

NEWS TODAY

Indian Army (IA) establishes specialized technology unit 'STEAG' for Future Warfare

- **STEAG (Signals Technology Evaluation and Adaptation Group)** is first of its kind unit to undertake research and evaluation in futuristic communication technologies such as AI, electronic warfare systems, 6G networks, etc.
- **About STEAG**
 - ⊕ It is part of the IA's "On Path to Transformation" initiative and is in line with making **2024 as the year of technology absorption for the IA.**
 - ⊕ **Objective:** To identify and implement most suitable technologies to enhance IA's communication infrastructure and nurture technologies across **wired and wireless systems.**
- **Significance of STEAG**
 - ⊕ Provide **user interface support by maintenance and upgradation of contemporary technologies** available in the environment.
 - ⊕ Help **bridge** the gap between **Armed Forces, industry and academia.**
 - ⊕ Help make India **self-reliant in the field of high-end communication technologies** and overcome issues with monopoly of select few countries.
- **Need of STEAG: Changing Nature of Warfare**
 - ⊕ **Precision and automation:** Drones, laser weapons, etc., used for targeted strikes.
 - ⊕ **Advanced Intelligence gathering:** Networks of sensors, satellites, and AI-powered data tools for real-time battlefield awareness and identification of potential threats.
 - ⊕ **'Grey-zone' tactics:** Unclear space between direct conflict and peace with its scope enhanced by technological advancements such as Network-centric warfare.

Other Initiatives to improve Future readiness of IA

- **Defense Cyber Agency (DCA):** Tri-service organization dealing with cyber issues.
- **Command Cyber Operations Support Wings (CCOSWs):** To protect the communication and cyber missions for grey-zone and conventional military operations.
- **Secure Army Mobile Bharat Version (SAMBHAV) handsets:** End-to-End secure mobile ecosystem.

Plastic Waste Management (Amendment) Rules, 2024 notified

- **Union Ministry of Environment, Forest and Climate Change** has notified the rules under the **Environment (Protection) Act, 1986** to amend **Plastic Waste Management (PWM) Rules, 2016.**
- **Key highlights of the amended Rules**
 - ⊕ **Inserts new Rule for responsibility of Panchayats at District level:** To undertake assessment of plastic waste generated and plastic waste management infrastructure available at District level.
 - ◆ **PWM Rules, 2016 had provisions for responsibility of Gram Panchayat** related to waste segregation, collection, storage, etc.
 - ⊕ **Responsibility of Producers, Importers and Brand Owners:** Who introduces any plastic packaging in the market shall be responsible for collection of such plastic packaging.
 - ◆ **Fulfillment of Extended Producer Responsibility (EPR)** is deemed to be a part of the above responsibility.
 - ◆ **EPR** means the responsibility of a producer for environmentally sound management of product until the end of its life.
 - ⊕ **Reports:** Mandates **every manufacturer and importer of plastic raw material** to submit **quarterly and annual reports** online to **State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).**
 - ◆ Also mandates **every urban local body and Panchayat at District Level** to submit **annual reports to Urban/ Rural Development Departments** and **SPCB/ PCC**, which shall be **audited by SPCB/ PCC or other designated agency.**

Other initiatives to address Plastic Pollution

- **Ban on Single-use Plastics** from July 01, 2022.
- **Swachh Bharat Mission:** Made efforts towards source segregation, collection, transportation, and processing of plastic waste.
- **Waste to Wealth Mission:** To promote circular economy in plastic and other urban waste management.

