

NEWS TODAY

Government Allocates Additional Rice from FCI Buffer Stock for Ethanol Production

Under the **Ethanol Blended Petrol (EBP)** programme an additional **2.8 million tonnes of rice** is to be provided at **subsidised rates**, aimed at **reducing excess stockpiles** of Food Corporation of India (FCI).

Significance

- **Energy security:** Being a **renewable sustainable fuel**, it will **reduce** dependence on **imported fossil fuels**.
- **Optimal utilization of excess buffer stocks:** FCI has projected **economic cost of rice** (including minimum support price (MSP), storage, transportation etc.) at Rs 4173/quintal for 2025-26.
 - ⊖ Currently, FCI holds **61 MT of rice** against a buffer of only **13.58 MT**.
- **Economic:** It promotes the "**Make in India**" initiative, contributing to **doubling farmers' incomes** and generating **employment**.

Challenges Regarding Ethanol Production from Food Staples

- **Food Security vs. Energy Security:** Use of **food staples** like sugarcane, corn and rice for **ethanol production** threatens **food and livestock feed security** due to threat of **over-diversion**.
 - ⊖ Rice, along with sugarcane and maize, forms the backbone of India's food and livestock feed systems, yet all three are being used as feedstocks for ethanol.
- **Inflation:** The **increased demand** of food crops for ethanol production **increases the prices for consumers** and may result in **reduced availability**.

About Ethanol

- Ethanol is a **primary biofuel**, **naturally** produced through the **fermentation of sugars** by yeasts or through **petrochemical processes** like ethylene hydration.
- **Uses:** **Biofuel** (blended ethanol), chemical **solvent** in industries, **medical use** as an antiseptic and disinfectant.

EBP Programme

- **Objective:** **Blending of ethanol in petrol** with multiple objectives including **reducing import dependence**, savings in **foreign exchange** etc.
- **Target:** **20% ethanol blending by 2025-2026**.
- **Progress of Ethanol Blending:** Increased from 1.53% in 2014 to 15% in 2024.

India assumed the role of a Country Champion at the World Bank Land Conference 2025

During the conference, global attention was drawn towards **India's flagship land management initiatives** like SVAMITVA Scheme and Gram Manchitra platform, as models of **inclusive, technology-driven rural governance**.

- With 68,000 sq. km surveyed and Rs.1.16 trillion worth of land monetized, **SVAMITVA stood out as a scalable model** for inclusive economic transformation at the global level.
 - ⊖ SVAMITVA aims at **establishment of clear ownership of property** in rural areas by mapping of land parcels using drone technology.
- **Gram Manchitra's** role in promoting climate resilience, infrastructure planning, and convergence of schemes drew appreciation for its applicability in global south context.
 - ⊖ Gram Manchitra is a **geospatial planning platform** that empowers Gram Panchayats to prepare data-driven, localized development plans.

Efficient Land Management Systems and Economic Growth

- **Jobs and Growth:** Streamlined access to property facilitate **entrepreneurship, expansion, wealth reinvestment and alternate livelihoods**.
- **Private Capital:** Registered property rights provide landowners with collateral access, **boosting private credit and investment opportunities**.
- **Infrastructure Funding:** Generate **stable government revenue for essential public services** and infrastructure.
 - ⊖ Land and property taxes generate just 0.6% of GDP in low-income countries, compared to 2.2% in industrialized nations.
- **Urban Management:** Help cities plan for **growth, protecting public spaces, identify development opportunities**, and manage disaster risks.
- **Food Security:** Improving women's access to land can increase agricultural outputs by 4%.



For the first time, a study estimates the scale of global river contamination from human antibiotic use

Study calculated that about 8,500 tons of antibiotics—nearly **one-third of what people consume annually**—end up in river systems each year and 11% reach the world's oceans or inland sinks.

Pathways for Antibiotic Pollution

- **Incomplete metabolism** in human body and incomplete removal in wastewater systems.
- **Extensive use** of antibiotics in **animal husbandry and aquaculture**.
- Losses during **pharmaceutical manufacturing**.
- **Climate Change** drives the proliferation of bacteria, making horizontal gene transfer possible and increasing chances of developing resistance.

Key Findings of the Study

- **10% of the global population** is exposed to the **top 1%** of surface waters with the **highest cumulative concentrations of antibiotics**.
- **Untreated domestic wastewaters** contribute the **greatest share of emissions** into rivers.
 - ⊖ Only **43%** of the load of antibiotics from domestic sources is **processed** in wastewater systems.
- **6 million km of rivers (25%)** exceed the threshold of **high risk from antibiotic pollution**.
 - ⊖ **India** has more than **80%** of its rivers in **high or very high risk categories**.
- **Main Antibiotics** contributing to antibiotic pollution are **amoxicillin, ceftriaxone and cefixime**.

Antibiotic Pollution

➤ Impact:

- ⊖ **Human Health:** Antibiotic pollution worsens **Antimicrobial Resistance (AMR)** which could become leading cause of global deaths by 2050 (WHO).
- ⊖ **Environment:** It may **reduce microbial diversity** and impact the health of **fish and algae**.

