

OFFICERS' PULSE

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COVERAGE.

The Hindu

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AT A GLANCE & IN DEPTH.

Polity and Social Issues

Economy

International Relations

Environment

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CURRENT AFFAIRS WEEKLY
THE **PULSE** OF UPSC AT YOUR FINGER TIPS



News @ a glance

POLITY	3	1) Paper strip test	14
1) eVIN	3	2) Thalassemia.....	14
2) Global Hunger index.....	3	3) Sanitisers, soaps and antimicrobial resistance.....	16
3) Policy meet on M sand	4	4) Indomethacin for treatment of Covid-19..	17
4) Atal Innovation Mission	4	5) Milky way Galaxy.....	18
ENVIRONMENT	6	HEALTH	19
1) Blue Flag certification to 2 Karnataka Beaches	6	1) Gene scissors.....	19
2) Climate change to blame for doubling of disasters.....	7	ART & CULTURE	21
ECONOMY	8	1) 9 th century grinding wheel	21
1) IIP & CPI.....	8	PIB ANALYSIS	22
2) GST Compensations.....	8	1) Tech For Tribals	22
3) Public debt to GDP ratio	9	2) Governing Structure of India Energy Modelling Forum	22
4) Beaten or broken: Informality and COVID- 19	10	3) STARS Programme.....	23
INTERNATIONAL RELATIONS	11	4) International Solar Alliance	24
1) Financial Action Task Force	11	5) Thalassemia Bal Sewa Yojna.....	25
2) European Union.....	11	6) Central Pollution Control Board (CPCB) ...	25
3) New START	12	7) Narcotics control Bureau.....	26
4) Iran nuclear deal	13	8) Pension Fund Regulatory and Development Authority.....	26
SCIENCE AND TECHNOLOGY	14		

News in Depth

AIR NEWS 28

- 1) CHAMPIONS portal 28
- 2) QUAD Grouping 28
- 2) Air Pollution 29

THE HINDU EDITORIALS 30

- 1) Towards cleaner air in Delhi..... 30
- 2) The road to zero hunger by 2030..... 31

- 3) The message in the Peace Nobel-
multilateralism 32

- 4) A concerted attack on RTI..... 33

INDIAN EXPRESS EXPLAINED 36

- 1) The economics of auctions – what is it?.... 36

- 2) How Election Commission Allots Symbols to
Parties? 37

- 3) The comparison between India, Bangladesh
per capita GDP..... 37

News @ a glance

POLITY

1) eVIN

What is it?

- eVIN (Electronic Vaccine Intelligence Network) is an **indigenously developed technology system in India** that digitizes vaccine stocks and monitors the temperature of the cold chain through a smartphone application.
- It is aimed at strengthening immunization supply chain systems across the country.
- Introduced in 2015, the eVIN is being implemented under the **National Health Mission (NHM) by the Ministry of Health and Family Welfare.**
- eVIN aims to provide **real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points in the country.** The network also **geo-tags health centres** and maintains facility-level dashboard.
- eVIN has reached 32 States and Union Territories (UTs) and will soon be rolled-out in the remaining States and UTs of Andaman & Nicobar Islands, Chandigarh, Ladakh and Sikkim.

Why in News?

- The Union Health Ministry announced that the eVIN network is being repurposed for the delivery of the COVID-19 vaccine.

Related information

National Health mission

- National Health Mission (NHM) was launched by the **Ministry of Health and Family Welfare** in 2013 subsuming the **National Rural Health Mission and National Urban Health Mission.**

Objective

- The National Health Mission envisages **achievement of universal access to equitable, affordable & quality health care services** that are accountable and responsive to people's needs.

Components

- The main programmatic components include

- 1) **Health System Strengthening** in rural and urban areas
- 2) **Reproductive-Maternal- Neonatal- Child and Adolescent Health (RMNCH+A)**
- 3) **Communicable and Non-Communicable Diseases.**

- The National Health Mission seeks to ensure the achievement of the following indicators.

- 1) Reduce Maternal Mortality Rate (**MMR**) to **1/1000** live births
- 2) Reduce Infant Mortality Rate (**IMR**) to **25/1000** live births
- 3) Reduce Total Fertility Rate (**TFR**) to **2.1**
- 4) Prevention and **reduction of anemia** in women aged 15–49 years
- 5) Prevent and **reduce mortality & morbidity** from communicable, non-communicable; injuries and emerging diseases
- 6) Reduce household **out-of-pocket expenditure** on total health care expenditure
- 7) Reduce annual incidence and mortality from **Tuberculosis** by half
- 8) Reduce prevalence of **Leprosy** to <1/10000 population and incidence to zero in all districts
- 9) Annual **Malaria** Incidence to be <1/1000
- 10) Less than 1 per cent **microfilaria** prevalence in all districts
- 11) **Kala-azar** Elimination by 2015, <1 case per 10000 population in all blocks.

2) Global Hunger index

What is it?

- The Global Hunger Index is an annual score ranking countries of the world on hunger levels.
- The Index is a peer-reviewed report released annually by **Concern**

Worldwide (a humanitarian agency) **and NGO Welthungerhilfe.**

- It is based on 4 indicators:

Undernourishment

- 1) **Child wasting** - the share of children under the age of five who have low weight for their height, reflecting acute undernutrition
- 2) **Child stunting** - children under the age of five who have low height for their age, reflecting chronic undernutrition
- 3) **Child mortality** - the mortality rate of children under the age of five.

Why in News?

- The Global Hunger Index 2020 was released recently.

Highlights of the Report

- Overall, **India ranks 94 out of 107 countries** in the Index, lower than neighbours such as Bangladesh (75) and Pakistan (88). 2020 scores reflect data from 2015-19.
- According to the report, with a score of 27.2, India has a level of hunger that is "serious". India's rank was 102 out of 117 countries last year.
- India has the **highest prevalence of wasted children under five years in the world**, which reflects acute undernutrition.
- The situation has worsened in the **2015-19 period**, when the prevalence of child wasting was **17.3%**, in comparison to 2010-14, when it was 15.1%.
- Although it is still in the poorest category, however, **child stunting** has actually **improved** significantly, from **54% in 2000 to less than 35% now**.
- Child wasting, on the other hand, has not improved in the last two decades, and is rather worse than it was decades ago.
- India has **improved in both child mortality rates**, which are now at 3.7%, and in terms of **undernourishment**, with about 14% of the total population which gets an insufficient caloric intake.
- In the region of south, east and south-eastern Asia, the only countries which fare worse than India are Timor-Leste, Afghanistan and North Korea.
- South Asia has the highest child wasting rate for any region, and India is the worst performer.

Pandemic effect

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- Globally, nearly 690 million people are undernourished, the report warns that the COVID-19 pandemic could have affected the progress made on reducing hunger and poverty.
- The report noted that the world is not on track to achieve the **Goal 2 of Sustainable Development Goal (to achieve Zero Hunger by 2030)**.
- At the current pace, approximately 37 countries will fail even to reach low hunger by 2030. These projections do not account for the impacts of the COVID-19 pandemic, which may worsen hunger and undernutrition in the near term and affect countries' trajectories into the future.

3) Policy meet on M sand

What is M-Sand?

- Manufactured sand (M-Sand) is a substitute of river sand for concrete construction. Manufactured sand is produced from hard granite stone by crushing.
- Due to the depletion of good quality river sand for the use of construction, the use of manufactured sand has been increased.
- It is **less costly**. Since manufactured sand can be crushed from hard granite rocks, it can be **readily available at the nearby place**, reducing the cost of transportation from far-off river sand beds.
- The advantage of using M-Sand is, it can be **dust free**, the **sizes of m-sand can be controlled easily** so that it meets the required grading for the given construction.

Why in News?

- The policy on M-Sand, which will have a legal framework for production and sale, is expected to be implemented early next year.

4) Atal Innovation Mission

About:

- The Atal Innovation Mission (AIM) is a flagship initiative set up by the **NITI Aayog** to promote innovation and entrepreneurship across the length and breadth of the country.
- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the

economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee the innovation ecosystem of the country.

Initiatives under Atal Innovation Mission

- **Atal Tinkering Labs-** Creating problem solving mindset across schools in India.
- **Atal Incubation Centers-** Fostering world class startups and adding a new dimension to the incubator model.
- **Atal New India Challenges-** Fostering product innovations and aligning them to the needs of various sectors/ministries.
- **Mentor India Campaign-** A national Mentor network in collaboration with the public sector, corporates and institutions,

to support all the initiatives of the mission.

- **Atal Community Innovation Center-** To stimulate community centric innovation and ideas in the unserved /underserved regions of the country including Tier 2 and Tier 3 cities.
- **ARISE-** To stimulate innovation and research in the MSME industry.

Why in News?

- Atal Innovation Mission has signed a Statement of Intent with a global IT consulting firm to promote innovation across the schools.

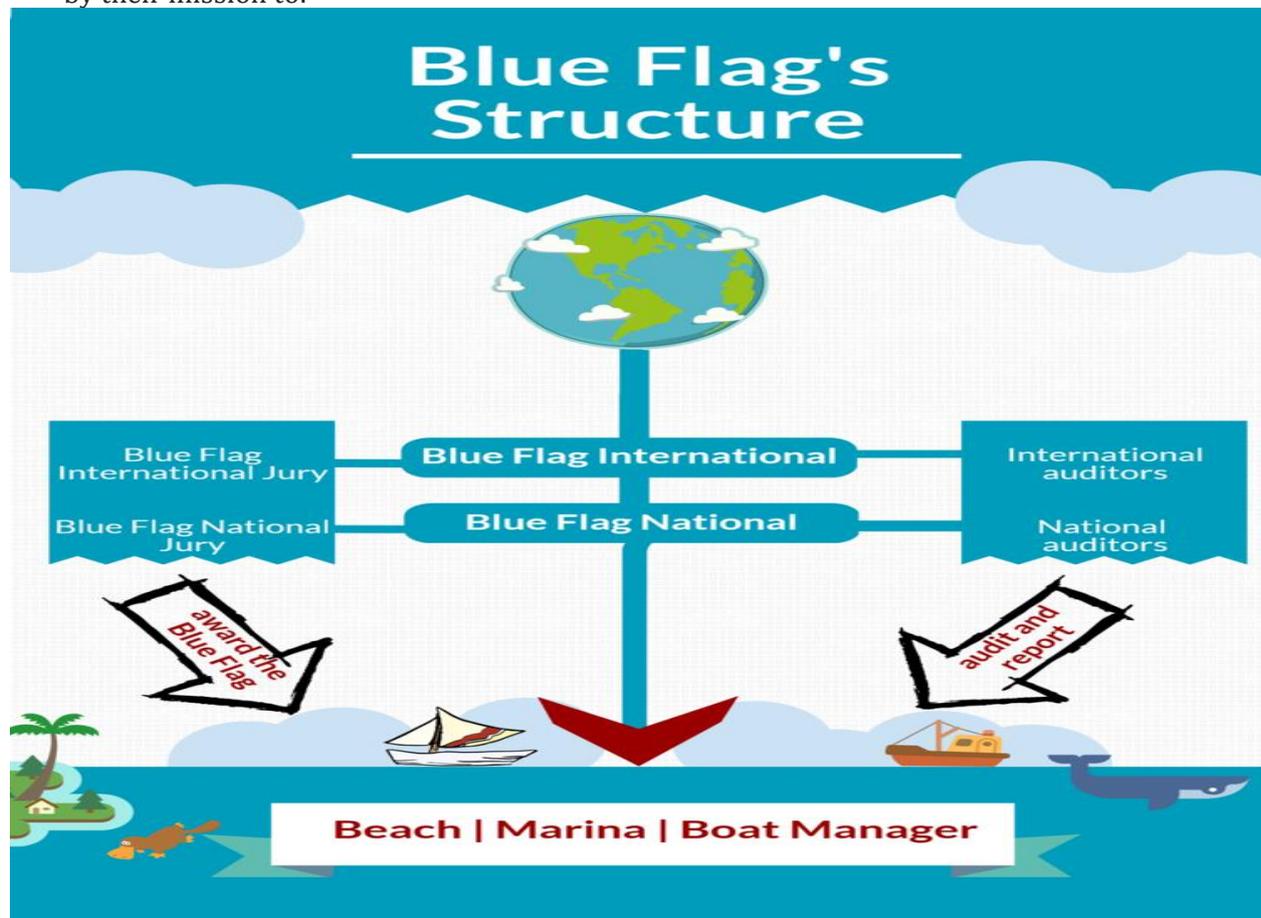
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ENVIRONMENT

1) Blue Flag certification to 2 Karnataka Beaches

What is Blue Flag certification?

