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News Analysis (23 Sep, 2020)

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Essential Commodities (Amendment) Bill, 2020

Why in News

Recently, the Parliament passed the **Essential Commodities (Amendment) Bill, 2020**. The Bill replaces an **Ordinance promulgated in June 2020** and amends the **Essential Commodities Act (ECA), 1955**.

Key Points

- **Features of the Bill:**

- **Removes commodities** like cereals, pulses, oilseeds, edible oils, onion and potatoes from the list of **essential commodities**.
- Aims to **remove fears of private investors** of excessive regulatory interference in their business operations.
- **Ensures that interests of consumers** are safeguarded by regulating agricultural foodstuff in situations such as **war, famine, extraordinary price rise and natural calamity**.

However, the installed capacity of a value chain participant and the export demand of an exporter will remain exempted from such regulation so as to ensure that investments in agriculture are not discouraged.

- **Background:**

- The ECA 1955 was **used to curb inflation** by allowing the Centre to enable control by state governments of trade in a wide variety of commodities.
- The states **imposed stock limits** to restrict the movement of any commodity deemed **essential**. It helped to **discourage hoarding** of items, including food commodities, such as pulses, edible oils and vegetables.
- However, the **Economic Survey 2019-20** highlighted that government intervention under the ECA 1955 often **distorted agricultural trade** while being totally **ineffective in curbing inflation**.
 - Such intervention does enable opportunities for **rent-seeking** and **harassment**.
 - **Rent-seeking** is a term used by economists to describe unproductive income, including from corruption.
- Traders tend to **buy far less** than their usual capacity and **farmers often suffer huge losses** during surplus harvests of perishables, since large stocks held by traders can be outlawed under the ECA 1955 anytime.
- This led to **farmers being unable to get better prices** due to **lack of investment in cold storage, warehouses, processing and export**.
- Also with the **Food Corporation of India (FCI)** controlling stocks before, there were less investment and buyers.

- **Benefit:**

- The freedom to produce, hold, move, distribute and supply will lead to **harnessing economies of scale** and **attract private sector/foreign direct investment** into the agriculture sector.
- **Investment in cold storages** and **modernization of the food supply chain** will increase.
- It will create a **competitive market environment** and also **prevent wastage of agri-produce** that happens due to lack of storage facilities.
- It will help both farmers and consumers while bringing in **price stability**.

- **Issues Involved:**

- It will be a highly centralized law and will **infringe upon the States' powers**, as they will not be able to regulate let say the menace of hoarding, black marketing etc.
- The stock limit relaxations under the ECA may lead to **black marketing** and **hoarding** rather than benefiting the producers. This will lead to **increase in inflation** and **monopoly of few individuals** over prices of certain goods.

Way Forward

The ECA 1955 was brought when India was not self sufficient in food grains production. But now India has become surplus in most agri-commodities, and the amendments in the ECA 1955 is an important step by the government to achieve its target of **doubling farmers' income** and also for **ease of doing business**.

Source: IE

Report on 2020-21 Kharif Marketing Season: CACP

Why in News

The **Commission for Agricultural Costs and Prices** (CACP) has released the latest report for the 2020-21 kharif marketing season.

Key Points

- **Present Scenario:**
 - **Overflowing Stocks of Foodgrains:** The central pool had 73.85 million tonnes of food grains on 2nd April, 2020. This is not only the highest-ever stock available but also over 300% of the strategic and operation reserve norm of 21.04 million tonnes. This year's kharif crop production is also estimated to be record-high.
 - **Failure of Open Market Sale Scheme (OMSS):** The Union government had decided in April 2019 to sell wheat and rice in the open market via e-auction through OMSS. It aimed to divert extra stock. But the government could just sell one-fifth of the target of a five-million tonne sale.
 - **Increase in food business registration:** There has been a 65% year-on-year jump in registration applications for new food businesses, indicating that **private players are eager to invest in agri business** and the rural economy as a result of the reforms by **Agricultural ordinances**.
 - **Traders moving out-of Mandi:** As there would be no fees on buying outside the Mandi (unlike before the agri ordinances), many of the traders would prefer to buy outside. In June to August, there was a 20-40% drop in sale volume of non-perishables within the mandis. This will **adversely impact the farmers**.
 - **Increase in MSP for Rabi Crops:** Recently, the **Cabinet Committee on Economic Affairs** marginally **increased the Minimum Support Price (MSP)** of six rabi crops for 2021-22. This is in line with the principle of fixing the MSPs at a level of at least 1.5 times of the **All-India weighted average Cost of Production** as announced in Union Budget 2018-19.

