one-year deadline to set up water disputes tribunals.
- They also imposed a three-year timeframe for these tribunals to reach a decision.

**PROBLEMS ASSOCIATED WITH RIVER WATER DISPUTES:**

➢ **Politicization of the issue:**
Inter-state water disputes frequently get entangled in political agendas, as state governments leverage these issues for their own political advantage.

➢ **Legal and jurisdictional challenges:**

Prolonged proceedings and significant delays in resolving water disputes have been a notable issue. Ex: Cases like the Godavari and Cauvery.
There is opacity surrounding the institutional framework and the lack of clear guidelines governing these proceedings

- **Economic problems:**
  Consistent access to water is vital for various sectors like agriculture, industry, and urban development, and any interruptions can result in economic setbacks.
- **Absence of water data:**
  The lack of universally accepted water data poses a significant challenge, making it challenging to establish a starting point for the adjudication process.

**WAY FORWARD:**

- **Central Water Data Repository**: Create a central repository of water data to support well-informed decision-making.
- **Fast-Track Tribunals**: Establish fast-track tribunals with technical expertise to resolve water disputes promptly in a time-bound manner.
- **Establish an Interstate Council**: Create a special council under Article 263 of the constitution to handle inter-state water disputes.

**PRELIMS SPECIFIC:**

**CAUVERY RIVER**
**Origin Location: Western Ghats, Karnataka, India.**
**Source: Talakaveri, a spring located in the Brahmagiri Hills.**

**TRIBUTARIES:**
**On the left bank, it is joined by the Harangi, Hemavati, Shimsha, and Arkavati rivers.**
**On the right bank, the Cauvery is fed by tributaries such as Lakshmantirtha, Kabbani, Suvarnavati, Bhavani, Noyil, and Amaravati.**


**Protected areas associated:**

1. **Nagarhole National Park**
2. **Wayanad Wildlife Sanctuary**
3. **Bnadipur National Park**
4. **Satyamangalam Wildlife sanctuary**

# QUANTUM TECHNOLOGY

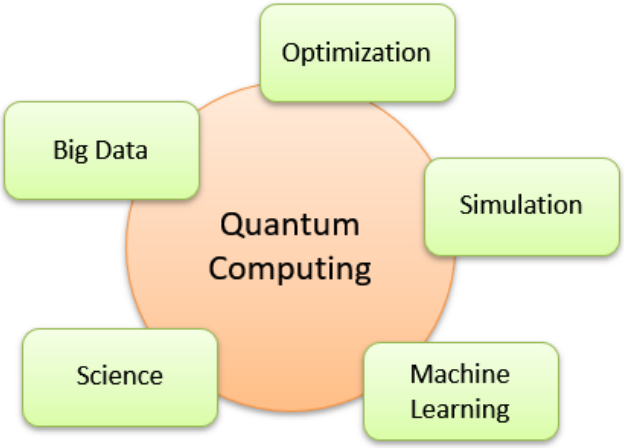
**SOURCE: ORF, HINDUSTAN TIMES**

## WHY IN NEWS?

- A leading Russian scientific institution has expressed a keen interest in forming partnerships with Indian research institutes to develop quantum technology applications and hardware that can benefit public services.
- This interest comes as India advances in the field of quantum technology.

