

# World Water Day

**Context:** 2024 edition of the flagship United Nations World Water Development Report, "Water for Prosperity and Peace" as a part of UN Water + UNESCO was released.

## A precious resource:

- **History of Civilizations and Conflict**
  - Eg: Lagash and Umma : **world's first peace treaty**, the Treaty of Mesilim
- **Today: time of extremities**
  - Erratic monsoons
  - Land use patterns
  - Groundwater table depletion
  - Melting snow caps
  - Pollutants

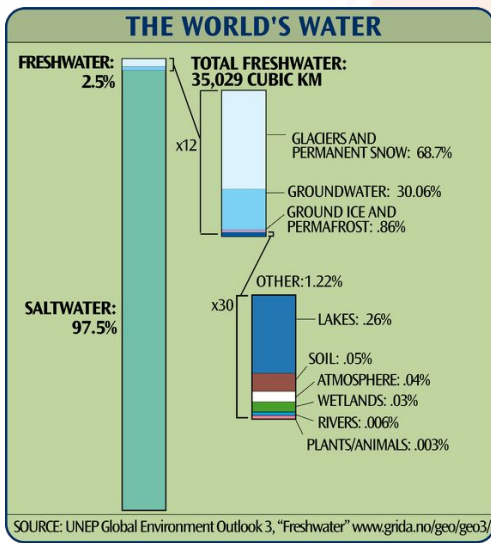
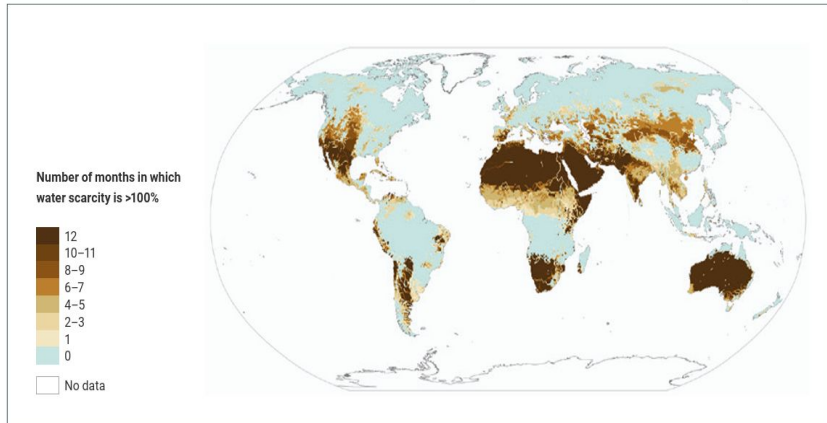


Figure P.4 The number of months per year with severe water scarcity (ratio of water demand to availability >1.0)



Source: Caretta et al. (2022, figure box 4.1.1(a), p. 561).

## Better water diplomacy:

Universal principles for **International Water Law**

- A force for **peace**
- **Equitable** allocation
- **Relationships** between water, climate, and international stability
- **Indigenous** and **local** communities
- **Civil society** and **academic** networks

## The case of transboundary waters:

- **Issues** of shared waters
- Only 24 nations have water treaties

## Conserving water

- **Government campaigns and schemes**
  - 'per drop more crop', 'Gaon ka pani gaon mein', 'Khet ka pani khet mein', 'Har Medh par ped'
  - Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), watershed management, Mission Amrit Sarovar and Jal Shakti Abhiyan
- **Local efforts:**
  - **Land degradation neutrality**
  - **Rejuvenation** and **recharge**
  - **Watershed** development
- **Leveraging technology**
  - IoT, water meters
  - Desalination



# Electoral trust

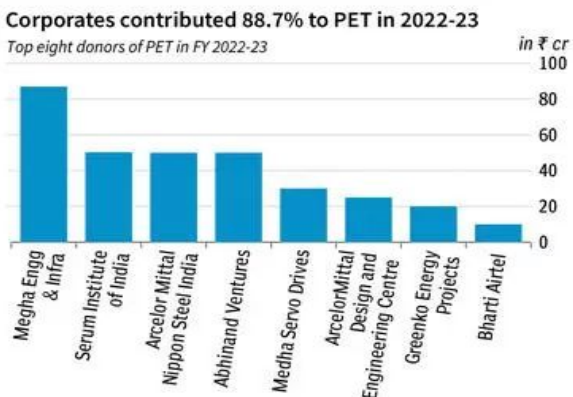
**Context:** Serum Institute, Nippon Steel among electoral trust donors which didn't take bond route.