- **Challenges:**

- **Unavailability of Physical Space for Storage:** This can cause foodgrains to perish.
- **Reduction in Demand due to More Supply:** Release of high buffer stock in the market, would lead to a collapse in prices. This, in turn, will lead to farmers again losing on fair price for their bumper harvest.
- **Farmer's protest:** Recently, there have been strong **protests from farmers**, especially from the states of Punjab and Haryana, against three farm bills passed in the parliament. This has posed a challenge in front of the government to assure farmers of routine procurements and fair prices.

- **Recommendations of CACP Report:**

- **Excess Stocks need to be urgently liquidated:**

- This will help ease storage capacity constraints and save large carrying costs of excessive stocks.
- Excess rice stocks should be liquidated through increased allocation under the **National Food Security Act** and Other Welfare Schemes.
- The government should divert old stocks for ethanol production and cattle feed purposes.

- **Review open-ended procurement policy (OEPP):**

- The central government should **review OEPP for rice and wheat.**
- Major policy changes should be introduced in pricing, procurement and use of other crops like oilseeds, pulses, maize nutri-cereals to encourage farmers to shift to these crops, which have great potential for **crop diversification.**

- **More Procurement from States like UP and Bihar:**

- **Strengthen procurement from states like Bihar, Uttar Pradesh and Rajasthan and restrict procurement from states** like Punjab and Haryana where substantial groundwater depletion has occurred and other states that give bonus.
- In all those states that impose high fees and incidental charges and pay bonus, procurement of rice and wheat should be restricted.
- The state governments should discontinue the bonus above the minimum support price (MSP) **as it distorts the market and discourages private sale.**
- More than 95% of paddy farmers in Punjab are covered under the government procurement system while it is 70% in case of Haryana. In case of other major paddy producing states like Uttar Pradesh and Bihar, it is 3.6% and 1.7% respectively.

- **Reserve Price for open Market Sale of Pulses and oilseeds**

The government should not sell these stocks in the open market below the MSP, particularly during the procurement season as it depresses market prices and discourages the private sector to procure directly from farmers.

Way Forward

Given the forecast for food grains like paddy, the prices would be subdued due to large stocks and also less demand globally. If the government decides to flood the market with its excessive stock, it would lead to more supply, thus reducing the price. In such a scenario, implementing the bold recommendations of CACP may help in dealing with the stocks.

Source: DTE

Multi-stakeholder Body for Net Neutrality

Why in News

Recently, the **Telecom Regulatory Authority of India** (TRAI) has recommended the creation of a **multi-stakeholder body** (MSB) to ensure that Internet access providers adhere to the provisions of **net neutrality**.

The MSB should be set up as a **non-profit entity**.

Key Points

- **Roles and Responsibilities:**
 - To provide **advice and support to the Department of Telecommunications** (DoT) in the monitoring and enforcement of net neutrality principles.
 - To **investigate complaints** regarding the violation of net neutrality.
 - To help DoT in the **maintenance of a repository of reasonable traffic management** practices.
- **Stakeholders:**

It could include telecom service providers, Internet service providers, content providers, researchers, academic and technical community, civil society organisations, and the government.
- **Net Neutrality in India:** The DoT accepts **TRAI's recommendations in favour of net neutrality** which:
 - **Bars telcos from discriminatory treatment** on the web, based on content, sender, receiver, protocols or equipment.
 - **Penalises for violation of license rules** on net neutrality.
 - **Includes exceptions for critical services** such as remote healthcare diagnostics, self-driving cars, etc.
 - **Exempts content delivery networks**, which do not use public Internet from open web rules.
 - **Applies equally to 5G technology** as well because the principles are technology-neutral.

Net Neutrality

- Net neutrality has been defined as a principle that **Internet Service Providers** (ISP) also called **Internet Access Providers** (IAP) should **enable access to all content and applications regardless of the source**, and **without favouring or blocking particular products or websites**.



- This means when the **customers pay an ISP for a data plan**, they **should be able to access all content online** (news, social media, videos, games, etc.) at the **same broadband speed** which they had opted for.
- **Arguments in Favour:**
 - It **democratises the internet space** as the telecom provider cannot charge differently for different websites and allows everyone on the internet to participate in it.
 - It **does not let ISPs to act as “gatekeepers”** and control, filter or block data according to their will without a court order.
 - It **provides a level playing field** to all the big and small companies in the Information Technology (IT) sector and does not let a handful of companies control the internet.
 - It **ensures that all people and websites have equal access** to each other, regardless of their ability to pay hence fosters the principle of freedom of speech.
- **Arguments Against:**
 - It will **stifle innovation** on the internet as it will **not be possible to explore consumer choices** and create content accordingly.
 - ISPs will **not be able to make an investment in Broadband** services.
 - It will **kill competition as every data packet will be treated the same** and content providers will not get a chance to advance their data at a better rate by paying the telecom providers.