## QUANTUM TECHNOLOGY:

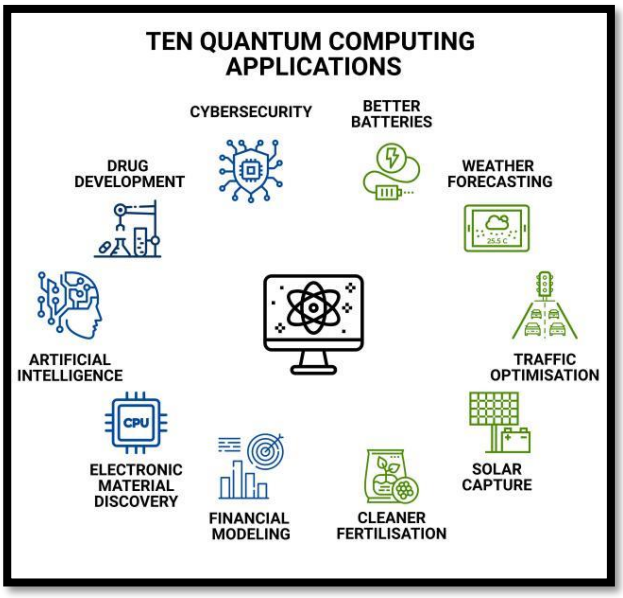
- **Quantum technology belongs to a category of technology that harnesses the principles of quantum mechanics, a branch of physics focused on the behaviour of subatomic particles.**
- It utilizes concepts **like quantum entanglement and quantum superposition** to operate and achieve its capabilities.
- Quantum computing represents a fundamentally distinct approach to information processing when compared to today's conventional classical computing systems.
- This interest comes as India advances in the field of quantum technology.




- **By 2030, the widespread integration of quantum technologies in various sectors could contribute approximately $280-$310 billion to the Indian economy. (NASSCOM)**

## POTENTIAL BENEFITS OF QUANTUM TECHNOLOGY :

- **Climate Data Collection:** Quantum computing can aid in the early and prompt gathering of climate data, which can be crucial in reducing the severity of disasters in their initial stages.
- **Agriculture and Food Technology:** Impact on Agriculture: Quantum computing can significantly affect agriculture and food technology, potentially leading to the loss of arable land.
- **Secure Communication:** Quantum computing has applications in ensuring secure communication,



especially for sensitive sectors like military, satellites, and cyber security.
IoT, Big Data, AI: It can also benefit emerging technologies like the Internet of Things (IoT), Big Data analytics, and Artificial Intelligence (AI).

- **Research:**
  Quantum computing has the potential to advance biological research, including genome sequencing and personalized medicine delivery.
- **Space Exploration:**
  It can aid in space exploration, helping to study the universe, gravitational waves, and phenomena like black holes.

## INITIATIVES TO SUPPORT QUANTUM TECHNOLOGY:

| INITIATIVE | OBJECTIVE |
|---|---|
| **National Mission on quantum technologies and applications.** | The 2021 budget earmarked INR 8000 Crore to boost quantum technology, encompassing computing, cryptography, communication, and materials. |
| **Quantum Computing Laboratory.** | In December 2021, the Indian Army established a quantum computing lab and AI center in Mhow, Madhya Pradesh, supported by the National Security Council Secretariat (NSCS). |
| **I-HUB Quantum Technology Foundation:** | The Department of Science and Technology, in collaboration with 13 IISER Pune research groups, initiated the I-HUB Quantum Technology Foundation (I-HUB QTF) to advance quantum technology development. |
| **IBM Quantum Educators Programme** | Engaging in partnerships with prominent educational institutions in India via participation in the IBM Quantum Educators Program. |

**Inter-Governmental Initiatives Private Initiatives**

1. Quantum Technologies Flagship: IBM
2. AUKUS: GOOGLE
3. Quad: DWave
4. CERN Quantum Technology Initiative: Amazon
5. Quantum Leap Africa: IonQ
6. One Quantum: Infosys

## PROBLEMS ASSOCIATED

- **Huge funding requirements:**
  Ensuring the success of the National Quantum Mission hinges on securing sufficient funding, which presents a challenge in terms of sustained support from government and private investments.
- **Trained and qualified skill forces:**
  Quantum technology necessitates a proficient workforce well-versed in quantum physics, engineering, and related fields

- **Ethical concerns:**
  Harnessing quantum technologies, like quantum computing and cryptography, may bring about notable societal effects, encompassing data security, cyber protection, and societal transformations.

