

Current Affairs of the Day

Glacier loss pushing India's mountain region towards water insecurity

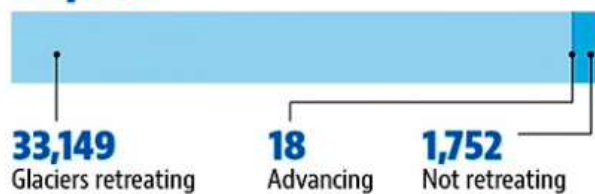
Small glaciers may vanish in long run

Himalayan glaciers are a huge reservoir of water that sustain lives of millions of people in India and many rivers including Ganga, Brahmaputra and Indus originate from the glacial ice



Overall spread of the glaciers may not fall but water content may go down. HT FILE

34,919 Total Himalayan glaciers



75,779 area these glaciers cover, equal to area of Himachal and Haryana put together sq kms

WHAT IS NEW

Glaciers in lower altitude losing water at much faster rate

67% loss of volume in last 3 decades in low altitude glaciers in Chandra Basin.

19% loss of water in ones in higher altitude in Chandra basin.

IMPACT

Can cause water scarcity in the regions fed by low altitude glaciers

- The area under snow cover in Himachal Pradesh in 2019-20 was 23,542 sq km, which dropped to 19,183 sq km in 2020-21, a decline of 18.52%.
- The snow cover in the Chenab basin fell by 8.92%. The Beas, Ravi and Sutlej basins show a decrease of about 19%, 23% and 23.49% respectively.
- Most of the major rivers like Chenab, Beas, Parvati, Baspa, Spiti, Ravi, Sutlej and their perennial tributaries originating from the Himalayas depend upon the seasonal snow cover for their discharge dependability.
- The shrinking of Indian glaciers will impact food and water availability for nearly 13% of the global population.



Reforestation efforts provide hope, but more work is needed on supportive policy and community involvement

1. In 2010, India had 31.3 Mha of natural forest. By 2020, it lost 132 kha of natural forest, equivalent to 67.3 Mt of CO₂ of emissions.
2. In such a scenario, efforts for reforestation in various states across the country have provided hope.
3. Experts, however, argue that India still has a long way to go and despite the policies that prevail, the involvement of communities at the grassroots level is amiss.
4. Vast tracts of forests and green cover have, over the past few decades, given way to concrete jungles, with increasing urbanisation in India. The compelling need to support a large population due to a rise in migration, have resulted in an increased demand for land, leading to further felling of trees.

Reforestation schemes:

1. With an intent to combat high pollution levels and a sharp rise in carbon emissions, the Indian government has been pursuing reforestation through schemes such as the National Mission on Green India, the National Afforestation Programme, compensatory afforestation, and plantation drives across states.
2. In the Union Budget 2020-21, the overall allocation for the Union Ministry of Environment, Forest and Climate Change, increased from Rs. 26.5 billion in the revised estimate of 2019-20 to Rs. 31 billion for 2020-21 – a significant portion of which is expected to be channelled to the integrated development of forest ecology.
3. Furthermore, at the UN Framework Convention on Climate Change Conference of Parties (COP 2015), India, under the Bonn Challenge, committed to restoring 13 million hectares (Mha) of degraded and deforested land by 2020 and an additional 8 Mha by 2030.
4. Apart from policymakers, private organisations that are working to revive the lost green cover, offer some hope.

Miyawaki forests in urban and other landscapes

1. A decline in forest cover, rise in natural disasters, and pollution, combined with the positive changes observed in the environment during the pandemic-imposed lockdown, has resulted in several projects aimed at reinforcing the importance of the environment.



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- The Miyawaki method involves planting two to four trees per square metre. Miyawaki forests are known to grow in two to three years and are self-sustaining. They help lower temperatures in concrete heat islands, reduce air and noise pollution, attract local birds and insects, and create carbon sinks.

WHAT IS THE MIYAWAKI METHOD?