A QUICK REMINDER

What is net neutrality?

All traffic on the internet should be treated equally.

NO BLOCKING	Your internet access provider (IAP) cannot block you from accessing legal content of your choice.
NO THROTTLING	Your IAP cannot intentionally throttle legal internet traffic to slower speeds than other traffic.
NO PAID PRIORITIZATION	Your IAP cannot sell 'fast lane' service to content providers who can pay more than others.

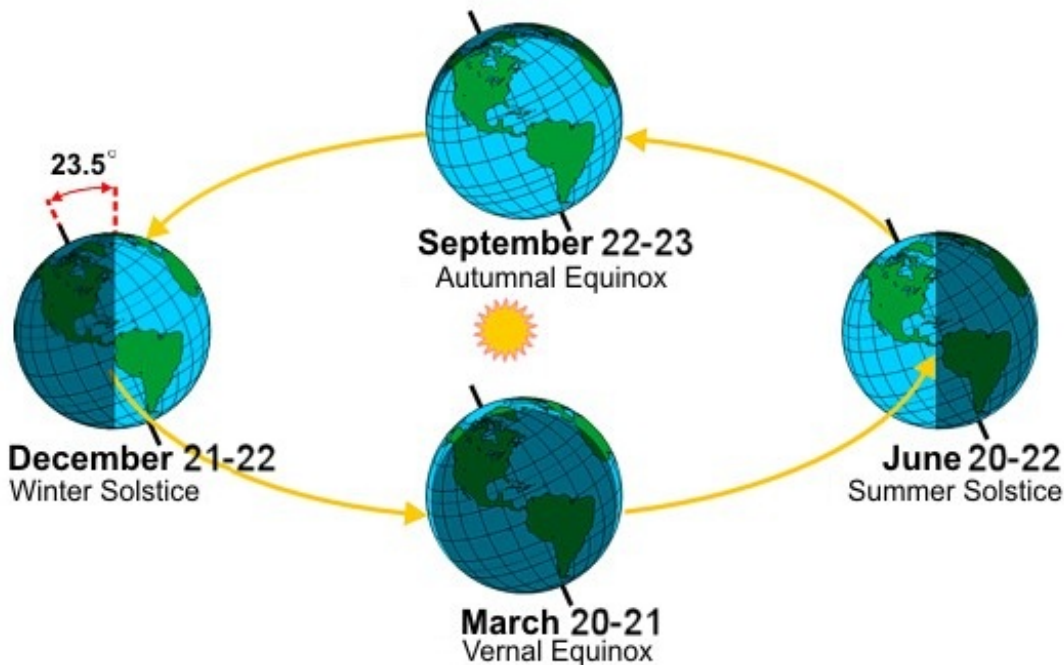



Autumnal Equinox in Northern Hemisphere

Why in News

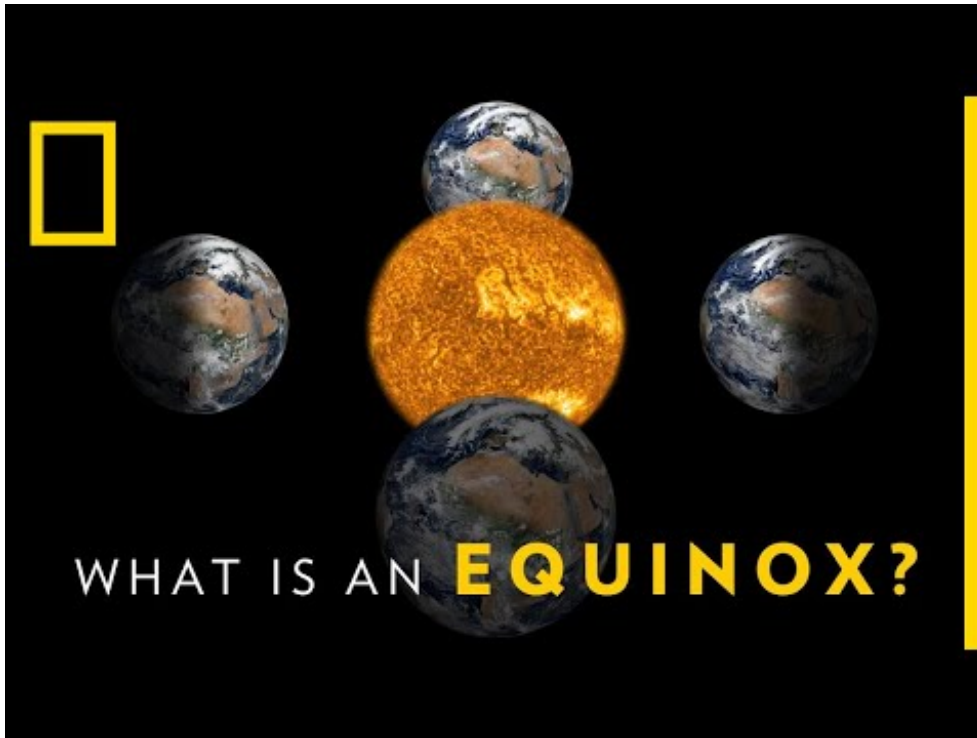
On **22nd September 2020**, the day and night was almost equal in most locations marking the **start of autumn in the Northern Hemisphere** which lasts until the **winter solstice (December 21 or 22)**.