➤ Initiatives:




- ⊖ **India's National Action Plan on AMR (NAP-AMR) (2017):** Targets improvement in regulation, education, and surveillance.
- ⊖ **WHO Global Action Plan on Antimicrobial Resistance (2015).**
- ⊖ **WHO Guidance on Antibiotic Pollution from Manufacturing**

The Prime Minister (PM) Unveils Bold New Security Doctrine

Addressing the Nation after successful **Operation Sindoor**, PM outlined India's new security doctrine (refer to table), reflecting India's **zero tolerance policy towards terrorism**.

- The recent **Operation Sindoor**, resulted in the **neutralization of over 100 terrorists** including key commanders and strategists who have orchestrated violence against India for decades.

Three key pillars of India's security doctrine

Pillars	Details	Significance
 Decisive Retaliation	<ul style="list-style-type: none"> Any terrorist attack on India will be met with a strong and resolute response. India will retaliate on its own terms, directly targeting the roots of terror infrastructure. 	<ul style="list-style-type: none"> Strategic Shift: It formalizes military retaliation as part of India's anti-terrorism doctrine, signaling a stronger and more decisive response to terrorism.
 No Tolerance for Nuclear Blackmail	<ul style="list-style-type: none"> India will not be intimidated by nuclear threats. Any terrorist safe haven operating under this pretext will face precise and decisive strikes. 	<ul style="list-style-type: none"> It clearly states that nuclear threats won't deter India's right to self-defense, a sharp shift from past restraint, signaling readiness for decisive action despite strategic risks.
 No Distinction between Terror Sponsors and Terrorists	<ul style="list-style-type: none"> India will treat terrorist leaders and the governments that shelter them as one and the same. ➤ Earlier, India reiterated that any future terrorist attack will be considered an act of war, signaling a significant elevation in India's response framework 	<ul style="list-style-type: none"> Aims to dismantle the state-sponsored nature of terrorism that poses a significant threat to global peace and security.

US President signed Executive Order to implement access to Most-Favoured Nation (MFN) price for pharmaceutical products

President Trump signed an executive order, aiming to reduce **US prescription drug prices under most favoured nation (MFN) prescription drug pricing**, which can have potential repercussions for India's pharmaceutical sector. Presently, US pays about **three times more for the same drugs** compared to other high-income nations

About MFN

- MFN principle is a cornerstone of multilateral trading system, which seeks to implement rules-based framework where **trading rights do not depend on individual participants' economic or political clout**.
- It implies that the best access conditions that have been conceded to one country must **automatically be extended to all other participants** in the system.
- Under **Article 1 of General Agreement on Tariffs and Trade (GATT), 1994**, every member country of World Trade Organization (WTO) must accord MFN status to all other member countries.
 - ⊖ Under WTO agreements, countries following MFN status **cannot discriminate among their trading partners**.

Potential Impact on Indian Pharma sector

- **Export Concerns:** USA accounts for nearly one-third of India's pharmaceutical exports (approximately \$10 billion annually), the order could **disproportionately affect India's trade**.
- **Impact on Research:** Proposed price cuts would reduce the **profits of pharma companies, which in turn would reduce funds for research on new medicines**.
- **Increased Prices in Domestic Market:** Pharmaceutical companies may intensify efforts to offset reduced profits in the **U.S. by seeking higher prices in markets like India**.



Also in News



Total Fertility Rate

According to Sample Registration System (SRS) Report 2021 released by Registrar General of India, **Total Fertility Rate (TFR) remains constant at 2.0 in 2021**.

- TFR is the **average number of children a woman would have** at the end of their reproductive period.
 - ⊖ A TFR of 2.1 is known as the **Replacement Rate**, which if sustained over long period, each generation will exactly replace itself in the absence of migration.
- **Bihar** has reported the **highest TFR at 3.0**, while **Delhi and West Bengal** reported the **lowest TFR of 1.4**.



CERN Large Hadron Collider

Scientists report transmutation of **Lead into Gold** in CERN's Large Hadron Collider (LHC) albeit for only a fraction of second.

- CERN's LHC revealed creation of some 86 billion gold nuclei – all from **smashing together lead atoms** at 99.99% the speed of light.

About CERN's LHC

- It is the **world's largest and most powerful particle accelerator**.
- LHC consists of a **27-kilometre ring of superconducting magnets** with a number of **accelerating structures** to boost the energy of the particles along the way.
- Inside the accelerator, **two high-energy particle beams** travel at close to the **speed of light** before they are **made to collide**.



LICOMK++ Ocean Simulator

Chinese researchers have developed a high-resolution ocean simulation system, named LICOMK++, **that offers enhanced capabilities for modelling ocean dynamics and climate patterns**.

About LICOMK++

- LICOMK++ is being hailed as an **ocean "microscope"** owing to its **ultra-high-resolution capabilities**.
- The system enables scientists to **analyze complex processes such as eddies and heat transport with unprecedented clarity**.
- It can significantly **improve predictions for extreme weather events like typhoons, marine heatwaves, and floods**.



