DEEP SEE MINING CONSENSUS: INTERNATIONAL RELATION

NEWS: New deep sea mining rules lack consensus despite US pressure

WHAT'S IN THE NEWS?
The International Seabed Authority (ISA) is struggling to finalize deep-sea mining regulations amidst environmental concerns and calls for a moratorium, while the US, despite not being an ISA member, is pushing to fast-track permits using domestic law. This impasse highlights the tension between the potential for mineral resource extraction and the imperative to protect fragile deep-sea ecosystems.

Stalemate in ISA Negotiations for a "Mining Code":

- **Proposed Draft:** The ISA's 36 member states have been reviewing a draft "Mining Code" comprising 107 rules.
- **Lack of Environmental Consensus:** A significant hurdle is the disagreement on robust marine environmental safeguards. Many member states are demanding more scientific data on potential impacts before any large-scale mining commences.
- **Moratorium Demands:** A strong push for a moratorium on deep-sea mining is being led by Chile and supported by 36 other nations. Their call emphasizes the need for comprehensive scientific impact assessments to fully understand the environmental consequences before proceeding.

The United States' Unilateral Approach:

- **Non-Membership:** The United States is notably not a member of UNCLOS (United Nations Convention on the Law of the Sea) or the ISA.
- **Trump Administration Directive:** Despite its non-member status, the previous US administration under President Trump directed the fast-tracking of deep-sea mining permits.
- **1980 Domestic Law:** This move was justified using a 1980 domestic law, the Deep Seabed Hard Mineral Resources Act (DSHMRA), which was initially intended as an interim measure until an international governing regime was established. This unilateral action by the US potentially undermines the ISA's authority and international efforts to establish common standards.

About The International Seabed Authority (ISA):

- **Establishment and Mandate:** The ISA was established under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and became fully operational in 1996. Its headquarters are in Kingston, Jamaica. Its primary mandate is to regulate activities in the seabed beyond national jurisdiction and determine the conditions under which deep-sea mining may be allowed.
- **Regulatory Development:** The ISA is actively developing regulations to govern the transition to exploitation and is currently accepting mining permit applications from companies and countries.
- **Exploration Contracts:** As of 2022, the ISA had issued 31 contracts for the exploration of deep-sea mineral deposits, covering over 1.5 million km² of the international seabed.

- **India's Involvement:** India currently holds two exploration contracts in the Indian Ocean and applied for two additional contracts in 2024, demonstrating its interest in these resources.

Current Status of Deep-Sea Mining:

- **No Commercial Mining Yet:** While exploratory mining to test equipment has occurred on a small scale, commercial deep-sea mining has not yet commenced. Its future largely depends on the ISA finalizing its regulations.

About Deep Sea Mining:

- **Definition:** Deep-sea mining involves extracting mineral deposits and metals from the ocean's seabed at depths below 200 meters.
- **Targeted Mineral Deposits:**
    - **Polymetallic Nodules:** These are rock-like formations found on abyssal plains, rich in manganese, nickel, copper, and cobalt.
    - **Cobalt-Rich Crusts:** Deposits of cobalt, manganese, and nickel found on seamounts (underwater mountains).
    - **Seafloor Massive Sulfides (SMS):** Deposits formed around hydrothermal vents, containing high concentrations of metals like copper, gold, silver, and zinc.
- **Strategic Importance:** These minerals are crucial for various modern technologies, including battery production for electric vehicles, renewable energy technologies (e.g., wind turbines, solar panels), and electronics like mobile phones and computers.

Potential Benefits of Deep-Sea Mining:

- **Decarbonisation Efforts:** Proponents argue that deep-sea resources can help meet the growing demand for critical minerals essential for scaling up decarbonization efforts and transitioning to green technologies.
- **Surge in Global Demand:** The demand for these critical minerals is projected to rise significantly (400%-600% in coming decades) as the world increases its reliance on wind and solar power, electric vehicles, and other zero-carbon technologies.
- **Complementing Land-Based Sources:** Deep-sea resources could complement dwindling land-based mineral reserves, addressing hurdles in locating viable terrestrial reserves and rapidly scaling up mining and processing operations, thereby ensuring a continuous supply chain for these vital materials. This could also potentially reduce the environmental impact of certain terrestrial mining operations, such as deforestation.

Concerns Regarding Deep-Sea Mining:

- **Increased Pollution:**
    - **Noise, Vibrations, and Light Pollution:** Mining equipment and surface vessels can generate significant noise, vibrations, and light pollution, potentially affecting marine species such as whales, tuna, and sharks.

    - **Leaks and Spills:** There's a risk of leaks and spills of fuel and toxic products from mining operations.

- **Sediment Plumes:**

    - **Seafloor Disturbance:** The process of mining the seafloor stirs up fine sediments, creating plumes of suspended particles.

    - **Ecological Harm:** These plumes can smother benthic animals, harm filter-feeding species by clogging their systems, and obstruct visual communication among marine life.

    - **Waste Water Discharge:** The problem is exacerbated by mining ships discharging waste water at the surface, spreading the plumes further.

- **Habitat Destruction:**

    - **Physical Alteration:** The digging and gauging of the ocean floor by mining equipment can alter or permanently destroy unique deep-sea habitats.

    - **Species Extinction:** This can lead to species extinction, particularly for endemic species, and the fragmentation or complete loss of delicate ecosystem structures and functions. Studies have shown visible tracks from test mining remaining for decades with reduced biodiversity.

- **Exacerbating Climate Change:**

    - **Disruption of Carbon Sinks:** The deep sea plays a crucial role as a carbon sink, absorbing and storing large amounts of carbon dioxide. Deep-sea mining could disrupt this natural process, potentially releasing sequestered carbon from sediments back into the water column and eventually the atmosphere, thereby exacerbating climate change.

- **Lack of Governance Structure:**

    - **Ineffective International Regulations:** There are significant concerns about the absence of effective international regulations and a robust governance framework to ensure that deep-sea mining is conducted responsibly, sustainably, and equitably.

    - **Unilateral Actions:** Unilateral actions by non-UNCLOS members like the US could further complicate global ocean governance and set a dangerous precedent, potentially leading to a "Wild West" scenario in international waters.

- **Economic and Social Risks:**

    - **Shoreline Facilities:** The deep-sea mining industry would necessitate shoreline facilities for processing or transhipment of materials, requiring land acquisition and development.

    - **Coastal Community Impact:** This could lead to habitat loss in coastal areas and significantly affect coastal communities that are dependent on marine resources for their livelihoods, often disproportionately impacting Indigenous populations and local communities without adequate consultation or benefit-sharing mechanisms.

- **High Costs and Technical Risks:** Deep-sea mining involves substantial capital investment in specialized machinery and technologies, with considerable risks of technical malfunction due to the extreme deep-ocean environment. The economic benefits are also uncertain and may not offset the long-term environmental and social costs.

Source: **https://www.thehindu.com/sci-tech/science/new-deep-sea-mining-rules-lack-consensus-despite-us-pressure/article69837779.ece**