- Similarly, the **Vernal equinox** falls around **March 21**, marking the start of spring in the **Northern Hemisphere**.
- In the **Southern Hemisphere** the seasons are **reversed (Christmas is celebrated in Australia and New Zealand in the summer season)**.



Key Points

- **About:**
 - The word equinox is derived from two **Latin words - aequus (equal) and nox (night)**.
 - There are only two times of the year when the Earth's axis is tilted neither toward nor away from the sun, resulting in a **nearly equal amount of daylight and darkness** at all latitudes. These events are referred to as Equinoxes.
 - The equinoxes happen in **March (about March 21) and September (about September 23)**. These are the days when the Sun is exactly above the Equator, which makes day and night of equal length.
 - It can be noted that the most places on Earth receive more than 12 hours of daylight on equinoxes. This is because of the **atmospheric refraction of sunlight** and **how the length of the day is defined**.
 - The equinoxes are prime time for Northern Lights – geomagnetic activities are twice more likely to take place in the spring and fall time, than in the summer or winter.
- **Varying Dates:** While the September equinox usually occurs on September 22 or 23, it can very rarely fall on September 21 or September 24.
 - This is because of the difference between how the Gregorian calendar defines a year (365 days) and the time it actually takes for **Earth to complete its orbit around the Sun (about 365 and 1/4 days)**.
 - This means that each equinox occurs about 6 hours later than the previous year's Equinox. This eventually moves the date by a day.
- **Signals Changing of Seasons:** The equinoxes along with solstices signals the changing of the seasons.
 - The seasons on Earth change because the planet is slightly tilted on its axis as it travels around the Sun. Earth's rotational axis makes an angle of **23.5° with the normal** and angle of **66.5° with the orbital plane**.
 - If Earth were not tilted, the Sun would always appear to be directly above the Equator, the amount of light a given location receives would be fixed, and there would be no seasons. There also would be no need to mark equinoxes or solstices.
- **Solstices:** The **two solstices happen in June (20 or 21) and December (21 or 22)**. These are the days when the Sun's path in the sky is the **farthest north or south from the Equator**.
 - In the **Northern Hemisphere**, the **June solstice** marks the start of summer, this is when the North Pole is tilted closest to the Sun, and the Sun's rays are directly overhead at the **Tropic of Cancer**.
 - In the **Northern Hemisphere**, the **December solstice** marks the start of winter, this is when the South Pole is tilted closest to the Sun, and the Sun's rays are directly overhead at the **Tropic of Capricorn**.



Watch Video At:

<https://youtu.be/enlih8M5DNo>

MedSpark in Kerala

Why in News

Kerala is set to lay the foundation stone for **MedSpark**, one of the first **medical device** parks in the country, in **Thiruvananthapuram**.

- **Medical devices** include **surgical equipment, diagnostic equipment** like Cardiac Imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging, **life support equipment** like ventilator, etc. as well as **implants and disposables**.
- Medical devices, unlike pharmaceuticals, are **dependent on a mix of technologies such as engineering, electronics, material sciences and information technology (IT)**.