Germanium

India engages China over Germanium export curbs: Embassy.

About Germanium

- **Germanium** is a silvery-white semi metal (**Metalloid**); it has properties of both metals and non-metals.
- **Primary Ores:** Germanite and Argyrodite. **Germanium ores are rare** and most germanium is a by-product of zinc production and from coal fly ash.
- **Other Properties:** **Brittle**; Transparent to infrared radiation; High index of refraction.
- **Production:** China accounted for **68% of global germanium production in 2023**, making it the world's dominant supplier.
 - ⊖ India is 100% dependent on **germanium** import.
- **Applications:** Semiconductors, Fiber Optics, Infrared Optics, solar cells etc.



Basket sneaking and Confirm Shaming

The Central Consumer Protection Authority (CCPA) **has served notices to various online platforms over using dark patterns like Basket sneaking & Confirm Shaming.**

- » Dark patterns are deceptive design techniques that manipulate user interfaces to trick people into making **unintended choices, undermining their autonomy & violating consumer rights.**

Basket Sneaking

- » Sneaking unwanted items/donations into **shopping carts during checkout without user consent to increase the final payment amount.**

Confirm Shaming

- » It means using fear, shame, guilt, **or ridicule to pressure users into making purchases or continuing subscriptions.**
- » **Example:** "No thanks, I don't care about saving money" as a button to decline an offer.



PL-15 and Byker YIHA III

The **Indian Armed Forces** intercepted and neutralised a range of **high-tech foreign weapons of Pakistan** including **PL-15 missiles & Byker YIHA III Kamikaze drones.**

About PL-15

- » It is a **Chinese-origin air-to-air missile** employing **active radar guidance, satellite and inertial navigation systems.**

About Byker YIHA III

- » **Turkish Kamikaze-style (single-use missions) loitering drones,** capable of carrying **high-explosive warheads.**



Kosmos 482

The **Kosmos 482 lander probe** re-entered Earth's atmosphere and splashed into the Indian Ocean.

About Kosmos 482

It was part of **Soviet Union's Venera Program**, which sent a fleet of probes to Venus.

Venus is the second planet from the Sun, and is the hottest planet in our solar system.

It was **launched in 1972** but could not leave the Earth's orbit.

It consisted of a **carrier bus and lander probe.**



National Defence Fund (NDF)

The Telangana Chief Minister, along with several others, has donated to the NDF as a gesture of solidarity with the armed forces.

National Defence Fund (NDF)

- » **Established in 1962.**
- » **Objective:** To take charge of voluntary donations in cash and kind received **for promotion of the national defence effort, and to decide on their utilisation.**
- » **Utilization:** For the welfare of the **members of the Armed Forces (including Para Military Forces) and their dependents.**
- » **Administered by:** An **Executive Committee**, with **PM as Chairperson**, and Defence, Finance and Home Ministers as Members.
 - ⊕ **Finance Minister** is the **Treasurer** of the Fund.
- » **Tax Benefits:** All contributions towards NDF **are exempt from Income Tax under section 80(G).**

Places in News



Maldives (Capital: Male)

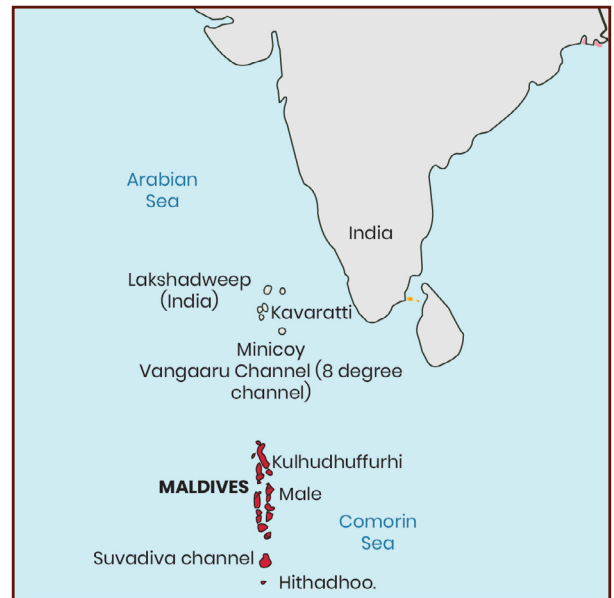
India extends financial support to Maldives through rollover of \$50 million Treasury Bill (T-bills) for a year.

Political Features

- » It is an **island nation** consisting of a group of **Atolls** (consisting of **coral islands**) in the **Indian Ocean.**
- » It is the **smallest Asian country, strategically located** astride and along major sea lanes in the Indian Ocean.
- » Located to the **south-southwest of India**, it is separated from **India (Lakshadweep)** by the **Eight Degree Channel.**

Geographical Features

- » **Climate:** Tropical hot and humid; dry, northeast monsoon (November to March); rainy, southwest monsoon (June to August)
- » **Coral Reefs:** Maldives has the **world's 7th largest coral reef system**, making up about **3.14% of global reef area.**
- » There are **no rivers or streams** in the Maldives.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR