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Current Affairs of the Day

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India set to be the largest buyer of vaccines

India is set to be the largest buyer of COVID-19 vaccines in the world with 1.6 billion doses, according to a global analysis, a number some scientists say could cover 800 million people or 60% of its population, and will be enough to develop 'herd immunity'.

Highlights:

1. India has agreed to buy 500 million doses of the Oxford vaccine candidate, one billion from the U.S. company Novavax and 100 million doses of the Sputnik V candidate from Russia.
2. Countries with manufacturing capacity, such as India and Brazil, have been successful in negotiating large AMCs with leading vaccine candidates as part of the manufacturing agreements.

Parliament project set for launch

Prime Minister Narendra Modi would on December 10 lay the foundation stone for the new Parliament building, which would be a symbol of "Atmanirbhar Bharat" and a "temple of democracy" for Independent India.

Highlights:

1. The building would have modern equipment, would be earthquake-safe and accommodate up to 1,224 MPs during joint sessions in the Lok Sabha chamber. The Lok Sabha and the Rajya Sabha chambers themselves would accommodate 888 and 384 MPs respectively.
2. While the number of Lok Sabha seats has remained 545 based on delimitation carried out on the basis of the 1971 Census, it is likely to increase after 2026 as the number of seats has been frozen till then.

Background:

Originally called the House of Parliament, it was designed by the British architects' Sir Edwin Lutyens and Sir Herbert Baker in 1912-1913 as part of their wider mandate to construct a new administrative capital city for British India. Construction of the Parliament House began in 1921 and it was completed in 1927.

The honey industry and its bittersweet reality

The story so far: Recently, the Centre for Science and Environment (CSE) investigation has revealed that popular brands of Honey been spiked with added sugar. Therefore, they ought not to be branded and sold as honey. The CSE also showed that adulteration technology had become sophisticated and can cheat the tests that Indian food testing laboratories conduct to ascertain the purity of honey.

Pure honey

The Food Safety and Standards Authority of India (FSSAI), in July published the 'Revised Standards of Honey'. Nowhere does one find the term 'pure honey' in it. However, given that the adulteration of honey with added sugar is a global problem, the regulations listed the chemical contents, i.e., tolerable limits of 'impurities' that must be detected by specific tests for a batch of honey presented by a company for labelling to earn the right to market its product as honey.

How is honey tested?

1. In all, there are 18 parameters for a product to be certified as honey. The most common is the so-called C4 and C3 tests, that determine if sugar from corn, sugarcane or rice was used to adulterate honey.
2. Honey is primarily a complex of the fructose, glucose and sucrose sugars. It has a relatively high fructose content, which is why it is sweeter than commercial sugar, which is heavier on sucrose. Laboratory tests determine acceptable ratios of these sugars and tolerance limits.
3. There is also a tolerance for 'ash' content and HMF (hydroxymethylfurfural), which forms when honey is heated.
4. Then, there are minimal levels of the pollen count and foreign oligosaccharides that a quantity of honey must-have.

All of these have a broad tolerance range and are also influenced by the laboratory tests employed to detect them. Despite this broad range of tolerance if products fail the test it mostly means adulterations.

Why does spiked honey matter?

1. Honey typifies 'natural sweetness'. The enzymes that bees use to make honey out of plant nectar render it rich in antioxidants, amino acids and other products that give honey its medicinal properties.

2. This is why honey is part of traditional medicine and has been promoted as an immune system stimulant, particularly during the COVID-19 pandemic.
3. The addition of artificial sugar syrups reduces the concentration of these elements per gram of honey.
4. As a sweetener, honey is digested more easily than sucrose-heavy sugars, but it spikes blood sugar levels the same way commercial sugar does. Therefore, responsibly sourced honey poses similar risks to diabetics as ordinary sugar.

States with stressed groundwater top in cereal trade: study

States with critically low groundwater reserves were responsible for 41%, or about 38.6 million tonnes, of domestic cereal trade. This worked out to nearly 39% of the groundwater being used up in producing and trading cereals among States.

Water-intensive crops

1. Rice and wheat dominate cereal production and it's also known that they are intensely water-consumptive crops. The researchers estimated the "water footprint" of producing and transporting cereals.
2. Trade patterns varied between PDS and non-PDS cereals. The majority (58%; 58.0 Mt) of inter-State cereal trade occurred through the PDS.
3. Findings reiterate the substantial potential for balancing water resources through the trade of crops in India.

Way forward:

1. Crops according to agro-climatic region
2. Micro-irrigation instead of flood irrigation
3. Promotion (through MSP) of water hardy crops like millets

Judge orders U.S. government to reinstate DACA programme

A U.S. judge ordered the Trump administration on Friday to fully reinstate a programme that protects from deportation immigrants who came to the country illegally as children. The administration must allow newly eligible immigrants to apply to the DACA programme.

Highlights:

1. DACA stands for Deferred Action for Childhood Arrivals. Former President Barack Obama instituted DACA by executive order in 2012 to help some of the more than 10 million people estimated to be living in America without documentation.
2. It applied to people who were brought into the United States illegally as children and then grew up here. For many, it is the only country they have ever known.
3. DACA protected an estimated 7,00,000 people known as Dreamers, offering protection at renewable two-year periods, including authorization to work.
4. As part of his crackdown on all kinds of immigration, Mr Trump moved to end the programme in 2017, calling it unconstitutional.

How Australia-China ties hit a new low

Context: For Australia, a close American ally, the emergence of China as its biggest trading partner has necessitated a delicate balancing act between trade and security. The trade dependence on China has grown rapidly, with Beijing accounting for as much as 39% of exports, mainly driven by natural resources such as iron ore, and 27% of imports.

Highlights:

1. Cracks begin to show from 2018 when Australia blacklisted Huawei and ZTE from being involved in the rollout of its 5G networks.
2. The cracks widened into a gaping rift this year when Australia in April called for an independent inquiry into the origins of the COVID-19 pandemic and criticised both China and the World Health Organization (WHO) for the initial handling of the coronavirus outbreak, a move that enraged China and brought an increasingly troubled relationship into open discord.
3. Beijing retaliated with a slew of punitive economic measures, thus a trade war was triggered.
4. Also, the Australian statement on Hong Kong — touching the usual Chinese nerve of "internal affairs" — was followed by statements expressing concern over Australian actions (alleged war crimes) in Afghanistan.

Articles

Challenges in achieving herd immunity through vaccination

Crux: Breaking the chain of transmission with a partial vaccination of populations may not be possible. For a disease where everyone is equally affected, immunisation should be available to all when vaccines are ready. It is important to remember that vaccines are a tool to promote health equity.

The critical mass of people

The government has never spoken about vaccinating the entire country against COVID-19. Adding to that, the Director-General of ICMR expressed "If we're able to vaccinate a critical mass of people and break virus transmission, then we may not have to vaccinate the entire population.

Challenges in breaking virus transmission through Vaccination:

Unknowns of Vaccination:

1. It is only when the final analysis of Phase-3 data of the Oxford vaccine and other vaccines in development become available can the government be certain of breaking the transmission chain through vaccination.
2. Clinical trials test the efficacy of the vaccine, while the actual effectiveness of the vaccine will be known only when a large number of people are vaccinated post-licensure. Also, the duration of protection is not known and hence how frequently the vaccine has to be administered remains unknown.

Uneven transmission

1. The levels of immunisation needed for herd immunity are determined by how the virus spreads in the population, but SARS-CoV-2 virus spread exhibits a high level of uneven transmission.
2. This is the reason why there have been a number of super-spreading events where some infected individuals spread the virus to very a large number of people while most infected individuals transmit the virus only to a few or none.

Transparency and Ethical challenges

Considering that the government has already listed out the high-priority groups that will receive the vaccine, the issue of choosing other sections of the population

that needs to be vaccinated to achieve herd immunity will be ethically challenging. Objective, transparent processes for making priority-setting decisions are extremely important to maintain trust in the vaccination plans.

Incidentally, the intent behind identifying the high-priority groups to receive the vaccine first was to safeguard them from severe disease and not to break the virus transmission chain and then move to lower-risk groups

Lessons in tiger conservation from Malenad

The Malenad landscape in Karnataka now harbours one of the largest wild tiger populations globally. The tiger population here has increased from approximately 70 to 391 individuals in about 45 years. A new paper has summarised the research and conservation work carried out in Malenad region by the Centre for Wildlife Studies (CWS) in Bengaluru.

Research on Karnataka success

1. The research team carried out a unique macroecology study across these very large landscapes, involving data on tiger ecology, predator-prey ecology, anthropogenic impacts, existing and emergent conflicts.
2. The research unearthed insights on tiger population biology. Research carried out innovative work developing new methodologies including identification of individual tigers and leopards from their coat patterns using photos obtained through automated camera traps. This improved estimation exercise through software.
3. Research also successfully developed methodologies to estimate prey animal densities. Later on Tiger task force 2 recommended the use of technology in the census and broader conservation efforts of Tiger.

Beyond Tiger Tourism

1. The research suggested that "tiger tourism" can be expanded beyond government-managed wildlife reserves to adjacent agricultural areas outside.
2. This has been implemented successfully in countries like Kenya and Brazil.
3. Local populations can economically benefit from the growth of the tourism sector. In this manner, we can add to tiger habitat using tourism incentives, rather than increasingly trashing our wildlife reserves through excessive tourism pressures.

Background:

Issue of Resettlement

1. Resettlement of people living inside reserves continues to be a debated topic.
2. For people living inside some want to continue to live inside due to long term ancestral and social connections to the land while many others want to relocate outside seeking to better their lives in the face of hardships they endure daily.
3. These problems include high human-wildlife conflict, lack of access to quality health care and education, and isolation from a rapidly changing world.
4. This needs to be viewed as a freedom of choice – the choice to move or stay which often gets mixed up.

The conservation challenge

India faces a huge variety of conservation challenges including managing existing wildlife reserves, human-wildlife conflict, land-use change, impacts from infrastructure growth and development, the emergence of zoonotic diseases, wildlife trade and poaching, and these need to be addressed while continuing to monitor wildlife populations.