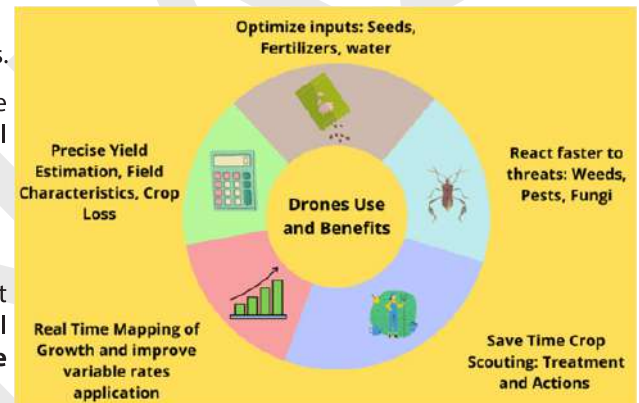


NEWS TODAY

MINISTRY OF AGRICULTURE AND FARMERS WELFARE ISSUED GUIDELINES TO PROMOTE DRONE USE IN AGRICULTURE

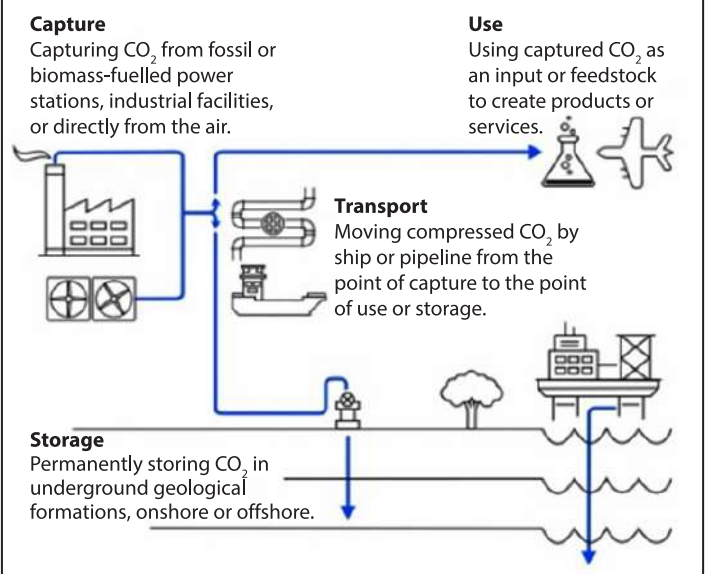
- **Guidelines of Sub-Mission on Agricultural Mechanization (SMAM) have been amended** to promote large scale demonstrations drones and to promote precision farming in India.
 - SMAM was launched with the **objectives of increasing the reach of farm mechanization to small and marginal farmers** and to the regions & difficult area where farm power availability is low.
- **Key guidelines include**
 - **Grant up to Rs. 10 lakhs to agricultural institutes** for purchase of drones.
 - **Financial assistance to Custom Hiring Centers** set up by Cooperative Society of Farmers, Farmers Produce Organisations (FPOs) and Rural entrepreneurs **for purchase of drones.**
- **Drones Use in Agriculture**
 - **Routine activities** such as pesticide spraying, crop monitoring etc.
 - Advanced activities such as soil and field analysis, individual plant growth/health etc. by linking it with smart machines through artificial intelligence (AI), machine learning (ML) for different uses and benefits (see image)
- Earlier, **Standard Operating Procedures (SOPs) for use of Drone application with pesticides** for crop protection in agricultural, forestry, non-cropped areas, etc. were also released.



INDO-US SCOPING WORKSHOP ON CARBON CAPTURE, UTILISATION & STORAGE (CCUS) HELD

- Workshop, jointly organized by **Department of Science & Technology** and **U.S. Department of Energy**, discussed challenges and opportunities to combat climate change through CCUS.
- CCUS is a **set of technologies** designed to capture CO₂ emissions. It involves
 - **Capture** of CO₂ from fuel combustion or industrial processes,
 - CO₂ is captured using technologies like Chemical absorption, Physical separation, Oxy-fuel separation, Calcium looping etc.
 - **Transport** of this CO₂ via ship or pipeline,
 - Captured CO₂ can be either re-used in various products, such as cement or plastics (utilisation), or stored in geological formations deep underground (storage).
- **Benefits:** reducing the overall carbon emissions, improving efficiency of coal and gas fired plants to generate reliable and affordable power etc.
- **Issues:** possible leaks and the related damage from underground storage sites, high capture costs, a lot of energy is needed to convert CO₂ into useful products leading to more emissions etc.
- **India is part of following CCUS initiatives**
 - **Mission Innovation:** A global initiative to make clean energy affordable, attractive and accessible for all.
 - **Accelerating CCUS Technologies (ACT):** An international initiative to establish CCUS as a tool to combat global warming.

