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NEWS

Cool Plan -

- INDIA has recently released its Cooling Action Plan - a 20-year roadmap to address cooling requirements in buildings, cold chain, transport and refrigeration.
- The plan recommends thermal comfort strategies for affordable housing projects under the Pradhan Mantri Awas Yojana.
- This is an important shift in the affordable housing sector that currently focuses only on speed and ease of construction, often disregarding comfort requirements of the poor.
- The United Nations has proposed comfort as a human rights issue.
- The plan also seeks to reduce cooling demand across all sectors by 20-25 per cent and refrigerant demand by 25-30 per cent by 2037-38. It aims to train 100,000 serving sector technicians by 2022-23.

Now, Italy has a coral reef -

Scientists have discovered Italy's first known coral reef, which they claim is like very few others on Earth.

The 'unique' reef stretches for 2.5 km along the Italian coast in the Adriatic Sea and is 30-55 metres deep.

The famous Australian or Maldivian coral reefs rise almost to the surface of the water, making the most of the sunlight that is the real fuel of these ecosystems.

The mesophotic reefs in Italy manage to survive and grow despite the lack of light. They obtain nutrition from suspended organic matter floating around the sea.

World fails to curb chemical use -

- United Nations' Environment Assembly, commenced in Nairobi, Kenya, on March 11 with a wake-up call - the world will miss the globally agreed target of minimising adverse impacts of chemicals and waste by 2020.
- Rather, as per the second Global Chemicals Outlook report released at the event, chemical production across the world will double by 2030.
- Chemical industry is the world's second largest manufacturing sector and chemical pollution claimed 1.6 million lives in 2016, estimates the World Health Organisation.
- The first Global Chemicals Outlook report was released in 2013. Since then, instead of reducing the use of chemicals to meet the agreed target, the world has increased their use.

- Highlighting the lack of seriousness, it adds that till 2018, over 120 UN member countries had not implemented the Globally Harmonised System of Classification and Labelling of Chemicals.
- The Sustainable Development Goals has 17 targets relating to chemicals and its waste management.

India reduces TB in HIV patients by 84% -

- India achieved an 84 per cent reduction in tuberculosis deaths among people living with HIV/ AIDS between 2010 and 2017. This the highest recorded decline among over 20 countries, estimates the World Health Organisation (WHO).
- In 2016, the United Nations Political Declaration on Ending AIDS had set a 2020 deadline to reduce TB deaths among people living with HIV by 75 per cent.
- The latest WHO estimates suggest India and four other low- and middle-income countries - Eritrea (83 per cent), Djibouti (78 per cent) and Malawi (78 per cent) - have already met the target. Eighteen other countries have reduced TB deaths among people living with HIV by more than 50 per cent and are on track to achieve the target by the end of 2020, provided scale-up of services is maintained.

Dangerous Generation

Just a decade ago, the Fourth Generation wireless network, shook up the world speeding speeding up data transfer and ensuring superior and uninterrupted mobile and internet connectivity. Now, the world is gearing up for 50 times faster 5G that will make wireless digital communication near seamless. The US and South Korea have already rolled out the network on a trial basis.

In May 2018, five Nordic countries— Sweden, Norway, Denmark, Finland and Iceland—announced their plan to create the world's first interconnected 5G region. India, which lagged in the implementation of earlier networks, has set up a high level forum to establish the vision for 5G in the country and plans to begin trials by 2020.

The fear -

- In 2011, who's International Agency for Research on Cancer (IARC) reviewed several studies that detailed the effects of a wide range of RF-EMF radiations

(from 30 kilohertz to 300 gigahertz) on humans as well as rats, and concluded that the radiations are “possibly carcinogenic to humans”.

- In 2018, a peer reviewed report published by the National Toxicology Program (NTP) of the US National Institute of Environmental Health Sciences found RF-EMF of 900 megahertz, used by 3G and 4G networks, led to incidences of malignant heart schwannomas (cancer that attacks nerve tissues) in male and female rats.
- 5G requires RF-EMF radiation between 600 MHz and 86 GHz, which fall well within the range analysed by all the above mentioned studies.
- Scientists have so far linked 5G to at least 20 ailments, including heart diseases, type-2 diabetes and mental disturbances such as depression, anxiety and suicidal tendencies.
- The higher frequencies will concentrate the radiation in a smaller portion of the human body.

