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## The Big Picture: Groundwater Extraction Norms

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<https://youtu.be/eTyaAyM3nbU>

### Why in News?

With around one-sixth of assessed ground water units in the country facing over-exploitation, the Centre Govt has issued revised **guidelines for groundwater use**. The new guidelines aim to ensure a more robust groundwater regulatory mechanism in the country.

Earlier in December 2018, the **CGWB (Central Ground Water Board)** issued a draft notification that proposed a ‘water conservation fee’ for industrial extraction and this was roundly criticised. The **National Green Tribunal** stayed the draft in January 2019 terming it “unsustainable,” and having “serious shortcomings.”

### Key Points

- The guidelines have **pan-India applicability** which was never there before.
- Certain categories have been exempted from these guidelines under particular conditions.
- The guidelines include the restoration and extraction charges for groundwater.
- Saline groundwater is also exempted as it needs to be extracted as much as possible.

## The Guidelines

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- **Prohibition of industries:** The new guidelines prohibit new industry and mining projects in over-exploited zones and makes it mandatory for existing industries, commercial units and big housing societies to take 'no objection certificate' (NOC).
- **Exemption:** The domestic consumers, rural drinking water schemes, armed forces, farmers and micro & small enterprises (that withdraw upto 10 m<sup>3</sup> water per day) are exempted from the requirement of a no objection certificate from the CGWB.
- The guidelines have also encouraged the use of recycled and treated sewage water by industries, mentioned a provision of action against polluting industries and mandated the requirement of digital flow meters, piezometers and digital water level recorders
- **Compensation:** The guidelines notified by the CGWB under the **Jal Shakti Ministry** prescribes a minimum environmental compensation of ₹1 lakh on industrial, mining and infrastructure users for extracting groundwater without a no objection certificate (NOC). This can rise, depending on the quantum of water extracted and the duration of the breach.
- **Abstraction charges:** All residential apartments/ group housing societies/ Government water supply agencies in urban areas would be required to pay ground water abstraction charges.

All industries/mining/ infrastructure projects drawing groundwater in safe, semi-critical and critical assessment units will have to pay groundwater abstraction charges based on the quantum of groundwater extraction and category of assessment unit.

## Central Ground Water Board

- It is a subordinate office of the **Ministry of Water Resources** and is the **National Apex Agency** entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of groundwater resources of the country.
- It was **established in 1970** by renaming the Exploratory Tubewells Organization under the Ministry of Agriculture and later on **merged** with the Groundwater Wing of the **Geological Survey of India** during 1972.

## India and Groundwater

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- India is the **largest user of groundwater in the world**, extracting groundwater to the tune of **253 billion cubic meter (bcm)** per year.  
It is about **25%** of the global groundwater extraction.
- Out of the total of **6584** assessment units, **1034** have been categorized as ‘**Over-exploited**’, **253** as ‘**Critical**’, **681** as ‘**Semi-Critical**’ and **4520** as ‘**Safe**’.  
The remaining **96** assessment units have been classified as ‘**Saline**’ due to non-availability of fresh groundwater due to salinity problems.
- **Availability of Water:** India has about **1123 billion m<sup>3</sup>** of water resources available, out of which **690 bcm** is surface water and rest **433 bcm** is groundwater.
  - Out of total groundwater available, **90% of it is used for irrigation purposes** which is mainly for agricultural purposes.
  - The remaining 10% accounts for domestic and industrial purposes combined.

## Steps Taken

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- **The Atal Bhujal Yojana**: It seeks to revive village-level Water User Associations (WUAs). The scheme will strengthen the financial state of the WUAs, including allowing these bodies to retain a significant portion of irrigation fees.
- **National Aquifer Mapping**: National Aquifer Mapping and Management program (NAQUIM) envisages mapping of aquifers (water bearing formations), their characterization and development of Aquifer Management Plans to facilitate **sustainable management of groundwater** resources.
- **Read more: Selected Best Practices in Water Management**

## Issues Involved

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- Although the new rules exempt farmers from the need for obtaining an NOC from CGWA, it highlights a key factor that leads to excessive **groundwater extraction** in the agriculture sector.
  - Exempting the agricultural sector from the guidelines would not provide much improvement as the sector alone is responsible for 90% usage of groundwater.
  - **Water use efficiency** is very low in the agricultural sector and water guzzling crops worsen the situation.
  - The **free electricity supply** provided to the farmers also contributes to excessive groundwater extraction.
- **No consideration of incentive** has been taken into account for those industrial sectors who use groundwater less than the defined limit.
- **Impact on industries:** Although industries are responsible for less than 10% of consumption, still it will be the highest affected sector by these guidelines.
- **Use of money collected:** Ensuring that the money collected from imposed charges is used for making reforms in the same field only is a possible challenge.

- **Water is a state subject.** The primary entry in the Constitution relating to water is indeed **Entry 17** in the **State List**. It brings water including water supplies, irrigation and canals, drainage and embankments, water storage and water power under state list. But it is explicitly made subject to the provisions of **Entry 56 in the Union List** which enables the Union to deal with inter-State rivers if Parliament legislates for the purpose.

## Way Forward

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- **Micro irrigation:** or drip irrigation should be encouraged.
  - In drip irrigation, water is run through pipes (with holes in them) either buried or lying slightly above the ground next to the crops. Water slowly drips onto the crop roots and stems.
  - Unlike spray irrigation, very little is lost to evaporation and the water can be directed only to the plants that need it, cutting back on water waste.
- **Extraction charges:** The extraction charges collected, should be used for restoration of groundwater.
- **Water guzzling crops:** Discouraging water guzzling crops such as sugar canes.
- **Target specific areas:** Although the guidelines are pan-India, they should certainly target the states that have exploited/ overexploited groundwater.

Punjab, Delhi, Haryana, Rajasthan, Uttar Pradesh, Telangana, Andhra Pradesh, Tamil Nadu and Karnataka are some of the states.
- **Artificial recharge of groundwater:** It is the process of spreading or impounding water on the land to increase the infiltration through the soil and percolation to the aquifer or of injecting water by wells directly into the aquifer.
- **Groundwater management plants:** Installing groundwater management plants at local levels, will help the people in knowing the groundwater availability in their area making them use it wisely.