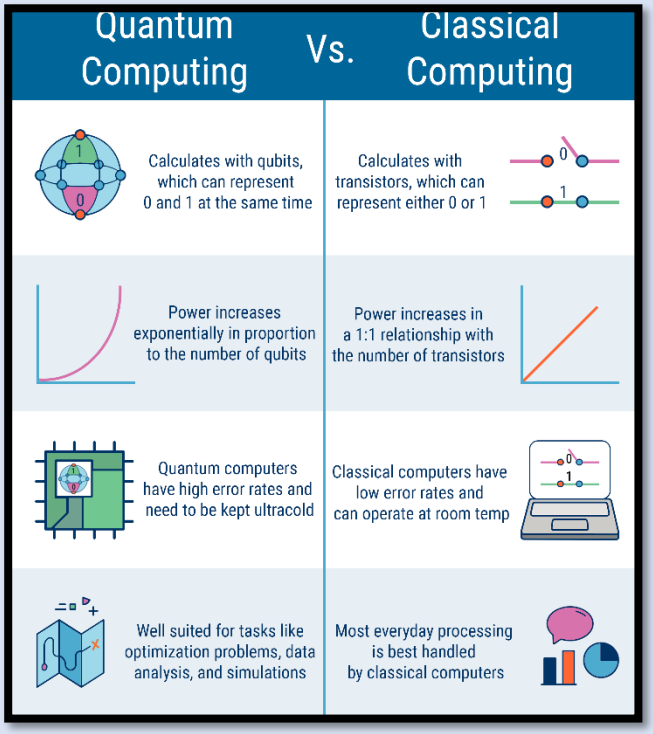
**WAY FORWARD**

- **Public Awareness:** Educate the public on quantum technology.
- **Infrastructure:** Invest in advanced quantum facilities.
- **Commercialization:** Transition research into practical use.
- **Regulations:** Create balanced regulatory frameworks.
- **Education:** Develop specialized quantum training programs.
- **Collaboration:** Foster partnerships between academia and industry.
- **Start-ups:** Encourage quantum tech start-up growth.

PRELIMS SPECIFIC

**QUANTUM ENTAGLEMENT**:
Quantum entanglement refers to a phenomenon where two atoms, despite being physically separated, are interconnected in such a way that altering the properties of one atom instantaneously influences the other.
In principle, this intriguing connection remains intact even if the two entangled atoms are separated by vast distances, even the entire universe.

**QUANTUM SUPERPOSITION:**
Quantum superposition is a concept in quantum theory that suggests subatomic particles can exist in multiple states at the same time.
Quantum computers utilize this principle:
Binary vs. Qubits:




Traditional digital computers store data as binary bits, either 0 or 1.
Quantum computers use qubits, which can represent both 0 and 1 simultaneously, thanks to quantum superposition.