Key Points

- **Established By:**
 - **Technical Research Centre for Biomedical Devices Programme** of the **Department of Science and Technology (DST)**, Government of India.
 - **Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST)**, an **autonomous institute of the DST**.
SCTIMST has made **substantial contributions to the biomedical devices sector** and is fully aligned with the vision of **Aatmanirbhar Bharat**.
 - **Kerala State Industrial Development Corporation Ltd. (KSIDC)** which is the **industrial and investment promotion agency** of the Government of Kerala.
- **Fundings:**
 - **Funding from the state and central governments** will meet the capital expenditure and deficit in income against expenses during the initial stages.
 - The business model for the MedSpark is **self-sustaining** in which its **operational expenses will be generated from its revenue streams**.
- **Functions:** It will **focus on the high-risk medical device sector:**
 - It will provide a full range of services for the industry like **research and development support, testing, and evaluation** of medical devices.
 - Create an **enabling support system** for manufacturing support, technology innovation, and knowledge dissemination.
 - **High-risk medical device sector** deals with the category of high-risk devices which include **medical implants and extracorporeal devices** (mechanical organs used in blood purification).
For example, **implantable cardioverter-defibrillator** (a small battery-powered device placed in the chest to monitor heart rhythm and detect irregular heartbeats) **pacemakers, coronary stents, artificial heart valves**, etc.
- **Benefits:**
 - These services can be **utilised by the medical device industries** located **within the MedSpark as well from other parts of India**.
 - It will **benefit small and medium-sized medical devices industries**, which dominate the medical devices sector.
 - It can **leverage the existing advantage of Kerala in the high-risk medical device manufacture** and develop it into the most sought after destination for setting up the medical device industry in India.
 - It is expected that it would **provide direct employment to 1200 people** and generate up to **4000-5000 jobs through the supporting industries**.

Medical Devices Sector in India

- The medical devices industry in India is **valued at USD 5.2 billion**, contributing about **4-5% to the USD 96.7 billion Indian healthcare industry**.
- Medical devices sector in India is **very small in size as compared to the rest of the manufacturing industry**, though **India is one of the top twenty markets for medical devices** in the world and is the **4th largest market in Asia** after Japan, China, and South Korea.
- India's medical devices industry is **poised for significant growth in the next five years** and the market size is **expected to reach USD 50 bn by 2025**.
- India **currently imports 80-90% of medical devices** and the vast majority of which are **unregulated for quality and safety**.

The **USA, Germany, China, Japan, and Singapore** constitute the **five largest exporters** of high technology medical equipment to India.

Source: PIB

Guru Nanak Dev's 481st Death Anniversary

Why in News

Recently, the **Jyoti Jot** (death anniversary) of **Guru Nanak Dev** (Founder of **Sikhism**) was observed at his final resting place **Gurdwara Darbar Sahib, Kartarpur** in Pakistan.

On the occasion of the **550th birth anniversary** of Guru Nanak the **Kartarpur Corridor** which connects India and Pakistan was opened to the public.



Key Points

- **Guru Nanak:**

- Guru Nanak, **first of the ten Sikh Gurus** in Sikhism, is believed to have died at **Kartarpur** on 22nd September 1539.
- Guru Nanak was born in **Talwandi Rai Bhoi**, near Lahore, Pakistan which was renamed later as **Nankana Sahib**.
- He was a greatest **thinker, philosopher, poet, traveller, political rebel, social leveller, mass communicator and spiritual master**.
- His political, social and spiritual beliefs were **based on love, equality, fraternity and virtue**. He is also viewed as a **symbol of peace and servicing**.
- His followers came to be known as **Sikhs**, which means a **learner** or a **disciple**.
- He used the **medium of music, poetry, song and speech** to **preach the love of God** and to **attack the socially oppressive practices of casteism** of the orthodox Brahmanical Hindu religion.
 - He also spoke in favour of an **equitable social status for women**.
- Guru Nanak was also a **great traveller**. He went on long journeys (called Uddasian) to far off places along with his **two companions Bhai Bala**, a Hindu, and **Bhai Mardana**, a Muslim, to hold dialogues with many saints and Sufis.

- **Teaching of Guru Nanak:**

- Guru Nanak declared that **God is one — formless** (Nirgun) and **without birth and death**. The **whole world is God's creation** i.e. **Ik Onkar Satnam**.
- According to him **all are born equal**. He also stood for **karma** as the basis of **dharma**.
- **Valued a simpler notion of truth** that was the basis of honest living.
He declared that truth has the highest value in life, but truthful living is higher still in value.
- Created awareness related to the **conservation of water**, and the **importance of a clean environment**.
- Emphasised on three things:
 - **Kirat Karni:** It means to work hard, and earn good karma and an honest livelihood.
 - **Vand Chakna:** It means to not be selfish, and share with others.
 - **Naam Japa:** It means to meditate and remember the name of god.
- Provided a practical demonstration of **building a community** based on **strong egalitarian values** of:
 - **Cooperative agricultural work**
 - **Langar** (collective cooking and sharing of food)
 - **Pangat** (partaking food without distinctions of high and low)
 - **Sangat** (collective decision making)
- His teachings are mentioned in the **Adi Granth** compiled by **Guru Arjan Dev** (1563-1606), the fifth sikh guru.