Supreme Court directed all States and UTs to provide ration cards to migrant labourers registered on e-Shram portal within two months

- **e-Shram portal** of Ministry of Labour and Employment aims at creating a **National Database of Unorganized Workers** for providing welfare benefits.
 - ⊕ Out of around 29 crore registrants, around **8 crore do not have ration cards** and do not receive subsidized foodgrains under **National Food Security Act (NFSA) 2013**.
- For ensuring **food security** under NFSA for migrants, Ministry of **Consumer Affairs, Food and Public Distribution** is implementing **One Nation One Ration Card (ONORC) plan**.
 - ⊕ It allows both the **migrant beneficiary** (in destination state/UT) and his/her **family** (in origin state) to **claim their part of entitled ration**.
- SC also directed that Ration cards must be issued **irrespective of the quotas defined in section 3 of NFSA 2013**.
 - ⊕ Section 3 contain provisions for **eligible households** who has the **right to receive subsidized foodgrains**.
 - ⊕ It entitles **Priority Households** to receive 5 kgs of subsidized foodgrains per person per month and **Antyodaya Anna Yojana (AAY) households** to receive 35 kgs of subsidized foodgrains per household per month.
 - ⊕ Presently, government is providing these **foodgrains free of cost** to AAY and Priority Households under **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**.

National Food Security Act (NFSA) 2013

- NFSA marks a **paradigm shift** in approach to food security **from welfare to rights-based approach**.
- It is implemented by **Ministry of Consumer Affairs, Food and Public Distribution**.
- It **legally entitles upto 75% of rural and 50% of urban population** (covering around 80 crore persons) to receive subsidized foodgrains.

Draft Karnataka Gig Workers (Conditions of Service and Welfare) Bill, 2024

- State Government of Karnataka shared the draft bill with stakeholders, which aims to ensure **income security, occupational safety, and establish grievance redress mechanism for welfare of gig workers**.
 - ⊕ Currently, **Rajasthan** is the only state to have legislation for welfare of gig workers.
- **Gig workers:** Means a person who performs work or participates in a work arrangement and earns from such activities outside of traditional employer-employee relationship. (**Code on Social Security, 2020**)
 - ⊕ **Broadly classified into 2 categories:**
 - ◆ **Platform based:** Whose work is based on online software apps or digital platforms.
 - ◆ **Non-platform based:** Casual wage workers in conventional sectors, working part-time or full-time.
- **Status of Gig economy in India (NITI Aayog)**
 - ⊕ **~2.6% (7.7 million) of non-agricultural workforce** were engaged in Gig economy. (2020-21)
 - ⊕ Gig workforce is expected to expand to **23.5 million by 2029-30**.
- **Reasons for growth of Gig economy**
 - ⊕ **Flexibility to workers:** In terms of switching jobs, freedom to choose work hours, etc.
 - ⊕ **Flexibility to employers:** Scalable workforce, access to specialized skills, reduced operating costs, etc.
 - ⊕ **Technology:** Increased penetration of internet, surge in e-Commerce resulting in increased demand for delivery and logistics services, etc.
- **Concerns:** Low wages, poor upward mobility within organization, lack of social security, etc.

Statutory Framework for Gig Economy in India

- **Code on Social Security, 2020:** Provides for extension of social security benefits to gig workers as well.
- **Occupational Safety, Health and Working Conditions Code, 2020:** To promote safe and healthy work environment and it also regulates contract labour.

Ministry of New and Renewable Energy unveils guidelines for various sub-components of National Green Hydrogen Mission (NGHM)

- **Green Hydrogen** is the hydrogen produced by splitting water into hydrogen and oxygen (electrolysis) using renewable energy.
- **About NGHM**
 - ⊕ **Period:** FY 2023-24 to FY 2029-30.
 - ⊕ **Objective:** To make India a Global Hub for producing, utilizing, and exporting Green Hydrogen and its derivatives.
 - ⊕ **Mission Sub Components:** Strategic Interventions for Green Hydrogen Transition (SIGHT) Program, Green Hydrogen Hubs, R&D programme, Skill Development and others.
- **Guidelines for different sub-components of NGHM:**
 - ⊕ **Green Hydrogen Hubs:** Aims to set up at least two hubs by FY2025-26, with support for development of core infrastructure at hubs.
 - ◆ Hydrogen hub is an identified geographical region with **network of hydrogen producers, end use** with sufficient infrastructure for storage, processing and transportation.
 - ⊕ **Skilling, up-skilling and re-skilling:** Through Short Term Training (STT), Recognition of Prior Learning (RPL), and creating Centres of Excellence.
 - ⊕ **SIGHT Program - Component I: Incentive Scheme for Electrolyser Manufacturing:** To provide support for electrolyser manufacturing.
 - ◆ Implementation by MNRE through **Solar Energy Corporation of India.**
 - ◆ **SIGHT component II** deals with incentives on production of green hydrogen.
 - ⊕ **R&D Scheme:** R&D support for **hydrogen production, storage, compression, transportation, utilization** etc. till FY2025-26.

