RBI announces 50,000 crore Special Liquidity Facility for Mutual Funds

Part of: GS-III- Economy-Capital markets (PT-MAINS-PERSONALITY TEST)

The Reserve Bank of India announced a Special Liquidity Facility for Mutual Funds (SLF-MF) of 50,000 crore rupees with a view to easing liquidity pressures on Mutual Funds. The RBI has stated that it remains vigilant and will take whatever steps are necessary to mitigate the economic impact of COVID-19 and preserve financial stability.

Imp points

1. The Apex bank has said that under the Special Liquidity Facility for Mutual Funds (SLF-MF), the RBI shall conduct repo operations of 90 days tenor at the fixed repo rate.
2. The SLF-MF is on-tap and open-ended and banks can submit their bids to avail funding on any day from Monday to Friday (excluding holidays).
3. The scheme is available from today till 11th of May or up to utilization of the allocated amount, whichever is earlier. The Reserve Bank will review the timeline and amount, depending upon market conditions.
4. Funds availed under this facility will be used by banks exclusively for meeting the liquidity requirements of MFs by extending loans, and undertaking outright purchase of and/or repos against the collateral of investment grade corporate bonds, commercial papers (CPs), debentures and certificates of Deposit (CDs) held by MFs, the central bank said.

Franklin Templeton

The move comes after Franklin Templeton Mutual Fund decided to wind up six debt funds that have combined assets under management of nearly ₹26,000 crore on account of illiquid, low rated instruments in their portfolio last week.

The fund house had said it decided to wind up the schemes to preserve the value at least at the current levels, as the value was getting eroded due to a combination of redemption pressures and mark-to-market losses due to lack of liquidity on account of the coronavirus impact on the markets.
“RBI move is very timely. This move will first improve the confidence; second, it can help in providing the necessary liquidity to mutual fund industry if anyone needs to avail it. With the yields dropping, one would assume banks may go down the credit curve and extend facilities,”

“Heightened volatility in capital markets in reaction to COVID-19 has imposed liquidity strains on mutual funds (MFs), which have intensified in the wake of redemption pressures related to closure of some debt MFs and potential contagious effects therefrom. The stress is, however, confined to the high-risk debt MF segment at this stage; the larger industry remains liquid,” the central bank said.

“With excess liquidity of around ₹4.85 trillion as on April 24, 2020, banks, however, continue to remain largely risk averse. We expect the liquidity of the higher rated papers to improve on the back of this facility. Accordingly, active participation from the banks will be key to the success of this scheme,”

About Mutual FUNDS and PAST news

1. The markets regulator Securities and Exchange Board of India (SEBI) has tightened norms on investments by mutual funds (MFs).
   - MF schemes can now invest only in listed debt or equity.
   - Valuation of securities in debt funds will now be on mark-to-market basis instead of the earlier practice of considering it on an amortisation basis.
   - Liquid funds can now invest a maximum of 20% of their assets in a single sector as against the current cap of 25%, and must keep aside at least a fifth of their assets in cash equivalents to meet sudden redemption pressures.

Mutual Fund: A mutual fund collects money from investors and invests the money, on their behalf, in securities (debt, equity or both). It charges a small fee for managing the money.

Liquid Funds: These are debt mutual funds that invest in securities up to a maturity of 91 days.

2. The redemption issues faced by fixed maturity plans (FMPs) of mutual funds due to their exposure towards Essel Group entities have only begun as there are nearly 80 FMP schemes with such exposure towards the corporate entity. The cumulative amount at stake is about ₹1,400 crore with more than 40 schemes maturing later this year. More importantly, about 14 schemes, with an exposure of nearly ₹475 crore (April 2019), will mature this month.

Background:

- A mutual fund collects money from investors and invests the money on their behalf.
It charges a small fee for managing the money. Mutual funds are an ideal investment vehicle for regular investors who do not know much about investing. Investors can choose a mutual fund scheme based on their financial goal and start investing to achieve the goal.

How to Invest in Mutual funds?

- You can either invest directly with a mutual fund or hire the services of a mutual fund advisor. If you are investing directly, you will invest in the direct plan of a mutual fund scheme. If you are investing through an advisor or intermediary, you will invest in the regular plan of the scheme.
- If you want to invest directly, you will have to visit the website of the mutual fund or its authorized branches with relevant documents.
- The advantage of investing in a direct plan is that you save on the commission and the money invested would add sizeable returns over a long period.
- The biggest drawback of this method is that you will have to complete the formalities, do the research, monitor your investment all by yourself.

Types of Mutual Funds in India – The Securities and Exchange Board of India has categorised mutual fund in India under four broad categories:
- Equity Mutual Funds
- Debt Mutual Funds
- Hybrid Mutual Funds
- Solution-oriented Mutual Funds

Equity Mutual fund scheme:

- These schemes invest directly in stocks. These schemes can give superior returns but can be risky in the short-term as their fortunes depend on how the stock market performs. Investors should look for a longer investment horizon of at least five to 10 years to invest in these schemes. There are 10 different types of equity schemes.

Debt Mutual fund schemes:

- These schemes invest in debt securities. Investors should opt for debt schemes to achieve their short-term goals that are below five years. These schemes are safer than equity schemes and provide modest returns. There are 16 sub-categories under the debt mutual fund category.

Hybrid Mutual fund Schemes:

- These schemes invest in a mix of equity and debt, and an investor must pick a scheme based on his risk appetite. Based on their allocation and investing style, hybrid schemes are categorised into six types.

Solution-Oriented Schemes:

- These schemes are devised for particular solutions or goals like retirement and child’s
education. These schemes have a mandatory lock-in period of five years.

**Mutual Fund Charges:**

- The total expenses incurred by your mutual fund scheme are collectively called expense ratio. The expense ratio measures the per unit cost of managing a fund. The expense ratio is generally in between 1.5-2.5 per cent of the average weekly net assets of the schemes.

**Securities and Exchange Board of India (SEBI)**

- It was established in 1992 in accordance with the provisions of the Securities and Exchange Board of India Act, 1992 (SEBI Act).
- The basic **functions** of SEBI
  1. To protect the investors interests in securities.
  2. To be a platform to promote, develop and regulate the securities market in India as well as the markets that are connected with it.
  3. To approve rules and laws pertaining to the stock exchanges.
  4. To examine the books of accounts of financial mediators and recognized stock exchanges.
  5. To urge respective companies to list their shares in stock exchanges and manage the registration of distributors or brokers.
- SEBI board has three main **powers** – Quasi judicial, quasi legislative and quasi executive.

**Mutual fund redemption**

Mutual fund redemption is how the investors sell their fund units. However, if there is an exit load, then the investors necessarily pay it on redeeming their units. When investors redeem their units, they earn taxable capital gains. The taxability of capital gains depends on the type of fund and the period of holding. Here, investors should mandatorily consider all the expenses that they would incur on redeeming their units.