- Named after Japanese botanist Akira Miyawaki who invented it
- It involves planting of several species very close together in a small pit
- Plants draw nutrients from each other and become healthy
- A dense forest, which grows naturally in 300 years is created in 30-35 years
- Trees grow 10 times faster, and absorb 30 times more carbon dioxide
- Density is 30 times that of normal tree plantations

MIYAWAKI FORESTS IN VADODARA	
Private farm, Sun Pharma Road Area 12,000 square feet Number of trees planted 3,500	VMC's Rajivnagar STP, Harni Area 16,000 square feet Number of trees planted 4,000
Bhoj village, Padra Forest department's demonstration plot Area 30 x 10 metre Number of trees planted 831	

India's coal transition is likely to be a "messy and complicated exercise"

- At least 123 coal mines have been closed in India since 2008 but there is "very little evidence of environmental remediation and land rehabilitation in these areas" says the latest study which emphasises that coal transitions are likely to be "a messy and complicated exercise" as nearly one in every three districts in the country has one asset linked to the coal sector.
- The study Socio-economic impacts of coal transitions in India – Bottom-up analysis of jobs in coal and coal-consuming industries need to be analyzed.



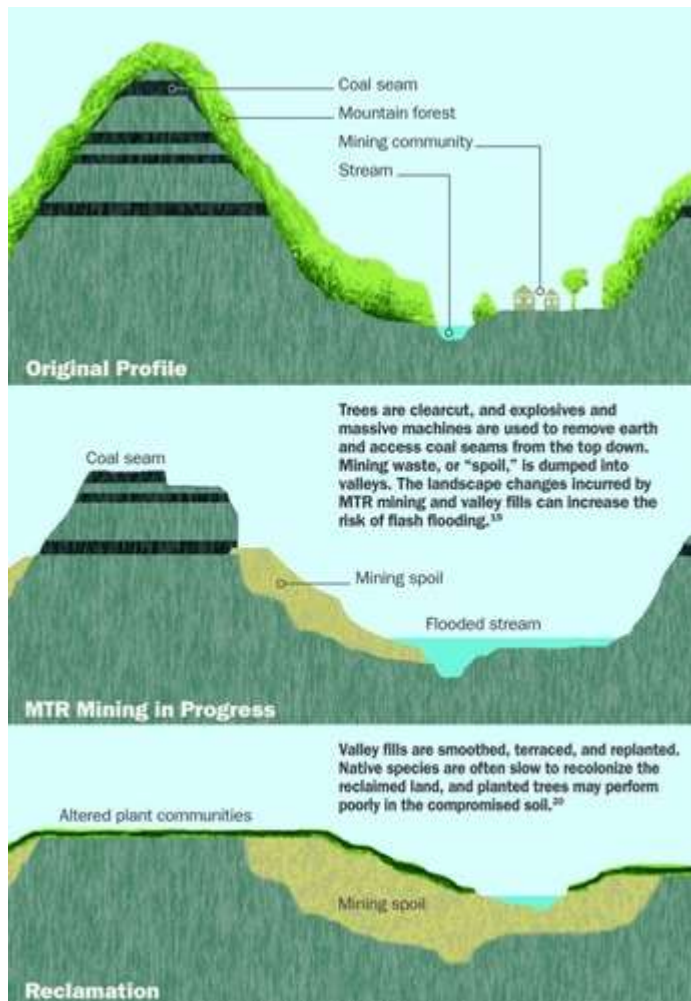
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3. In India, “until very recently (August 2021) there were no guidelines on plant decommissioning and environment remediation”.
4. The absence of guidelines was also acknowledged recently during a case at the National Green Tribunal (NGT) where the Indian government was directed to finalise guidelines by March 2022 for decommissioning of coal-based power plants.
5. In January 2020, the union environment ministry, following an order of the Supreme Court, had come out with an order making it mandatory for mining companies to carry out re-grassing in the mined-out areas to make them suitable for the growth of flora and fauna once the mining activity is complete.

Coal mining impact on topography, water resources and community:





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Environment as discussed in parliament in December 2021

Sea level along Indian coast rising at 1.7 mm/year

- The sea level along the Indian coast was rising at about 1.7 millimetres per year according to the Indian National Centre for Ocean Information Services. Shoreline change including erosion and sea-level rise were slow phenomena and manifesting globally.

