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Reasons Behind Pink Water of Lonar Lake

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Why in News

According to the **Agharkar Research Institute**, the **colour of Lonar lake water** in Maharashtra's Buldhana district **turned pink** due to a **large presence of the salt-loving 'Haloarchaea' microbes**.

- The colour of the lake water **recently turned pink**, which not only surprised locals, but also nature enthusiasts and scientists.
- The water samples have been tested by the **Nagpur-based National Environmental Engineering Research Institute (NEERI)** and the **Agharkar Research Institute in Pune**.



Key Points

- It has been assumed that the **absence of rain, less human interference** (owing to lockdown) and **high temperature** resulted in the evaporation of water which **increased its salinity and pH**.
pH is a measure of how acidic/basic water is.
- The increased salinity and pH facilitated the growth of **halophilic microbes**, mainly **Haloarchaea**.
Halophiles are a group of microorganisms that **can grow and often thrive in areas of high salt (NaCl) concentration**.
- **Haloarchaea or halophilic archaea** is a bacteria culture which **produces pink pigment** and is found in water saturated with salt.
Because of the biomass of Haloarchaea microbes, the surface of the water turned red or pink. As the biomass subsides, the colour will disappear.
- The colour of the lake is **now returning to original** as the rainy season has kicked in, allowing dilution of the water. The salinity and pH/alkalinity levels have also come down and green algae have started growing in the water body.
- Further, it was noted that **Haloarchaea microbes were ingested by Flamingos**.
 - These microbes **acted as carotenoid (pigment) rich food for the birds**.
 - Flamingos get their red-pink colour from special colouring chemicals called pigments found in the algae and invertebrates they eat.

Lonar Lake

- Lonar Lake, also known as **Lonar crater**, is a saline and alkaline lake located at Lonar in Buldhana district, **Maharashtra**.
- It is situated inside the **Deccan Plateau**—a massive plain of volcanic basalt rock created by eruptions.
- It is an **oval shaped** and has a **mean diameter of 1.2 km**. It is a popular tourist hub.
- It is a notified **National Geo-heritage Monument**.
 - Geo-heritage refers to the geological features which are inherently or culturally significant offering insight to earth's evolution or history to earth science or that can be utilized for education.
 - **Geological Survey of India (GSI)** is the parent body which is making efforts towards identification and protection of geo-heritage sites.
- It is believed to have been **created over 52,000 years ago** when a **meteorite hit the Earth**.

Source: TH