- The Blue Flag programme is operated under the auspices of the **Foundation for Environmental Education (FEE)** and is headquartered in **Copenhagen, Denmark**.
- It is an **eco-tourism model** to provide tourists clean and hygienic bathing water, facilities/amenities, safe and healthy environment and sustainable development of the area.
- They, by certification, try to achieve Sustainable Development Goals (SDGs), by their mission to:
 - promote and participate in environmental education programmes for the users of beaches, marinas and boating operators.
 - Implement sound safety and environmental management systems.
 - Monitor environmental conditions to reduce the impact of human activity at the beaches, marinas and boating operators.
 - Commit to partnerships and collaborative action to promote the sustainable development of tourism.
 - Forty-seven countries currently participate in the program, and 4,573 beaches, marinas, and boats have this certification.



Criteria of selection

- Based on 33 stringent criteria in four major heads, the certification is provided. The 4 major themes are:
 - Environmental education and information,
 - Bathing water quality,
 - Environment management and conservation
 - Safety and services in the beaches.

Why in the news?

- Eight beaches in India have been awarded the coveted 'Blue Flag' certification.

- The **beaches selected for the certification** are: Kappad (Kerala), Shivrajpur (Gujarat), Ghoghla (Diu), Kasarkod and Padubidri (Karnataka), Rushikonda (Andhra Pradesh), Golden (Odisha) and Radhanagar (Andaman & Nicobar Islands).
- This will boost the tourism benefiting the local industries and people and also will help in creating awareness about sustainability.

2) Climate change to blame for doubling of disasters

Sendai framework for disaster risk reduction

- This framework was adopted at the Third UN World Conference on Disaster Risk Reduction in **Sendai, Japan** in 2015.
- The framework aims to achieve the **substantial reduction of disaster risk and losses** in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years (2015-2030).
- It outlines **seven clear targets and four priorities** for action to prevent new and reduce existing disaster risks:
 - a. Understanding disaster risk;
 - b. Strengthening disaster risk governance to manage disaster risk;
 - c. Investing in disaster reduction for resilience and;
 - d. Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.

UN Office for Disaster Risk Reduction (UNDRR)

- UNDRR oversees the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, supporting countries in its **implementation, monitoring and sharing** what works in reducing existing risk and preventing the creation of new risk.
- It has headquarters at Geneva, Switzerland.

Why in the news?

- The UNDRR has released a report called '**The Human Cost of Disasters 2000-2019**'.
- It has assessed the natural disasters from 2000-2019 and produced that **most of the disasters are due to climate change**.
- According to the report, 7,348 major disaster events had occurred between 2000 and 2019, claiming 1.23 lives, affecting 4.2 billion people and costing the global economy some \$2.97 trillion. The figure far outstrips the 4,212 major natural disasters recorded between 1980 and 1999.
- The report **doesn't include** biological hazards and disease-related disasters like the coronavirus pandemic.
- A rise in climate-related disasters, including extreme weather events like floods, drought and storms have been seen. Extreme heat has become a major cause for deaths.
- There has also been a rise in geo-physical events including earthquakes and tsunamis which have killed more people than any of the other natural hazards under review in this report.

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ECONOMY

1) IIP & CPI

About IIP

- Index of Industrial Production (IIP) details out the growth of various sectors in an economy such as mineral mining, electricity and manufacturing.
- It is compiled and published every month by the **Ministry of Statistics and Programme Implementation**.
- The current base year is **2011-2012**.
- The Eight Core Industries (Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity) comprise 40.27 per cent of the weight of items included in the IIP.

About CPI

- It is an index which measures the weighted average of prices of a basket of consumer goods and services such as transportation, food and medical care.
- It is calculated by measuring price changes for each item in the **predetermined basket of goods and services** and averaging them.
- It is released by the **Ministry of Statistics and Program Implementation**.
- The base year used to calculate CPI in India is **2011-2012**.
- Under the flexible inflation targeting (FIT) framework, the RBI aims to contain CPI based inflation **within 4 percent with a band of (+/-) 2 percent**.

Why in News?

- India's industrial output fell for the sixth month in a row this August.
- The index of industrial production (IIP) shrank 8% in August on a year-on-year basis, marking a marginally improvement compared with July when output contracted 10.8% as per revised estimates.
- August's output marks the lowest contraction since factory production began falling in March. Output had shrunk 18.7% in March, followed by contractions of 57.3% in April and 33.4% in May. Between April and August, industrial output had shrunk 25%.

Inflation

- As per the latest data, Consumer Price Inflation increased to 7.34% in September, with food price spikes reaching 10.68%.

2) GST Compensations

What is it?

- The GST regime, launched on July 1, 2017, introduced a uniform indirect tax structure across the country by merging various state and local-level levies.
- Under the GST compensation Act 2017, states are guaranteed full compensation for any revenue loss for the **first five years** after the introduction of the GST.
- For the purpose of calculating the compensation amount in any financial year, year **2015-16 will be assumed to be the base year**, from which revenue will be projected. The growth rate of revenue for a state during the five-year period is assumed to be **14% per annum**.
- Any shortfall has to be compensated from the receipts of **Compensation Cess** levied on luxury goods and sin products such as liquor, cigarettes, aerated water, automobiles, coal and other tobacco commodities.

Revenue shortfall

- The goods and services tax revenue has slowed to a trickle on account of a slowing economy, the COVID pandemic and subsequent lockdowns.
- As a result, the **collections will not be enough to meet the committed 14% annual increase in states' GST revenue**, as provided in the constitutional amendment.
- The centre has computed this shortfall at an estimated Rs 2.35 lakh crore but determined that only Rs 97,000 crore of that is on account of GST implementation, the rest is due to the pandemic.

BLEAK OUTLOOK

Compensation cess
collected in Apr-Jul of FY21
₹21,747 crore

₹65,000 cr ₹1.62 trn
Collection estimated for FY21 by FinMin Compensation requirement in line with Compensation Act formula
┌─────────── **Gap ₹97,000 cr** ───────────┐

₹3 trn
Total requirement for states
(taking into account Covid impact)
┌─────────── **Gap ₹2.35 trn** ───────────┐

Note: Numbers given by Finance Secretary A B Pandey at a presser
Source: Controller General of Accounts

Background

- Recently, the Centre presented two options before the states to bridge their estimated GST revenue shortfall in FY21, both involving the states themselves borrowing from the market in the year.
- The loans will be serviced via the proceeds of the relevant **compensation cess**, which will apply on the specified demerit goods for a **year or more beyond the current end date of FY22**.

Key details of the two options:

Option 1:

- The shortfall arising out of GST implementation (calculated at Rs 97,000 crore approximately) will be borrowed by States through issue of debt under a Special Window coordinated by the Ministry of Finance.
- The interest on the borrowing under the Special Window will be paid from the **Compensation cess** as and when it arises until the end of the transition period (2022). After the transition period, principal and interest will also be paid from proceeds of the Cess, by extending the Cess beyond the transition period for such period as may be required.
- The **state will not be required to service the debt or to repay it from any other source**.

- The borrowing under this special window will not be treated as debt of the state for any other norms prescribed by the Finance Commission.

Option 2:

- The entire shortfall of Rs 2,35,000 crore (including the Covid-impact portion) may be borrowed by States through issue of market debt.
- The **interest shall be paid by the States from their resources**.
- The **centre will repay principal** on such debt from **compensation cess** proceeds collected after the transition period ends in July 2022.
- To the extent of the shortfall arising due to implementation of GST (Rs 97,000 crore), the borrowing will not be treated as debt of the state.
- The states were asked to convey their choice to the Council.

Why in News?

- The Ministry of Finance (MoF) has permitted as many as 20 states, who have exercised Option-1, to raise ₹68,825 crore through borrowings to meet the GST revenue shortfall.
- Twenty states have given their preferences for Option-1. However, eight states are yet to exercise an option.

3) Public debt to GDP ratio

What is Public debt?

- Public debt is the total amount borrowed by the government of a country.
- In the Indian context, public debt includes the **total liabilities of the central and state governments**.
- The **Fiscal Responsibility and Budget Management (FRBM) Review Committee Report** has recommended a debt to GDP ratio of 60% for the general (combined) government by 2023, comprising 40% for the Central Government and 20% for the State Governments.
- At present, the public debt calculated as general government liabilities, which includes the liabilities of Centre and states, is **72.2% of the country's GDP (as of FY20)**.
- As per Reserve Bank of India Act of 1934, the **Reserve Bank manages public debt**

on behalf of the Central and the State Governments.

Sources of Public Debt

- These are listed as follows:
 - a. Dated government securities or G-secs
 - b. Treasury Bills or T-bills
 - c. External Assistance
 - d. Short term borrowings

Public Debt versus Private Debt

- Public Debt is the money owed by the Union and State governments, while private debt comprises all the loans raised by private companies, corporate sector and individuals such as home loans, auto loans, personal loans.

Why in News?

- The International Monetary Fund (IMF) has projected that India's public debt ratio will jump by 17 percentage points to almost 90% of India's GDP because of an increase in public spending due to COVID-19 and the fall in tax revenue and economic activity.
- It remained remarkably stable at about 70% of the GDP since 1991.
- Going forward, it is projected to stabilise in 2021, before slowly declining up to the end of the projection period, in 2025. As per IMF, the pattern of public debt in India is close to the norm around the world.

4) Beaten or broken: Informality and COVID-19

What's in the news?

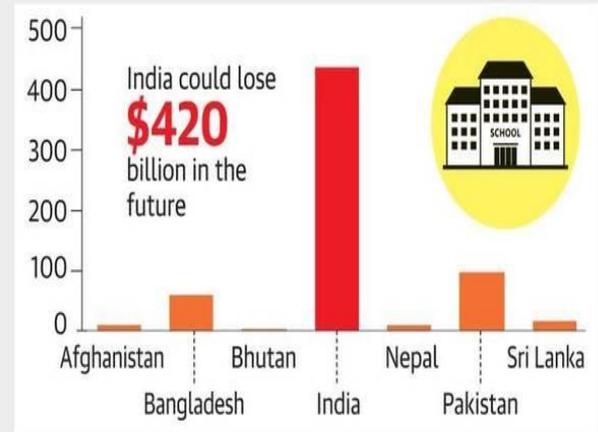
- The World Bank has released its latest South Asia report titled "Beaten or broken: Informality and COVID-19".

Highlights of the Report

- Warning that as many as **5.5 million students could drop out of schools across South Asia**, the report said dropouts, combined with substantial learning losses for those who remain enrolled in schools, would cost South Asia as much as \$622 billion in future earnings and gross domestic product.
- The extended closure of schools amid the COVID-19 pandemic could dent India's future earnings by anywhere between \$420 billion and \$600 billion, as depleted learning levels of students will translate into poorer productivity going forward.

Closure effect

Among South Asian nations, India's future earnings are projected to be impacted the most due to school closures. The chart shows the amounts (in USD billion) some countries are projected to lose due to school closures



- While the regional loss is largely driven by India, all countries will lose substantial shares of their GDP.
- The report has flagged **“far-reaching consequences” of lockdowns**, apart from the obvious damage to businesses, consumption patterns and imposed social hardship on poor and vulnerable households, especially urban migrants and informal workers.
- The **projected learning loss for the region is 0.5 years of learning-adjusted years of schooling** at present, and this will already lead to substantial future earning losses.
- **Labour productivity** will also take a greater hit from COVID-19 than most previous natural disasters. For eg: Contagion prevention and physical distancing may render some activities, like the hospitality sector, unviable unless they are radically transformed, which will take time.
- Disruptions to training, schooling and other education in the event of severe income losses, even once restrictions are lifted, will also lower human capital and labour productivity over the long term.

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INTERNATIONAL RELATIONS

1) Financial Action Task Force

About Financial Action Task Force (FATF):

- It is an **intergovernmental organization** that designs and promotes policies and standards to combat financial crime.
- Recommendations of the FATF target
 - 1) Money laundering
 - 2) Terrorist financing
 - 3) Other threats to the global financial system
- The FATF was created in 1989 by the **G7 countries**, and is headquartered in Paris.
- There are 37 members, including **India** and two regional organisations - European Commission and the Gulf Cooperation Council.

Grey list FATF:

- Member countries that have deficiencies in their anti-money laundering and counter terrorist financing (AML/CTF) regimes but they **commit** to an action plan to address these loopholes.
- Currently, there are 18 countries on the grey list, including Mauritius and **Pakistan**.