Source: IE

EPCA on Early Burning of Crop Residue

Why in News

The **Supreme Court**-appointed **Environment Pollution (Prevention and Control) Authority (EPCA)** raised concerns about early **burning of crop residue** in Punjab and Haryana.

Key Findings

- According to a **SAFAR (System of Air Quality and Weather Forecasting and Research)** under the Central government estimate which uses the **INSAT-3, 3D** and **the National Aeronautics and Space Administration (NASA)** satellite, the fire counts have increased from zero to 42 in a few days.

- In 2019, about 9.8 million tonnes of the total estimated crop residue of 20 million tonnes were burnt in Punjab.

Similarly, in Haryana, of the total 7 million tonnes, 1.24 million tonnes of stubble were burnt.

Environment Pollution (Prevention and Control) Authority

- EPCA was constituted under **section 3 of the Environment (Protection) Act, 1986** for the **National Capital Region** in compliance with the **Supreme Court order dated January 1998**.
- It has the power to take action **suo-moto**, or on the **basis of complaints** made by any individual, representative body or organization functioning in the field of environment.
- It takes all necessary steps for controlling vehicular pollution, ensuring compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.

INSAT

- The **Indian National Satellite (INSAT)** system is a constellation of operational communication satellites placed in **Geo-stationary orbit**.
- Established in **1983** with commissioning of INSAT-1B.
- The constellation of INSAT System consists of operational satellites, namely – INSAT-3A, 3C, 3D, 4A, 4B, 4CR, 3DR.

SAFAR

- The **System of Air Quality and Weather Forecasting and Research (SAFAR)** is a national initiative introduced by the **Ministry of Earth Sciences (MoES)** to measure the air quality of a metropolitan city, by measuring the overall pollution level and the **location-specific air quality** of the city.
- The system is **indigenously** developed by the **Indian Institute of Tropical Meteorology (IITM)**, Pune and is operationalized by the **India Meteorological Department (IMD)**.

Stubble Burning

- It is a **traditional practice** in **Punjab and Haryana** to clean off the rice chaff to prepare the fields for winter sowing.
- It begins **around October and peaks in November**, coinciding with the withdrawal of **southwest monsoon**.

- The **pollutants and the Particulate Matter (PM)** from the chaff, along with other sources of pollution in Delhi, makes winter air quality worse in Delhi and proximity.
 - **Reasons:**
 - **Increase in Rice Acreage: Subsidies and assured procurement** of rice have led to a rise in the rice acreage.
 - **Delayed sowing** of paddy to late June to discourage groundwater extraction as per the **Punjab Preservation of Subsoil Water Act 2009.**
 - This led to a delayed harvesting, stubble burning coincides perfectly with the withdrawal of southwest monsoon.

This time the **southward shift of subtropical jet stream** happens causing a **westward wind pattern in the northern part of India** and thus spread of pollutants.
 - **Technology:** Increased and modernised **farm mechanisation** extract the rice grains only and leave large quantities of rice stubble behind. Earlier, this excess crop was used by farmers for cooking, as hay to keep their animals warm or even as extra insulation for homes.
 - **High Silica Content:** Rice straw is considered useless as fodder in the case of non-basmati rice, because of its **high silica content.**
 - **Effects:**
 - The stubble burning emits large amounts of toxic pollutants in the atmosphere which contain harmful gases like **methane (CH₄), Carbon Monoxide (CO), Volatile organic compound (VOC) and carcinogenic polycyclic aromatic hydrocarbons.**
 - The burning of wheat straw **reduces the soil fertility**, besides polluting the environment.
 - Additionally, the heat generated by stubble burning penetrates into the soil, leading to the loss of moisture and useful microbes.

Way Forward

- A **centralized control room** must be set up to issue directions both for ensuring that appropriate technology to tackle this issue is within the reach of farmers and also ensure enforcement of non-compliance.
- The establishment of the **Farm Machinery Banks (FMB)** for custom hiring of in-situ crop residue management machinery.