Way forward -

- As the jury is out on the safety of 5G, some scientists suggest designing networks based on less harmful fibre optic cables. These can be 20,000,000 times faster than 5G.
- We should capitalise on wired connections which can bring speed of 10 Gb (gigabytes) per second.
- Most importantly, we should recognise mobile phones for what they are: a radiating device. They should be redesigned to minimise user exposures and use them sparingly.

Reverse gear on oil palm

Sixteen years after the Supreme Court banned monoculture plantations in Andaman and Nicobar Islands' fragile ecosystem, the administration wants it revoked. It's difficult to say what exactly has renewed the interest of the Andaman and Nicobar (A&N) administration in the controversial crop: Centre's strive to attain self-sufficiency in palm oil and thereby minimise foreign currency expenditure, or the administration's own short-sightedness.

Background -

- In fact, the impact of monoculture plantations on the islands has been the bone of contention since oil palm was introduced in the archipelago some 40 years ago. In 1979, the agriculture department of the union territory

sanctioned the first oil palm plantation project over 2,400 ha in Little Andaman and asked the Andaman and Nicobar Islands Forest Plantation and Development Corporation (ANIFPDC) to implement it in a phased manner. The project was abandoned mid-way as in 1986 the Union Ministry of Environment and Forests (now renamed the Ministry of Environment, Forest and Climate Change) imposed a ban on extending the plantation pending studies on its impact on environment and ecology.

- The 2001 Shekhar Singh Commission report, which formed the base of the Supreme Court's 2002 judgement on monoculture plantations in the islands, too has said: "Many exotic animal and plant species have been introduced in the islands, with a destructive impact on forest regeneration.
- In fact, the areas in Little Andaman where oil palms were introduced show up clearly as degraded forests in the remote sensing map of the Forest Survey of India."
- In May 2002, responding to a petition by three non-profits that sought protection to the archipelago's vulnerable indigenous communities and its unique tropical rainforests, the apex court had said: "There should be no expansion of monoculture or commercial plantations on Forest Land. The existing plantations of oil palm, rubber and teak are reportedly no longer viable and should be phased out."

Reinvigorating interest in palm oil -

- Union Minister Nitin Gadkari in 2014 had said the region experiences hot and humid tropical climate similar to Malaysia and Indonesia, which have become world leaders in palm oil.
- IOPR scientists visited five islands—Little Andaman and Baratang, located on the Andaman chain of islands, and Kamorta, Katchal and Teressa, scattered further south in the Bay of Bengal as part of the Nicobar islands. They submitted their report in December 2018, which says "locality factors, specifically climatic and edaphic (relating to soil) parameters are congenial in the islands for the growth of oil palms.

The concern -

Little Andaman is home to two indigenous communities. Plantations may affect their natural forests and lead to resource depletion.

March Against Asbestos

Recently, the Drug Controller General of India issued a show cause notice to Johnson & Johnson for its alleged use of asbestos in its talcum powder.

About Asbestos -

- Asbestos has been used for different purposes since prehistoric times, but today the campaign against its use is building up, as exposure can lead to a wide range of diseases.
- When asbestos materials are damaged or broken during processing, the tiny fibres become airborne and can be easily inhaled at a significant rate.
- Once inhaled, asbestos fibres lodge in the lining of the throat, lung, or stomach, causing cells to mutate and become cancerous.

Concerns -

- According to the World Health Organisation (who), about 125 million people are directly exposed asbestos in their workplace annually. More than 1 million workers die each year from an asbestos-related disease.
- In 2004, asbestos related diseases such as lung cancer, mesothelioma and asbestosis from occupational exposure resulted in more than 1.5 million Disability Adjusted Life Years.
- India uses about 350,000 tonnes of asbestos annually and the industry is growing by 12 per cent annually.
- Worse, India continues to import asbestos to be used in cement roofing sheets, cement piping, friction materials, textiles, insulation and even railways and armed forces.

The source -

Russia remains the world's largest producer of asbestos. The major mines are situated in Asbest, a city located on the eastern slopes of the Ural Mountains, once known as the "dying city" due to its high rate of lung cancer and other asbestos-related conditions. Russia provides most of the asbestos to the world market, including for the US.

Towards a bitter end

India, which hosts the maximum neem trees, faces an acute shortage of neem oil, to the tune of 85 per cent.

Neem coating of urea -

Urea is an important supplier of nitrogen, necessary for the growth of plants and high yields. But crops can absorb only 30-40 per cent of nitrogen present in this master fertiliser; the remaining mixed with runoff either contaminates waterbodies or evaporates in the form of pollutant ammonia gas.