Black list FATF:

- Member countries that have deficiencies in their anti-money laundering and counter terrorist financing (AML/CTF) regimes and **do not end up doing enough**.
- As of now there are only two countries in the blacklist — **Iran and North Korea**.
- While greylist includes countries which are considered as safe havens for supporting terror funding and money laundering, blacklisting will mean **severe strictures on the countries banks and credit rating**, as well as **access to loans and foreign investments**.
- Pakistan has been under the FATF's scanner since 2018, when it was put on the greylist for terror financing and money laundering risks.

Asia Pacific Group of FATF

- The **Asia Pacific Group (APG)**, one of the nine regional affiliates of FATF, had placed Pakistan in the “enhanced

expedited follow-up list” (also known as the blacklist) for terror financing.

- While the two processes are separate, the APG blacklisting impairs Pakistan's chances at extricating itself from the FATF greylist.

Why in News?

- Noting that Pakistan's measures against money laundering and terror financing is not yet sufficient to justify a re-rating, the Asia-Pacific Group of FATF retained the country on its ‘enhanced follow-up’ list.
- Pakistan has improved its full compliance on only two of the 40 FATF recommendations, the APG noted.

2) European Union

About EU

- The European Union (EU) is a unique **economic and political union** between 27 European countries.
- The **United Kingdom**, which had been a founding member of the EU, left the organization in 2020.
- The EU was created by the **Maastricht Treaty**, which entered into force on November 1, 1993. The treaty was designed to enhance European political and economic integration by creating a single currency (the euro), a unified foreign and security policy, and common citizenship rights and by advancing cooperation in the areas of immigration, asylum, and judicial affairs.
- Additionally, the **Treaty of Lisbon**, enacted in 2009, gave the EU more broad powers that included being authorized to sign international treaties, increase border patrol, and other security and enforcement provisions.
- EU's headquarters is currently located in Brussels, Belgium.
- Currently, the euro is the official currency of 19 out of 27 EU member countries which together constitute the **Eurozone**, officially called the **euro area**.



Why in News?

- The European Union has imposed sanctions on six Russian officials and one organisation over the poisoning of Russian opposition leader Alexei Navalny with a Soviet-era nerve agent- Novichok.
- Last week, tests conducted at labs designated by the **Organisation for the Prohibition of Chemical Weapons** confirmed that Navalny was poisoned by a Novichok nerve agent.

Related information

About Chemical Weapons Convention

- The Chemical Weapons Convention (CWC) is a universal, non-discriminatory, multi-lateral, disarmament treaty which prohibits the development, production, stock-piling and use of chemical weapons and monitors its elimination in order to secure a chemical weapons free world.
- The Convention entered into force in 1997. As on date, 193 countries are parties to the Convention.
- **India** is a signatory and party to the convention. India, pursuant to provisions of the Convention enacted the **Chemical Weapons Convention Act, 2000**.

About OPCW

- The Organisation for the Prohibition of Chemical Weapons (OPCW) is the

implementing body for the Chemical Weapons Convention.

- The OPCW, with its 193 Member States (including **India**), oversees the global endeavour to permanently and verifiably eliminate chemical weapons.

3) New START

About the Treaty

- The New Strategic Arms Reduction Treaty was signed in 2010 by **Russia and the United States** and entered into force in 2011.
- New START replaced the 1991 START I treaty, which expired in 2009, and superseded the 2002 Strategic Offensive Reductions Treaty (SORT).
- New START caps the deployed strategic nuclear warheads and bombs of the United States at Russia at 1,550 each. The Treaty includes limits on missiles, bombers, and land-based launchers for nuclear weapons.
- The Treaty also allows for verification inspections and information-sharing.
- The New Start Treaty is **due to expire next February**.

Why in News?

- The US has rejected an offer by Russia for a one-year extension of the New START treaty, describing it as a “non-starter”.
- This is the second time the US has rejected an offer from Russia, with Moscow previously offering to extend New Start for five years without preconditions.
- The US wants a more expansive deal as well as the **inclusion of China** in nuclear accords.

4) Iran nuclear deal

Background

- **The Joint Comprehensive Plan of Action (JCPOA)**, more commonly known as the Iran nuclear deal, was reached between Iran and six world powers known as the **P5+1** (China, France, Germany, Russia, the United Kingdom, and the United States) in July 2015.

What did Iran have to do to meet the requirements of the deal?

- According to this framework, Iran would **redesign, convert, and reduce its nuclear facilities** in order to lift all nuclear-related economic sanctions.
- The deal also allowed for the tracking of nuclear activities with robust transparency and inspections by the

International Atomic Energy Agency (IAEA).

U.S. withdrawal from JCPOA

- The US President Donald Trump unilaterally withdrew from the Iran nuclear deal in 2018, claiming it did not address Iran's ballistic missile programme or its roles in Middle Eastern conflicts.
- The US also re-imposed tough economic sanctions against Iran.
- Reacting to the US' withdrawal, Iran announced that it will breach its limits set on its nuclear activity by the 2015 deal.

Why in News?

- China's Foreign Minister Wang Yi recently called for a regional multilateral dialogue platform to defuse tensions in West Asia after a meeting with his Iranian counterpart.
- Mr. Wang also reaffirmed China's commitment to Iran's 2015 nuclear deal with world powers.
- He added that support for the Iranian nuclear deal would be a precondition of entry to the forum.

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SCIENCE AND TECHNOLOGY

1) Paper strip test

What's in the news?

- Union Health Minister Harsh Vardhan recently said that the ministry will soon roll out the **FELUDA paper strip test for SARS-CoV-2 diagnosis**.

About the test

- The test has been developed by **CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB)** and has been approved by the Drug Controller General of India for a commercial launch. The test showed 96% sensitivity and 98% specificity.
- FELUDA** is an acronym for **FNCAS9 Editor-Limited Uniform Detection Assay**. It uses **CRISPR-Cas technology** (Refer Health section) for the detection of genes specific to SARS-CoV-2 virus.
- In this method, a protein called FnCas9 and a guide RNA(gRNA) which helps in recognising the viral genes is used.
- If the patient sample has the viral gene, this **gRNA-FnCas9 complex binds to the gene** and using a paper strip this binding can be visualised.

A new test in horizon

A COVID-19 test named FELUDA, developed by the Delhi-based CSIR-Institute of Genomics and Integrative Biology, is quicker and cheaper. A lowdown on the test:



(RT-PCR) test takes 1.5 hours; Rapid antigen test takes 30-40 minutes and TruNat test gives results in 60 minutes

Test in time: The paper strip test has been approved for a commercial launch. • ANI

Cost: It is expected to cost between ₹500 and ₹600

Accuracy: Based on tests in over 2,000 patients, it showed **96% sensitivity** (100% sensitivity = all positive samples return positive results) and **98% specificity** (100% specificity = all negative samples return negative results)

Type of sample: Either saliva or blood, but saliva is preferred for testing

Turnaround time: The kit takes 45 minutes to give a result. In comparison, the real-time polymerase chain reaction

Is it similar to the pregnancy color-code test? The paper strip generates two lines for a positive result and one line in the case of a negative result, much like a pregnancy test kit. However, this is a nucleic acid test and not a protein based one

Need for using this test

- With **FELUDA**, the need for **technical expertise is minimal and no requirement of expensive equipment**, making it an easy to perform, point of care test. It thus **saves space, time and money**.
- Whereas **RT- PCR test equipment and reagents are costly and a technical expertise is needed**.

Additional Information:

- In medical diagnosis, test **sensitivity** is the **ability of a test to correctly identify those with the disease** (true positive rate), whereas test **specificity** is the **ability of the test to correctly identify those without the disease** (true negative rate).

2) Thalassemia

Thalassemia

- Thalassemia** is an **inherited blood disorder** characterised by **less oxygen-carrying protein (haemoglobin)** and fewer red blood cells in the body than normal.
- Symptoms** include **fatigue, weakness, paleness and slow growth**. Mild forms may not need treatment. Severe forms may require blood transfusions or a donor stem-cell transplant.
- The **best therapeutic option** for Thalassemia major patients is **bone marrow transplant** from an HLA-identical (when two people share the same HumanLeukocyte Antigens) donor.

Why in News?

- A one-year-old sibling has saved her brother's life who was born with Thalassemia by donating her bone marrow (saviour sibling). This was India's first 'saviour sibling' experiment.
- Saviour siblings** are **children who are born to provide HLA compatible body parts**, typically umbilical cord blood **to be used for bone marrow transplantation**, in order to save the life of their older sibling. The savior sibling is conceived **through in vitro fertilization**.

Bone Marrow

- **Bone marrow** is a **semi-solid tissue** found within the spongy or cancellous portions of bones
- **Bone marrow transplants** can be conducted to **treat severe diseases** of the bone marrow, including certain forms of cancer such as leukemia

Additional Details

India and Thalassemia

- There are around **270 million Thalassemia patients in the world**. **India** has the **largest number of children with Thalassemia** major in the world, about **1 to 1.5 lakhs**, and about 10,000 -15,000 children having Thalassemia major are born every year.
- The only cure available for such children is bone marrow transplantation (BMT).
- Recently, the **Ministry of Health and Family Welfare** launched the second phase of **“Thalassemia Bal Sewa Yojna”** for the underprivileged Thalassemic patients. *(Refer PIB section)*

IVF

- In vitro fertilisation is a process of fertilisation where an egg is combined with sperm outside the body, in vitro.
- The process involves monitoring and stimulating a woman's ovulatory process, removing an ovum or ova from the woman's ovaries and letting sperm fertilise them in a liquid in a laboratory.

Surrogacy

- Surrogacy is the process of a woman carrying a child in her uterus on behalf of another person or couple. Surrogate Mothers are of two types:
 - **Traditional surrogate-** It's a woman who gets artificially inseminated with the father's sperm. She then carries the baby and delivers it for you and your partner to raise. A traditional surrogate is the baby's biological mother. That's because it was her egg that was fertilized by the father's sperm. Donor sperm can also be used.
 - **Gestational surrogates-** A technique called "in vitro fertilization" (IVF) now makes it possible to gather eggs from the mother, fertilize them with sperm from the father, and place the embryo into the uterus of a gestational surrogate. The surrogate then carries the baby until birth. She doesn't have any genetic ties to the child because it wasn't her egg that

was used. A gestational surrogate is called the "birth mother." The biological mother, though, is still the woman whose egg was fertilized.

India and Surrogacy

- The **Surrogacy (Regulation) Bill, 2020** - The Bill **prohibits commercial surrogacy**, but **allows altruistic surrogacy**.
- Provides for the constitution of **surrogacy boards at the national as well as state levels** to ensure effective regulation.
- **Altruistic surrogacy involves no monetary compensation** to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy. Commercial surrogacy includes surrogacy or its related procedures undertaken for a monetary benefit or reward (in cash or kind) exceeding the basic medical expenses and insurance coverage.
- Surrogacy is permitted when it is: (i) for intending couples who suffer from proven infertility; (ii) altruistic; (iii) not for commercial purposes; (iv) not for producing children for sale, prostitution or other forms of exploitation; and (v) for any condition or disease specified through regulations.
- The Rajya Sabha Select Committee to the Surrogacy (Regulation) Bill, 2019, in its **report** has **recommended** that the **definition of a surrogate mother should be expanded** to include any willing woman and not just restricted to close relatives alone. Letting a single woman (including divorcee, widows or a Persons of the Indian Origin) avail surrogacy, removing the provision of requirement of five years as period of inability to conceive before opting for surrogacy are some of the other major changes as recommended by the panel.
- Citing the malpractice of **“renting the womb”**, the **government of India banned the surrogacy for foreign nationals** in 2015. The criticism was that surrogacy leads to commoditization of the child, it breaks the bond between the mother and the child, it interferes with nature, and it leads to the exploitation of

poor women in underdeveloped countries who sell their bodies for money

3) Sanitisers, soaps and antimicrobial resistance

What's in the news?

- Health experts at the All India Institute of Medical Science (AIIMS) **warned** that the **increased use of antibiotics** and the widespread use of hand sanitisers and antimicrobial soaps, **can worsen** the situation of **antimicrobial resistance (AMR)**.

What is AMR?

- Antimicrobial resistance (AMR)** is the **ability** of a **pathogenic** microbe to **develop a resistance** to the effects of an antimicrobial medication.
- AMR **occurs** when **bacteria, viruses, fungi and parasites change over time and no longer respond to medicines** making infections harder to treat and increasing the risk of disease spread, severe illness and death. As a result, the medicines become ineffective and infections persist in the body, increasing the risk of spread to others.
- The term **antibiotic resistance** is a **subset of AMR**, as it applies to bacteria that become resistant to antibiotics.
- Microorganisms that have antimicrobial resistance are sometimes called "**superbugs**".