# GREEN NUDGES

**SOURCE:THE HINDU**

## WHY IN NEWS?

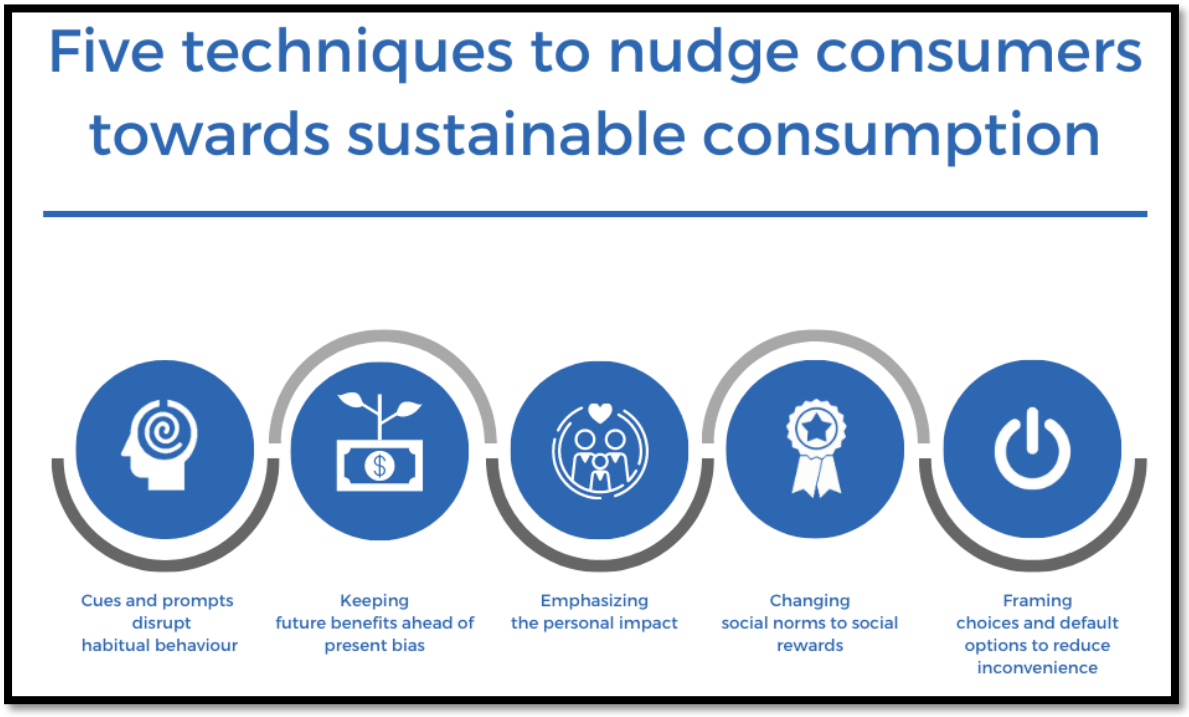
- Research, in partnership with a Chinese online food delivery service, **indicates that implementing "green nudges" can effectively address environmental issues.**

## WHAT IS GREEN NUDGE?

- **Nudges are subtle interventions that influence decisions without limiting choices.**
- **Origin:** Economist Richard Thaler's 2008 theory promotes self-control in decision-making.
- **Goal:** Use practical cues ("nudges") to guide choices toward long-term benefits.
- **Achievement:** Richard Thaler received the 2017 Nobel Prize in economics.
- Green nudges encourage eco-friendly behaviour.
- **Effectiveness:** Shown to change behaviour and reduce environmental harm.
- **Alternative to Regulation:** Promotes sustainability without strict rules.
- **Techniques:** Include public awareness campaigns, social norms marketing, and community initiatives.

**Green Nudges for Climate Change:**

**Purpose:** Encourage choices benefitting individuals, communities, and the planet.
**Examples**: **UK's "The Big Switch Off," Netherlands' "Pay as you throw," US' plastic bag bans.**
**LiFE Movement (Underlying Green Nudge):**
**Concept:** Promotes mindful, eco-conscious living.
**Goal:** Encourage global collective action for climate-friendly daily choices.
**Usage:** Indian policymakers employ nudge policies for social and economic change.
**Examples:** Swachh Bharat Mission, GiveItUp campaign, Beti Bachao Beti Padhao (BBBP).



## CHALLENEGS ASSOCIATED WITH GREEN NUDGING:

- **Varying Impact:** Green nudges may not work the same way for everyone, making consistent behaviour change a challenge.
- **Resistance to Change:** People might reject nudges, thinking they're pushy or unwanted.
- Cultural Differences: Nudges may not fit all cultures, as beliefs and behaviours differ.
- **Overcoming Habits:** Encouraging eco-friendly habits can be tough when people are used to their routines.
- **Ethical Concerns:** Some may find nudging ethically questionable if it's done without consent.
- **Measuring Success:** It's hard to tell how well green nudges work over time.

## WAY FORWARD:

- **Privacy Care:** Protect personal data when using tech-based nudges and respect privacy worries.
- **Check and Improve:** Regularly see if nudges are working and make them better based on feedback.
- **Offer Rewards:** Give rewards to encourage green actions along with nudging.
- **Rules and Guidelines:** Make rules for how nudges should be used, especially for protecting the environment.