



Airspace Violations Near LAC

For Prelims: Confidence Building Measures, Outer Space Treaty 1967, LAC, Eastern Ladakh, Air sovereignty, 1944 Chicago Convention, Air Traffic Control

For Mains: Airspace Violations and Related Laws, India China Conflicts

Why in News?

Recently, India and China held a special round of military talks on **Air space Violations** at the **Chushul-Moldo border meeting point** in [Eastern Ladakh](#).

- The talks were held against the backdrop of the "**provocative behaviour**" by Chinese fighters flying close to the [Line of Actual Control \(LAC\)](#) often violating the 10-km no-fly zone Confidence Building Measure (CBM).

Why do Such Incidents Keep Happening?

- The LAC is **not fully demarcated** and there are **differences of perception on the alignment** due to which such incidents keep happening.
- To maintain peace and tranquillity along the LAC, the **two sides regularly hold talks at various levels on the ground**.
- Since the **stand-off began** in eastern Ladakh in May 2020, both sides have forward deployed air assets along the LAC and also augmented bases and air defences.

What is the Picture of India China Recent Conflicts?

- The **June 2020** clash in the Galwan Valley - fought with sticks and clubs, not guns - **was the first fatal confrontation between the two sides since 1975**.
 - The most recent conflict was - in **January 2021** - left troops on both sides injured. It took place along the border in India's Sikkim state, which is **sandwiched between Bhutan and Nepal**.
- Lately, the Chinese have been **complaining about the IAF upgrading its capability to detect Chinese Air Force aircraft operating within the territory** controlled by them in the Tibet region.
- The two sides have been **able to resolve three friction points in eastern Ladakh** and are holding discussions to find solutions for the **Hot Springs** area also.
 - The two have conducted 16 rounds of Corps commander-level talks to de-escalate the situation and tensions which began after the Chinese tried to alter the status quo on the LAC in 2020.

What is Line of Actual Control?

- **About:** The Line of Actual Control (LAC) is **the demarcation that separates Indian-controlled territory from Chinese-controlled territory**.
 - LAC is different from the **Line of Control (LoC) with Pakistan:**

- The LoC was designated so in 1972, following the **Shimla Agreement** between the two countries. **It is delineated on a map.**
- The **LAC, in contrast, is only a concept - it is not agreed upon by the two countries**, neither delineated on a map or demarcated on the ground.
- **Length of the LAC:** India considers the LAC to be 3,488 km long, while the Chinese consider it to be only around 2,000 km.
- **Sectors Across the LAC:**
 - **It is divided into three sectors:** the eastern sector which spans Arunachal Pradesh and Sikkim (1346 km), the middle sector in Uttarakhand and Himachal Pradesh (545 km), and the western sector in Ladakh (1597 km).
 - The alignment of the LAC in the eastern sector is along the 1914 McMahon Line.
 - The McMahon line marked out previously unclaimed/undefined borders between Britain and Tibet.
 - The middle sector is the least disputed sector, while the western sector witnesses the highest transgressions between the two sides.

What are the Agreements Between India-China on Air Space?

- As per the existing agreements between India and China, **operation of fighter aircraft and armed helicopters is restricted to a distance from the LAC.**
- According to the '**Agreement on Maintenance of Peace and Tranquillity along the LAC in India-China Border Area**' of 1996, "combat aircraft (to include fighter, bomber, reconnaissance, military trainer, armed helicopter and other armed aircraft) **shall not fly within 10 km of the LAC.**"
- **Between 1993 and 2012**, a set of **Confidence Building Measures (CBMs)** were agreed upon by India and China to **maintain peace between the two countries.**

What is the Confidence Building Measures (CMB)?

- In a face-off situation **neither side shall use force or threaten to use force** against the other,
- Both sides **shall treat each other with courtesy** and refrain from any provocative actions,
- If the border personnel of the two sides come to a face-to-face situation due to differences on the alignment of the LAC, they shall exercise self-restraint and take all necessary steps to avoid an escalation of the situation.
- **No military aircraft of either side shall fly across the LAC**, except by prior permission.
- Neither side shall **open fire, cause biodegradation, use hazardous chemicals**, conduct blast operations or hunt with guns or explosives within two kilometres from the LAC

What was the Response after this Incident?