The most efficient technology is the **Turbo Happy Seeder (THS)** machine. It not only cuts and uproots the stubble but can also drill wheat seeds in the soil that have just been cleared up. The straw is simultaneously thrown over the sown seeds to form a **mulch cover.**

- Stopping crop residue burning will aid the **National Clean Air Programme** (NCAP), which aims to reduce pollution by 20-30% in annual PM concentration by 2024.
- An expansion of schemes like the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** for harvesting and composting of stubble will help to resolve the dual problem of unemployment and stubble burning.
- In the long-term, **shifting the cropping pattern** away from paddy to maize, cotton, fruits or vegetables in Punjab, Haryana and UP is required.

Source TH

Jasmonate Hormone and Rice Productivity

Why in News

A new study by a team of scientists at **National Institute of Plant Genome Research (NIPGR)**, New Delhi suggested that targeting a specific plant hormone **Jasmonate (JA)** would help rice plants have greater tolerance to potassium (K) deficiency and improve productivity.

Key Points

- **Findings:**
 - The **overexpression** of a **gene** called **OsJAZ9** helped make rice plants more tolerant of potassium deficiency.
 - There was an enhanced accumulation of **JA-Ile** — a **bioactive** form of the hormone **Jasmonate (JA)**, in OsJAZ9 overexpressing rice, on potassium deficiency.
 - The **JA-Ile** helps in modulating various K transporters and root system architecture.
 - **JA-Ile** contributes to several aspects of plant growth and development and levels increase under stress conditions.
 - The study suggests that targeting research towards **JA** could help achieve both, **nutrient- efficient** crops and **protection against pests**.
 - JA is often associated with the plant's **defence against biotic factors** like insects, pests and other pathogens.

- **Potassium.** Potassium (K) is considered a **macronutrient** for plants and is the most abundant cation within plant cells.
 - **Significance of Potassium:**
 - Plants require, among other things, a **high and stable concentration** of potassium ion **to activate many enzymes** that are involved in **respiration and photosynthesis.**
 - Potassium is also involved in key cellular processes such as **energy production, and cell expansion.**

Cell expansion is the process of taking cells extracted from tissue, culturing them in the lab and encouraging them to reproduce.
 - **Potassium Deficiency:** It affects plants by inhibiting the growth of the roots and the shoots.
 - Studies have shown that plants that are deficient in potassium are more susceptible to salt, drought, chilling and other abiotic and biotic stresses.
 - Potassium deficiency occurs frequently in plants grown on sandy soils resulting in a number of symptoms including curling of leaf tips and yellowing (chlorosis) of leaves, as well as **reduced growth and fertility.**
 - **Potassium Availability to plant Roots:** Despite being among the most abundant minerals in the soil, its availability to plants is limited.
 - This is because most of the soil potassium (about 98%) is in **bound forms** and its release into the soil solution is far slower than the rate of its acquisition by the roots.
 - The availability of potassium in the soil solution or exchangeable form depends on **multiple factors** like **soil acidity**, presence of other **monovalent cations** like sodium and ammonium ions and the **type of soil particles.**

Macro and Micro-nutrients

- **Macronutrients** are divided into two groups: **primary** and **secondary.**
- The **primary macronutrients** are those that are needed in the highest concentration: **nitrogen (N), phosphorus (P), and potassium (K).** In fact, these three primary nutrients are needed in higher concentrations than the rest of the macronutrients combined.
- **Secondary** macronutrients are also required for sustained plant health, but in lower quantities than the primary macronutrients. **Calcium (Ca), Magnesium (Mg), and Sulfur (S)** comprise the secondary macronutrients.

- **Micronutrients** are also essential to plant development and growth but are needed only in trace amounts, compared to their macro-counterparts. The seven critical micronutrients are:
 - Boron (B)
 - Zinc (Zn)
 - Iron (Fe)
 - Manganese (Mn)
 - Copper (Cu)
 - Molybdenum (Mo)
 - Chlorine (Cl)

Way Forward

- The **Green Revolution** of the 1960s was driven by another plant hormone called **Gibberellins (GA)**. JA hormone can be the new focus.
- **Future agriculture** has to be **input efficient** rather than input intensive. The genetic resources for improving fertiliser use efficiency in rice which is of prime value for achieving sustainable agriculture must be stressed upon.

Source DTE

YuWaah Platform

Why in News

Recently, the Government has launched YuWaah – a multi-stakeholder platform **to make young people career ready**.