The issue of AMR

- Antibiotic resistance is one of the biggest challenges of modern medicine. This antimicrobial resistance mounts problems beyond the geographical as well as species barriers and can transmit from animals to humans. AMR needs to be addressed in totality by all sectors including healthcare, veterinary and agricultural domains.
- WHO** has **declared** that **AMR** is one of the **top 10 global public health** threats facing humanity.
- Antibiotic resistant organisms have become rigidly established in our environment with many infections failing to respond to available antimicrobials.
- The emergence of antimicrobial resistance (AMR) is creating '**superbugs**' that make treating **basic infections**

difficult (and in some cases impossible) **and surgery risky**.

Causes of AMR

- Over-prescription** and **self-prescription** of antibiotics.
- Patients **not finishing** the entire antibiotic **course**.
- Overuse** of antibiotics in livestock and fish farming.
- Poor infection control** in health care settings.
- Poor hygiene** and sanitation.
- Current effluent standards** do not include antibiotic residues, and hence they are not monitored in the pharmaceutical industry effluents, resulting in resistance.
- Bacteria can also acquire **resistance naturally** by:
 - Sharing and transferring resistance genes** that is already present in the population
 - Genetic mutations** that help the bacteria post it is exposed to antibiotics

Fight against AMR

- Based on the adoption of the **Global Action Plan on AMR in 2015** in the **World Health Assembly**, member states were urged to develop **National Action Plans** based on the global framework within 2 years and share data with the WHO on implementation steps and AMR trends.
- In **2019**, a new **AMR indicator** was **included in the SDG** monitoring framework.
- WHO** launched the **Global Antimicrobial Resistance and Use Surveillance System (GLASS) in 2015** to continue filling knowledge gaps and to inform strategies at all levels.
- WHO** estimates that, in 2018, there were about half a million new cases of rifampicin-resistant TB (RR-TB) identified globally, of which the vast majority have **multi-drug resistant TB (MDR-TB)**, a form of tuberculosis that is resistant to the two most powerful anti-TB drugs. In 2018, an **estimated 3.4% of new TB cases and 18% of previously treated cases had MDR-TB/ RR-TB** and the emergence of resistance to new 'last resort' TB drugs to treat drug resistant TB poses a major threat.

- **National Action Plan on AMR (NAP-AMR) was released at the Delhi Declaration** on Antimicrobial Resistance - an inter-ministerial consultation aimed at adopting a holistic and collaborative approach towards prevention and containment of AMR in India and increasing cooperation between various ministries.
- The Government of **India adopted the National Action Plan on AMR (NAP-AMR) in 2017**, with the Ministry of Health and Family Welfare (MoHFW) as the nodal ministry and the National Centre for Disease Control (NCDC) as the key surveillance body.
- **India** is amongst the nations with the **highest burden of bacterial infections**.
- In 2008, about 29% of isolates of *Staphylococcus aureus* were methicillin resistant, and by 2014, this had risen to 47%.
- The NCDC has prepared guidelines for the development of State Action Plans but till date, only three states—Kerala, Madhya Pradesh, and Delhi—have prepared and submitted them.
- In **2012, India's medical societies adopted the Chennai Declaration**, a set of national recommendations to promote antibiotic stewardship.
- **Red Line campaign** - demands that prescription-only antibiotics be marked with a red line, to discourage the over-the-counter sale of antibiotics.
- The Food Safety and Standards Authority of India (FSSAI) **banned** the use of **antibiotics** and several pharmacologically active substances in **fisheries**.
- The **Ministry of Health** has **capped** the maximum levels of **drugs** that can be used for growth promotion in **meat and meat products**.

Way Forward

- **One Health Approach** through coherent, integrated, multi sectoral cooperation and actions, since **human, animal and environmental health** are integrated for fighting against AMR.
- Lack of clean water and sanitation and inadequate infection prevention and control promotes the spread of microbes, some of which can be resistant to

antimicrobial treatment. India in particular is known for lack of clean water. Hence, the Ministry of Jal Shakti scheme, "**Swajal**" (demand-driven programme involving the community to provide sustainable access to safe drinking water to people in rural areas) has to be given more seriousness.

- **Strengthening resistance tracking**- New infections should be collected and analysed, that can inform as to the degree of antibiotic resistance seen in different bacterial species or isolates from different types of infection
- **Creating awareness**, stopping self-medication, and investing in finding **new antibiotics**.
- **New effluent standards** that treat pharmaceutical industry effluents.

Additional Information

- **Penicillin, world's first antibiotic** was discovered in 1928 by Scottish scientist **Alexander Fleming**.

4) Indomethacin for treatment of Covid-19

What's in the news?

- A small study from India analysed the case for the use of **indomethacin**, a **powerful anti-inflammatory drug**, in **low doses**, for **effective** treatment of **milder COVID-19** cases.

Observations made in the study

- **Currently paracetamol** is widely used for symptomatic treatment in COVID-19, but with **poor results**.
- Using **indomethacin**, a low-priced drug, in a small number of patients with COVID-19, including those classified as 'high-risk', the **results** were **encouraging**.
- **Indomethacin** is a powerful **anti-inflammatory drug**, one that gives relief even with low doses. The drug **helps** control the **dry, persistent cough** that is a common feature among COVID-19 patients.
- A 2006 article from the University of Rome Tor Vergata, Italy, identified indomethacin as a potent inhibitor of coronavirus (SARS-CoV) replication and suggested that having both anti-inflammatory and antiviral activity, it **could be beneficial in SARS therapy**.

5) Milky way Galaxy

What's in the news?

- In a vital discovery which may help understand the mystery behind **declining star formation activity in the Milky Way**, a team of astronomers from the Pune-based National Centre for Radio Astrophysics (NCRA-TIFR) and Raman Research Institute (RRI) in Bengaluru have used the upgraded **Giant Metrewave Radio Telescope (GMRT)** to measure the atomic hydrogen content of galaxies.

Importance of their study

- **Galaxies** in the universe are **made up mostly of gas and stars**, with gas being converted into stars during the life of a galaxy.
- Understanding galaxies requires us to determine how the amounts of both gas and stars change with time.
- Astronomers have long known that **galaxies formed stars at a higher rate when the universe was young** than they do today. The star formation activity in galaxies peaked about 8-10 billion years ago and has been declining steadily till today.
- The cause of this decline was unknown as there had been no information regarding the amount of atomic hydrogen gas — the primary fuel for star formation — in galaxies in these early times.
- For the first time, **Indian astronomers measured the atomic hydrogen gas content** of star forming galaxies about 8 billion years ago, **using the upgraded GMRT**. Given the intense star formation in these early galaxies, their atomic gas would be consumed by star formation in just one or two billion years. And, if the galaxies could not acquire more gas, their

star formation activity would decline, and finally cease.

- Unlike stars which emit light strongly at optical wavelengths, the atomic hydrogen signal lies in the radio wavelengths, at a wavelength of 21 cm, and can only be detected with radio telescopes.
- Unfortunately, this 21 cm signal is intrinsically very weak, and difficult to detect from distant individual galaxies even with powerful telescopes like the upgraded GMRT. To overcome this limitation, the team used a technique called “**stacking**” to **combine the 21 cm signals of nearly 8,000 galaxies** that had earlier been identified with the help of optical telescopes. This method measures the average gas content of these galaxies.

Additional Details

- Located near **Pune**, the **GMRT is a radio telescope**. As with most powerful telescopes, it comprises a group of dishes or an “array” that are all steerable and can turn their giant heads in any direction. A **radio telescope** is a specialized antenna and radio receiver used **to receive radio waves** from astronomical radio sources in the sky
- When all of GMRT’s 30 parabolic dishes point to the same source, the signal that’s received from the source is greatly amplified. This type of operation, where multiple antennae operate as one, is called interferometry.
- In August 2018, the **most distant galaxy** ever known, located at a distance of 12 billion light years, was discovered by GMRT.
- In February 2020, it helped in the observation of the **biggest explosion in the history of the universe, the Ophiuchus Supercluster explosion**.

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HEALTH

1) Gene scissors

What's in the news?

- Emmanuelle Charpentier of France and Jennifer Doudna of the U.S. won the **Nobel Chemistry Prize for the gene-editing technique known as the CRISPR** (Clustered Regularly Interspaced Short Palindromic Repeats)-Cas9 DNA snipping "scissors", the first time a Nobel science prize has gone to a women-only team.

About CRISPR Cas-9

- CRISPR-Cas9 was adapted from a **naturally occurring genome editing system in bacteria**.
- The bacteria capture snippets of DNA from invading viruses and use them to create DNA segments known as **CRISPR arrays**.
- The CRISPR arrays allow the bacteria to "**remember**" the viruses (or closely related ones). If the viruses attack again, the **bacteria produce RNA segments from the CRISPR arrays to target the viruses' DNA**. The bacteria then use Cas9 or a similar enzyme to cut the DNA apart, which **disables the virus**.
- This also contains **Cas (CRISPR-associated) genes** that are used to produce enzymes such as Cas-9. These enzymes — the Cas-9 being a particularly popular one — can be used to chop the DNA of the virus and destroy them.
- The **CRISPR-Cas9 system works similarly** in the lab. As in bacteria, the modified RNA is used to recognize the DNA sequence, and the Cas9 enzyme cuts the DNA at the targeted location.
- Once the DNA is cut, researchers use the cell's own DNA repair machinery to add or delete pieces of genetic material, or to make changes to the DNA by replacing an existing segment with a customized DNA sequence.

About their discovery

- Using **CRISPR-Cas9** DNA snipping "scissors", **researchers can change the DNA of animals, plants and microorganisms with extremely high precision**

- This technology has had a revolutionary impact on the life sciences, is contributing to new cancer therapies and may make the dream of curing inherited diseases come true
- Charpentier, while studying the **Streptococcus pyogenes**, a harmful **bacterium**, discovered a previously unknown molecule, **tracrRNA**— part of the bacteria's ancient immune system that **disarms viruses by snipping off parts of their DNA**.
- They reprogrammed the scissors to cut any DNA molecule at a predetermined site — paving the way for scientists to rewrite the code of life where the DNA is snipped.
- The CRISPR/Cas9 tool has already contributed to significant gains in crop resilience, altering their genetic code to better withstand drought and pests.

How it Works

- By **delivering the Cas9 nuclease** complexed **with a synthetic guide RNA (gRNA)** into a cell, the **cell's genome can be cut at a desired location**, allowing existing genes to be removed and/or new ones added in vivo (in living organisms)
- In essence, the technology works in a simple way — it **locates** the specific **area** in the genetic sequence which has been diagnosed to be the **cause of the problem, cuts it out, and replaces** it with a **new** and correct **sequence** that no longer causes the problem.
- An RNA molecule is programmed to locate the particular problematic sequence on the DNA strand, and a special protein called Cas9, which now is often described in popular literature as '**genetic scissor**', **is used to break and remove the problematic sequence**. A DNA strand, when broken, has a natural tendency to repair itself. But the auto-repair mechanism can lead to the re-growth of a problematic sequence. Scientists intervene during this auto-repair process by supplying the desired sequence of genetic codes, which replaces the original sequence.

How is the tool different from other editing systems?

- Other genome editing systems like **TALENs and Zinc-Finger Nucleases** can do similar jobs, but several users consider the Charpentier-Doudna tool **more adaptable and easier to use.**

Uses of gene editing

- It can be used in the creation of **new medicines, agricultural products, and genetically modified organisms, or as a means of controlling pathogens and pests.**
- It also has possibilities in the **treatment of inherited genetic diseases** as well as diseases arising from somatic mutations such as cancer.

To what uses has CRISPR/Cas9 been deployed so far?

- **Hereditary blindness**
- **Beta thalassemia**
- **Sickle cell disease**
- Research is already underway for using proteins that are smaller and more efficient than Cas-9, though the system purportedly holds promise for treating

more complex diseases, such as **cancer, heart diseases, mental illnesses, and the human immunodeficiency virus (HIV) infection.**

Concerns

- **Unwanted mutations-** The application of CRISPR-Cas9 in the germline is considered more problematic because of the risk of causing **various mutations and side effects** and transferring undesirable changes to future generations
- **Unethical practices-** The concept of **designer babies** may start. A Chinese doctor in 2018 claimed to use CRISPR-Cas9 technology to alter the genes of a human embryo that eventually resulted in the birth of twins.
- The idea of a **classless society may not exist in future** as some may claim genetic superiority like Aryan Theory of Hitler.

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ART & CULTURE

1) 9th century grinding wheel

What's in the news?

- Three **grinding stones** and a **hero stone** belonging to the ninth and 13th Century respectively were identified by a team of archaeology enthusiasts at Sanarpalayam village in Bhavani Taluk, **Tamil Nadu** recently.

About the discovery

- The grinding stones, each measuring 90 cm in diameter and 40 cm in depth, were placed for common usage of the people. In one stone, a three-line inscription was found and the readable form of the word carries the name **Valavaraya**.
- Inscriptions identified in **Kongu region** until the period of 10th Century do not carry the names of any rules or kings. Only **regional leaders** were involved in

such social work and he could be the person who created the stone.

- The **hero stone**, measuring 135 cm height and 115 cm breath, has a fully carved with embossed feature of a hero in which the inscriptions were deciphered. The hero holds a long sword in his right hand and a flat shield in his left hand readily facing the enemy while his clothes look like fluttering in the wind.
- The word **Oorali** meaning, '**person who rules**', is seen in another hero stone inscription from the same area and is used to denote the head of a society. The hero stones do not carry the name of the hero and are **created to praise his sacrifice**.

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PIB ANALYSIS

1) Tech For Tribals

About:

- The program titled “**Tech for Tribals**” aims at the **holistic development of tribals with a focus on entrepreneurship development**, soft skills, IT, and business development through SHGs operating through **Van Dhan Kendras (VDVKs)**.
- It is aimed to transform 5 crore Tribal Entrepreneurs and has been launched by **TRIFED** with support from the Ministry of MSME.
- Tech for Tribals also aims at capacity building and imparting entrepreneurship skills to tribal forest produce gatherers enrolled under the **Pradhan Mantri Van Dhan Yojana (PMVDY)**.

- The Van Dhan Scheme is an initiative of the **Ministry of Tribal Affairs and TRIFED**.
- It seeks to improve tribal incomes through value addition of tribal products.
- The scheme will be implemented through the Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED as Nodal Agency at the National Level.

- The trainees will undergo a 30 days program over six weeks comprising 120 sessions. The Partners will develop course contents relevant to Entrepreneurship in Value Addition and Processing of Forest Produces.

Why in News?

- Trifed in Collaboration with Chattisgarh MFP Federation and IIT, Kanpur is going to launch “Tech for Tribals Initiative”.

Other related information:

About TRIFED :

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987. It is a national-level apex organization functioning under the administrative control of the Ministry of Tribal Affairs.
- TRIFED has its Head Office located in New Delhi and has a network of 13 Regional

Offices located at various places in the country.

Objectives :

- The ultimate objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products such as metal craft, tribal textiles, pottery, tribal paintings and pottery on which the tribals depend heavily for a major portion of their income.
- TRIFED acts as a facilitator and service provider for tribes to sell their product.
- The approach by TRIFED aims to empower tribal people with knowledge, tools and pool of information so that they can undertake their operations in a more systematic and scientific manner.
- It also involves capacity building of the tribal people through sensitization, formation of Self Help Groups (SHGs) and imparting training to them for undertaking a particular activity.

Main activities to TRIFED include:

- Retail Marketing Development
- Minor Forest Produce Marketing Development
- Skill up-gradation & Capacity Building of ST Artisans and MFP Gatherers
- R&D Development/Intellectual Proprietary Rights (IPR) Activity

2) Governing Structure of India Energy Modelling Forum

About India Energy Modelling Forum (IEMF)

- India Energy Modelling Forum is jointly launched by NITI Aayog and United States Agency for International Development (USAID).
- It is part of the Sustainable Growth pillar of the US-India Strategic Energy Partnership (SEP).
- The India Energy Modelling Forum will accelerate this effort and aim to:
 - Provide a platform to examine important energy and environmental related issues;
 - Inform decision-making process to the Indian government;

- Improve cooperation between modelling teams, government, and knowledge partners, funders;
- Facilitate exchange of ideas, ensure production of high-quality studies;
- Identify knowledge gaps at different levels and across different areas;
- Build capacity of Indian institutions.

Governing structure

- It will consist of an inter-ministerial and a steering committee.
- The inter-ministerial committee will be convened by NITI Aayog and headed by its CEO, and comprise senior officials from the various ministries.
- This committee will review the studies/modelling activities and provide directions and new areas of research.
- The steering committee will comprise representatives of the:
 - **Government** (ministries of environment, forest and climate change; new and renewable energy; statistics and programme implementation; NITI Aayog etc.)
 - Industry Associations
 - Academia (IIT Bombay, Ahmedabad, and Delhi)
 - Policy Research organizations, think tanks and funding agencies

Significance:

- The Sustainable Growth pillar brings together Indian and US researchers and decision-makers to collaborate in three focal areas:
 - a. Energy data management;
 - b. Energy modelling, and
 - c. Promotion of low carbon technologies.
- Through collaborations with global energy modelling forums, such as Stanford Energy Modelling Forum and Energy Modelling Platform for Europe, IEMF hopes to share and learn from best practices.

Why in News?

- NITI Aayog and United States Agency for International Development (USAID) under the US-India Strategic Energy Partnership jointly launched the Governing Structure of India Energy Modelling Forum.

3) STARS Programme

About the STARS Programme

- The STARS program builds on the long partnership between **India and the World Bank** for **strengthening public school education** and to support the country's goal of providing '**Education for All**'.
- STARS will support India's renewed focus on addressing the 'learning outcome' challenge and help students better prepare for the jobs of the future – through a series of reform initiatives. These include:
 - **Focusing more directly on the delivery of education services at the state, district and sub district levels** by providing customized local-level solutions towards school improvement.
 - **Addressing demands from stakeholders, especially parents, for greater accountability and inclusion** by producing better data to assess the quality of learning; giving special attention to students from vulnerable sections – with over 52 percent of children in the government-run schools in the six project states belonging to vulnerable sections, such as Scheduled Caste (SC), Scheduled Tribe (ST) and minority communities; and delivering a curriculum that keeps pace with the rapidly evolving needs of the job market.
 - **Equipping teachers to manage this transformation** by recognizing that teachers are central to achieving better learning outcomes. The program will support individualized, needs-based training for teachers that will give them an opportunity to have a say in shaping training programs and making them relevant to their teaching needs.
 - **Investing more in developing India's human capital needs** by strengthening foundational learning for children in classes 1 to 3 and preparing them with the cognitive, socio-behavioral and language skills to meet future labor market needs.

- **Implementation:** The project will be implemented through the **Samagra Shiksha Abhiyan**, the flagship central scheme of India.
- **States Covered:** Six states are included in

the project that are Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, and Rajasthan.

Key focus areas:

- The STARS project aims to focus on initiatives of PM e-Vidya, Foundational Literacy and Numeracy Mission and National Curricular and Pedagogical Framework for Early Childhood Care and Education as part of the Atmanirbhar Bharat Abhiyan.

Positive Outcomes and Benefits:

- It is in line with the Sustainable Development Goal for education (*SDG 4- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*) and will help produce better data on learning levels by improving the National Achievement Survey (NAS).
- STARS will assist India in participation in the **Programme for International Student Assessment (PISA)**.

- PISA is a worldwide study by the **Organisation for Economic Co-operation and Development (OECD)** in member and non-member nations.

- It measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

- India has successfully achieved gender parity in enrolment in primary education. However, for many children, secondary education is the stage when they leave school and enter the workforce. Under STARS, each state is expected to not only stabilize this downward trend but also improve the completion rate for secondary education.
- STARS will support the Government of India's vision to provide greater flexibility to states for school education planning and budgeting.
- This will help states' implement evidence-based planning to factor in the needs of the most deprived, strengthen accountability at all levels, and thereby adopt a holistic approach to improve education outcomes.

Why in News?

- The Union Cabinet has approved the STARS program partially funded by the World Bank to carry out a reform agenda in the governance of school education, and improve data and assessment systems at the national level, as well as teaching and learning outcomes in six States, especially for early childhood and vocational education.

4) International Solar Alliance

About International Solar Alliance

- The International Solar Alliance (ISA) was launched by the **Prime Minister of India Narendra Modi and former President of France Francois Hollande**, at the 21st session of United Nations Climate Change Conference of the Parties (COP-21), 2015 in Paris, France.
- It was conceived as a **coalition of solar-resource-rich countries** (which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn) to address their special energy needs.
- The Assembly of the ISA is the apex decision-making body which comprises representatives from each Member Country.
- It aims at lowering the cost of technology and finance and thereby facilitate deployment of over **1,000 GW of solar energy** and **mobilize more than USD 1,000 billion** into solar power by 2030 in Member countries.
- **Countries that do not fall between the Tropics can also join the ISA** and enjoy all benefits as other members, with the **exception of voting rights**.

Objectives of the ISA are as follows:

- To collectively address key common challenges to scale up solar energy applications in line with their needs;
- To mobilize investments of more than USD 1000 billion by 2030;
- To take coordinated action through programmes and activities launched on a voluntary basis, aimed at better harmonization, aggregation of demand, risk and resources, for promoting solar finance, solar technologies, innovation, R&D, capacity building etc.;

- Reduce the cost of finance to increase investments in solar energy in member countries by promoting innovative financial mechanisms and mobilizing finance from Institutions;
- Scale up applications of solar technologies in member countries, and
- Facilitate collaborative research and development (R&D) activities in solar energy technologies among member countries.
- Promote a common cyber platform for networking, cooperation and exchange of ideas among member countries;

Why in News?

- India and France have been re-elected as President and Co- President of the International Solar Alliance (ISA) at the third assembly of the ISA.

Key Highlights of the third assembly:

- For the first time since the inception of the framework agreement of ISA, **Solar awards** were conferred on countries of the region as well as institutions working for solar.
- The assembly witnessed the conferment of the **Visvesvaraya award** which recognizes the countries with maximum floating solar capacity in each of the four regions of ISA.
- The awards **went to Japan for the Asia Pacific region and the Netherlands for Europe and Others regions.**
- In the wake of the global pandemic, ISA responded by setting up **ISA CARES**, an initiative dedicated to deployment of solar energy in healthcare sector in Least Developed Countries, Small Island Developing States (LDC/SIDS) ISA Member countries. The initiative aims to solarize one primary health sector in each district of the target Member countries.
- **Other information:** The ISA has recently signed a tripartite agreement with the World Bank and the Government of India and is now actively involved in preparing a vision and implementation plan for **One Sun One World One Grid** Initiative to harness the power of interconnected grids for enabling energy transition to a low-carbon world.

5) Thalassemia Bal Sewa Yojna

What is Thalassemia?

- Thalassemia is an inherited (i.e., passed from parents to children through genes) blood disorder caused when the body doesn't make enough of a protein called hemoglobin, an important part of red blood cells.
- When there isn't enough hemoglobin, the body's red blood cells don't function properly and they last shorter periods of time, so there are fewer healthy red blood cells traveling in the bloodstream.
- Red blood cells carry oxygen to all the cells of the body. Oxygen is a sort of food that cells use to function.
- When there are not enough healthy red blood cells, there is also not enough oxygen delivered to all the other cells of the body, which may cause a person to feel tired, weak or short of breath.
- This is a condition called anemia.
- People with thalassemia may have mild or severe anemia. Severe anemia can damage organs and lead to death.

Why in News?

- Union Minister for Health and Family Welfare launched the second phase of "Thalassemia Bal Sewa Yojna" for the underprivileged Thalassemic patients.
- Launched in 2017, this scheme is a Coal India Corporate social responsibility (CSR) funded Hematopoietic Stem Cell Transplantation (HSCT) program.
- It aims to provide a one-time cure opportunity for Haemoglobinopathies like Thalassemia and Sickle Cell Disease for patients who have a matched family donor.
- The CSR initiative was targeted to provide financial assistance to a total of 200 patients by providing a package cost not exceeding Rs. 10 lakhs per HSCT.

6) Central Pollution Control Board (CPCB)

About:

- The Central Pollution Control Board (CPCB), is a statutory organisation, constituted in 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**. Further, CPCB was entrusted with the powers and functions under the

Air (Prevention and Control of Pollution) Act, 1981.

- It serves as a field formation and also **provides technical services to the Ministry of Environment and Forests** of the provisions of the Environment (Protection) Act, 1986.

Principal Functions of the CPCB are:

- to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution,
- to improve the quality of air and to prevent, control or abate air pollution in the country.

Other functions:

- Advising the Central and State Government on matters related to prevention, improvement and control of Air and Water pollution.
- Planning various programs to control and prevent Air & Water pollution
- Planning and organising training programs for people involved in activities for the prevention, improvement and control of Air and Water pollution.
- Collecting, compiling, and publishing statistical and technical reports related to Air & Water Pollution. These reports are used to develop preventive measures to control and reduce pollution.
- Preparing manuals, codes and guidelines relating to treatment and disposal of sewage and trade effluents as well as for stack gas cleaning devices, stacks and ducts.

Why in News?