GAIL (India) Limited sets up India's first Small Scale Liquefied Natural Gas (SSLNG) unit at Vijaipur, Madhya Pradesh

- GAIL was incorporated in 1984 as a **Central PSU** under the **Ministry of Petroleum & Natural Gas (MoP&NG)** for accelerating and optimizing the effective and economic use of Natural Gas.
- **SSLNG** generally refers to supplying gas in its **liquid or super-chilled form** – LNG – to industrial and commercial consumers through **specialised trucks and small vessels** in regions not having pipeline connectivity.
 - ⊕ Traditionally, **LNG is regasified** and supplied through gas pipelines.
 - ⊕ **Major use cases** for SSLNG include marine fuel, power generation in off-grid locations, transport fuel etc.
- **LNG** typically comprises of **around 90% methane** along with ethane, propane, butane and trace amounts of nitrogen.
 - ⊕ **Faster adoption of LNG** across sectors is one of the requirements for **fulfilling India's vision of a Gas-based Economy (GBE).**
 - ⊕ India aims to increase natural gas share in primary energy mix to **15% by 2030** from **present 6%.**
- **Significance of promoting natural gas:**
 - ⊕ **Lower carbon emissions and less pollution** compared to **other conventional hydrocarbons.**
 - ⊕ **Cheaper alternative** for clean energy.
 - ⊕ **Key transition fuel** for transportation, cooking, industrial uses etc.
- **Initiatives for promoting GBE:**
 - ⊕ **National Natural Gas Grid**
 - ⊕ **Revised Guidelines for City Gas Distribution (CGD) Network 2022**
 - ⊕ **New Domestic Natural Gas Pricing Guidelines 2014**
 - ⊕ **Draft LNG Policy 2021**
 - ⊕ **National Coal Gasification Mission**

Also in News



World Happiness Report (WHR) 2024

- WHR 2024 released by **UN Sustainable Development Solutions Network (UNSDSN).**
- **About WHR**
 - ⊕ Evaluates levels of happiness by **6 key variables: Healthy life expectancy, GDP per capita, Social support, Low corruption, Generosity, and Freedom.**
 - ⊕ Scores are **based on individuals' own assessments** of their lives.
 - ⊕ **Key highlights of WHR 2024**
 - ◆ India has been ranked 126 out of 143 countries.
 - ◆ Top 3 countries are **Finland, Denmark, and Iceland,** respectively.
 - ◆ **Large gap** of 6 points (on a scale of 10) **between top (Finland) and bottom (Afghanistan) countries.**



Infrastructure Investment Trust (InvIT)

- National Highways Infra Trust (NHIT) completed **largest InvIT monetization** for National Highway stretches.
 - ⊕ NHIT is an InvIT by National Highways Authority of India (NHAI)
- **About InvIT**
 - ⊕ It is a **Collective Investment Scheme** similar to a mutual fund.
 - ⊕ Enables **direct investment from individual and institutional investors** in **infrastructure projects** to earn a small portion of income as return.
 - ⊕ Regulated by **SEBI (Infrastructure Investment Trusts) Regulations, 2014.**
 - ⊕ Has a specific structure formed by **four important components— trustee, sponsor, investment manager, and project manager.**



Negative Interest Rates (NIR)

- Bank of Japan ends negative interest rates, which was introduced in Japan in 2016.
- About NIR**
 - It is an **unconventional monetary policy tool** where central banks set **target interest rates less than zero percent**.
 - Aims to **address deflationary pressure and recession in the economy** by incentivizing consumers and businesses to spend or invest money, rather than leave it in their bank accounts.
- Other unconventional monetary policy instruments:** Extended lending or Term-Funding Operations, Asset Purchase Programmes, etc.



