

### NEWSPAPER HIGHLIGHT

The Union Cabinet approved the funding and implementation of the Ken-Betwa river interlinking project at a cost of ₹44,605 crore at the 2020-21 price level. The Centre would fund ₹39,317 crore for the project, with ₹36,290 crore as a grant and ₹3,027 crore as a loan. The project involves transferring of water from the Ken river to the Betwa river through the construction of Daudhan dam and a canal linking the two rivers, the Lower Orr Project, Kotha Barrage and the Bina Complex Multipurpose Project. The project is slated to irrigate 10.62 lakh hectares annually, provide drinking water supply to 62 lakh people and generate 103 MW of hydropower and 27 MW of solar power. The project is proposed to be completed in eight years.

Around 40% of human rights violation cases lodged annually by the National Human Rights Commission (NHRC) in the past three financial years till this October 31 were from Uttar Pradesh, according to data provided by the Ministry of Home Affairs to the Rajya Sabha. The total number of rights' violation cases lodged by the NHRC reduced from 89,584 in 2018-19 to 76,628 in 2019-20 and to 74,968 in 2020-21. In 2021-22, till October 31, 64,170 cases were lodged, the data showed.

The Rajya Sabha passed two Bills to regulate and supervise assisted reproductive technology clinics and surrogacy. The Bill related to surrogacy aims to constitute a National Surrogacy Board, State Surrogacy Boards and appointment of appropriate authorities for regulation of the practice and process of surrogacy. The Assisted Reproductive Technology (Regulation) Bill, 2021 is for the regulation and supervision of the assisted reproductive technology clinics and the assisted reproductive technology banks, and prevention of misuse.

Olaf Scholz became Germany's new Chancellor after 16 years with Angela Merkel at the helm, pledging his centre left led coalition would offer a "new beginning" for Europe's top economy.

Thousands of farmers who have been protesting on the outskirts of Delhi for over a year are likely to end their agitation at noon, as their leaders have decided to accept the Centre's

### RAIGAD FORT

1. President began his 4-day visit to Maharashtra by visiting the Raigad Fort. Earlier called Rairi, Raigad is a hill fort situated in Maharashtra. Raigad was the name given by Chhatrapati Shivaji to the fort.

2. **The British Gazette states the fort was known to early Europeans as the Gibraltar of the East. The fort was the seat of the Maratha clan Shirke in the 12th century.** The fort changed hands a number of times from the dynasty of Bahaminis to the Nizamshahis and then the Adilshahis.

3. In 1656, Shivaji captured it from the More's of Javli who were under the suzerainty of the Adilshahi Sultanate. Significance - The fort helped Shivaji challenge the supremacy of the Adilshahi dynasty. It opened up the routes towards Konkan for the extension of his power. By 1664, the fort had emerged as the seat of Shivaji's government.

4. As the Marathas under Shivaji gained strength in their struggle against the Mughals, a sovereign, independent state was announced. In 1674, Shivaji was coronated at Raigad by Gagabhatt where he took on the title of Chhatrapati. He passed away in Raigad in 1680.

### LASER COMMUNICATIONS RELAY DEMONSTRATION

1. NASA launched its first-ever laser communications system, called Laser Communications Relay Demonstration (LCRD) as a **hosted payload on STPSat-6 spacecraft aboard a United Launch Alliance Atlas V rocket.** LCRD will be in a geosynchronous orbit, over 35,000km above Earth. Purpose - Currently, most NASA spacecraft use radio frequency communications to send data.

2. Optical communications will help increase the bandwidth 10 to 100 times more than radio frequency systems. LCRD will showcase the unique capabilities of optical communications in space. If this capability is further proven, laser communications can be implemented on more missions, making it a standardised way to send and receive data.

3. LCRD is NASA's first two-way, end-to-end optical relay. LCRD has two optical terminals - one to receive data from a user spacecraft, and the other to transmit data to ground stations. The modems will translate the digital data into laser signals. This will then be transmitted via encoded beams of light. The ground team will send test data through radio frequency signals and the LCRD will reply using optical signals.

5. **Benefits** - Optical communications systems are smaller in size, weight, and require less power compared with radio instruments. Laser uses infrared light and has a shorter wavelength than radio waves.

6. This will help the transmission of more data in a short time. LCRD will send data to Earth at 1.2 Gbps using infrared lasers. It would take roughly 9 weeks to transmit a completed map of Mars back to Earth with radio systems. With lasers, this can be done in 9 days.

### INCLUSION OF DISEASE UNDER AB-PMJAY

1. **Treatment of diseases like COVID-19 and dengue is included under Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).**

2. Reimbursement level for the laboratory tests for COVID-19 Infection (PCR) will be as per the ICMR guidelines, issued from time to time.

3. The people affected with the diseases covered under AB-PMJAY can get specific 'Health Benefit Packages' under this scheme.

### ADDITIONAL COVID-19 VACCINE AND BOOSTER SHOT

1. Difference With the Omicron variant of Covid-19 spreading across the country, the need for a booster shot or an additional jab may feel more urgent than ever. An additional dose, originally called the third dose, of a Covid-19 vaccine is given to people with moderately or severely compromised immune systems to improve their response to the initial vaccine series.

2. An additional dose, thus, might improve the protection against the novel coronavirus to the people with weakened immune

revised proposal to resolve their pending demands if it is sent in an official format. In a major overnight concession, the Central and State Governments have agreed to withdraw almost half a lakh cases filed against protesting farmers with immediate effect. "Samyukt Kisan Morcha confirms [that it has] received a revised draft proposal from the Government of India and that a consensus has been arrived at within SKM(Samyukt Kisan Morcha), accepting the proposal," said a statement by union leaders.

