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Wetland Conservation: A Case Study On Lonar Crater India

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Abstract:

Lonar crater is a unique basaltic rock meteorite crater ***(19^{0}58'N and 76^{o}31'E)***, ranking Third in the world. The blue green algae constitute the major among phytoplankton community and particularly Spirulina is the dominant. All these dominant species may enhance the biological oxygen demand due to that eutrophication was observed on near about all sampling sites for that immediate action is necessary for the conservation of such Ecological wonder.

Key word: Lonar, Crater, Conservation.

Introduction:

Lonar Crater Lake is located in Buldana district, Maharashtra state India. Geographical appearance of Crater Lake is 19^{0}58'N and 76^{o}31'E. Lake is oval; bowl or circular gloominess shape and it have no any outlet. Geomorphometric status of Crater Lake is included in to five major zones these are, Ejecta-blanket, Rim, Escarpment or Slope, Alluvium and Lake Basin. The lake without outlet is fed by three perennial fresh water springs and many seasonal streams. The Lonar ecosystem evolved in its unique way because of..

1) Its relative seclusion

2) Higher humidity level in basin

3) Higher ground water level in the basin

4) Supply of perennial springs

5) Salty alluvium

6) Dry deciduous vegetation around the crater

7) Presences of bush's and shrubs on the escarpment

8) Semi ever green components and luxuriant vegetation on the shower line

9) Salt tolerance vegetation in the alluvium

10) The lake brings supports salt tolerant microbial flora and fauna

About Ramsar

The convention on wetlands called the Ramsar convention is an inter governmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

Wetlands: a natural safeguard against disasters

The frequency of disasters worldwide has more than doubled in just 35 years, driven by climate and weather related hazards like flooding, tropical cyclones and droughts.

Disaster or hazard ?

We think of floods, droughts, tsunamis, cyclones/hurricanes, earthquakes and other extreme events as disasters. But actually these are natural hazards. A disaster is the severe disruption that is caused to a community or nation in human, material, economic or environmental losses.

Using wetlands to minimize the damage from disasters

- Defined as land areas that are flooded with water, either seasonally or permanently, wetlands are a natural buffer against disasters.
- Inland, wetlands act as a natural sponge, absorbing and storing excess rainfall and reducing flooding. During the dry season, they release the stored water, delaying the onset of droughts and reducing water shortages.
- When well managed, wetlands can make communities resilient enough to prepare for, cope with and bounce back from disasters even stronger than before.

1. **Preparing/preventing**
   To minimize impact ahead of time, we can designate flood and storm prone areas as protected wetlands to strengthen nature's own buffer.
2. **Coping**

When an extreme event hits, healthy wetlands can absorb some of the shock, cushioning the damage in local communities**.**

3. **Bouncing back**
   Wetlands can also speed up the recovery and help to "build back better" after a disaster, acting as natural water filters and nutrient restorers.

Five wetlands that help us cope with extreme weather events

1. **Mangroves**

   Mangroves are salt-water tolerant shrubs and trees that grow in shallow, tropical coastal waters. Their roots bind the shoreline and each kilometer of mangrove forest can reduce a storm surge by 50cm, blunting the impact of cyclones/ hurricanes and tsunamis. Mangroves also store carbon dioxide, helping to fight climate change.

2. **Coral reefs**

   Coral reefs are solid structures found in shallow, tropical waters and are built by living colonies of tiny coral polyps. Home to a quarter of all marine species, and providers of eco-tourism livelihoods, coral reefs also act as offshore wave barriers.

3. **Rivers and flood plains**

   Over time, rivers and streams meander to create wide, silted floodplains. If these are left intact- with their related inland lakes and swamps - they can act as a giant reservoir. During sudden floods, they can spread and store flood water over a wide area, reducing damage downstream.

4. **Inland deltas**

   When rivers flow into a wide, flat inland lake without draining into the ocean, an inland delta is formed. In extremely arid areas, these seasonal flows are a strong natural safeguard against drought. The Okavango Delta in Botswana is perhaps the most famous, flooding an area the size of Belgium, providing a home for 200,000 large mammals and 400 bird species during that region's parched winter season.

5. **Peatlands**

   Peatlands are water-saturated lands containing decomposed plant material up to 30 meters deep that has accumulated over time. They cover 3% of the earth's land surface. Key fact: peatlands store more than twice as much carbon as all of the world's forests combined, so they play an important role in mitigating some effects of climate change.

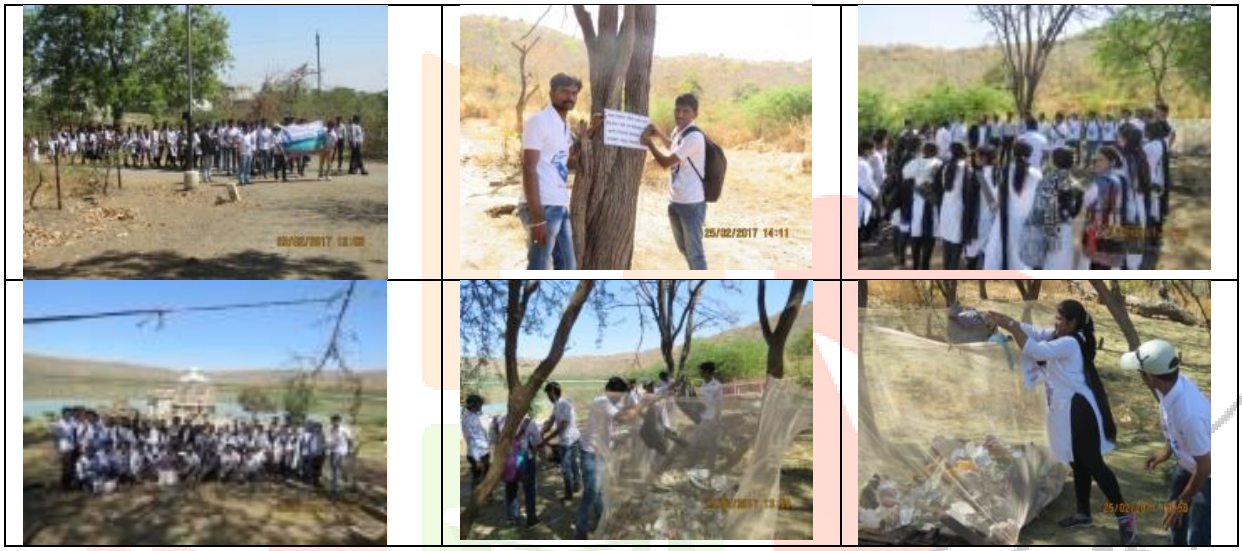
1. MATERIAL AND METHODS

Lonar crater is a unique basaltic rock meteorite crater ***($19^0 58'N$ and $76^o 31'E$)***, ranking third in the world.

Fig. No. 1: Satellite View of Lonar Crater India

Activity:

On the occasion of Would Wetland Day 2nd February, organized excursion tour at Lonar. The actual motto behind this tour is that to save and conserve the Lonar Crater. During tracking down towards lake, the students as well as teachers done some activities like collection of organic and inorganic waste in black polythene bags and this collected waste dump by students in handmade dustbin and the other activity is that the sticking of slogans on trees in order to motivate peoples about the conservation of Lonar lake. We reached at hemadpanthi temple and clean the nearby sides of temple. Then we planted a dustbin and dump our collected waste in that dustbin. In this program students read their self made poetry and slogans all the students take active participation in this program at the end of this program Mr. Bugdane sir guide us about the lonar lake, during this precious guidence students ask their qureies it made intersting session for students.



Avian Fauna:

***Anas clypeata* (shovellers)**

Closely related with swans and geese, ducks have webbed feet and water repellent plumage. The typical rounded duck-bill reaches its highest development and specialization in shovellers. The duck feeds on minute animals with the help of its spatulate, comb- toothed- edged bill. The shovellers are winter migrants of India and are quite common and wide spread over the entire

Lonar lake provide habitats for waterfowls-Porphyrio porphyrio (Purple Moorhen), Gallinula chloropus (Moorhen), Amaurornis bicolor, Rallus aquaticus (Water Rail), Crex crex (Corn Crake),Venellus

indicus(Redwattled Lapwing), V. malabaricus (Yellow-wattled Lapwing), Himantopus himantopus (Blackwinged stilt).

	
a. *Himantopus himantopus* (Blackwinged stilt)	**b.*Sterna aurantia*The Indian River Tern or just River Tern**

Venellus indicus (Redwattled Lapwing): Ground plovers are collectively known as lapwings in India. Redwattled is the most common among them. "did you do it?..... Did you do it" its high pitched interrogative call gets highly neurotic at the slightest apprehension of intrusion during the nesting season. Its Marathi name is Titwi. I can be seen around marshes, cultivation, and on pastures and wetlands. It runs in a characteristic plover fashion, going a short distance and then suddenly standing motionless. Food comprises insects, small worms and mollusks. It nests insmall depression on ground.

3.3 Other Aquatic Fauna

Lonar Lake did not show occurrence of fish species in its water body due to low dissolved oxygen and high salinity. The hydrological study revels deteriorating changes leading towards Eutrophication led to reduction of flora fauna and macrophytes and increase in pathogenic organisms **Tandale, Dabhade (2014) and Tandale, Dabhade (2014)**.

Conclusion:

Thus, the Rotifers in general and *B. plicatilis, B. caudatus* in particular are dominant over all other types of zooplanktons. Some other Zooplanktonic communities also adapting such extreme environment due to that those species of Rotifers was quantitatively less they may enhance their number for example *Hexarthra intermedia*, *Polyarthra vulgaris, Philodina flaviceps* and *Lecane lunaris*. From these species *Polyarthra sp.* is pollution indicator due to that lake water get polluted from the dominace of such species and hence it may responsible for the Eutrophication. The blue green algae constitute the major among phytoplankton community and particularly Spirulina is the dominant **Dabhade (2006), Wanjari and Dabhade (2015).** All these dominant species may enhance the biological oxygen demand due to that eutrophication was observed on near about all sampling sites for that immediate action is necessary for the conservation of such Ecological wonder.

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