Differently abled digital ecosystem

- The estimation in, that 2.21% of India's population is disabled is a gross underestimation.
- According to the World Health Organization, about 16% of the global population is disabled.
- If that figure is extrapolated to the Indian context, it would mean at least 192 million disabled people.
- While technology has enormous potential to level the playing field for the disabled, it can, at the same time, reinforce the barriers that the disabled otherwise face if it is not designed with their needs in mind.
- Here is another point. India, it is reported, had 750 million Internet/smartphone users in 2020.
- Applying the 16% figure here, this works out to be roughly 120 million (12 crores) Internet/smartphone users with disabilities.
- AI can help to further automate the accessibility testing process, and feedback from users with disabilities can now be analysed at scale to provide actionable insights to developers and companies
- Securing a more disabled-friendly digital ecosystem must be the conviction that, "everything digital must be accessible to everyone".
- This starts with incorporating the principles of accessibility and inclusive design into every digital offering, right from inception.
- India needs to be truly accessible for all people with disabilities.

THE HINDU

Draft Geo-heritage Sites and Geo-relics (Preservation and Maintenance) Bill, 2022

- S periodically but surely palaeontologists report intriguing discoveries from India.
- In January, a team discovered 92 dinosaur nesting sites with 256 fossilised eggs of the titanosaurus among the largest of its kind, from 100-- 66 million years ago, when 'India' was a continent and yet to merge into the Eurasian land mass.
- Similarly, the deserts of Kutch, Gujarat, and the Deccan traps in Maharashtra bear witness to the forces that shaped the diverse geography, and tangentially history, of the most populous country.
- Unlike the quest to preserve cultural history and man-made artifacts from archaeology, there has been limited effort to preserve and communicate at large this natural 'geo-history' such as rock formations, sediment, and fossils.

- To that end, the draft Geo-heritage Sites and Geo-relics (Preservation and Maintenance) Bill, 2022, piloted by the Ministry of Mines, is seen as a step to give the process of such conservation firmer footing.
- The Bill's provisions give the Director General of the Geological Survey of India (GSI), a subordinate body of the Ministry of Mines, the power to declare sites as having 'geo-heritage' value, take possession of relics (fossils, rocks) that rest in private hands, prohibit construction 100 meters around such a site, penalize with fines of up to ₹5 lakhs and possibly imprisonment vandalism, defacement, and violations of directives by the Director General of the GSI.
- This has rankled experts who work outside the GSI- fold in central and State universities, institutes of national importance and private organizations who fear that such absolute vesting of powers in the GSI alone may impede palaeontological research.
- They demand a more inclusive body, on the lines of a National Geoheritage Authority, that can, more democratically, decide on declaring sites as being of 'geohistorical' importance and how best to preserve artifacts and finds

Autonomy of Ladakh

- Before the Ladakh Autonomous Hill Development Council (AHDC) election, Sixth Schedule status was promised to the region, similar to what is seen in some parts of north-east India.
- It is important to understand the sensitivity of Ladakh.
- The region's cold desert ecosystems harbor rare mammals like the wild yak and the snow leopard and diverse flora.
- Cultures and livelihoods have evolved to be sensitive to the fragility of ecosystems that cannot bear heavy human activity.
- High-altitude pastoralism, agriculture, and trade have been the mainstays of the Ladakhi economy and society for centuries.
- Administrators sitting in or appointed from Delhi hardly comprehend what can and cannot work in such a landscape.
- There is enormous commercial interest in mining, tourism, hydropower, and other natural resources. The UT administration has been inviting investments in the region, and India's biggest corporations are showing interest

- Since 1995, Ladakh has had an AHDC with the aim of enabling locally determined development.
- A Hill Council decision for Ladakh agriculture to become fully organic could be backed by the Central government (for instance, by requiring the armed forces to purchase locally grown and made items).
- Communities could be aided to claim and operationalize collective rights.
- Tourism could be fully oriented towards community-run, ecologically sensitive visitation.
- Ladakhi civil society organizations and some government departments are already implementing amazing initiatives for livelihoods sensitive to the area's ecology, decentralized solar energy use, sustaining the food and agricultural heritage, entrepreneurship, and much else.

THE HINDU

J&K Lithium reserve

- News of the discovery of "5.9 million tonnes inferred resources of lithium" in the Salal-Haimana area of Reasi district, Jammu & Kashmir, by the Geological Survey of India has been received as a game-changer in India's impending transition to a green economy.
- The term 'inferred' refers to the 'preliminary exploration stage',

Why is this significant?

- Lithium-ion batteries are used in wind turbines, solar panels, and electric vehicles, all of which are crucial in a green economy.
- A World Bank study suggests that the demand for critical metals such as lithium (Li) and cobalt is expected to rise by nearly 500% by 2050.
- While "the global electric vehicle market is projected to reach $823.75 billion by 2030, registering a compounded annual growth rate (CAGR) of 18.2% from 2021 to 2030," India's market is projected to register a CAGR of 23.76% by 2028.
- India is seeking to secure its critical mineral supplies and build self-sufficiency in this sector.
- As India currently imports all of its Li from Australia and Argentina and 70% of its Li-ion cell requirement from China and Hong Kong, the lithium reserves in J&K could boost the domestic battery-manufacturing industry.
- The J&K reserves will also help advance the Indian government's ambitious plan of "30% EV penetration in private cars, 70% for commercial vehicles, and 80% for

two and three-wheelers by 2030 for the automobile industry."

- They will strengthen India's National Mission on Transformative Mobility and Battery Storage as well.

What are the geostrategic concerns?

- Critical mineral dependencies constitute a major geostrategic concern in the transition to net-zero carbon energy systems.
- In the present scenario, as countries seek to avoid dependencies and vulnerabilities related to critical minerals, the latter is likely to be at least as important as oil and gas in the near future.
- A high level of dependence on China for Li and other crucial metals and their derivatives is also perceived to be sources of energy security risks.
- China currently controls 77% of the global lithium-ion battery manufacturing capacity and is home to six of the world's 10 manufacturing companies
- The growing geopolitical rivalry with China makes India's security considerations more immediate as well, especially also in light of the longstanding, and recently escalating territorial and border disputes

What are the environmental effects?

- The applications of Li in renewable energy infrastructure often obscure its significant environmental consequences.
- Extracting Li from hard rock mines, similar to what has already been proposed in J&K, entails open-pit-mining followed by roasting the ore using fossil fuels.
- Industry estimates suggest that this process consumes 170 cubic meters of water and releases 15 tonnes of CO2 for every tonne of Li extracted.
- Open -pit- mining, refining, and waste disposal from these processes substantially degrade the environment, including depleting and contaminating waterways and groundwater, diminishing biodiversity, and releasing considerable air pollution.
- This said, the geological context of mining in J&K differs from Australia, which has the largest Li stock in hard rock mines, in one major way.
- In Australia, Li-bearing pegmatite deposits are found in the ancient geological regions of Pilbara and Yilgarn cratons, whose continental rocks have been stable for over a billion years.
- The Himalayas on the other hand is the youngest mountain range in the

world and is much more unstable (as evidenced by the ongoing tragedy in Joshimath).

- Incidents of land sinking have also been reported from a village in Doda district in Chenab valley, which extends to some parts of Reasi.
- The 'lithium triangle' of Bolivia, Chile, and Argentina, which contain roughly half the world's known Li.
- Indigenous resistance and increased awareness of the environmental impact of Li-mining have prompted global carmakers, including Mercedes Benz and Volkswagen, to look for Li mined with the lowest socio-ecological impact. Other corporations are making similar amends.

What safeguards does India's mining sector have?

- State government officials in J&K have said plans for Li exploration will involve local communities, who will also be prioritized for jobs in exploration and mine development.
- Yet employment in mining may not fully offset the consequences on local agriculture, animal husbandry, and tourism.
- In recognition of the local effects of mining, in 2015, the Lok Sabha amended the Mines and Minerals (Development and Regulation) Act 1957 to establish the 'District Mineral Foundation (DMF).
- The DMF is a non-profit statutory 'trust' for every Indian district affected by mining- related operations that should "work for the interest and benefit of persons, and areas affected by mining -related operations"
- In practice, the DMFs have become sites of centralized bureaucratic control, without meaningful public participation or accountability.

THE HINDU

Bard

- Microsoft has thrown down the gauntlet to Google with its $10 billion check to OpenAI, the artificial intelligence research firm behind ChatGPT and DALL-E.
- The investment is targeted at packing AI capabilities into Microsoft's search, software, and cloud systems over the next few years.
- And, at the top of that list is making Bing search engine ChatGPT compatible.
- Microsoft is clearly looking to disrupt Internet search as we know it, and in that process, plans to claw back the browser market share it lost to Google more than a decade ago.

- Bard a conversational AI powered by the search giant's language mode.
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