## A way of political donations

- **Electoral Trusts Scheme, 2013**
- Companies registered u/ **Companies Act, 1956**
  - Set by companies
  - **Pool** contributions & **distribute**
  - **Renewal** every 3 FY
  - **Scrutiny** under
    - Income Tax Act, 1961 & IT Rules, 1962

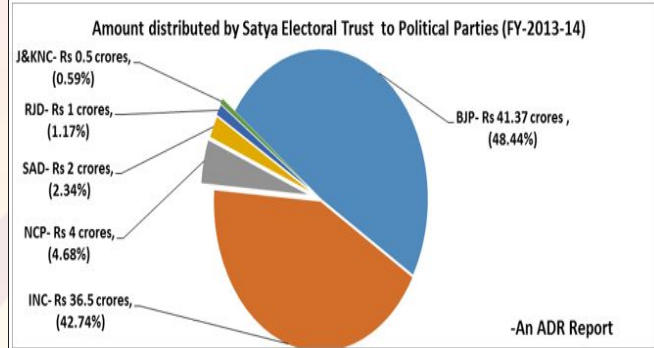
## Provisions:

- **Contributions from**
  - Citizen of India
  - Company registered in India
  - Others: HUF/ Association of persons or a body of individuals, resident in India
- **Distribution of donations**
  - **Minimum of 95%** has to be distributed
    - Political parties under RPA, 1951
  - **Maintain details** (accounts, receipts)
  - **Audit provision**
  - **Annual contribution reports to ECI**



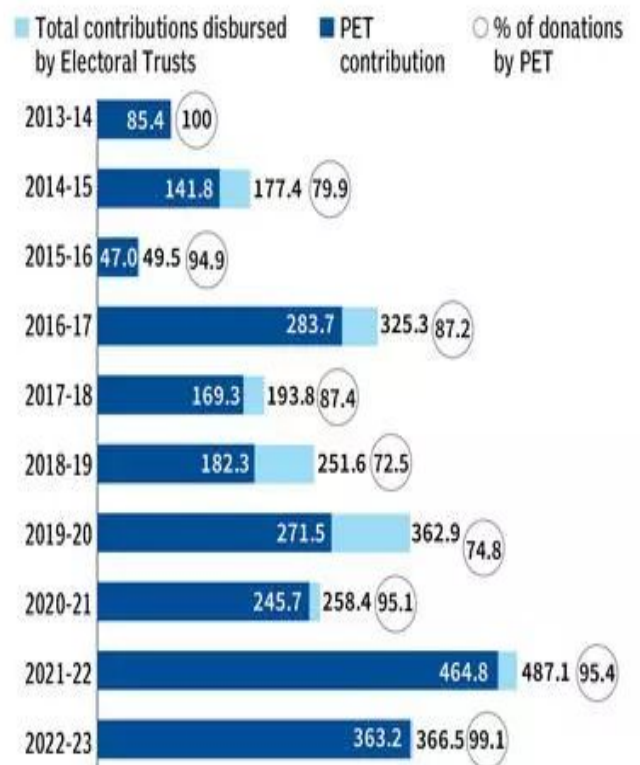
## Difference from electoral bond scheme :

- **Transparency**
- **Usage** by the stakeholders
- **Amount** of donations



## Tracking Prudent Electoral Trust

The largest contributor in ₹ cr



**Context:** There is an urgent need to reassess nuclear financing policies to accommodate financing models for the generation of nuclear energy.

