

The National Human Rights Commission in a report flagged the “inhuman and deplorable” condition of all 46 government run mental healthcare institutions across the country. These observations were made after visits to all operational government facilities, to assess the implementation of the Mental Healthcare Act, 2017 (MHA). The MHA, 2017 “cantered the agency of individuals, acknowledged their right to live as part of a community [under Section 19], and focused on rehabilitation”. Poor budgetary allocation and utilisation of funds creates a scenario where shelter homes remain underequipped and establishments understaffed.

On February 3, the Union government hiked the windfall profit tax levied on domestically produced crude oil as well as on the export of diesel and aviation turbine fuel. ‘Windfall profits’ refer to an unanticipated spike in earnings of an entity resulting from an exogenous event (which could be one-off and/or prolonged) and not resulting from a business decision. Russia’s actions in Ukraine were central to the volatility observed in the oil market in the previous calendar year.

With a view to bolstering the social and security framework along the China border, the Union Cabinet on Wednesday approved raising of seven new battalions of the Indo-Tibetan Border Police (ITBP) and allocated ₹4,800 crore under the Vibrant Villages Programme to stop migration and boost tourism in villages along the border. The Cabinet Committee on Security cleared the proposal for raising the new ITBP battalions during a meeting chaired by Prime Minister Narendra Modi. This would entail recruitment of 9,400 personnel for deployment in Arunachal Pradesh, where 47 new border outposts and 12 staging camps are under construction. The outposts were sanctioned in January 2020. In all, there are 176 ITBP outposts along the 3,488-km Line of Actual Control.

India’s merchandise exports fell for the second month in a row in January, with the value of shipments slipping 6.6% to \$32.91 billion, while the trade deficit narrowed to the lowest in a year, at just \$17.75 billion, following a concurrent dip in imports. The Commerce and Industry Ministry sharply revised the goods trade numbers for December 2022, lifting the export figure by \$3.6 billion to \$38.07 billion, indicating a year on year contraction of 3% in that month compared with 12.2% estimated earlier.

84,000 no of wagons ordered by the Indian Railways this year, to increase the share of railways in freight transportation from about 27% to 45% by 2030, according to Union minister Darshana Jardosh. She said that the transporter is expected to achieve its highest ever loading of 1,500 million tonnes this year.

31.5 percentage increase in the total donations received by national parties during the financial year 2021-22 from the previous fiscal, according to the Association for Democratic Reforms (ADR). Total donations declared by the

## WORLD METEOROLOGICAL ORGANISATION (WMO) RELEASES ‘GLOBAL SEA-LEVEL RISE (SLR) AND IMPLICATIONS KEY FACTS AND FIGURES’ REPORT

1. Report highlighted how global sea-level changes induced by climate change and melting of major ice masses will impact small island dwelling states, and densely populated low-lying urban areas.
2. Key findings-India, China, Bangladesh, and Netherlands face highest threat of SLR globally. Global mean sea level increased by 0.20 metres from 1901 to 2018. Almost 11% of global population (896 million people) lived within Low Elevation Coastal Zone in 2020, potentially increasing to beyond 1 billion people by 2050.
3. Factors for SLR from 1971-2018-Thermal Expansion (Warming of water causes volume of water to increase) responsible for 50% SLR. Ice loss from glaciers lead to 22% SLR. Loss of ice sheets contributes to 20% SLR. Rate of ice-sheet loss increased by a factor of four between 1992-1999 and 2010-2019.
4. Changes in land-water storage contributed to 8% SLR. Impact of sea level rise: Aquifer and agricultural soil contamination with salt; coastal flooding led to habitat loss for aquatic species; threatens coastal infrastructures, human lives/livelihoods etc. Initiatives taken to control SLR: National Strategy for Integrated Coastal Zone Management; Coastal Regulation Zone notification, 2019; best practice like Giant Sea Wall of Indonesia, sponge cities by China etc.