- The Indian side has strongly raised objections over the same.
- More recently, India and China have discussed the "**proposal for direct contact**" **between two air forces during** the special military talks.
- The direct contact mechanism could be through **a separate hotline or by using the existing hotline between the two armies.**
 - The **Indian and Chinese armies currently have six hotlines** - two each in eastern Ladakh, Arunachal Pradesh and Sikkim - between their ground commanders.
 - The sixth one was set up between Kongra La in north Sikkim and Khamba Dzong in the [Tibetan Autonomous Region](#) in August 2021.

What do We know about Air Space and Related Laws?

- **About:**

- Air space, in international law, is the **space above a particular national territory**, treated as belonging to the **government controlling the territory**.
- It **does not include outer space**, which, under the [Outer Space Treaty of 1967](#) is declared to be free and not subject to national appropriation.
 - The treaty, however, **did not define the altitude at which outer space begins and air space ends**.
- **Air Sovereignty:**
 - It is the fundamental right of a sovereign state **to regulate the use of its air space and enforce its own aviation law**.
 - State controls the **entry of foreign aircraft into its territory** and that persons within its territory are subject to its laws.
 - The principle of air space sovereignty is **established through the Paris Convention on the Regulation of Aerial Navigation (1919)** and subsequently by other multilateral treaties.
 - Under the [1944 Chicago Convention](#), contracting states **agree to permit aircraft registered in the other contracting states and engaged in commercial non-scheduled flights** to fly into their territory without prior **diplomatic permission** and, moreover, to pick up and discharge passengers, cargo, and mail.
 - This provisions, in practice, has become a dead letter.
- **Prohibited Air Space:**
 - It refers to an area of air space within which flight of aircraft is not allowed, usually due to security concerns. It is one of many types of special use airspace designations and is depicted on aeronautical charts with the letter "P" followed by a serial number.
- **Restricted Air Space:**
 - Different from prohibited air space, in this space, the entry is **typically forbidden for all aircrafts and is not subjected to clearance from ATC (Air Traffic Control)** or the air space's controlling body.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Mains

Q. "The USA is facing an existential threat in the form of China, that is much more challenging than the erstwhile Soviet Union." Explain. **(2021)**

Q. "China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia". In the light of this statement, discuss its impact on India as her neighbour. **(2017)**

[Source: TH](#)

Ethanol Plant

For Prelims: Ethanol Blending, Biofuels, Crude Oil, 2018 National Policy on Biofuels

For Mains: Ethanol Blending and its significance

Why in News?

On [World Biofuel Day](#) 2022, the government of India announced a **2nd generation (2G) ethanol plant** to be set up at the **Indian Oil Corporation's refinery** in Haryana.

- This ethanol plant will help reduce [air pollution](#) from the Delhi and the NCR region along with generating additional income and [green fuel](#).

What is World Biofuel Day?

- **About:**
 - It is celebrated every year on 10th of August.
 - It is observed to **raise awareness** of the importance of [non-fossil fuels](#) as a substitute for **conventional fossil fuels**.
- **History:**
 - This day is observed in honour of **Sir Rudolf Diesel**.
 - He was the inventor of the **diesel engine** and was the first to predict the possibility of [vegetable oil](#) replacing fossil fuels.

What do we know about the Ethanol Plant?

- It will boost India's [waste-to-wealth](#) endeavours by utilising about **2 lakh tonnes of rice straw (parali)** annually to generate around 3 crore litres of ethanol annually.
 - This plant will also utilize **maize and sugarcane waste** besides **paddy straw** to produce ethanol.
- The project will provide **direct employment to people** involved in the plant operation and **indirect employment will be generated** in the [supply chain](#) for **rice straw cutting, handling, storage, etc.**
- The project will have **zero liquid discharge**.
 - Through **reduction in burning of rice straw**, the project will contribute to a **reduction of greenhouse gases equivalent to about 3 lakh tonnes of carbon dioxide** equivalent emissions per annum, which can be understood as equivalent to **replacing nearly 63,000 cars annually on the country's roads**.

What Is Ethanol?

- **About:**
 - It is one of the principal [biofuels](#), which is **naturally produced** by the **fermentation of sugars** by yeasts or via **petrochemical processes** such as ethylene hydration.
 - It is a **domestically produced** alternative fuel **most commonly made from corn**. It is also made from **cellulosic feedstocks**, such as crop residues and wood.
- **Ethanol as Fuel:**
 - The use of ethanol as a fuel for **internal combustion engines**, either alone or in combination with other fuels, has been given much attention mostly because of its possible **environmental and long-term economical advantages over fossil fuel**.
 - **Ethanol can be combined with petrol** in any concentration up to pure ethanol (E100).
 - **Anhydrous ethanol** (ethanol without water) can be blended with petrol in **varying quantities** to reduce the consumption of petroleum fuels, as well as to reduce **air pollution**.

What are India's Other Initiatives regarding Biofuels?

- **Ethanol Blending Programme:**
 - It is aimed at reducing the country's dependence on [crude oil imports](#), cutting carbon

emissions and [boosting farmers' incomes](#).

- The Government of India has advanced the target for [20% ethanol blending in petrol](#) (also called E20) to 2025 from 2030.
- India has already achieved the target of [10% ethanol blending in petrol](#) with the country's ethanol production increasing to 400 crore litres.

▪ **[The National Policy on Biofuels-2018:](#)**

- It provides an indicative target of 20% ethanol blending under the Ethanol Blended Petrol (EBP) Programme by 2030.

▪ **[E-100 Pilot Project:](#)**

- TVS Apache two-wheelers are designed to run on E80 or pure ethanol (E100).

▪ **[Pradhan Mantri JI-VAN Yojana, 2019:](#)**

- The scheme aims to create an ecosystem for setting up commercial projects and boost Research and Development in the 2G Ethanol sector.

▪ **[Repurpose Used Cooking Oil \(RUCO\):](#)**

- The Food Safety and Standards Authority of India (FSSAI) has launched this initiative that will enable collection and conversion of used cooking oil to biodiesel.

Way Forward

▪ **Ethanol From Wastes:**

- India has a real opportunity here to **become a global leader in sustainable biofuels policy** if it chooses to refocus on ethanol made from wastes.
 - This would bring both **strong climate and air quality benefits**, since these wastes **are currently often burned, contributing to smog**.

▪ **Prioritize Crop Production:**

- With our depleting groundwater resources, arable land constraints, erratic monsoons, and dropping crop yields due to [climate change](#), **food production must be prioritized over crops for fuel**.

▪ **Alternative Mechanism:**

- To achieve the key goal, that is [emissions reduction](#), alternative mechanisms-enhanced [Electric Vehicles](#) uptake, installation of additional renewable generation capacity to allow [zero-emissions](#) recharging, etc. need to be evaluated.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. According to India's National Policy on Biofuels, which of the following can be used as raw materials for the production of biofuels? (2020)

1. Cassava
2. Damaged wheat grains
3. Groundnut seeds
4. Horse gram
5. Rotten potatoes
6. Sugar beet

Select the correct answer using the code given below:

- (a) 1, 2, 5 and 6 only
(b) 1, 3, 4 and 6 only
(c) 2, 3, 4 and 5 only
(d) 1, 2, 3, 4, 5 and 6

Ans: (a)

Explanation:

- The National Policy on Biofuels, 2018, allows production of ethanol from damaged food grains like wheat, broken rice, etc., which are unfit for human consumption.