Coating urea with neem slows down the release of nitrogen and gives crops more time to absorb the nutrient.

It also reduces the subsidy burden on fertilisers, curb nitrogen pollution and boost crop productivity.

Flawed coating defeats purpose -

- The fertiliser ministry has set a standard for producing neem coated urea, which requires 600 gram of neem oil to be sprayed on 1 tonne of urea.
- Going by the standard we require at least 20,000 tonnes of neem oil for coating the 32 mt urea consumed in the country every year.
- In comparison, only 10 per cent of the 300,000 tonnes of neem seeds collected from across the country gets processed, yielding only 3,000 tonnes of neem oil. This is a deficit of over 85 percent, as neem oil is also high in demand for soap-making and other pharmaceutical products.

Huge demand-supply gap -

- According to WNO, India is home to 25 million neem trees. About 80 per cent of the trees grow as part of natural vegetation in the dry, sub-tropical climate of Uttar Pradesh, Tamil Nadu, Karnataka, Gujarat, Madhya Pradesh and Maharashtra. "But the Indian market is highly unorganised and we are yet to tap even 10 per cent of oil yielding potential of the trees."
- Neem oil producers do not find it profitable to supply their product to urea manufacturers. Neem oil extraction is capital intensive.

A missed opportunity -

- The impact of India's lackadaisical attitude towards the plant, declared the "Tree of the 21st century" by the United Nations has begun to show.
- China is emerging as a major neem power. Keeping in view the future demand of neem as bio-pesticides, it has launched a project to promote the tree and has planted some 20 million neem trees. In terms of neem-based products, China now accounts for 40 per cent of the global market.

A virus and its lone victim

Kerala is on high alert after a seven-year old boy from Malappuram district died of West Nile infection on March 18.

About the virus -

- West Nile Virus mostly confines its transmission to birds and mosquitoes.
- Birds act as carriers and amplifying host for the virus, with crows more susceptible to it, while Culex mosquitoes are the usual vector.
- Though transmission of the disease to humans is occasional, the virus has caused human infections across the globe since it was first isolated from a woman in West Nile district of Uganda in 1937.
- The virus has made its presence felt in the country a few times earlier too. The National Health Portal (NHP), maintained by the Union health ministry, says West Nile Virus is highly prevalent in India.
- Infections were reported from Tamil Nadu's Vellore district and Karnataka's Kolar district in years as far back as 1977, 1978 and 1981.
- According to NHP, the virus was first documented in the Northeast in 2006 from four districts of Assam that are known endemic areas of Japanese Encephalitis (JE).

A new landscape

The Earth is always under constant churn due to geological forces at play. Recent scientific evidence has given a glimpse of the Earth's changing contours—the African continent is splitting into two. The crack seems to be 57 kms long in Narok Country, a region just west of Nairobi, Kenya. It is the locus of a future ocean formation. Such an event happened 138 million years ago when the South American and African continents separated to give rise to the current South Atlantic Ocean.

Future prediction -

The farthest scientists can predict is that 250 million years from now all continents will unite again in one supercontinent and then will break apart again along the future rift systems.

Rift in systems -

- Continental changes take place at the boundaries of tectonic plates which are divisions of the uppermost layer of the Earth and swim around on the fluid mantle layer below it.
- These plates periodically crash into each other, giving rise to earthquakes and volcanic eruptions when the intensity is less over short periods of time.
- Over longer periods of time, they create all the geological and geographical features that we find on Earth like mountains, valleys and oceans.
- One of these processes is an intra-continental rift system which acts between tectonic plates and can give rise to rift valleys or even new oceans.
- The African Rift Valley, which is between Ethiopia and Kenya, is a classical example of this geodynamic process.
- The same dynamics that determine the rift development in East Africa led to the opening of the Atlantic and Indian Oceans millions of years ago and thus had a decisive influence on the face of the Earth.
- The East African Rift System is more active in terms of volcanism and it is connected to the global ocean rift (ridge) system through the Afar-Red Sea - Gulf of Aden triple junction.
- There are numerous rift systems around the world but the most active ones are the East African rift, Baikal rift, West Antarctic rift, Rio Grande rift, the Rhine Graben rift system in Europe and Shanxi rift system in China.
- Volcanism is very common in rift systems. This keeps the Earth's interior in such regions busy. Rifts are the regions of extension of the crust and the lithosphere.