Ambient air quality data

1. Ambient air quality data in 96 cities showed a decreasing trend of PM10 whereas 36 cities showed an increasing trend of PM10 concentration in 2020-2021, as compared to 2019-2020.
2. Eighteen cities were found to be within the prescribed National Ambient Air Quality Standard (PM10 less than $60 \mu\text{g} / \text{m}^3$) in 2019-20 which has increased to 27 in 2020-21

Forest land diversion

1. A total of 82,893.61 hectares of forest land had been approved for non-forest use under the Forest (Conservation) Act, 1980 from April 2016 to March 2021.
2. Some 206 proposals involving 4,118.109067 ha area within Protected Areas including national parks and sanctuaries had been recommended by the Standing Committee of National Board for Wildlife during the years 2020 and 2021.

Methane emissions

1. India was the fourth-largest methane emitter in the world and its methane emissions were nearly a third of that of China. Methane emissions accounted for 409 million tonnes of CO₂e ie 14.43 per cent of India's total Greenhouse Gas (GHG) emissions in 2016.
2. The agriculture sector in 2016 registered a decrease of 2.25 per cent in GHG emissions since 2014.

Ease of Living Index 2020

1. Indian cities overall have scored an average of 53.51 out of a total of 100 points according to the results of the Ease of Living Index 2020.
2. They have scored an aggregate of 51.38 on 'Quality of Life', 13.17 on 'Economic Ability' and 53.63 on 'Sustainability'. Within 'Quality of Life', the categories of 'Mobility' and 'Recreation' have received low scores compared to other categories.



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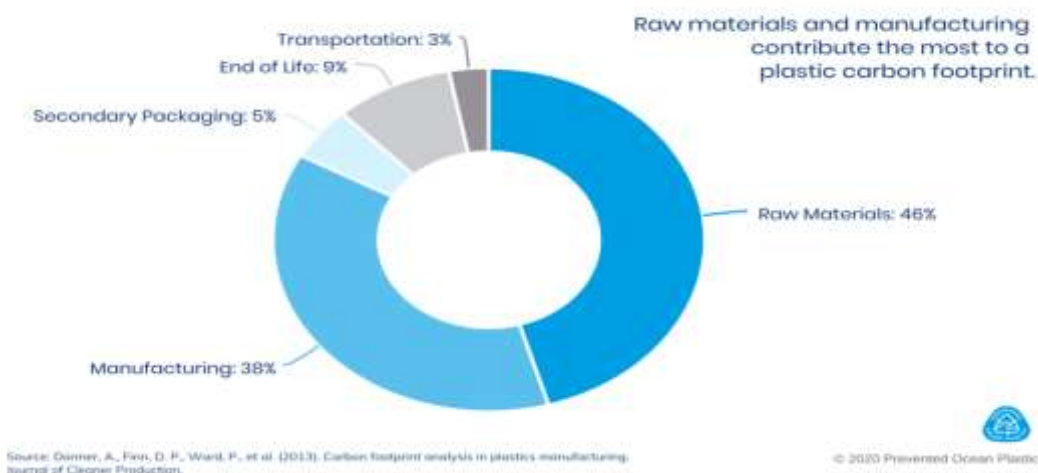
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- Under 'Economic Ability', the performance of cities in the 'Economic Opportunities' component needs focus. Finally, scores under 'Sustainability', 'Green Spaces & Buildings' reflect the low performance of cities.

Plastic production accounts for a much larger carbon footprint than previously thought



- The global carbon footprint of plastic doubled since 1995, reaching two billion GtCO₂-tonnes of carbon dioxide equivalent (CO₂e) in 2015 and accounting for 4.5 per cent of global greenhouse gas emissions, according to a study.
- Plastic production accounted for 96 per cent of the particulate matter health footprint. Half of this was attributed to the combustion of coal.
- This was due to growth in plastic production in coal-based economies. The researchers found that the impact of plastic on climate and health is greater than previously thought due to the increased use of coal.
- Due to the increased reliance on coal, the fossil resource footprint of plastics, including fossil resources used as fuel and feedstock for plastics production, has tripled since 1995.
- China, Indonesia and South Africa were among the major drivers of the increasing carbon footprint from plastics. Since 1995, China's plastics-related carbon footprint has more than tripled from both a production and a consumption perspective.