CARBON CAPTURE, UTILISATION & STORAGE (CCUS) PROCESS



SOLAR FLARE CAUSES RADIO BLACKOUT OVER INDIAN OCEAN

- Recently, sun emitted a large solar flare that was **observed by NASA's Solar Dynamics Observatory (SDO)**.

➤ SDO **studies how Sun creates solar activity** and drives space weather.

- Solar flares** are a sudden explosion of energy **caused by reorganizing of magnetic field lines near sunspots**.

➤ **Solar magnetic cycle** that works in deep interior of **Sun creates regions that rise to surface and appear like dark spots. These are sunspots**.

➤ They appear dark because they are **cooler than other parts of Sun's surface**.

- In a solar flare, **energy stored in sun's magnetic structures is converted into light and heat energy**. This causes emission of high energy x-ray radiation and highly accelerated charged particles to leave the sun's surface.

- Sometimes solar flares **also cause hot plasma to be ejected from Sun**, causing a solar storm, and this is **called Coronal Mass Ejection (CME)**.

- Energy, radiation and high energy particles emitted by solar flares can trigger intense lights in the sky, called **Auroras (for other possible effects refer image)**.

Solar flare classification	Possible effects on Earth
B	none
C	Possible effects on space missions.
M	Blackout in radio transmissions and possible damages in astronauts outside spacecraft.
X	Damage to satellites, communication systems, power distribution stations and electronic equipment

NGT ASKS GOVERNMENT TO FORM BODY TO MONITOR USE OF FLY ASH

- It is being reported that National Green Tribunal (NGT) has **directed the Centre to set up a fly ash management and utilisation mission** for monitoring scientific management and utilisation of fly ash.

➤ Presently, there is **an estimated 1,670 million tonnes of legacy (accumulated) fly ash**.

- About Fly Ash**

➤ **Fly ash is a fine powder, which is the by-product of burning coal** in thermal Power Plants (TPPs).

➤ **Composition:** substantial amounts of oxides of silica, aluminium and calcium. Arsenic, Boron, Chromium, lead etc. in trace concentrations.

➤ **Indian coal is of low grade with ash content of 30-45 %**, in comparison to imported coal (10-15%).

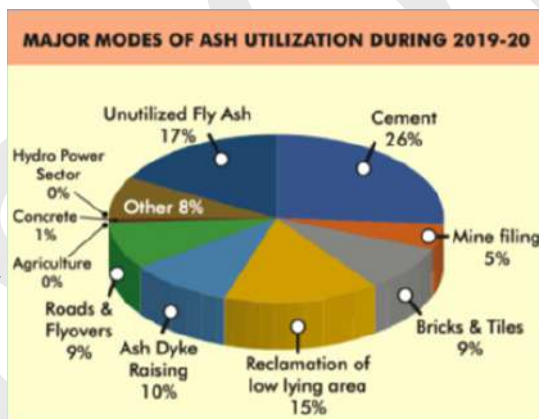
➤ Fly ash can be used in **Agriculture** (improves water holding capacity and soil aeration), **Construction work** (manufacturing of Portland cement, bricks, tiles etc.), **Manufacturing of Absorbents** (for purification of waste gases, drinking water etc.)

- Government Measures to promote Fly Ash Utilization**

➤ **Mandatory for coal and lignite based TPPs to ensure 100% utilisation of fly ash** within three to five years.

➤ Mobile app for ash management-**ASH TRACK**.

➤ **Mandatory use of fly ash-based products** in all Government schemes e.g. Pradhan Mantri Gramin Sadak Yojana.