## Role of nuclear energy to meet climate goals

- Belgium hosted the first-ever Nuclear Energy Summit
  - with IAEA's '**Atoms 4 Netzero**' programme
- COP28 in Dubai: triple nuclear energy capacity by 2050

## Benefits of nuclear power:

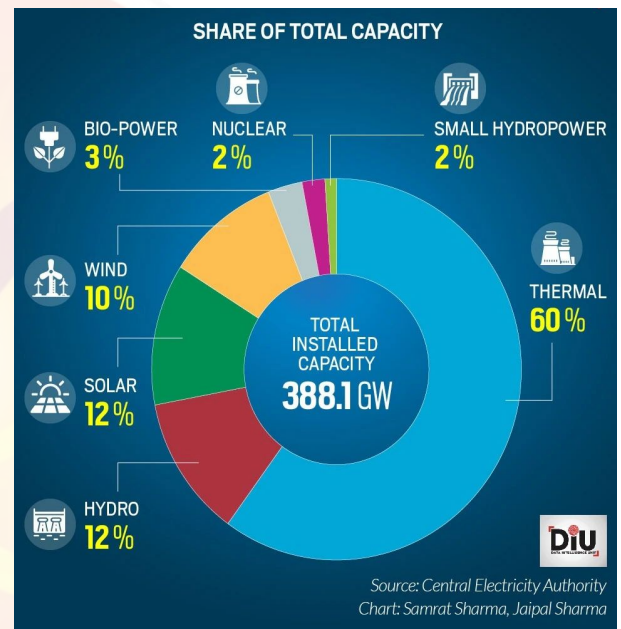
- Nuclear power emits **4x less CO2** than solar farms and other renewables sources.
- Capacity to **supply uninterrupted energy**
- Negligible **geographical constraints**
- **Low operating costs + job intensive**
- **Smaller land** imprint
- **Longer life** cycle

## How can nuclear energy be financed ?

- **Potential of growth**
  - 440 NRs in world =  $\frac{1}{4}$  of low CO2 energy; 170 in P+C stage
  - **Recent developments** in nuclear technology
    - Small Modular Reactors (SMR)
    - Radiation proofing in existing plants
    - Extended fuel cycles
  - Rise of prototypes by **technology startups**
- **Funding crunch**
  - **World Bank:** last \$40 million loan to Italy in 1959
  - Nuclear powerhouses filing **bankruptcy**
  - **Need for a cooperative model**
    - Finland: (1970s) **Mankala**

## What about India :

- **Reasons for low adoption**
  - Stigma
  - Weaponization risk
  - Radiation leak
  - Regulation
  - High upfront cost



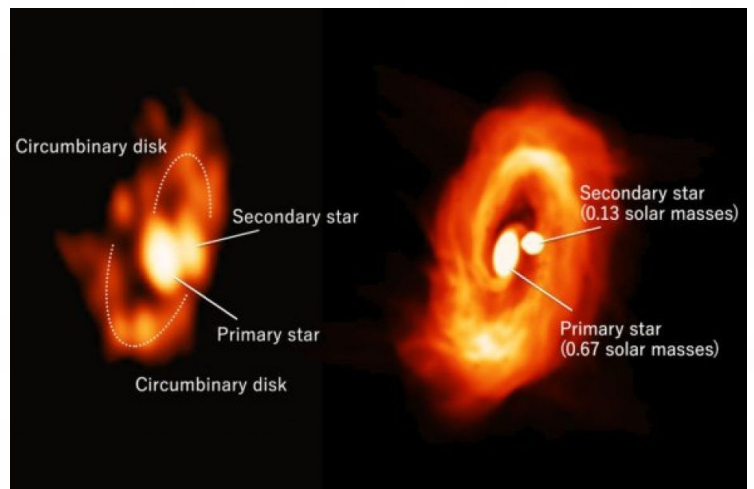
- **Green shoots**
  - 1st commercial NPP in Pahalgah, Tarapur
  - Kudankulam, Tamil Nadu
  - 3x nuclear capacity 22,480 MW by 2031-2032
  - Prototype Fast Breeder Reactor



**Context:** Study Of "Twin" Stars Finds Evidence Of Planetary Ingestion.

## Co-Natal stars :

- Formed within the **same interstellar cloud** of gas and dust
- Planetary Ingestion** alters chemical composition
  - iron, nickel or titanium
- Possible reasons**
  - Influence of two stars
  - Orbital disturbance



# Xenotransplantation

**Context:** First human transplant of a genetically modified pig kidney performed.

## Genetically modified:

- Make the organs compatible
- Virus known to infect pigs

## Challenges

- Immune rejection
- Disease transmission
- Ethical considerations