- The Policy also allows conversion of surplus quantities of food grains to ethanol, based on the approval of the National Biofuel Coordination Committee.
- The Policy expands the scope of raw material for ethanol production by allowing use of sugarcane juice, sugar containing materials like sugar beet, sweet sorghum, starch containing materials like corn, cassava, damaged food grains like wheat, broken rice, rotten potatoes, unfit for human consumption for ethanol production. Hence, 1, 2, 5 and 6 are correct.
- Therefore, option (a) is the correct answer.

[Source: HT](#)

Amendments to Biodiversity Bill, 2021

For Prelims: Biological Diversity (Amendment) Bill, Ayurveda Yoga Naturopathy Unani Siddha and Homeopathy (AYUSH)

For Mains: Significance & Concerns Related to Biodiversity Bill 2021

Why in News?

Recently, a **Joint Parliamentary Committee (JPC)** that examined the [Biological Diversity \(Amendment\) Bill 2021](#), has submitted its suggestions on the Bill.

- The JPC has **accepted several amendments** made by the Ministry of Environment & Climate Change (MoEFCC).

What is the Biodiversity Act, 2002 (BDA)?

- **About:**
 - The [Biological Diversity Act, 2002 \(BDA\)](#) was enacted to provide for the **conservation of biological diversity, sustainable use of its components**, and fair and equitable sharing of the benefits arising out of the use of biological resources and traditional knowledge.
- **Features:**
 - The Act prohibits any person or organisation from obtaining any biological resource, occurring in India for its research or commercial utilisation, without prior approval from the **National Biodiversity Authority**.
 - The act envisaged a three-tier structure to regulate the access to biological resources:
 - **The National Biodiversity Authority (NBA)**
 - **The State Biodiversity Boards (SBBs)**
 - **The Biodiversity Management Committees (BMCs)** (at local level)
 - The act stipulates all offences under it as cognizable and non-bailable.

What are the Amendments Made in Biodiversity Bill 2021?

- **Boosting Indian Medicine System:** It seeks to give a fillip to **“Indian system of medicine”**, and facilitate fast-tracking of research, patent application process, transfer of research results while utilising the biological resources available in India.

- It seeks to empower local communities to be able to utilise resources, particularly of medicinal value, such as seeds.
- The Bill looks to encourage farmers to **increase cultivation of medicinal plants.**
- These objectives to be achieved without compromising the objectives of the [United Nation Convention on Biological Diversity.](#)
- **Decriminalising Certain Provisions:** It seeks to decriminalise certain provisions in the chain of biological resources.
 - These changes were brought in consonance with **India's ratification of [Nagoya Protocol](#)** (Access to generic resources and the fair and equitable sharing of benefits arising from their utilisation) in 2012.
- **Allowing Foreign Investments:** It also allows for **foreign investment in research into biodiversity.** However, this investment will necessarily have to be made through Indian companies involved in biodiversity research.
 - For foreign entities approval from the **National Biodiversity Authority** is necessary.
- **Exempting AYUSH Practitioners:** The Bill seeks to exempt registered **AYUSH medical practitioners** and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.

What are the Major concerns Raised Against the Proposed Amendments?

- **Trade over Conservation:** Concerns were raised that the bill **prioritised [intellectual property and commercial trade at the expense of the act's key aim](#)** of conserving biological resources.
- **Threat of Bio-piracy:** The exemptions to **AYUSH Practitioners** from giving prior intimation to State biodiversity boards would pave the way for **"bio piracy"**.
 - **Biopiracy** is the practice of exploiting naturally occurring genetic or biochemical material in commerce.
- **Marginalising Biodiversity Management Committees (BMCs):** The proposed amendments allow for state biodiversity boards to represent BMCs to determine terms of benefit sharing.
 - Under the BDA 2002, national and state biodiversity boards are required to consult the BMCs (**constituted by every local body**) while taking any decision relating to the use of biological resources.
- **Sidelining Local Communities:** The bill also exempts cultivated medicinal plants from the purview of the Act. However, it is practically impossible to **detect which plants are cultivated and which are from the wild.**
 - This provision could allow large companies to **evade the requirement for prior approval or share the benefit** with local communities under the access and benefit-sharing provisions of the Act.