FIREFIGHTING SYSTEM FAILED, SAFETY AUDIT IGNORED: OFFICIALS

- Another fire incident in a High-rise building in Mumbai has brought the focus **back on India's Building Fires and their Safety architecture**.

- Urban Fire Vulnerabilities in India**

➤ **Urban Fire**, i.e. the fire which primarily occurs in cities or towns, is a **major risk to people's life, property and public security**.

➤ **9,329 incidents** of fire accidents happened in **2020 with death of 9,110 people** (National Crime Record Bureau Data). Out of them, 57.6% deaths were reported from residential buildings.

➤ **Causes:** Natural (e.g. lightning, earthquakes) or due to human problems/errors (unplanned urbanisation, fire accidents).

- Fire Safety Architecture in India**

➤ Fire Services is a **State Subject and has been included as Municipal function** under **Twelfth Schedule (Article 243W)**.

➤ In 2003, Ministry of Urban Development released **Model Building Bye Laws to lay focus on building safety and guide state governments**. This includes:

➤ Appointment of Chief Fire Officer to scrutinise and approve/reject building plans on Fire Safety.

➤ Bureau of Indian Standards released **National Building Code of India (3rd edition in 2016)** with its Part-IV dealing with detailed provisions on fire prevention, life safety and fire protection.

NATION PAYS HOMAGE TO NETAJI SUBHAS CHANDRA BOSE ON HIS 125th BIRTH ANNIVERSARY

- On the occasion, his holographic statue was unveiled at India Gate. It will later be replaced by granite statue.

Political Career	<ul style="list-style-type: none"> Served as Chief Executive Officer of Calcutta Municipal Corporation. Was elected President of Haripura session of Indian National Congress (INC) in 1938. In the 1939 Tripuri Congress session, he was re-elected but withdrew in disagreement with Gandhi. Formed All India Forward Bloc (1939).
Exile from India and Military activities during World War II	<ul style="list-style-type: none"> In 1942 he escaped from India and proceeded first to Germany and thence to Japan. After reaching Germany, he started 'Azad Hind Radio' and established 'Free India Centre' (a precursor of the Azad Hind Government). He arrived in Singapore in July 1943 and took charge of the Indian National Army (INA). In Singapore, he formed an Indian government-in-exile 'Azad Hind Government'.
Literary contribution	<ul style="list-style-type: none"> Edited newspaper 'Forward', published his own newspaper 'Swaraj', and authored a book titled 'The Indian Struggle'.
Other Achievements	<ul style="list-style-type: none"> He cleared Indian Civil Service examination in 1920. However, he resigned in April 1921. Along with Chittaranjan Das, Jawaharlal Nehru, he served as President of All India Trade Union Congress (AITUC).

Related News







Subhash Chandra Bose Aapda Prabandhan Puraskar

- Award is to honour** invaluable contribution and selfless service rendered by **individuals and organizations in India in the field of disaster management**.
- It is **announced every year on 23rd January**, birth anniversary of Netaji Subhash Chandra Bose (Celebrated as Parakram Diwas).
 - The award carries a cash prize of **Rs. 51 lakh and a certificate in case of an institution** and **Rs. 5 lakh and a certificate in case of an individual**.
 - There will be **up to three awards** (every year).
- For 2022, **Gujarat Institute of Disaster Management and Professor Vinod Sharma** have been selected.



ALSO IN NEWS

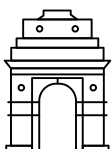
<p>International Conference on Sustainability Science (ICSS)</p>	<ul style="list-style-type: none"> 8th ICSS was held recently. It will facilitate creative discussions between academics, policy-makers and practitioners on how biodiversity-based solutions can contribute to sustainable development. Outcomes of the conference are expected to feed into the current international discourse of the post-2020 agenda on biodiversity. <ul style="list-style-type: none"> This framework will define targets and pathways for conservation and management of biodiversity for the next decade and beyond. ICSS conference is co-organized by various institutes/organizations including Convention on Biological Diversity Secretariat, Institute of Future Initiatives, Tokyo university, Future Earth etc.
<p>Taliban, Afghan civil society members begin Oslo talks</p>	<ul style="list-style-type: none"> Discussions, which are being facilitated by Norway, are to focus on human rights and the humanitarian crisis in Afghanistan. Humanitarian situation has deteriorated drastically since August 2021, when Taliban stormed back to power 20 years after being toppled.
<p>India's First District Good Governance Index (DGGI) released</p>	<ul style="list-style-type: none"> Department of Administrative Reforms and Public Grievances (DARPG) in partnership with J&K administration launched DGGI for 20 districts of Jammu and Kashmir (J&K). <ul style="list-style-type: none"> Jammu district topped the list followed by Doda, Samba, Pulwama and Srinagar. DGGI has helped identify the impact of various governance interventions at district level and provide a futuristic roadmap for improving district level governance with targeted interventions. It provides a roadmap for similar benchmarking of Governance at District level for all States and UTs.