**When to exit and redeem a fund**

The right time to sell or redeem mutual funds depends on investors’ financial goals. One might be invested in a mutual fund for ten years to fifteen years to purchase a house or finance their child’s wedding. In some cases, it could also be a short-term goal, such as buying a car or an appliance. Once an investor gets close to realising his/her financial goal, then he/she should consider redeeming their fund units irrespective of the state of the market.

Source: TH/Web
Digital India programme

Part of: GS-III- S&T (PT-MAINS-PERSONALITY TEST)

India is amongst the top 2 countries globally, just behind China on many dimensions of digital adoption. By 2022, India’s digital economy is likely to cross $1 trillion. This was the focus at the India Digital Summit 2019, held in New Delhi. The summit deliberated on what India needs to become a trillion dollar digital economy, the challenges on the way forward as well as the threats to cybersecurity.

Imp Points

Digital India programme

- **Vision Areas**
  - Digital infrastructure as Utility to Every Citizen
  - Governance and services on demand
  - Digital empowerment of citizens

- **Objectives**
  - To prepare India for a knowledge future.
  - For being transformative that is to realize IT (Indian Talent) + IT (Information Technology) = IT (India Tomorrow).
  - Making technology central to enabling change.
  - On being an Umbrella Programme – covering many departments.
  - The programme weaves together a large number of ideas and thoughts into a single, comprehensive vision so that each of them is seen as part of a larger goal.
  - The Digital India Programme will pull together many existing schemes which would be restructured and re-focused and implemented in a synchronized manner.

Nine pillars of Digital India

- Broadband Highways
- Universal Access to Mobile Connectivity
- Public Internet Access Programme
- e-Governance: Reforming Government through Technology
- e-Kranti - Electronic Delivery of Services
- Information for All
- Electronics Manufacturing
Progress and Impact of Digital India Programme

- Overall 12000 rural post office branches have been linked electronically.
- Increased in electronic transactions related to e-governance as it is estimated that there are more than 100 cr mobile phones in India.
- 2, 74,246 km of optical fiber network has connected over 1.15lakh Gram Panchayats under the Bharat Net programme.

*Common Service Center*

- A Common Service Center (CSC) is an information and communication technology (ICT) access point created under the National e-Governance Project of the Indian government.
- A CSC is essentially a kiosk with a personal computer, a wireless connection, and other equipment. Through computer and Internet access, the CSCs provide multimedia content related to e-governance, education, health, telemedicine, entertainment, and other government and private services.
- There is a rapid expansion in the network of Common Service Centers.
- DigiGaon or Digital Village conceptualized as the connected village where the citizen can avail various e-services. These DigiGaons are projected to be change agents, promoting rural entrepreneurship, building rural capacities and livelihoods through community participation.
- Digital villages have been equipped with solar lighting facility, LED assembly unit, sanitary napkin production unit, Wi-Fi choupal.
- The aim of the programme is to turn each village into a self-sustaining unit.
- It has been estimated that the internet service sector is expected to reach $74 billion in 2022. Internet data has become the major tool for the delivery of the services.
- India till Dec 2017 had made tremendous progress in urban internet penetration with 64%. However, four fifth of rural India is yet to get access to the internet.
- Presently, there are 300 million daily active users which have risen from 10-15 million daily users in 2011. And, it is estimated that by 2020 the number would double.

Initiatives launched by the Government of India

- **Digilockers**—it is a "digital locker" service operated by the Government of India that enables Indian citizens to store certain official documents on the cloud. The service is aimed towards reducing the need to carry physical documents.
- **BHIM app**—It is an app to enable digital payments. BHIM app was used to facilitate 913 million transactions in 2017-18.
- **Pradhan Mantri Gramin Digital Saksharta Abhiyan** to make citizen digitally literate. The project is expected to be one of the largest initiatives of the country with an overall target of training 6 crore students until the financial year, 2019. The government has accepted 250,000 Gram Panchayats to register at least 200-300 candidates each.

India’s Digital Economy
India’s digital economy will touch $1 trillion by the year 2022. India would be $10 trillion economy by 2030 and half of it would be the digital economy.

Fintech sector—the Fintech sector in a recent couple of years has seen a huge jump in growth. Digital currency and online payments platforms have played a major role in financial inclusion.

Public Services Sector—steady and efficient digital transformation across areas like e-governance and this has also considerably brought down leakages and corruption. In recent years India performed well in transparency index.

Health care sector—it is catching up to meet the demands of its tech-savvy population. Demand is shifting now to quality and affordable healthcare, much of it being fulfilled by a public-private partnership.

Digital healthcare startups are playing a major role in addressing areas like preventive healthcare, analytics, emergency services and engage with super-aggregation platforms like Facebook and Google.

Enterprise and Deep Technology sector—startups in this sector have made their presence felt globally with their success. The IT services in the country are set to reach USD 13.2 billion by the end of this year.

E-commerce and Consumer internet sector—India’s e-commerce market is set to grow three times to surpass USD 100 billion by 2022.

Travel and Hospitality sector—this sector has enjoyed rapid online growth since the beginning of this century. The growth is also attributed to the increase in disposable income, especially, among the millennials, who are changing decades of traditional travel trends.

Challenges

Slow roll-out of Wi-Fi hotspots and the slow speed, in comparison to other developed nation. Most small and medium scale industry is struggling to adapt to modern technology. Entry level smartphones have limited capabilities for smooth internet access, and the outreach of the ‘smartphones’ is limited. There is an absence of enough skilled manpower in digital technology. Lack of user education and there are limited facilities to train personnel. India needs over one million cybersecurity experts to check and monitor the growing menace of digital crime.

- Dark fibre
  - It is an **unused optical fibre** that has been laid but is not currently being used in fibre-optic communications. Since fibre-optic cable transmits information in the form of light pulses, a "dark" cable refers to one through which light pulses are not being transmitted.
  - Companies lay extra optical fibres in order to **avoid cost repetition when more bandwidth is needed**.
  - It is also known as **unlit fibre**.

National Digital Literacy Mission

- **National Digital Literacy Mission** (NDLM) has been initiated with the vision to empower
at least one person per household with crucial digital literacy skills by 2020.
- NDLM is an effort to complement the government’s vision to transform one from each household as digitally literate.
- The project aims at helping adults with low technological literacy develop the skills they need to interact in an increasingly digital world.

Bharat Broadband Network Limited
- It is a Special Purpose Vehicle set up by the Government of India under the Companies Act, 1956 with an authorized capital of ₹1000 crore.
- It comes under the Ministry of Communications and Information Technology.
- In 2011, it was mandated to create the National Optical Fiber Network (NOFN) in India which was later renamed as the BharatNet project in 2015.

Source: TH/Web

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Saudi led coalition in Yemen urges Emirates backed southern separatist to honour RIYADH peace deal

Part of: GS-II- International issue (PT-MAINS-PERSONALITY TEST)

A Saudi-led coalition involved in a years-long war in Yemen urged Emirati-backed southern separatists to honour terms of a Riyadh peace deal and return control of the port city of Aden to the country’s internationally recognized government.

The statement by Saudi Arabia comes after the separatists' Southern Transitional Council again claimed sole control of Aden, a Red Sea port that serves as the seat of the internationally recognized government as Yemen’s Shiite rebels, known as Houthis, hold the country's capital, Sanaa. The council's decision adds yet more complexity to the grinding
war in Yemen that has pushed the Arab world's poorest nation to the brink of famine and killed over 1,00,000 people.

In its statement, Saudi urged the council to return to the terms of the November 2019 Riyadh Agreement, which ended earlier fighting between the separatists and the government forces after the council seized control of Aden just a few months earlier.

Source: TH/Web

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Yemen crises

Part of: GS-II | International Relations

Yemen, one of the Arab world's poorest countries, has been devastated by a civil war. Here we explain what is fuelling the fighting, and who is involved.

How did the war start?

The conflict has its roots in the failure of a political transition supposed to bring stability to Yemen following an Arab Spring uprising that forced its longtime authoritarian president, Ali Abdullah Saleh, to hand over power to his deputy, Abdrabbuh Mansour Hadi, in 2011.

As president, Mr Hadi struggled to deal with a variety of problems, including attacks by jihadists, a separatist movement in the south, the continuing loyalty of security personnel to Saleh, as well as corruption, unemployment and food insecurity.
The Houthi movement (known formally as Ansar Allah), which champions Yemen's Zaidi Shia Muslim minority (with the help of ex president Saleh), took advantage of the new president's weakness by taking control of their northern heartland of Saada province and neighbouring areas.

Disillusioned with the transition, many ordinary Yemenis - including Sunnis - supported the Houthis, and in late 2014 and early 2015 the rebels gradually took over the capital Sanaa. Then attempted to take control of the entire country, forcing Mr Hadi to flee abroad in March 2015.

Saudi Arabia interference and its coalition with eight Sunni Arab states to fight Houthi rebels (backed by ex president Saleh)

Alarmed by the rise of a group they believed to be backed militarily by regional Shia power Iran, Saudi Arabia and eight other mostly Sunni Arab states began an air campaign aimed at defeating the Houthis, ending Iranian influence in Yemen and restoring Mr Hadi's government. The coalition received logistical and intelligence support from the US, UK and France. Coalition ground troops landed in the southern port city of Aden in August 2015 and helped drive the Houthis and their allies out of much of the south.

Mr Hadi's government has established a temporary home in Aden, but it struggles to provide basic services and security and the president continues to be based in Saudi Arabia. The Houthis rebels still have control of Sanaa and north-western Yemen. They have been able to maintain a siege of the third city of Taiz and to launch regular ballistic missile and drone attacks on Saudi Arabia.

The launch of a ballistic missile towards Riyadh in November 2017 prompted the Saudi-led coalition to tighten its blockade of Yemen. It said it wanted to halt the smuggling of weapons to the rebels by Iran - an accusation Tehran denied - but the restrictions led to substantial increases in the prices of food and fuel, helping to push more people into food insecurity. The alliance between the Houthis and Ali Abdullah Saleh (Ex president) also collapsed in November 2017 following deadly clashes over control of Sanaa's biggest mosque. Houthi fighters launched an operation to take full control of the capital and Saleh was killed.

Rise of Militant group AQAP

Militants from al-Qaeda in the Arabian Peninsula (AQAP) and the local affiliate of the rival Islamic State group (IS) have taken advantage of the chaos by seizing territory in the south and carrying out deadly attacks, notably in Aden.

Battle for port city Hudaydah (Pt SHOT)

In June 2018, the coalition attempted to launch an attack to capture from the Houthis...
Sea city of Hudaydah, whose port is the principal lifeline for almost two thirds of Yemen's population. The UN warned that the port's destruction would lead to massive loss of life due to famine.

Stockholm agreement

After six months of fighting, the warring parties agreed a ceasefire at talks in Sweden. The Stockholm agreement required them to redeploy their forces from Hudaydah, establish a prisoner exchange mechanism. While hundreds of prisoners have since been released, the full redeployment of forces from Hudaydah has not yet taken place, raising fears that the Stockholm agreement will collapse and that the battle for Hudaydah will resume.

Fight among the coalition backed government and its ally Southern Transition Council

In August 2019, infighting erupted in the south between Saudi-backed government forces and an ostensibly allied southern separatist movement supported by the United Arab Emirates, the Southern Transitional Council (STC). Forces loyal to the STC, which accused Mr Hadi of mismanagement and links to Islamists, seized control of Aden and refused to allow the cabinet to return until Saudi Arabia brokered a power-sharing deal that November.

The UN hoped the agreement would clear the way for a political settlement to end the civil war, but in January 2020 there was a sudden escalation in hostilities between the Houthis and coalition-led forces, with fighting on several front lines, missile strikes and air raids.

Impact of war

Yemen is experiencing the world's worst humanitarian crisis.

1. The UN had verified the deaths of at least 7,500 civilians by September 2019, with most caused by Saudi-led coalition air strikes.

2. Thousands more civilians have died from preventable causes, including malnutrition, disease and poor health.

3. It is estimated that 85,000 children with severe acute malnutrition might have died between April 2015 and October 2018.

4. Almost 20 million people lack access to adequate healthcare.

5. Almost 18 million do not have enough clean water or access to adequate sanitation.

6. The largest cholera outbreak ever recorded, which has resulted in more than 2.2 million suspected cases and 3,895 related deaths since October 2016.
7. About 80% of the population - 24 million people - need humanitarian assistance and protection.

Some 20 million people need help securing food, according to the UN. Almost 10 million of them are considered "one step away from famine".

Why should this matter for the rest of the world?

1. It also worries the West because of the threat of attacks - such as from al-Qaeda or IS affiliates - emanating from the country as it becomes more unstable.

2. The conflict is also seen as part of a regional power struggle between Shia-ruled Iran and Sunni-ruled Saudi Arabia.

3. Yemen is also strategically important because it sits on a strait linking the Red Sea with the Gulf of Aden, through which much of the world's oil shipments pass.

Source: Web/Aspire resource

Virtual courts amidst lockdown

GS-II

Introduction:

- Amidst the national lockdown, the Supreme Court and several other courts have been holding virtual proceedings.
- A question of concern to the Bar is whether virtual courts have become the “new normal” and whether it means a move away from the idea of open courts towards technology-based administration of justice without the physical presence of lawyers and litigants.

Virtual courts:
What is Virtual court?

Virtual Court means a virtual magistrates’ court created by video links between police custody suites and a magistrates’ court together with an electronic document sharing system to which all relevant parties have access.

- Chief Justice of India S.A. Bobde emphasises that virtual courts are open courts too and that one cannot describe them as closed or in-camera proceedings. The correct way of framing the difference, he says, is to call them virtual courts as distinct from “courts in congregation”.

Reasons for approving virtual court during COVID-19

- That access to justice is not denied to anyone; and
- The need to maintain physical distancing.

Demands of Supreme Court Bar Association:

- The Supreme Court Bar Association has written to the CJI and other judges that open court hearings should be restored at the earliest, subject of course to the lockdown ending.
- Citing earlier judgments on the importance of open court hearings, the SCBA has requested that the use of video conferencing should be limited to the duration of the current crisis, and not become the “new normal” or go on to replace open court hearings.
- SCBA also has a specific request: that proceedings held virtually may also be streamed live so that access is not limited to the lawyers concerned, but is also available to the litigants and the public.

Way ahead

- These issues can be resolved through live-streaming.
- In the longer term, it should become the general practice. As the use of technology is stepped up, courts should consider other steps that will speed up the judicial process and reduce courtroom crowding.
- In the lower courts, evidence could be recorded, with the consent of parties, by virtual means.
- In the higher courts, a system based on advance submission of written briefs and allocation of time slots for oral arguments can be put in place.
- It may even lead to more concise judgments.
- Despite the possibility of technical and connectivity issues affecting the process, one must recognise that virtual hearings are no different from open court conversations, provided access is not limited.

eCourts Project
The eCourts Project was conceptualized on the basis of the “National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005” submitted by eCommittee, Supreme Court of India with a vision to transform the Indian Judiciary by ICT enablement of Courts. Ecommittee is a body constituted by the Government of India in pursuance of a proposal received from Hon’ble the Chief Justice of India to constitute an eCommittee to assist him in formulating a National policy on computerization of Indian Judiciary and advise on technological communication and management related changes. The eCourts Mission Mode Project, is a Pan-India Project, monitored and funded by Department of Justice, Ministry of Law and Justice, Government of India for the District Courts across the country.

THE PROJECT ENVISAGES

- To provide efficient & time-bound citizen centric services delivery as detailed in eCourt Project Litigant’s Charter.
- To develop, install & implement decision support systems in courts.
- To automate the processes to provide transparency in accessibility of information to its stakeholders.
- To enhance judicial productivity, both qualitatively & quantitatively, to make the justice delivery system affordable, accessible, cost effective, predictable, reliable and transparent.

Virtual courts established at Delhi:

- To facilitate online payments of traffic challans, Delhi’s first ‘virtual court’ has been launched at Tiz Hazari courts.

- The Delhi District Courts under the aegis of the E-Committee, Supreme Court of India launched the virtual court’s web portal for online payment of traffic challans.
- The portal will cater to traffic challans digitally generated by the Delhi Traffic Police via the E-Challan application developed by the NIC.
- The digital challans generated through the e-challan application will be sent in digital form to the court and all the challans for the given day will reflect in the dash board of the virtual court Judge.
- The court as per section 208 of the Motor Vehicles Act, 1988 will issue summons to the violator via mobile phone and email id of the violator.

Source: TH
Digital Learning Resources

GS-III | Economic Issues

Context:
The Class Central (a free online course aka MOOC aggregator from top universities like Stanford, MIT, Harvard, etc.) has released the list of best 30 online courses of 2019 out of which 6 courses are from SWAYAM.

ICT in Education:

About SWAYAM

- SWAYAM (Study Webs of Active–Learning for Young Aspiring Minds) is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality.
- The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged.
- SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.
- This is done through an indigenous developed IT platform that facilitates hosting of all the courses taught in classrooms to be accessed by anyone, anywhere at any time.
- All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India.
- SWAYAM platform is developed by Ministry of Human Resource Development (MHRD) and NPTEL, IIT Madras with the help of Google Inc. and Persistent Systems Ltd.
- It would be ultimately capable of hosting 2000 courses and 80000 hours of learning: covering school, under-graduate, post-graduate, engineering, law and other professional courses.
- The ‘Study Webs of Active Learning for Young Aspiring Minds’ (SWAYAM) an integrated platform for online courses, using information and communication technology (ICT) which covers school (9th to 12th) to Post Graduate Level.
- It also offers online courses for students, teachers and teacher educators. It may be accessed on swayam.gov.in.

Other Digital resources available as part of various MHRD supported
procedures

- It provides access to digital textbooks for all classes, graded learning materials and enables participation in exhibitions, contests, festivals, workshops, etc.
- NPTEL provides E-learning through online Web and Video courses in Engineering, Science and humanities streams. The mission of NPTEL is to enhance the quality of Engineering education in the country by providing free online courseware. NPTEL is an acronym for National Programme on Technology Enhanced Learning which is an initiative by seven Indian Institutes of Technology (IIT Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and Indian Institute of Science (IISc) for creating course contents in engineering and science.
- SWAYAM Online course: provides access to best teaching learning resources which were earlier delivered on the SWAYAM Platform may be now viewed by any learner free of cost without any registration.
- UG/PG MOOCs: learning material of the SWAYAM UG and PG (Non-Technology) archived courses.
- https://www.swayamprabha.gov.in/: A group of 32 DTH channels providing high quality educational curriculum based course contents covering diverse disciplines such as arts, science, commerce, performing arts, social sciences and humanities subjects, engineering, technology, law, medicine, agriculture etc to all teachers, students and citizens across the country interested in lifelong learning. These channels are free to air and can also be accessed through your cable operator. The telecasted videos/lectures are also as archived videos on the Swayamprabha portal.
- National Digital Library is a digital repository of a vast amount of academic content in different formats and provides interface support for leading Indian languages for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners.
- Virtual Labs objective is to provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.
- Spoken Tutorial - An initiative of the ‘Talk to a Teacher’ activity of the National Mission on Education through Information and Communication Technology (ICT), launched by the Ministry of Human Resources and Development, Government of India. On this site, one can find a variety of spoken tutorials that will help you to learn and use open source software.
- The Consortium for Educational Communication - Popularly known as CEC is one of the Inter University Centres set up by the University Grants Commission of India. It has been established with the goal of addressing the needs of Higher Education through the use of powerful medium of Television along with the appropriate use of emerging Information Communication Technology (ICT).
- e-Yantra - An initiative to incorporate Robotics into engineering education with the objective of engaging students and teachers through exciting hands-on application of math, computer science, and engineering principles
- e-ShodhSindhu - Consortium for Higher Education Electronic Resources - Provides
ITI makes low-cost aerosol box, face shields-Vocational Education in India

The government-run Industrial Training Institute (ITI) in Odisha’s Berhampur has prepared low-cost ‘aerosol box’ and ‘face shields’ for the medical staff involved in the treatment of COVID-19 patients.

At the request of the Ganjam district administration, ITI-Berhampur successfully created cost-effective ‘aerosol box’ and ‘face shields’. The market price of an ‘aerosol box’ is ₹10,000, whereas the ITI-Berhampur has made it at a cost of ₹3,000. Each ‘face shield’ is sold for ₹200, while its production cost at ITI-Berhampur is just ₹11.

Aerosol box

- An ‘aerosol box’ is a transparent box with holes to enter gloved hands, which is put over the head of a COVID-19 patient placed on ventilator in ICU during the intubation process.
**UPSC "PT" DNA (Daily News Analysis)**

- The ‘aerosol box’ serves as a barrier to check possible transmission of COVID-19 droplets from the patient to the treating doctors during intubation.
- The ‘aerosol box’ is made of 4 mm transparent acrylic sheets cut by a laser cutting machine to make the joints completely airtight.
- These are reusable after sanitisation.

**Face shields**

- A face shield, an item of personal protective equipment (PPE), aims to protect the wearer's entire face (or part of it) from hazards such as flying objects and road debris, chemical splashes (in laboratories or in industry), or potentially infectious materials (in medical and laboratory environments).

**What are Industrial Training Institutes (ITIs) ?**

- Industrial Training Institutes and Industrial Training Centers are post-secondary schools in India constituted under Directorate General of Employment & Training (DGET), Ministry of Skill Development and Entrepreneurship, Union Government to provide training in various trades.
- The ITIs were initiated in the 1950s.
- In a span of 60 years, until 2007, around 1,896 public and 2,000 private ITIs were set up.
- However, in a 10-year period from 2007, more than 9,000 additional private ITIs were accredited.

**Vocational Education in India**

Standing Committee on Labour under the chairmanship of Krit Soumiya had submitted its Report on the **“Industrial Training Institutes (ITIs) and Skill Development Initiative Scheme”**

**Vocational training**

Vocational Education can be defined as the education that is based on occupation and employment. Vocational Education is also known as career and technical education (CTE) or technical and vocational education and training (TVET).

**Vocational Training in India**

- The Indian education system recognizes the role of education and particularly Vocational Education. Vocational training in India is provided on a full-time as well as part-time basis.
- Full-time programs are generally offered through Industrial training institutes (ITI). The nodal agency for granting the recognition to the I.T.I. is NCVT, which is under the Ministry of Labour, Govt. of India.
- Part-time programs are offered through state technical education boards or universities.
who also offer full-time courses.

**Brief History of Vocational Education and training**

1. 1945: Directorate General of Employment and Training (DGE&T), was set up for re-settling demobilized defence service personnel and discharged war workers in civilian life after World War II
2. 1950: Under the Craftsmen Training Scheme, Industrial Training Institutes (ITIs) were established
3. 1964: vocationalise secondary education recommended by Kothari committee
5. 2013: National Skill Certification and Monetary Reward Scheme (STAR)
6. 2015: Skill India Mission
7. 2015: The part of DGE&T dealing with Craftsman Training Scheme (CTS) and Apprenticeship Training Scheme (ATS) was transferred to the newly created Ministry of Skill Development and Entrepreneurship (MSDE) and is now known as Directorate General of Training.

**Skill India mission**

Skill India is a campaign launched by Prime Minister Narendra Modi on 15 July 2015 which aim to **train over 40 crore people** in India in different skills by **2022**. It includes various initiatives of the government like:

1. National Skill Development Mission
3. Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
4. Skill Loan scheme

**Need for focus on vocational training**

- **Demographic Dividend**: India has 65% of its youth in the working age group. Efficient utilization of these population would promote saving and investment rate
- **Meet employer need of skills**: The latest India skill Report indicates that only about 47% coming out of educational institutions are employable.
- **Prepare workers for a decent livelihood**: this improves India’s ranking in HDI
- **Boost to Small Medium Enterprises**
- **World class productivity and quality**
- **For Make in India – It give big opportunity for MNCs to come to India**
- **Export of skilled workforce to aging developing countries**

The study titled ‘Global Talent Crunch’ highlighted that India would have a talent surplus of around 245.3 million workers by 2030 at a time when the Asia-Pacific region itself would face a talent deficit of 47 million workers.

**Issues with Vocational training**
1. There is lack of coordination between MSDE and MHRD. In India vocational training is under MSDE while vocational education is under MHRD. The different institutions impact the whole process of vocational education and training.
3. Irrelevance of courses leading to a mismatch between the labour market needs and the training skills.
5. There is a high drop-out rate at Secondary level. Vocational Education is presently offered at Grade 11, 12th.
6. Private and Industry Participation is lacking.
7. Less number of Vocational Institutes in the country.
8. Inadequate financing of VET system.
9. Shortage of qualified trainers.
10. Issues with Recognition of Prior Learning (RPL).
11. Absence of ownership of National Standards: Ministry of Skill Development and Entrepreneurship is the nodal Ministry for Skill Development. However, in addition to MSDE, there are 17 other Ministries/Departments which are doing vocational training.
12. In India vocational training is always about entry level jobs and never counted as aspirational.
13. Most of the it is are running only engineering courses while 60% of the GDP is contributed by the services sector.

Way Ahead

- Government should incorporate the recommendation of Sharda Prasad committee and Parliamentary Standing committee.
- Adequate infrastructure should be provided in schools, and schools also should be properly equipped for teaching and learning.
- Adequate enlightenment campaigns should be carried out in order to educate the society about the importance of technical and vocational education.
- There should be industrial participation in vocational schools and also there should be an arrangement for students to visit the industrial areas.
- Contemporary instructional materials should be provided. Vocational subjects should be taught by using up-to-date modules.

Source: TH/WEB
Introduction

The global military expenditure rose to $1917 billion in 2019 with India and China emerging among the top three spenders, according to a report by a Swedish think tank, Stockholm International Peace Research Institute (SIPRI).

SIPRI Report

The annual report ‘Trends in World Military Expenditure, 2019’ was released by the SIPRI in 2019, China and India were, respectively, the second- and third-largest military spenders in the world.

- China’s military expenditure reached $261 billion in 2019, a 5.1% increase compared with 2018.
- India’s grew by 6.8% to $71.1 billion.
- In 2019, the top five largest spenders — U.S. ($732 bn), China, India, Russia ($65.1 bn) and Saudi Arabia ($61.9 bn) — accounted for 62% of the global expenditure.

Reason for rise in India’s military expenditure

- India’s tensions and rivalry with both Pakistan and China are among the major drivers for its increased military spending.
- The $71.1 billion spent by India on defence in 2019 was 2.4% of its Gross Domestic Product (GDP). India was at the fourth position in 2018 with Saudi Arabia at the third.
- Military expenditure grew by 259% over the 30-year period of 1990–2019, and by 37% over the decade of 2010–19. However, its military burden fell from 2.7% of GDP in 2010 to 2.4% in 2019.

Including defence pensions, accounts for about 1.5% of the country’s GDP, the lowest in recent times.

Pak.’s expenditure

In comparison, Pakistan’s military expenditure rose by 70% over the decade 2010–19, to reach $10.3 billion while the military burden increased from 3.4% of GDP in 2010 to 4% in 2019, says the report. Pakistan was at the 24th position in 2019 compared to 19th in 2018.
Global military spending

- Global military spending in 2019 represented 2.2% of the global GDP and this was an increase of 3.6% from 2018 and the largest annual growth in spending since 2010.
- In Asia and Oceania, other than India and China, Japan ($47.6 bn) and South Korea ($43.9 bn) were the largest military spenders.