On October 1 this year, the Delhi Government said that a smog tower can clean up to 80% of polluted air, citing a preliminary report on the project. However, two months later, the percentage of pollution being reduced is only 34%-43%, according to six readings between November 30 and December 1.

The tragic and untimely death of the country's first Chief of the Defence Staff, General Bipin Rawat, in a helicopter crash has created a vacuum at the highest levels of India's military hierarchy. The ambitious reform of the armed forces into integrated theatre commands, for which Gen. Rawat had set ambitious targets, also remains incomplete.

State Governments and Union Territories utilised only 56% of the total funds released under the Poshan Abhiyan or Nutrition Mission in the past three years, the Government told Parliament on Wednesday. Out of a total amount of ₹5,312 crore disbursed by the Centre between financial years 2019 to 2021, a sum of ₹2,985 crore was utilised, and the number of "severe acute malnourished" children in the country has become less than 15 lakh, Minister for Women and Child Development Smriti Irani told Rajya Sabha.

The Government has informed the Supreme Court that appointment of the Chairperson and Members of the 22nd Law Commission of India, the Government's top body to recommend crucial legislative reforms, is under consideration. The 22nd Law Commission was constituted by the Government on February 21, 2020. However, no progress has been made in the appointments till date.

The chopper that crashed with the Chief of the Defence Staff (CDS), General Bipin Rawat, and 13 others on board is considered one of the most trusted and safest aircraft of the Indian Air Force (IAF). The helicopter, the Russian made Mi-17V5, is widely used by the IAF for high altitude operations and rescue missions, according to Defence

systems. Offering such beneficiaries a third dose could help them match up an immune response similar to generalized, healthy populations.

3. A booster shot is given when a person has completed their vaccine series, and protection against the virus has decreased over time. It may be exactly the same original vaccine, in which case its goal is to increase the magnitude of protection by producing more antibodies.

4. The booster shot is an additional dose after the protection provided by the original shot(s) has started to decrease over time. The booster is designed to help people maintain their level of immunity for longer.

5. **A booster shot gives the memory cells the crucial signal to re-engage when the virus attacks. So, it helps people maintain their level of immunity for longer durations.** Dosage - While the additional Covid dose would be a "full" dose of the vaccine, booster shots being offered right now have a lesser volume, since the third dose is only supposed to increase the efficacy range.

#### **BHARTIYA PRAKRITIK KRISHI PADHATI**

1. Bhartiya Prakritik Krishi Padhati (BPKP), a sub scheme of Paramparagat Krishi Vikas Yojana (PKVY) that promotes natural farming. [Paramparagat Krishi Vikas Yojana' is a component of Soil Health Management (SHM) of National Mission of Sustainable Agriculture (NMSA).]

2. BPKP is aimed at promoting traditional indigenous practices including Zero Budget Farming which reduces externally purchased inputs.

3. The scheme mainly emphasises on, excluding all synthetic chemical inputs, promoting on-farm biomass recycling with major stress on biomass mulching, use of cow dung-urine formulations and plant based preparations and time to time working of soil for aeration (periodic soil aeration).

4. **Under BPKP, financial assistance of Rs 12200/ha for 3 years is provided for cluster formation, capacity building and continuous handholding by trained personnel, certification and residue analysis.**

#### **UKRAINE ISSUE CONTEXT**

1. The United States, NATO and Ukrainian officials have been making statements for nearly two weeks, referring to what they say are unusual Russian troop movements in the proximity of Ukraine. **Conflict all about-**Tensions between Ukraine and Russia, both former Soviet states, escalated in late 2013 over a landmark political and trade deal with the European Union.

2. After the pro-Russian then-President, Viktor Yanukovich, suspended the talks, weeks of protests in Kiev erupted into violence. Then, in March 2014, Russia annexed Crimea, an autonomous peninsula in southern Ukraine with strong Russian loyalties, on the pretext that it was defending its interests and those of Russian-speaking citizens. Shortly afterwards, pro-Russian separatists in Ukraine's Donetsk and Luhansk regions declared their independence from Kiev, prompting months of heavy fighting. Despite Kiev and Moscow signing a peace deal in Minsk in 2015, brokered by France and Germany, there have been repeated ceasefire violations.

3. **Russia's response:** Moscow sees the growing support for Ukraine from NATO — in terms of weaponry, training and personnel — as a threat to its own security. It has also accused Ukraine of boosting its own troop numbers in preparation for an attempt to retake the Donbas region, an allegation Ukraine has denied.

4. Russian President Vladimir Putin has called for specific legal agreements that would rule out any further NATO expansion eastwards towards Russia's borders, saying the West has not lived up to its previous verbal assurances.

5. **International response:** The European Union and US have imposed a series of measures in response to Russia's actions in Crimea and eastern Ukraine, including economic sanctions targeting individuals, entities and specific sectors of the Russian economy.

#### **ACE2 PROTEIN**

1. **ACE2 is an enzyme molecule that connects the inside of our cells to the outside via the cell membrane.** In normal physiology, another enzyme called ACE alters a chemical, Angiotensin I, and converts it into Angiotensin II, which causes blood vessels to constrict.

**sources.**

**The killing of 14 civilians by the security forces in Nagaland Oting village on December 4 has underscored the need for the Indian Government to immediately repeal the “abusive” Armed Forces (Special Powers) Act and prosecute the soldiers responsible, the New York City-headquartered Human Rights Watch said.**

**2.**The tightening of the blood vessels leads to an increase in blood pressure. That’s when the ACE2 molecule comes in: to counteract the effects of ACE, causing blood vessels to dilate and lowering blood pressure.

**3.**The spikes that make up the ‘crown’ of coronavirus bind to ACE2 enzymes to get into our cells.