- In order to step up efforts for ensuring better air quality, 50 teams of the Central Pollution Control Board (CPCB) have been deployed to make extensive field visits in Delhi-NCR towns.

7) Narcotics control Bureau

About:

- The Narcotics Control Bureau was set up as **apex drug law enforcement agency** with view to coordinate actions of various central/state agencies in the matters related with drug law in the country.
- It works under the **Ministry of Home Affairs**, which was made responsible for administering the Narcotic Drugs and

Psychotropic Substances (NDPS) Act, 1985.

- The National Policy on Narcotic Drugs and Psychotropic Substances finds its roots in the **Directive Principles of State Policy (DPSP) i.e, the Article 47 of the Constitution of India.**
- The DPSP directs the State to endeavour to bring about the prohibition of the consumption of intoxicating drugs injurious to health, except for medicinal purposes.

Powers and Functions of Narcotics Control Bureau

- It works in close cooperation with the Central Economic Intelligence Bureau (CEIB), the Customs and Central Excise, the Central Bureau of Investigation (CBI), the State Police Departments and other Indian intelligence and law enforcement agencies both at the national level and the states level.
- The NCB is also responsible for the **implementation of the international obligations against illicit trafficking of narcotic drugs and psychotropic substances** under various UN Conventions 1961, 1971, 1988 to which India is a signatory.
- It also assists concerned authorities in various countries to facilitate universal action for the prevention and suppression of illicit trafficking in narcotic drugs and psychotropic substances.

Why in News?

- In the pursuit of operations against drug trafficking, NCB has been conducting regular raids on possible hideouts of drug traffickers, after identifying their modus operandi and whereabouts.
- The Narcotics Control Bureau affected multiple pan-India operations wherein Mumbai emerged as a major destination.

8) Pension Fund Regulatory and Development Authority

About PFRDA

- Pension Fund Regulatory and Development Authority (PFRDA) is the **statutory authority** established by an enactment of the Parliament, **to regulate, promote and ensure orderly growth of the National Pension System (NPS)** and

pension schemes to which this Act applies.

Key Functions:

- Regulate NPS and all other pension schemes to which the PFRDA Act is applicable.
- **Establish, develop and regulate pension funds** along with protecting the interest of pension fund subscribers.
- It **approves schemes, terms, conditions** and lay down norms for management of corpus of pension funds.
- It also **settles disputes** among intermediaries and between intermediaries and subscribers by establishing grievance redressal mechanisms.
- Also, **promote professional organisation growth** connected with the pension system.
- It also focuses on training intermediaries and educating subscribers and the general public with respect to pension, post retirement savings and related issues.
- Also **conduct inquiries, investigation and audit of intermediaries** and other entities connected with pension funds.

Why in News?

- The Pension Fund Regulatory and Development Authority recently announced crossing Rs 5 lakh crore Assets Under Management (AUM) mark. The subscriber's contributions under the National Pension System (NPS) and Atal Pension Yojana (APY) have jointly contributed to this landmark figure, over a period of 12 years.
- The total number of subscribers under NPS and Atal Pension Yojana has crossed 3.76 crores and the Asset under Management (AUM) has grown to Rs 5,05,424 crores.

About NPS

- NPS was initially notified for central government employees recruits wef 1st Jan 2004 and subsequently adopted by almost all State Governments for its employees.
- NPS was **extended to all Indian citizens** (resident/non-resident/overseas) on a voluntary basis and to corporations for its employees.
- Any individual citizen of India (both resident and Non-resident) in the **age group of 18-65 years** can join NPS.
- On retirement, subscribers can withdraw a part of the corpus in a lumpsum and use the remaining corpus to buy an annuity to secure a regular income after retirement.

About Atal Pension Yojana

- Atal Pension Yojana (APY) addresses the old age income security of the working poor and the longevity risks among the workers in the **unorganised sector**.
- It encourages the workers in the **unorganised sector to voluntarily save for their retirement**. The Government had launched the scheme with effect from **1st June, 2015**.
- The scheme **replaces the Swavalamban Yojana / NPS Lite scheme**.

Eligibility:

- Any citizen of India can join the APY scheme. The age of the subscriber should be between **18-40 years**. The contribution levels would vary and would be low if a subscriber joins early and increases if she joins late.

Features of APY

- Fixed pension for the subscribers ranging between **Rs.1000 to Rs. 5000**, if s/he joins and contributes **between the age of 18 years and 40 years**.
- The same pension is payable to Spouse after death of Subscriber.
- Return of indicative pension wealth to nominees after death of spouse.

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News in Depth

AIR NEWS

1) CHAMPIONS portal

About the portal

- It is a technology-driven Control Room-Cum-Management Information System launched by the **Ministry of Micro, Small Medium Enterprises (MSME)** as part of its effort to support enterprises.
- Launched in June 2020, CHAMPIONS stand for creation and harmonious application of modern processes for increasing the output and national strength.
- The objective of the portal is to **assist MSMEs in India to march them into the big league as national and global champions.**
- The portal is for making the smaller units big by solving their grievances, encouraging, supporting, helping and handholding.
- As part of the system a network of control rooms is created in a **Hub & Spoke Model**. The Hub is situated in New Delhi in the Secretary MSME's office. The spokes will be in the States in various offices and institutions of the Ministry.
- In addition to ICT tools, including telephone, internet and video conference, the portal is enabled by Artificial Intelligence, Data Analytics and Machine Learning.
- It is also fully integrated in real time basis with Government of India's main grievances portal **CPGRAMS** and MSME Ministry's own other web based mechanisms.
- The entire ICT-architecture is created in house with the help of **National Informatics Centre (NIC)**.

Why in News?

- The Ministry of Micro, Small Medium Enterprises has upgraded several features in the CHAMPIONS portal.

About CPGRAMS

- The Centralized Public Grievance Redress And Monitoring System (CPGRAMS), is an online web-enabled system developed by the **National Informatics Centre** in association with the **Department of Administrative Reforms and Public Grievances (DARPG)**.
- It has been developed with an objective of speedy redress and effective monitoring of grievances by Ministries/Departments/Organizations of Government of India.
- The CPGRAMS provides the facility to lodge a grievance online **from any geographical location**.
- It enables the citizen to track online the grievance being followed up with Departments concerned and also enables DARPG to monitor the grievance.

About NIC

- The National Informatics Centre was established in 1976, as an attached office under the **Ministry of Electronics and Information Technology**.
- The NIC provides infrastructure to help support the delivery of government IT services and the delivery of some of the initiatives of Digital India.

2) QUAD Grouping

- The grouping of four democracies **India, Australia, US and Japan**- known as the quadrilateral security dialogue or quad came into force on November 12, 2017 on the sidelines of the East Asia Summit at Manila.
- **AIM**- All four nations find a common ground of being the democratic nations and common interests of **unhindered maritime trade and security**.

Significance of QUAD

- QUAD grouping is considered a very important grouping especially for **maritime security** and countering the aggressive nature of China especially in the **Indo-pacific region**.
- China's aggressive nature has affected almost all the quad countries and this grouping can be a **pushback for China** for its commission and omission tricks.
- Eg- Trade war between USA and China, Ladakh border issue for India etc.
- There are various issues pertaining to China like **restricted freedom of navigation, resolution of disputes by showing aggressive nature, being biased on rule of law** etc. for which quad can act as a shield towards Chinese presence.

Way Forward

- The quad can **expand its grouping** towards other countries as well to maintain maritime security in Indo-pacific region.
- Eg- Vietnam, France, EU countries etc.
- The **quad (+) plus mechanism** can be formed for specific issues and the **2+2 dialogue mechanism can become instruments of redressal of disputes**.

Conclusion

- The Indo-pacific region is very crucial from the strategic point of view and can be made a **free, open, inclusive and transparent region possibly via quad mechanism**.

2) Air Pollution

- Air pollution refers to the **release of pollutants into the air that are detrimental to human health and the planet as a whole**.

Causes of Air Pollution

- During winters, air quality deteriorates rapidly and it leads to high amounts of Air pollution in the particular region.
- The major cause of increasing air pollution is the issue of **stubble burning** especially in paddy growing regions.

- **Biomass burning** and problem of **demolition waste**.
- **Construction work, mining, increase in use of road vehicles** also adds up to the poor quality of Air.
- **Factories** using high carbon fuel
- **Burning of local fires** during winters etc.

Challenges

- The major challenge lies for the **expectant mothers** who respire fast because of high metabolism rate and as a result it leads to severe **health problems** as air goes into the lungs.
- During the **colder days**, air closer to the ground becomes heavy and does not diffuse due to which **pollutants cannot be dispersed** and it leads to further increasing pollution levels.
- **Dynamicity of weather system**.
- During the **winters** there is a possibility for **2nd wave of covid-19**, pollution predisposes attacks by the virus and as a result **strength of the body becomes weak**.

Way Forward

- **Over-use of road vehicles and electricity** can be avoided upto the extent.
- **Pollution rich areas should be avoided** by the people especially during the morning when pollution level is generally high.
- The **burning of biomass should be lowered** and policy can be formulated for ensuring cost effective measures for farmers to solve the issue of stubble burning.

Conclusion

- Air pollution is an ever increasing issue which needs special attention and **public participation and cooperation** is the key element for solving the issue.
- **For doubts and queries email us at doubts@officerspulse.com**

THE HINDU EDITORIALS

1) Towards cleaner air in Delhi

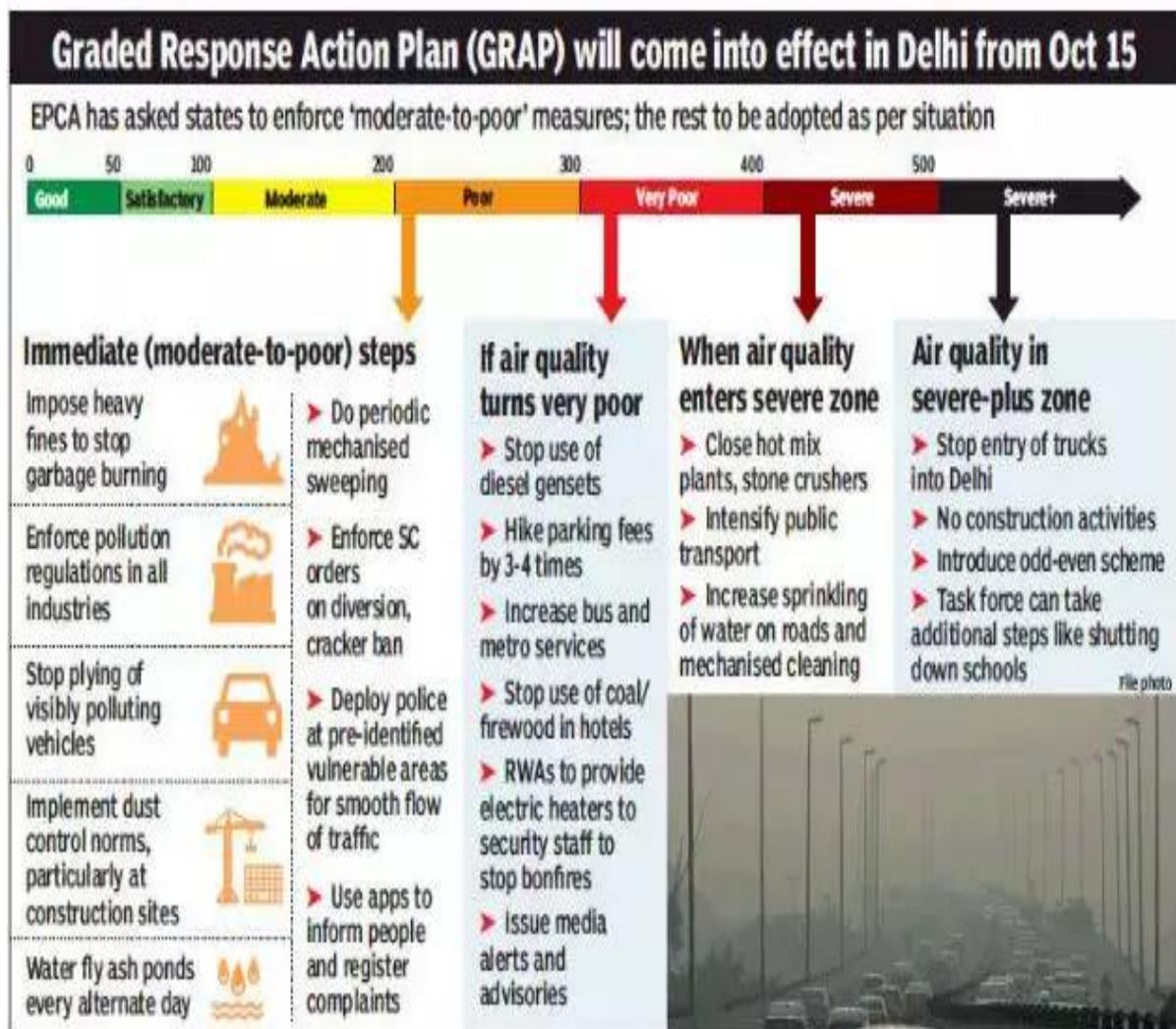
GS Paper 3- Environment, Environmental Pollution

About Graded Response Action Plan

- It is an emergency plan prepared by the **Union Ministry of Environment, Forests & Climate Change (MoEFCC)** to **contain worsening air quality of Delhi-NCR**.
- It was prepared after the order of the Supreme Court in December 2016.
- It comprises a series of measures that come into force incrementally as pollution increases.
- The nature, scope and rigor of measures to be taken is linked to levels of pollution viz. **Severe + or Emergency, severe,**

Very poor, Moderate to poor and Moderate.

- It is implemented by the **Environment Pollution (Prevention and Control) Authority (EPCA)**, which was constituted under the provisions of the **Environment (Protection) Act, 1986**.
- The actions are to be implemented in the **entire National Capital Region (NCR)**.
- It comprises measures such as prohibition on entry of trucks into Delhi; ban on construction activities, introduction of odd and even scheme for private vehicles, shutting of schools, closure of brick kilns, hot mix plants and stone crushers; shutting down of Badarpur power plant, ban on diesel generator sets, garbage burning in landfills and plying of visibly polluting vehicles etc.



Why in the news?

- Starting October 15, some stricter measures to fight air pollution will come into force in Delhi and its neighbouring National Capital Region (NCR) towns, as part of the **Graded Response Action Plan (GRAP)**.
- The action plan has been in effect for three years in Delhi and NCR.

Need for stricter measures

- Particulate matter, PM2.5 and PM10, **exceed national standards** and the more stringent World Health Organization limits before COVID-19.
- Delhi's toxic air also contains high doses of **sulphur dioxide and nitrogen oxide**.
- The lack of wind worsens the pollutant concentration.
- Delhi **needs a 65% reduction** to meet the national standards for PM2.5.
- Vehicles, including trucks and two-wheelers, contribute **20%-40% of the PM2.5 concentrations**.

Measures to be implemented

- A three-part action comprises **emissions standards, public transport, and electric vehicles**.

Control emissions

- Stricter **enforcement** of emission controls and imposing tougher **penalties** can be a way to reduce pollution. Thus it is dire need to implement the **national standards**.

Public transport

- Reducing private vehicles** on the road by strengthening public transport can be another way.
- Bus Rapid Transit (BRT) systems** and the Supreme Court's ruling to increase Delhi's bus fleet and align it with the Metro network must be carried out.
- The **'odd-even' number plate policy** can help, but the system should reduce exemptions, allow a longer implementation period, and complement it with other measures.

Electric vehicles

- Subsidies and investment** will be needed to ensure that EVs are used to a meaningful scale, without fossil fuels for charging them.
- The Delhi government's three-year policy aims to make EVs account for a quarter of

the new vehicles registered in the capital by 2024.

Other measures

- Technical solutions** need to be underpinned by **coordination** and transparency across Central, State, and local governments.
- Citizen participation and the media** are vital for sharing the message on pollution and health, using data such as those from the Central Pollution Control Board.

2) The road to zero hunger by 2030

GS Paper 2- Important International institutions,

Poverty and development issues

GS Paper 3- Inclusive growth and issues arising from it

What is a food system?

- It is a framework that includes **every aspect of feeding and nourishing** people: from growing, harvesting and processing to packaging, transporting, marketing and consuming food.
- To be sustainable, a food system must provide enough **nutritious food for all** without compromising feeding future generations.

Current state of India's food system

- Though **agricultural productivity has improved** significantly in recent decades yet more than **two billion** people globally still **lack access to sufficient, nutritious and safe food**.
- Projections show that the world is **not on track to achieve zero hunger by 2030**, or to meet global nutrition targets.

India's food system during pandemic

- Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD) worked in close coordination** to support the Government of India's Empowered Group 5 on facilitating supply chain and logistics management, so necessary items such as food and medicines were available.
- India has gone from being a **net importer to a net exporter** of food grains which is evident through the pandemic.

- Central and State governments were able to **distribute around 23 million tonnes** from India's large domestic food grain reserves in three months (April to June) through the Public Distribution System, providing much-needed emergency assistance to families around the country.
- The government also successfully **mobilised food rations for 820 million people** from April to November 2020.
- There were **efforts to remove bottlenecks in the food supply chain** due to restrictions on movements, and to ensure that agricultural activities weren't disrupted.
- **Agriculture grew at 3.4%** during the first quarter this financial year and the area cultivated this kharif exceeded 110 million hectares.

Challenges ahead

Malnutrition, anaemia

- Comprehensive National Nutrition Survey 2016-18 revealed that over **40 million children are chronically malnourished**, and more than half of Indian women aged 15-49 years are anaemic.

Climate change

- Climate change continues to be a real and potent **threat to agrobiodiversity**, which will impact everything from **productivity to livelihoods** across food and farm systems.
- Intensified food production systems with **excessive use of chemicals** and **unsustainable farming practices** cause soil degradation, fast depletion of groundwater table and rapid loss of agrobiodiversity.
- These challenges multiply with an increase in **fragmentation of landholdings**.

Way forward

- The way we produce food must change through **agroecology and sustainable production practices** in agriculture and allied sectors.
- As one-third of the food we produce is wasted, ensuring **generation of minimal waste** can help overcome the issue of hunger and malnutrition.
- **Adopt innovative solutions** based on scientific evidence so they can build back better and make food systems more resilient and sustainable.

- **FAO** (The Food and Agriculture Organisation), **IFAD** (International Fund for Agricultural Development) and **WFP** (The World Food Programme) should keep working with government, civil society, farmers' organisations and the private sector to **build sustainable food systems**.

Why in the news?

- **FAO is celebrating 75 years** of fighting hunger in over 130 countries.
- **IFAD became the first UN agency to receive a credit rating.**
- **WFP was awarded the Nobel Prize for Peace** this year, 2020.

3) The message in the Peace Nobel- multilateralism

GS Paper 2- Important International institutions

Context

- The **Nobel Peace Prize 2020** was awarded to the **World Food Programme (WFP)** in recognition of its role in combating hunger and malnutrition across the developing world.
- The message which this award is sending to the world is that we **need multilateralism as an expression of international solidarity**.
- *Refer Pulse 19 edition for details of the World Food Programme.*

WFP and the pandemic

- According to the WFP, **132 million more people could become malnourished** as a consequence of the pandemic.
- To the **690 million hungry people** who go to bed each night on an empty stomach, another 100 million or more will be added.
- The Nobel Prize to the WFP will hopefully nudge our **collective conscience to come together** and relieve this looming humanitarian crisis.

Multilateral Institutions

- Multilateral institutions are a network which **enables governance in areas which require coordination among nation states** and set norms to regulate the behaviour of states so as to avoid conflict and to ensure both equitable burden sharing and, equally, a fair distribution of benefits.

Significance of UN

- The UN is an essential part of the **fabric of international relations**.
- Its role has become even more important precisely because the salience of global issues has expanded and the **need for multilateral approaches** in finding solutions has greatly increased.

What does international solidarity mean?

- International solidarity should be understood in a broader concept that includes **sustainability in international relations**, especially international economic relations, the **peaceful coexistence** of all members of the international community, equal partnerships and the **equitable sharing** of benefits and burdens, **refraining from doing harm** or posing obstacles to the greater wellbeing of others, including in the international economic system and to our common ecological habitat, for which all are responsible.

Challenges to international solidarity

- The United Nation **failed to keep alive the notion of international solidarity** and cooperation.
- The Powerful member countries have **resisted efforts to institute long overdue reforms** 75 years on, its structure no longer reflects the changes in power equations that have taken place.
- While there are multilateral institutions they have become **platforms for contestations** among their member states.

Need for international solidarity

For tackling domestic challenges

- In tackling domestic challenges **deeper external engagement** is often indispensable.
 - a. For example, even if India's carbon emissions became zero tomorrow, climate change would continue to affect us if others do not also reduce their emissions.
 - b. The pandemic originated in a third country, but soon raged across national borders.

Interconnectedness among challenges

- While we speak of rising salience of cross-national issues we must also take into account the **inter-connectedness among various challenges**.

- For example, food, energy and water security are inter-linked with strong feedback loops.
- Enhancing food security may lead to diminished water and energy security.
- It may also have collateral impact on health security.
- Raising crop yields with current agricultural strategies means higher incremental use of chemical fertilizers and toxic pesticides.
- India's unprotected farmers are exposed to serious health risks as a result and often get bankrupted not due to crop failure but debilitating health costs.
- These interconnections must be realised and nations should **commit to work collectively** in a multilateral framework.

To achieve SDGs

- The SDGs are cross-domain but also **cross-national in character**, and hence demand greater multilateral cooperation in order to succeed.

Conclusion

- India has been a consistent advocate of multilateralism and it firmly believes that the path to achieve **sustainable peace and prosperity** is **through multilateralism**.
- There is a need for a **more democratic world order** since lack of cooperation from even a single state may frustrate success in tackling a global challenge.
- As children of Planet Earth we must join hands to address our common challenges and achieve our common goals.

4) A concerted attack on RTI

GS Paper 2- Governance, transparency and accountability

Context

- This year marks **15 years of the enactment of the Right to Information (RTI) law**, which has empowered millions to assert their citizenship and show truth to power.

About RTI Act

- **Right to Information act, 2005:**
- It gives the citizens the **right to seek information**, held by any Public Authority.
- It aims to bring about transparency in the

functioning of public authorities, contain corruption and to hold Governments and their instrumentalities accountable to people.

- It provides for a **two-tier appeals mechanism** (the central and state information commissions) to deal with complaints of unreasonable denial of information by public authorities
- Under Section 4(2) of the RTI Act, "It shall be a constant endeavor of every public authority, to provide as much information suo motu to the public at regular intervals, so that the public have minimum resort to the use of this Act to obtain information."
- **Public Information Officer** has to be appointed by each Public authority.
- **Time limit** for providing information is **thirty days** and if it is related to **life or liberty** it is **forty-eight hours**.
- Specific exemptions provided under Sec 8 and Sec 9 of the Act – **National security, Sovereignty, Relations with foreign states, Trade secrets, Individual safety, Personal privacy.**
- **Chief Information commissioner (CIC) and other Information commissioners** to be appointed by a committee consisting of **PM, Leader of the Opposition and a Cabinet Minister.**
- **Five years of tenure or upto 65 years** is the age limit.
- Terms of office are like Chief Election Commissioner for CIC and like Election Commissioners for other ICs.
- Removal is like members of **UPSC.**

Procedure:

- The applicant should get information within **30 days.**
- If he is not satisfied / does not get information, he can appeal within 30 days to the Appellate Authority.
- The Appellate Authority has to decide within 30 days.
- If the applicant is not satisfied with the Appellate Authority, he can file a **second appeal with CIC or SIC as the case may be, within 90 days.**

RTI amendment act 2019:

- The Act Amends Sections 13 and 16 of the RTI Act, 2005.

- Section 13 of the original Act sets the term of the central Chief Information Commissioner and Information Commissioners at **five years** (or until the age of 65, whichever is earlier). The amendment proposes that the appointment will be for such a term as may be **prescribed by the Central Government.**
- It also amends Section 13 and proposes that the salaries, allowances and other terms of service of the Chief Information Commissioner and Information Commissioners **shall be such as may be prescribed by the Central Government.** Previously it was equivalent to that of the Chief Election Commissioner and Election Commissioners respectively.
- The government said that the amendment is required because the election commission is a Constitutional body while the information commission, formed under the Right to Information Act, is a **statutory** one.

Significance of RTI

- The right to information has been upheld by the Supreme Court as a fundamental right flowing from **Article 19** of the Constitution, which guarantees every citizen the right to free speech and expression.
- Without access to relevant information, people's ability to formulate opinions and express themselves meaningfully is curtailed.
- Since its enactment, the RTI law has been used by people to seek information to **actively participate in decision-making processes** and hold governments accountable.

The potential of the law

- Every year nearly **six million applications** are filed under the RTI Act, making it the most **extensively used transparency legislation in the world.**
- National assessments have shown that a large proportion of these are filed by the **poorest and the most marginalised** who have understood the tremendous potential of the law to empower them to access their basic rights and entitlements.
- During the **COVID-19 crisis** too, the law has been widely used to seek information

about availability of medical facilities, like ventilators and ICU beds, and to hold government departments accountable for delivery of foodgrains and social security benefits meant for those in distress, including migrant workers.