About SIPRI

SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.

Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

Based in Stockholm, SIPRI is regularly ranked among the most respected think tanks worldwide.

SIPRI’s mission

- undertake research and activities on security, conflict and peace;
- provide policy analysis and recommendations;
- facilitate dialogue and build capacities;
- promote transparency and accountability; and
- deliver authoritative information to global audiences.

Source: TH

Cut in UN agency's funding for food can push millions into starvation: Head of World Food Programme David Beasley

GS-II |
Cut in UN agency’s funding for food can push millions into starvation: Head of World Food Programme David Beasley

Part of: GS-II- International organisation (PT-MAINS-PERSONALITY TEST)

Head of the World Food Programme (WFP) David Beasley has asserted that the Corona virus pandemic is not only affecting world’s rich economies, but also impacting the economies of vulnerable and conflict-torn countries where millions of people will face starvation, if there is a cut in the United Nations agency’s funding for food. He said that maintaining supply chains is critical and there are many potential obstacles - export restrictions, closed borders and ports, farms not producing and roads closed.

Earlier, Mr Beasley warned the UN Security Council that as the world deals with the COVID-19 pandemic, it is on the brink of a hunger pandemic that could lead to multiple famines of biblical proportions within a few months if immediate action is not taken. He said, 821 million people go to bed hungry every night all over the world now.

A further 135 million people are facing crisis levels of hunger or worse and a new World Food Programme analysis shows that as a result of COVID-19 an additional 130 million people could be pushed to the brink of starvation by the end of 2020.

World Food Programme

Japan has donated $69 million to the United Nations World Food Programme to provide vital aid to 28 countries in the Middle East, Africa, and Asia, with the biggest shares of the money being earmarked for Yemen and Iraq.

About WFP:

1. The World Food Programme (WFP) is the food assistance branch of the United Nations and the world’s largest humanitarian organization addressing hunger and promoting food security.
2. The WFP strives to eradicate hunger and malnutrition, with the ultimate goal in mind of eliminating the need for food aid itself.
3. It is a member of the United Nations Development Group and part of its Executive Committee.
4. Born in 1961, WFP pursues a vision of the world in which every man, woman and child has access at all times to the food needed for an active and healthy life. The WFP is governed by an Executive Board which consists of representatives from member states.
5. The WFP operations are funded by voluntary donations from world governments, corporations and private donors. WFP food aid is also directed to fight micronutrient deficiencies, reduce child mortality, improve maternal health, and combat disease, including HIV and AIDS.

The objectives of the World Food Programme are:

1. Save lives and protect livelihoods in emergencies.
2. Support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies.
3. Reduce risk and enable people, communities and countries to meet their own food and nutrition needs.
4. Reduce under-nutrition and break the inter-generational cycle of hunger.

Source: TH/AIR
Lockdown impact: Domestic sugar consumption

Part of: GS-III- Economy-Sugar policy (PT-MAINS-PERSONALITY TEST)

According to rating agency ICRA, the national lockdown due to COVID-19 pandemic has adversely impacted the sugar demand, resulting in a decline in the sugar prices to closer to minimum support price (MSP) levels of Rs 31 per kg from Rs 32.5 per kg in February 2020.

The demand for sugar has witnessed a significant decline following the nationwide lockdown and the overall adverse impact on sugar consumption would be at least one million tonne in the domestic market.

The report further said that the sugar mills are unable to fulfill their monthly sales quota allocated by the government owing to demand squeeze.

The various reasons -

1. With nationwide lockdown, the ice cream, soft drinks and confectionery manufacturers have shut down their operations. In spite of summer season where sale is high they cannot manufacture and sell.
2. With most countries under lockdown globally, the demand has also declined resulting in a fall of the global sugar prices.
3. Further the decline in crude prices, Brazil is likely to divert more cane towards sugar production which could exert pressure on global sugar prices.

These factors have consequently led to a pressure on the working capital requirements of sugar mills and thus a rise in cane dues to farmers. However, the mills exporting sugar are likely to gain on rupee depreciation to an extent. The domestic sugar mills have already contracted close to 3.5-4 million tonne for export, it said, adding that the exports are likely to resume from June-July 2020.

In Maharashtra, he said the crushing operations have been impacted due to issues on harvesting and transportation owing to labour shortage with most of the migrant workers returning to their respective states.

PIB addition
The Union Cabinet has cleared a proposal to create an emergency sugar reserve of 4 million tonne and approved the Fair and Remunerative Prices for sugarcane for the year 2019-20.

Sugar Industry

- Sugar industry is an important agro-based industry that impacts rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar mills.
- India is the world’s second largest sugar producer after Brazil and also the largest consumer.

Price Determination of Sugarcane

- Sugarcane prices are determined by:
  - Federal Government
  - State Government
- The Federal/Central Government announces Fair and Remunerative Prices which are determined on the recommendation of the Commission for Agricultural Costs and Prices (CACP) and announced by the Cabinet Committee on Economic Affairs, which is chaired by Prime Minister.
- The State Advised Prices (SAP) are announced by key sugarcane producing states which are generally higher than FRP.

Commission for Agricultural Costs and Prices (CACP)

- The Commission for Agricultural Costs and Prices (CACP) is an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India. It came into existence in January 1965.
- It is an advisory body whose recommendations are not binding on Government.

Source: TH/AIR
Sugarcane farmers are facing a payments crisis running into thousands of Crores of Rupees. In Maharashtra alone the state’s sugar mills failed to disburse the entire amount of Rs 7,450.9 crore as payment for cane to farmers as the ‘fair and remunerative price’ (FRP), according to Maharashtra government’s commissionerate of sugar. Similar situation regarding delays in Uttar Pradesh led to recent farmer protest bringing in light the crisis in sugar industry.

**Background**

- A major player in the worldwide sugar trade, India produced 33 million metric tons in 2017/2018. The nation is seeing record levels of sugar production and is set to overtake Brazil as the highest sugar producer.
- India’s sugar production rose 11.5% during the 2014 to 2015 season on bumper cane production. This increase in production led to an extensive surplus in Indian sugar with mills struggling to pay fair wages to workers.

**Sugar Industry’s Location in India**

- Sugar industry is broadly distributed over two major areas of production- Uttar Pradesh, Bihar, Haryana and Punjab in the north and Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh in the south.
- South India has tropical climate which is suitable for higher sucrose content giving higher yield per unit area as compared to north India.