 <p>Prime Minister WiFi Access Network Interface (PM-WANI)</p>	<ul style="list-style-type: none"> Recently, Department of Telecommunication (DoT) Secretary stated that public Wi-Fi hotspots may create 2-3 crore job opportunities. PM-WANI aims to elevate wireless internet connectivity in the country by envisaging provision of Broadband through Public Wi-Fi Hotspot providers. PM-WANI eco-system will be operated by different players including Public Data Office (PDO), Public Data Office Aggregator (PDOA), app providers etc. <ul style="list-style-type: none"> Wi-Fi is provided through PDOs. PDO aggregators will look after the authorisation and accounting of PDOs.
 <p>Community transmission stage</p>	<ul style="list-style-type: none"> Indian SARS-CoV-2 Genomics Consortium (INSACOG) recently stated that Omicron is now in community transmission in India. <ul style="list-style-type: none"> INSACOG is a consortium of laboratories to monitor genomic variations in SARS-CoV-2. It refers to an infected patient without any known contact with another confirmed case of viral infection or recent travel history to or from a country badly affected by a pandemic. According to WHO, community transmission is evidenced by <ul style="list-style-type: none"> Inability to relate confirmed cases through chains of transmission for a large number of cases, or Increasing positive tests through sentinel samples (routine testing from established laboratories).
 <p>Transiting Exoplanet Survey Satellite (TESS)</p>	<ul style="list-style-type: none"> TESS mission has spotted three planets that are orbiting dangerously close to their stars. TESS is a Massachusetts Institute of Technology (MIT) led NASA mission designed to discover thousands of exoplanets around nearby bright stars. <ul style="list-style-type: none"> An exoplanet is any planet beyond our solar system. Most orbit other stars, but free-floating exoplanets, called rogue planets, orbit the galactic center and are untethered to any star. Prime mission (a two-year survey of the solar neighborhood) ended in July 2020 and TESS is now in an extended mission.
 <p>1922 Gujarat Tribals Massacre</p>	<ul style="list-style-type: none"> Gujarat's Republic-Day tableau will depict 1922 British massacre of Bhil tribals. It occurred in Pal-Chitariya and Dadhvaav villages of Sabarkantha district. It was British Major H. G. Saturn who ordered firing on tribals who gathered under leadership of Motilal Tejawat to protest against land revenue tax imposed by British and feudal lords. Born in Koliyari, Udaipur (Rajasthan), Motilal Tejawat (regarded as Gandhi of Koliyari) was inspired by the Bijolia movement. <ul style="list-style-type: none"> With tribals, he launched Eki (Unity) movement to oppose all types of exploitation of Bhils by States and Jagirdars.
 <p>Places in News</p>	<p>Peru (Capital Lima)</p> <ul style="list-style-type: none"> Peru government has declared a 90 day environmental emergency in the coastal area of Lima due to the recent oil spill. Political boundaries: 3rd largest South American country and shares its land borders with Ecuador, Colombia, Brazil, Bolivia and Chile. <ul style="list-style-type: none"> It is also home to the Historic Sanctuary of Machu Picchu, centre of Inca Civilization (last great Andean Civilization) and a World Heritage Site. Geographical features: It is located just South of the Equator and Mount Huascaran is its highest peak in Cordillera Blanca (part of Andes Ranges). 

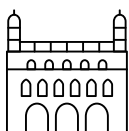
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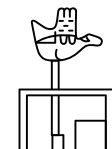
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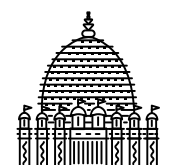
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