## INFOCROP SIMULATION MODEL TO FORECAST HEATWAVE IMPACT ON FARM YIELD IN REAL TIME

1. Indian Agricultural Research Institute (IARI) conducted a first-of-its-kind experiment to quantify the impact of hot weather on crop yield in Punjab and Haryana by using InfoCrop Version 2.1. InfoCrop version 2.1 is India’s only dynamic crop simulation model, developed by IARI in 2015, that study the long-term impact of climate change and crop management practices on yield.
2. It has life cycle data for almost all local varieties of 11 crops: paddy, wheat, maize, sorghum, pearl millet, pigeon pea, chickpea, soybean, groundnut, potato and cotton. In InfoCrop, Parameters (updated at regular intervals) deal with aspects of Weather (precipitation, temperature etc.); Crop growth (grain characteristics, leaf growth etc.); Soil (water holding characteristics, pH levels etc.); and Pests and crop management (organic matter, fertiliser, and irrigation).
3. **Impact of Heatwave/Global warming on Agriculture**-Food insecurity by increasing food prices, and reducing food production. High temperature reduces crops yield and encourages weed and pest proliferation. More frequent extreme weather events led to crop failures and decline production. Reduction in nutritional quality of major cereals.
4. **Significance of crop simulation model**-Provide sound basis for regional policy planning. Developing informative adaptive strategies for climate related risk management. Can drive efficiency in agricultural production systems. Assessment of crop loss in aftermath of an extreme weather event to provide relief packages.

## MINISTRY OF HOME AFFAIRS (MHA) SHARED DETAILS OF CUSTODIAL DEATHS IN LAST FIVE YEARS (2018-2022)

1. **Key Highlights**-Highest number of custodial deaths reported in Gujarat followed by Maharashtra and Uttar Pradesh. Among UTs, highest incidents were reported from Delhi followed by Jammu and Kashmir. Custodial violence primarily refers to violence in police custody and judicial custody.
2. Besides death, rape and torture are two other forms of custodial violence. However, the term custodial violence has not been defined under any law. Causes for Custodial Deaths: Traditional habit of using force by police, Prison overcrowding leads to violence between prisoners or suicide, deficiencies in basic services like medical facilities, food etc.
3. **Constitutional safeguards include:** Article 20 (Right to protection against conviction of offenses), Article 21 (Right to life and liberty) Article 22 (Right to protection against arrest and detention in certain circumstance).
4. **Statutory safeguards include**-Sections 330 & 331 of Indian Penal Code. Sections 25 & 26 of Indian Evidence Act. Section 29 of Police Act, 1861 that were enacted to curb tendency of policemen to resort to torture to extract confessions etc.

## MORE ELECTRIC BUS ORDERS UNDER FASTER ADOPTION AND MANUFACTURING OF (HYBRID &) ELECTRIC VEHICLES-II (FAME-II)

1. Ministry of Heavy Industries (MHI) is pushing state governments to place more orders for electric buses (e-buses) to meet the target of 7,090 under FAME-II scheme. Currently, deployment of e-buses by states under the plan completed 31 percent (2,232) of target.

national parties for 2021-22 was ₹780.774 crore. The BJP received ₹614 crore as donations while the Congress got ₹95 crore.

75 percentage of India's total defence capital outlay to be spent for procurement from domestic defence manufacturers in 2023-24, according to Defence Minister Rajnath Singh. The move will mean setting aside around ₹1 lakh crore for procurement from domestic sources out of ₹1,62,600 crore announced in the Union Budget for 2023-24.

59 percentage of long COVID patients found to have organ damage a year after initial symptoms, even in those not severely affected when first diagnosed with the virus, according to a new study published in the Journal of the Royal Society of Medicine. It also found that 29% of these patients had multiorgan impairment.