**Significance**

- **Multiple linkages:** Sugar is a labour-intensive industry, up the entire value-chain from cane-growing to sugar and alcohol production. Across multiple districts of Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, and several other states, it is the main source of employment.
- **Source of employment:** A sugar industry is source of livelihood for 50 million farmers and their families. It provides direct employment to over 5 lakh skilled laborers but also to semi-skilled laborers in sugar mills and allied industries across the nation.
- **Byproducts:** The various byproducts of sugar industry also contribute to the economic growth and promote a number of allied industries. Sugarcane has emerged as a multi-product crop used as a basic raw material for the production of sugar, ethanol, paper, electricity and besides a cogeneration of ancillary product.
- **For livestock feeding:** Molasses from sugar cane is used for alcohol production and livestock feeding since it is highly nutritious.
- **Biofuel:** In India, the vast majority of ethanol is produced from sugarcane molasses, a by-product of sugar. Ethanol blended fuel can help in reducing crude oil imports.
- **Bagasse:** Basic utilisation of baggase continues to be as a fuel. But it is also suitable raw material for paper industry. 30% of cellulose requirement comes from agricultural residues. However, since the mills are scattered all over the country, collection of surplus baggase poses a problem and makes paper units uneconomical.

**Problems of Sugar Industry**
Uncertain Production Output
- Sugarcane has to compete with several other food and cash crops like cotton, oil seeds, rice, etc. This affects the supply of sugarcane to the mills and the production of sugar also varies from year to year causing fluctuations in prices leading to losses in times of excess production due to low prices.

Low Yield of Sugarcane
- India yield per hectare is extremely low as compared to some of the major sugarcane producing countries of the world. For example, India’s yield is only 64.5 tonnes/hectare as compared to 90 tonnes in Java and 121 tonnes in Hawaii.

Short crushing season
- Sugar production is a seasonal industry with a short crushing season varying normally from 4 to 7 months in a year.
- It causes financial loss and seasonal employment for workers and lack of full utilization of sugar mills.

Low Sugar recovery rate
- The average rate of recovery of sugar from sugarcane in India is less than ten per cent which is quite low as compared to other major sugar producing countries.

High Production cost
- High cost of sugarcane, inefficient technology, uneconomic process of production and heavy excise duty result in high cost of manufacturing.
- Most of the sugar mills in India are of small size with a capacity of 1,000 to 1,500 tonnes per day thus fail to take advantage of economies of scale.

Government policy and control
- Government has been controlling sugar prices through various policy interventions like export duty, imposition of stock limit on sugar mills, change in meteorology rule etc., to balance supply demand mismatch.
- But these controls have resulted in unremunerative sugar prices, increasing arrears for sugar mills and dues to be paid to sugarcane farmers.

Government Initiative

Rangarajan committee (2012) was set up to give recommendations on regulation of sugar industry. Its major recommendations:
- Abolition of the quantitative controls on export and import of sugar, these should be replaced by appropriate tariffs.
- Committee recommended no more outright bans on sugar exports.
- The central government has prescribed a minimum radial distance of 15 km between any two sugar mills, this criterion often causes virtual monopoly over a large area can give the mills power over farmers. The Committee recommended that the distance norm be reviewed.
- There should be no restrictions on sale of by-products and prices should be market determined. States should also undertake policy reform to allow mills to harness power generated from bagasse.
- Remove the regulations on release of non-levy sugar. Removal of these controls will improve the financial health of the sugar mills. This, in turn, will lead to timely payments to farmers and a reduction in cane arrears.
Based on the report, Commission for Agricultural Costs and Prices (CACP) recommended a hybrid approach of fixing sugarcane prices, which involved fair and remunerative price (FRP).

The year 2013-14 was a water-shed for the sugar industry. The Central Government considered the recommendations of the committee headed by Dr. C. Rangarajan on de-regulation of sugar sector and decided to discontinue the system of levy obligations on mills for sugar produced after September, 2012 and abolished the regulated release mechanism on open market sale of sugar.

The de-regulation of the sugar sector was undertaken to improve the financial health of sugar mills, enhance cash flows, reduce inventory costs and also result in timely payments of cane price to sugarcane farmers.

The recommendations of the Committee relating to Minimum Distance Criteria and adoption of the Cane Price Formula have been left to State Governments for adoption and implementation, as considered appropriate by them.

With the aim of benefitting Sugar farmers and in order to clear their arrears/cane dues, the Union Government has decided to increase the Minimum Selling Price (MSP) of Sugar from Rs. 29 to Rs. 31 for the year 2019-20.

**Fair and Renumerative Price**

- FRP is the minimum price that the sugar mills have to pay to farmers.
- It is determined on basis of recommendations of Commission for Agricultural Costs and Prices (CACP) and after consultation with State Governments and other stake-holders.

**State Advised Price (SAP)**

- In other key growing states of Uttar Pradesh, Punjab, Haryana, Tamil Nadu and Uttarakhand, farmers get the State Advised Price (SAP) fixed by state governments which is usually higher than FRP.

- Apart from this, the government has also provided incentives on producing ethanol from B-heavy molasses and cane juice to divert the sugar surpluses towards biofuel, thus indirectly supporting sugar prices. The new Biofuel Policy 2018 has fixed a target of achieving 20 per cent ethanol blending with petrol by 2030.

**Way Forward**

- Mills should be allowed to produce more alcohol (a higher value product with massive industrial demand). Exports of sugar and alcohol should also be decontrolled. It will improve financial situation of mills and could afford to pay farmers a price based on the market prices of sugar.
- The production cost of sugar in India is one of the highest in the world. Intense research is required to increase the sugarcane production in the agricultural field and to introduce new technology of production efficiency in the sugar mills.
- Production cost can also be reduced through proper utilisation of by-products of the industry.
Government should encourage ethanol production. It will bring down the country’s oil import bill and help in diversion of sucrose to ethanol and to balance out the excess production of sugar.

Conclusion

The sector needs infusion of capital, but also policy measures and structural changes. Technological upgradation in age old mills especially in Uttar Pradesh and Bihar to improve efficiency in production. Major sugar producing States like Maharashtra and Karnataka have migrated to the progressive revenue-sharing formula other states should also introduce revenue-sharing formula to ensure farmers receive a share in the profits. When domestic production is likely to be in excess of domestic consumption government should encourage exports through policy changes.

Source: Web/Aspire resource

Largest hole in the ozone layer heals itself: Is it Coronavirus effect?

Part of: GS-III- S&T-Ozone (PT-MAINS-PERSONALITY TEST)

Scientists believe the closing of the hole is because of the same polar vortex and not because of the lower pollution levels during the coronavirus lockdown.

Earlier this month, scientists reported a strong reduction of ozone concentrations over the Arctic believed to have been caused by unusual atmospheric conditions. The hole -- first identified in March 2020 -- is now being reported to have closed.
The Copernicus Climate Change Service (C3S) and Copernicus Atmosphere Monitoring Service (CAMS) by the European Centre for Medium-Range Weather Forecasts (ECMWF) confirmed that the largest hole in the Ozone layer above the Arctic has closed.

What is ozone layer

The ozone layer is a protective layer of gas in the stratosphere. It shields the planet from Sun’s harmful ultraviolet radiation, which can otherwise cause skin cancer and cataracts along with other environmental issues.