The **Ministry of Youth Affairs & Sports** and **United Nations Children's Fund (UNICEF)** had signed a 'Statement of Intent' to establish **Generation Unlimited in India (YuWaah)**.

Key Points

- **Generation Unlimited (GenU):**
 - Founded in September **2018**, GenU aims to **transform education, employment and entrepreneurial outcomes for young people** around the world at a global and local level, by joining together partners from business and governments with the reach and network of the **United Nations (UN)**.
 - It was **launched by UNICEF** at the 73rd session of the UN General Assembly.

- **Objectives of YuWaah:**
 - Providing **career guidance support** to young people through career portal as well as through job-readiness and self-exploration sessions to make young people career-ready.
 - Supporting young people by providing **entrepreneurship classes** with successful entrepreneurs and experts.
 - Creating **linkages with aspirational economic opportunities** to connect young people with jobs or self-employment. For this, innovative solutions and technology platforms will be engaged to maximize the scale and reach.
 - **Upskilling** young people on 21st century skills, life skills, digital skills and supporting them through self-learning, for their productive lives and the future of work.
- **Significance:**
 - It will help the youth in contributing towards **Atmanirbhar Bharat Abhiyan**.
 - It will give a strong focus to India's existing policies, such as the **National Youth Policy, 2014**.

United Nations Children's Fund

- United Nations Children's Fund (UNICEF) is a **special program of the United Nations (UN)** devoted to aiding national efforts to improve the health, nutrition, education, and general welfare of children.
- UNICEF was **created in 1946** as the International Children's Emergency Fund (ICEF) by the UN Relief Rehabilitation Administration to help children affected by World War II.
- UNICEF became a **permanent part of the United Nations in 1953**.
The name was shortened to the United Nations Children's Fund but it is still referred to as UNICEF.

Source: PIB

Shuchi Scheme

Why in News

The Karnataka government has not allocated funds to the **Shuchi Scheme (a menstrual hygiene project)**, in its budget for 2020-21.

As a result, the distribution of sanitary napkins has come to halt under the Scheme, affecting over 17 lakh school and college girls.

Key Points

- The **Shuchi Scheme**, started in **2013-14**, was **initially a Centrally-sponsored one**. However, the Centre asked States to take over the scheme from 2015-16. The central government has supported the States/UTs through **National Health Mission (NHM)** in their programme implementation plans for decentralised procurement of sanitary napkin packs.
- It is aimed at **instilling awareness about menstrual hygiene** among adolescent girls.
- A national level scheme- **Kishori Shakti Yojana (KSY)** of the **Union Ministry of Women & Child Development** seeks to empower adolescent girls, so as to enable them to take charge of their lives.

The **broad objectives** of the Scheme are to improve the nutritional, health and development status of adolescent girls, promote awareness of health, hygiene, nutrition and family care, link them to opportunities for learning life skills, going back to school, help them gain a better understanding of their social environment and take initiatives to become productive members of the society.

Source: TH

Abhyas High-speed Expendable Aerial Target

Why in News

Recently, the **Defence Research and Development Organisation (DRDO)** conducted successful flight-tests of the indigenously-designed **Abhyas High-speed Expendable Aerial Target (HEAT)** in Balasore (Odisha).

Two demonstrator vehicles of Abhyas cleared all the evaluation parameters like 5 km flying altitude, vehicle speed of **0.5 mach (half the speed of sound)**, endurance of 30 minutes etc.



Key Points

- **Designed and developed by:** Aeronautical Development Establishment (ADE) of DRDO.
 - Aeronautical Development Establishment (ADE) is a key Aeronautical Systems Design Laboratory under DRDO.
 - It is involved in the design and development of the state-of-the-art Unmanned Aerial Vehicles (UAV) and Aeronautical Systems and technologies to meet the requirements of the **Indian Armed forces**.
- **Features:**
 - It is a **drone (UAV)** that will be used as a **target for various missile systems**.
 - It is powered by a small gas turbine engine.
 - Navigation by **Micro-electromechanical (MEMS)** systems based **Inertial Navigation System (INS)** for navigation.
 - MEMS is a process technology used to create tiny integrated devices or systems that combine mechanical and electrical components.
 - It is lightweight and reliable, consumes less power and is cost-effective.
 - Programmed for **fully autonomous flight**.
- **Uses:** As a **target for evaluation of various Missile systems**.
- **Background:** This is the second time that the target vehicle was flight-tested successfully. The **first successful test was in May 2019**.
- **Others:** Recently, the DRDO successfully flight tested the **Hypersonic Technology Demonstrator Vehicle** (HSTDV).

Source: PIB