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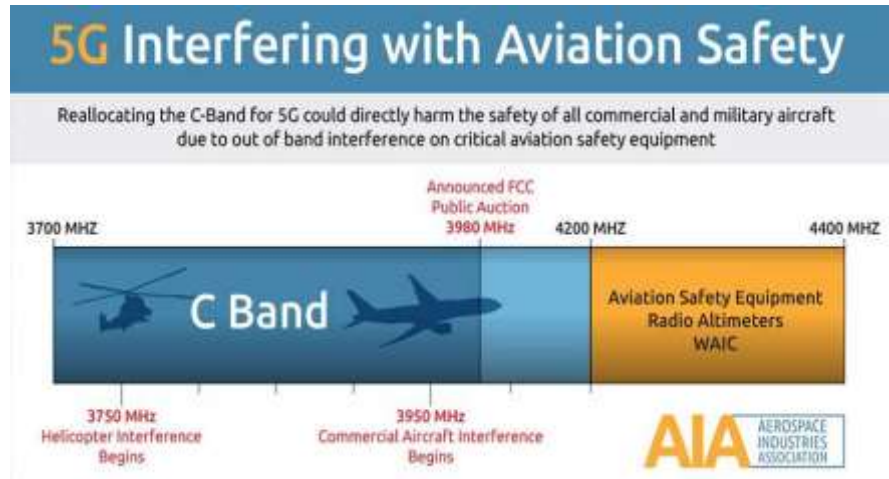


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US FAA issues safety alert on 5G interference to aircraft

The 5G spectrum abuts radio signals used by so-called radar altimeters, which measure how close an aircraft is to the ground.

1. US regulators are warning aviators that a new band of 5G mobile phone service might interfere with key safety devices on aircraft.



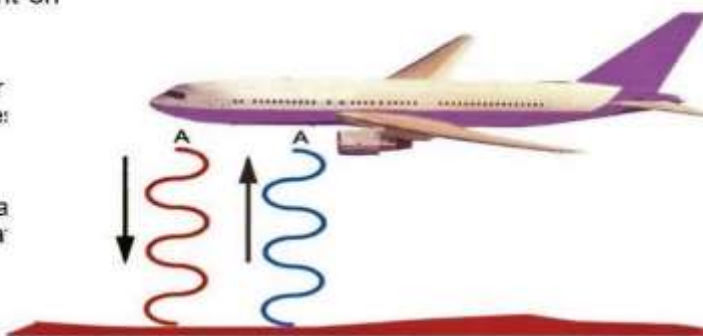
- The 5G spectrum abuts radio signals used by so-called radar altimeters, which measure how close an aircraft is to the ground.
- Canada recently imposed restrictions on locating new 5G cell towers near the runways of large airports. Australia, France and other nations have taken steps to limit the chances of aircraft interference.
- Radar altimeters are used on planes and helicopters for multiple critical safety functions, including landing when visibility is low, anti-collision warnings and systems that warn pilots when they inadvertently get too low. Some commercial helicopter flights can't operate without a working radar altimeter.

The airplane is shown over a point on the ground.

At this instant, the radar altimeter transmitting the carrier at its lower frequency (A).

The signal travels to the ground and is reflected back to the airplane at the same frequency (A).

The returning signal reaches the airplane after an interval of time, the number of microseconds it takes for the round trip.



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MAINS DAWP	<i>Q1. India must look beyond its colonial past to have futuristic technological cooperation with the UK. Critically Discuss</i>
MCQS	<i>Q1. Miyawaki method recently seen in the news is linked to a. Afforestation in urban areas b. Stubble management c. Shrimp farming Method d. Method to clear space junk</i>