Scientists noticed the unusually strong depletion of ozone over the northern polar regions in March, which is believed to have been the largest hole in the Ozone layer. The hole could have led to a bigger threat had it moved towards the south.

Although mini ozone holes over the North Pole aren’t rare, the depletion over the Arctic this year was much larger compared to previous years. The reason for this year’s ozone hole is said to have occurred due to the polar vortex — a circling whirlpool of stratospheric winds responsible for bringing cold air to the polar. Scientists also believe that the closing of the hole is because of the same polar vortex and not because of the lower pollution levels during the coronavirus lockdown.

Aspire Addition

Ozone is a molecule that contains three atoms of oxygen. The ozone layer was discovered in 1913 by two French physicists Charles Fabry and Henri Buisson.

Ozone Hole - Causes and Measures to Mitigate

Earth's atmosphere consists of several layers: Troposphere, Stratosphere, Mesosphere, Thermosphere and Exosphere. In the stratosphere of the Earth's atmosphere, at a height of about 30-40kms ozone layer or ozone shield protects Earth's surface from harmful Ultraviolet (UV) rays from the Sun. The layer contains relatively higher concentrations of ozone when compared to the other parts of the atmosphere.

At any given time, thousands of ozone molecules are created and destroyed in the atmosphere. In a way, it can be said that the UV rays have created the ozone layer since they break up Oxygen molecule into individual Oxygen atoms to recombine them into a three atom Ozone. For decades, the total amount of Ozone remained relatively constant until the post-industrial revolution when ozone layer depletion started.

Ozone Depletion

Ozone depletion is the destruction of stratospheric ozone by free radicals like chlorine, bromine when they reach the upper atmosphere. The UV radiations break down the Chlorine molecules into Chlorine atoms. These Chlorine atoms combine with Oxygen atoms broken from Ozone molecules to form ClO molecules leaving fewer amounts of Oxygen atoms to form Ozone again. This process reduces the number of Ozone molecules in the stratosphere, leading to depletion of Ozone layer.
If depletion is concentrated at one place for example at the poles, it forms a hole in the ozone layer, often referred to as the Ozone hole.

**Reasons for more pronounced Ozone Hole at the Poles**

Ozone Hole first appeared over Antarctica because of atmospheric and chemical conditions unique to the region. However, it is wrong to say that the Arctic does not have an Ozone hole. Even the Northern Hemisphere shows Ozone Hole like phenomenon but to a lesser degree when compared to that of the Southern Hemisphere.

At Antarctica, during winter months when the region receives no sunlight, the stratosphere becomes cold enough to form high-level clouds called Polar Stratospheric Clouds (PSCs). The PSCs provide an ideal catalytic surface on which chlorine can react with the ozone, thus destroying the ozone layer. This reaction, however, requires sunlight and begins only when Sun returns to Antarctica during early spring, before the PSCs begin to melt. Hence the Ozone hole is more pronounced at the poles when compared to other regions.

**Causes of Ozone Depletion**

The causes for ozone depletion are free radicals like chlorine and bromine which are called Ozone Depleting Substances (ODS). ODSs are found in stable organic compounds like chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), Volatile organic compounds (VOCs), carbon tetrachloride, and methyl chloroform which are released from refrigeration, fire suppression, foam insulation, and vehicular exhaust. Natural processes like volcanic eruptions also contribute indirectly to ozone depletion by the release of aerosols.

**Effects of Ozone layer Depletion**

Ozone layer depletion has a number of effects on living beings and also the environment.

**On living beings**

The depletion of ozone layer paves the way for high energy Ultraviolet radiation to enter into the atmosphere which causes health effects on human beings like skin cancer (malignant melanoma) and cataract problems due to direct exposure to UV rays A weakening of the immune system Acceleration of the ageing process of the skin Difficulty in breathing, chest and throat pain

In amphibians, it affects every stage of life cycle, i.e. in the growth and development of the larvae and is said to be one of the primary reasons for declining number of amphibian species.

**On environment**

Ozone layer depletion leads to decrease in the ozone in the stratosphere and increase in ozone present in the lower atmosphere. Ozone in the lower atmosphere is considered to be a pollutant and a greenhouse gas as it contributes to global warming and the effect trickles down to melting polar ice caps, rising sea levels, and climate change.

**Measures to mitigate Ozone depletion**

Ozone depletion can be arrested by reducing the number of ozone-depleting substances in the atmosphere.
done by reducing the use of harmful ODSs and substituting them with other substances that do not cause ozone depletion.

The ozone layer is not something that is specific to any region or country. It hence leaves all countries vulnerable to the effects of depletion which means all the countries have to try to mitigate the effects collectively.

**International efforts to reduce Ozone Depletion: Montreal Protocol**

Montreal Protocol is an international treaty signed in 1987 after the Vienna Convention and came into force in 1989. According to this treaty, many countries of the world have agreed to phase out ODSs. Montreal Protocol is the first international treaty to have achieved universal ratification in the history of the United Nations. It has also been highly successful, as it has phased out more than 95% of the ODS so far, including chlorofluorocarbons (CFCs) in less than 30 years of its existence.

Currently, under the Montreal Protocol, accelerated phase-out of Hydrochlorofluorocarbons (HCFCs) is underway with the target year being 2030.

**Kigali Amendment to Montreal Protocol**

Kigali Amendment amends the Montreal Protocol of 1987. It aims to phase out Hydrofluorocarbons (HFCs), a family of potent greenhouse gases. Though HFCs are not ozone-depleting substances, they have been brought under Montreal Protocol as they have high global warming potential and also because Montreal Protocol has been more successful than climate change agreements like Kyoto Protocol (1997) which still do not have universal ratification and face staunch opposition from developed countries like the United States.

Under Kigali Amendment, in all 197 countries, including India, have agreed to a timeline to reduce the use of HFCs by roughly 85% of their baselines by 2045.

Countries under Kigali Amendment have been divided into three groups and given different timelines to phase out of HFCs. This will be the first time that developing countries like India and China have been separated and given different timelines. (China is in the second group while India is in the third group).

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Source: AIR/IE/TH

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â€˜Proactive stepsÂ™: Egypt seeks IMF help to fight...
‘Proactive steps’: Egypt seeks IMF help to fight coronavirus

*Egypt asked for emergency financing to support investor confidence as it suffers an economic hit from the virus.*

Egypt has asked the International Monetary Fund for financial assistance to shore up investor confidence in the economy as authorities work to offset the impact of the coronavirus pandemic. Assistance involves the use of the IMF's Rapid Financing Instrument and a Stand-By Arrangement. These lending tools offer rapid and flexible funding without the strings of a full program.

The emergency financing under the RFI will allow the Egyptian government to "address any immediate balance of payments needs and support the most affected sectors and vulnerable groups of people", The IMF is also working with the Egyptian government to "support its strong set of macroeconomic policies through an SBA.

Source: AIR/IE