The country's first indigenous aircraft carrier, INS Vikrant, which is undergoing aviation trials, will be fully operational by yearend, and all efforts are on to make it happen, the Chief of the Naval Staff, Admiral R. Hari Kumar, said on Wednesday. The indigenous light combat aircraft (LCA Navy) and the MiG-29K undertook maiden landings on the carrier earlier this month.

A record 75% or approximately ₹1 lakh crore of the defence capital procurement budget has been earmarked for domestic industry in the financial year 2023-24, up from 68% in the previous year, Defence Minister Rajnath Singh announced during the Bandhan ceremony at Aero India on Wednesday.

As India looks to purchase armed Predator Remotely Piloted Aircraft Systems (RPAS) from the U.S., Hindustan Aeronautics Ltd. (HAL) and General Atomics announced at Aero India on Wednesday that the turbo propeller engines that power the MQ-9B Guardian High Altitude Long Endurance (HALE) RPAS will be supported by the HAL engine division for the Indian market. The companies are looking to formulate a comprehensive engine maintenance, repair and overhaul (MRO) programme for the upcoming HALE RPAS projects, a joint statement said.

2. MHI has launched FAME scheme in 2015 under National Electric Mobility Mission Plan (NEMMP) to encourage electric and hybrid vehicle purchase by providing financial support. FAME Phase I, functional till 2019, had four focus areas i.e., technological development, demand generation, pilot project and charging infrastructure components.
3. FAME-II was launched in 2019 with an outlay of Rs 10,000 crore for three-year period but was extended till March 2024. Generate demand by way of supporting 7000 e-bus, 5 lakh e-3 wheelers, 55000 e-4 wheelers and 10 lakh e-2 wheelers.
4. Implemented through three components i.e., Demand Incentives, Establishment of network of Charging Stations, and Administration of Scheme including Publicity, IEC (Information, Education & Communication) activities. NEMMP 2020, unveiled in 2013, is a National Mission document providing the vision and roadmap for faster adoption of electric vehicles and their manufacturing in country.

### GLOBAL SUGAR PRICES SURGED TO NEAR 6-YEAR HIGH

1. Surge in global sugar prices is due to Fear of lower production in few countries including India. Likelihood of Indian government not allowing exports of more than six million tonnes (mt) for current season (October 2022- September 2023). Factors for lower sugar production: Excess rain affected sugarcane crops in Maharashtra and Karnataka. Brazil faces logistics issues in transporting cane crops.
2. Ruling in European Union against neonics-coated sugar beet seeds (neonics coating prevents insects from damaging crops) could result in lower yield. Drought in Chinese province of Guangxi.
3. Sugar is an important agro-based industry that impacts rural livelihood of 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar mills. India has emerged as world's largest producer and consumer of sugar as well as world's 2nd largest exporter of sugar in 2021- 2022.
4. Maharashtra is largest producer of sugar followed by Uttar Pradesh in 2021- 2022. Issues in sugar sector: High production cost due to low yield, Low sugar recuperation rate, Short crushing season etc.
5. **Initiatives taken to promote sugar sector**-Fair and Remunerative Price of sugarcane from 2009-10 onwards. Extended soft loans to sugar mills through banks to clear cane price dues. Cane Reservation Area (purchase of sugarcane by sugar mills from farmers within a specified radius).

### VINYL CHLORIDE

1. Crash of a train carrying toxic chemicals including Vinyl Chloride in Ohio, US has sparked health and environmental concerns. Vinyl chloride is a carcinogenic gas mostly used to make Polyvinyl Chloride (PVC).
2. It is associated with increased risk of liver cancer and oral cancers. Burning Vinyl Chloride releases phosgene and hydrogen chloride (HCl) into the air.
3. Phosgene is a highly toxic, colourless gas with a strong odour that can cause vomiting and breathing troubles. It was used as a chemical weapon in World War I. HCl is a gas with strong odour and causes skin, eye, nose, and throat irritation.



**“Choice is binary;  
Hard Work or Hard Luck”**

**DR. KHAN**  
(KSG)