- The RTI Act has also been put to effective use by public-spirited citizens to shine the light on **corruption and arbitrary abuse of power** by the state.
- By giving every citizen of India the right to access government files and records, the law has potentially created **1.3 billion whistleblowers and auditors**.

Attack on the transparency watchdogs

- The worst blow to the RTI regime has come in the form of a persistent and concerted attack on the transparency watchdogs set up under the law.
- **Information Commissions** at the Centre and in the States are the final adjudicators empowered to act against violations of the legislation.
- RTI (Amendment) Act 2019 allows the **Central government to determine** the tenure and salaries of all Information Commissioners, signalling that directions

to disclose inconvenient information could invite adverse consequences.

- The functioning of commissions has been severely impeded by governments **not appointing Information Commissioners in a timely manner**.
- Vacancies in Information Commissions lead to **large backlogs of appeals/complaints** and long delays in the disposal of cases, effectively frustrating the people's right to know.

Conclusion

- The right to question being the hallmark of a democracy, any attack on the RTI law, which has empowered citizens to question those in power, is an **attack on the foundation of our democratic republic**.
- As the RTI law completes 15 years, it is again time for those whom it empowers, the citizens to assert themselves and protect their fundamental right to information, which they attained after a long struggle.

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INDIAN EXPRESS EXPLAINED

1) The economics of auctions – what is it?

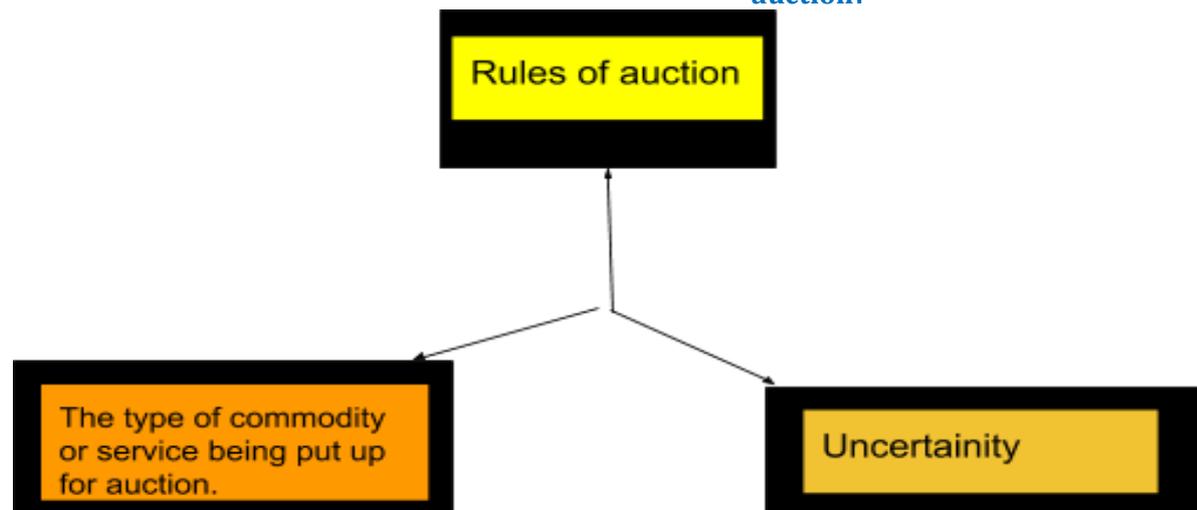
What is auction theory?

- This theory studies how auctions are designed, what rules govern them, how bidders behave and what outcomes are achieved.
- Earlier auctions were used only to disperse the objects of a bankrupt person to pay off his creditors. But now auction as a model is used wherever there are scarce resources. Today, the auction model is used to sell spectrums, carbon dioxide emission credits, spot market for buying electricity etc.
- It is a very important model to understand the way our economics are

working as well as understanding how the resources are being dispersed.

- This **simple design of such an auction** — the **highest open bidder** getting the property (or the commodity in question) — is intuitively appealing as well. But Auction types today are different for different commodities, one size fit for all is not applicable. For example, a private enterprise may conduct an auction for profit but a public entity may do an auction so that the poorest of the poor receive the services.
- Hence how an auction is designed, therefore, has a tremendous impact not just on the buyers and the sellers but also on the broader society.

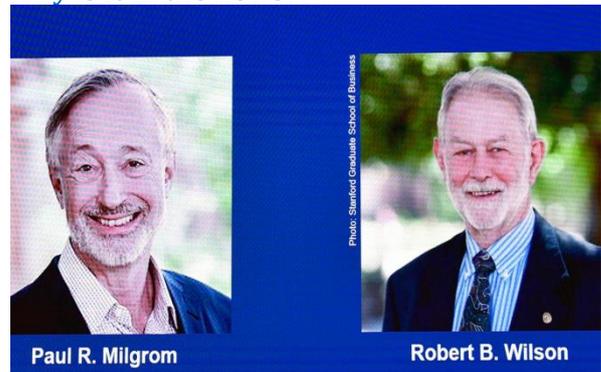
What are the variables governing an auction?



- The rules of an auction can have pros and cons on the bidders.
- It is always difficult to judge the value of the commodity hence the type of commodity or service plays a vital role. There are two types of values attached to the commodity.
- **Common value:** The utility or value of a commodity is the same for all bidders. For example if a chair is for auction for most people its utility is as a furniture to sit.
- **Private value:** Each bidder can have their own concept of utility of a commodity which is for auction. For example, if a chair is for auction he may think to buy it for dismantling it and using it to make a plywood sheet.

- Uncertainty here means the information about the commodity. Some people may have more information about the commodity than others.

Why is it in the news?



- The Nobel economics award also known as Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, was awarded to **Paul R Milgrom and Robert B Wilson** for their contribution for **improvements to auction theory and inventions of new auction formats**.
- Milgrom was awarded for his **formulation of general theory of auctions** that not only allows common values but also private values that vary from bidder to bidder. He demonstrated that any auction format will give the seller higher expected revenue when **bidders learn more about each other's estimated values** during bidding.
- Wilson was awarded for his **theory for auctions of objects with a common value** — a value which is uncertain beforehand but, in the end, is the same for everyone. He also showed what is known as **WINNER'S CURSE**.
- **Winner's Curse** is a concept where the one wins the auction but loses out in reality because he/she overpaid for the object rather than its common value. This concept also explains why the rational bidders tend to place bids below their own best estimate of the common value.

2) How Election Commission Allots Symbols to Parties?

What's in the news?

- In the Bihar elections, the symbols such as capsicum, chapati roller, dolli, bangles, etc have been allocated to the candidates.
- It is important to understand how the Election Commission allocates the candidates their symbols.

What is the significance of symbols in the elections?

- The symbols are very crucial campaigning tools to connect with the voters.
- Symbols have been used since the **first national polls in 1951-52**. It was also crucial during that time because almost 85% of the electorate was illiterate.
- The candidates are recognised by their visual symbols.

How many types of symbols are there?

- There are two types of symbols with the Election Commission (EC) according to Election Symbols (Reservation and

Allotment) (Amendment) Order, 2017. They are:

Reserved symbols

Free symbols

- All the 8 national parties and 64 state parties have fixed RESERVED symbols.
- The EC has about 200 free symbols with it, which are allocated to unrecognised regional parties (non-national and non-state parties) when elections occur.

How are symbols allocated?

- The EC allots symbols according to order which was first promulgated in 1968.
- The order mandates the Election Commission to provide for "specification, reservation, choice and allotment of symbols at parliamentary and assembly elections, for the recognition of political parties".
- If a party/candidate wants to get a symbol allotted, he/she must provide a list of three symbols from the EC's free symbols list at the time of filing nomination papers. Among them, one symbol is allotted to the party/candidate on a first-come-first-serve basis.

3) The comparison between India, Bangladesh per capita GDP

What's in the news?

- The **International Monetary Fund (IMF)** in its **World Economic Outlook** report has said that India's economic contraction and slowdown will lead to lesser per capita income. India will see a **contraction of over 10%**.
- Through its comparison, the report predicts that in 2020, the per capita income of an average Bangladeshi citizen would be more than the per capita income of an average Indian citizen.
- Let us understand the basic concepts and also understand how Bangladesh and India have been compared.

International Monetary Fund

- Established in 1945, the International Monetary Fund (IMF) is an organization of 189 countries (including **India**), working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable

economic growth, and reduce poverty around the world.

- The IMF's primary purpose is to ensure the **stability of the international monetary system**—the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other.
- Post 2012, it also looks at macroeconomic and financial sector issues that bear on global stability.
- It is headquartered in **Washington DC**.
- It publishes the **World Economic Outlook** and **Global Financial Stability Report**.

World Economic Outlook

- It is a biannual report published by IMF.
- It presents IMF staff economists' analyses of global economic developments during the near and medium term.
- Chapters give an overview as well as more detailed analysis of the world economy; consider issues affecting industrial countries, developing countries, and economies in transition to market;

and address topics of pressing current interests.

- The World Economic Outlook (WEO) database is created during the biannual WEO exercise, which begins in January and June of each year and results in the April and September/October WEO publication.

Per capita Income

- Per capita income is a measure of the amount of money earned per person in a nation or geographic region.
- Per capita income for a nation is calculated by dividing the country's national income by its population.
- Per capita income can be used to determine the average per-person income for an area and to evaluate the standard of living and quality of life of the population.

Reasons why India's Per capita Income has decreased below Bangladesh:

- Bangladesh has been experiencing high growth rate since 2004. India too has been experiencing growth but since 2017 the growth rates have decreased. (see chart)

UPS AND DOWNS IN TWO ECONOMIES

Chart 1: GDP GROWTH RATE (%)

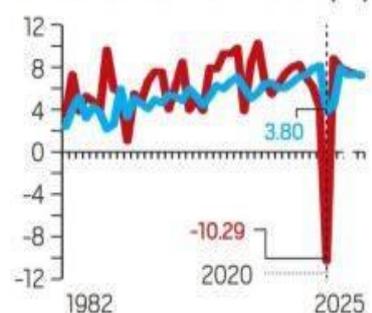


Chart 2: GDP (\$ billion)

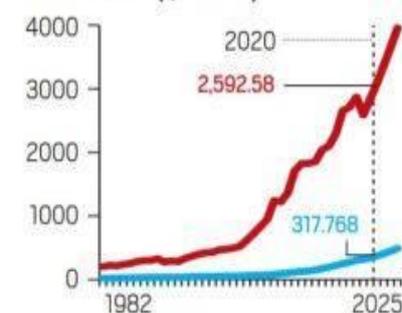
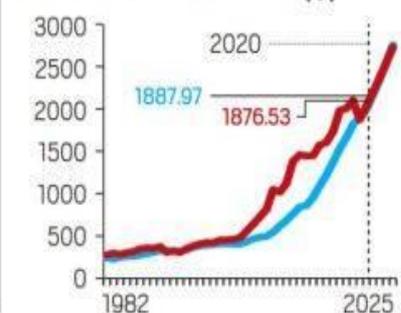


Chart 3: GDP PER CAPITA (\$)



Source: World Economic Outlook Report 2020

- India's population has grown faster than Bangladesh's in the last 15 years.
- And finally the relative impact of Covid-19 on the two economies in 2020.

Did it happen before?

- Yes, during the year 1991, India experienced very low growth rate (less than 1%). It was during that time, Bangladesh went forward. But India regained its position soon.

How did Bangladesh build a robust economy?

- Bangladesh, post its independence from Pakistan, did some of the changes in its structural form.
- Its labour laws were not as stringent and **its economy increasingly involved women** in its labour force. This can be seen in higher female participation in the labour force.
- A key driver of growth was the **garment industry where women** workers gave Bangladesh the edge to corner the global export markets.

- Bangladesh's economy is such that its GDP is **led by the industrial sector**, followed by the services sector whereas in India the industrial sector is struggling to develop.
- It improved on several social and political metrics such as health, sanitation, financial inclusion, and women's political representation. For example the mortality rate due to unsafe water and sanitation in Bangladesh is much lower than in India.
- Along with this, it is well ahead from India in Gender Parity Index (Bangladesh

is in the top 50 while India is at 112) and Global Hunger Index (Bangladesh at 75 and India at 94).

Conclusion

- The IMF has predicted that India will recover very soon and will be back to high growth rates in 2021 but India needs to learn from its neighbours such as Bangladesh for structural and breakthrough policies to keep our economy holistically productive.

For doubts and queries email us at doubts@officerspulse.com

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