

Draft regulation on use of membrane-based water purification system

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Recently the Ministry of Environment, Climate and Forest Change released a draft regulation on the use of membrane-based water purification systems. It **bans the installation and use of certain membrane-based water purification systems, known as reverse osmosis (RO) systems.** The regulation also **seeks to amend the Environment (Protection) Rules, 1986 under the Environment (Protection) Act, 1986,** which regulates protection and improvement of the environment.

About **Reverse Osmosis (RO) Systems**

- Osmosis is the movement of solvent molecules from the region of pure solvent (area of low solute concentration) towards the solution (area of higher solute concentration) through a semipermeable membrane.
- Using the concept of osmosis and osmotic pressure, a process called reverse osmosis (RO) has been devised.
- RO is a process in which a large pressure is applied to the solution side so as to overcome the osmotic pressure.

Key features of draft regulation:

- **Ban on use of RO systems in water purification:** This ban is on systems **subjected to conventional filtration and disinfection process** or are from any source in compliance with the acceptable limit for drinking water **prescribed by Bureau of Indian Standard.**
- **Responsibilities of commercial units who use RO systems**

to purify water: These include:

1. Storing water that is lost in the purification process in safe and hygienic conditions
2. Maintaining a record of water consumption, reject generation, reject disposal, discarded element generated, and their disposal, and
3. Submitting this record to the state pollution control board annually.

▪ **Responsibilities of manufacturers and producers:** They include:

1. Applying to the state pollution control board for **grant of registration**
2. Providing a **unique identification mark** to each component manufactured for its traceability
3. Equipping the purifiers with **the real-time online flow to inform consumers of the total dissolved solids levels** at the inlet and water outlet, and
4. Setting up authorized collection centres for the collection of discarded elements from consumers or dealers.