Peatlands

- A new study finds that **drainage canals for peatlands are a major source of carbon emissions**.
- About Peatlands**
 - Peatlands are **terrestrial wetland ecosystems with waterlogged conditions** which slow down the decay process which prevents plant material from fully decomposing.
 - Generally, found in **permafrost regions** towards poles and at high altitudes, in **coastal areas**, beneath **tropical rainforest** and in **boreal forests**.
 - These are some of the **largest stores of carbon in the world**.



Seaweed

- Indonesia is pioneering large-scale cultivation projects in East Lombok, with support and collaboration from India.
- About Seaweed:**
 - It is a common name for **species of marine plants and algae** that grow in the ocean as well as in rivers, lakes, and other water bodies.
 - Most are **medium-sized** and come in colours of **red, green, brown, and black**.
 - Properties:** Low in calories due to its high content of fibre and water, but rich in minerals absorbed from seawater, and not a major source of protein.
 - Potential Benefits:** Weight control, prebiotic food source for beneficial gut bacteria, antioxidant, etc.



Inter-State Coordination for wildlife conservation

- The forest departments of **Kerala, Karnataka, and Tamil Nadu** forged an interstate agreement to **safeguard forest communities** as well as **animals under Schedule I** of Wildlife Protection Act involved in **conflict**, and **conserve ecosystems**.
- It specifies action plan for conservation and mitigating conflict situations, foster collaboration in intelligence sharing, exchange resources etc.
- It resolved to conduct **synchronised population estimation** in protected areas.
- An **advisory board of wildlife conservation experts** will be constituted to provide insights to **enhance conflict mitigation strategies**.
- It also called for **Standard Operating Procedure (SOP)** for managing human-animal conflict.



Asbestos

- USA's Environmental Protection Agency** banned all forms of deadly carcinogen asbestos.
- Asbestos** is a group of naturally occurring fibrous minerals having extraordinary tensile strength, poor heat conduction and resistance to chemical.
 - Main forms of asbestos** are chrysotile (white asbestos) and crocidolite (blue asbestos).
 - Applications:** Building materials, insulation, automobile parts etc.
 - Health impact:** All types of asbestos are carcinogenic, causing **lung cancer, mesothelioma, cancer of larynx and ovary, and asbestosis** (fibrosis of the lungs).
 - India has not banned** use of any type of asbestos.



Red Mud

- Researchers from IIT Madras** developed a method for treating **bauxite residue** (known as Red Mud) using phosphoric acid to **extract valuable materials from it**.
- Some such materials such as **ceramic** have **dielectric and optical properties**, with potential applications in electronic components and energy storage.
- Red Mud is a **byproduct of aluminium production**.
 - It contains **toxic heavy metals** such as arsenic, lead, cadmium, chromium, vanadium and mercury.
 - Its high alkalinity makes it **extremely corrosive and damaging to soil and life forms**.

Places in News



Bulgaria (Capital: Sofia)

- Recently, the Indian navy rescued hijacked Bulgarian ship "Ruen" and its crew.
- Political features:**
 - Located in **Balkan Peninsula** of Southeastern Europe and a **member of European Union**.
 - Bordering Countries:** Turkey and Greece (South), North Macedonia and Serbia (West), Romania (North).
 - Surrounding water body:** Black Sea.
- Geographical features:**
 - Major Rivers:** Danube, Maritsa, Struma, Iskar
 - Mountain Ranges:** Balkan Mountains, Rila, Pirin, Rhodopes
 - Highest Point:** Mount Musala.

