

Red Mud

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Why in news?

An interactive workshop called '**Waste to Wealth**' was organized by the Ministry of Mines in New Delhi regarding productive utilization of bauxite residue, commonly known as the 'Red Mud'.

What is red mud?

- **Bauxite tailings**, also known as **bauxite residue**, **red mud**, **red sludge** is a highly alkaline waste product composed mainly of iron oxide that is generated in the industrial production of alumina.
- It consists of **impurities such as caustic soda** and other minerals.
- It is composed of a mixture of solid and metallic oxides.
- **Iron oxides give it red color.**
- The mud has a **pH ranging from 10 to 13**, thus highly basic.
- Red mud generation in India is around 9 million tones' per year.
- **Uses of Red mud:**
 - Used in Cement manufacturing
 - Raw material recovery of specific components present in the tailings/residue: iron, titanium, steel and REE (rare-earth element) production.
 - Landfill capping/roads/soil amelioration.
 - Used as a component in building or construction materials (bricks, tiles, ceramics etc.)
 - Use in building panels, treatment of acid mine drainage, adsorbent of heavy metals, dyes, phosphates, fluoride, water treatment chemicals, in glass ceramics etc...