What are the Recommendations Made by the Committee?

- **Conserving Biological Resources:**
 - The JPC recommended that biodiversity management committees under the proposed law and indigenous communities should be **empowered by clearly defining benefit claimers to be conservers of [biological resources.](#)**
- **Promoting Indigenous Medicine:**
 - Reduce the pressure on wild medicinal plants by encouraging cultivation of medicinal plants.
 - Indian system of medicine should be encouraged by clearly defining codified traditional knowledge.
 - **Promoting indigenous research and Indian companies through facilitating fast-tracking of research, patent application process, transfer of research results while utilising the biological resources** available in India without compromising the **objectives of International biodiversity convention.**
- **Promote Sustainable Use:**
 - To **develop national strategies for conservation**, promotion and sustainable use of biological resources in consultation with the state government.
- **Civil Offence:**
 - Being a civil offence, the committee has further recommended that in contravention of the

Biological Diversity Act, 2002 any offence should **attract civil penalties with proportionate fine structure so that the violators do not escape,**

▪ **FDI Inflows:**

- Further, there is a need to **attract more [foreign investments](#)** in the chain of biological resources, including research, patent, and commercial utilisation, without compromising national interest by defining foreign companies as per the [Companies Act](#) and by defining a protocol for utilisation of biological resources from India.

▪ **Exemption of AYUSH Practitioners:**

- The committee clarified that AYUSH practitioners who have been practising indigenous medicine, including Indian systems of medicine, **as a profession for sustenance and livelihood are exempt from prior intimation** to state biodiversity boards to access biological resources.

UPSC Civil Services Examination Previous Year Question (PYQ)

Mains

Q. How is the Government of India protecting traditional knowledge of medicine from patenting by pharmaceutical companies? (2019)

[Source: HT](#)

Pre-Summit of Tiger Range Countries

For Prelims: Conservation Status of Tiger, Conservation Assured | Tiger Standards (CA|TS), Global Tiger Summit, Project Tiger

For Mains: Importance of Tiger Conservation and related Initiatives, Reasons for Loss of Biodiversity

Why in News?

India has hosted the Pre-Summit meeting of **Tiger Range Countries (TRCs)**.

- The **Tiger Range Countries Summit is scheduled to be held at Vladivostok, Russia** on 5th September 2022.
- In January 2022, the [4th Asia Ministerial Conference on Tiger conservation](#) was held.
- India's [National Tiger Conservation Authority](#) has also decided to introduce guidelines for the reintroduction of tigers that can be used by other Tiger Range Countries.

What are the Highlights of the Meeting?

- The meeting was attended by 12 tiger range countries **except for China and Indonesia**.
 - There are **13 Tiger Range Countries (TRC)**: India, Bangladesh, Bhutan, Cambodia, Lao PDR (People's Democratic Republic), Malaysia, Myanmar, Nepal, Russia, Thailand, Viet Nam, China and Indonesia.
- India is committed to bringing all potential tiger habitats within the country under the tiger reserve

network.

- The meeting aims to **finalise the declaration on tiger conservation to be adopted at the Summit.**

What is the Significance of Tiger Conservation:

- **Vital in Regulating Ecological Processes:**
 - Tigers, the top predators in the ecosystem, are vital in **regulating and perpetuating ecological processes.**
 - Forests are known to provide **ecological services** like clean air, water, pollination, temperature regulation etc.
- **Maintaining Food Chain:**
 - It is a **top predator which is at the apex of the food chain** and keeps the population of wild ungulates (primarily large mammals) in check.
 - Thus, Tiger **helps in maintaining the balance between prey herbivores** and the vegetation upon which they feed.

What is the Conservation Status of Tiger?

- [Indian Wildlife \(Protection\) Act, 1972: Schedule I](#)
- [International Union for Conservation of Nature \(IUCN\) Red List: Endangered.](#)
- [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\): Appendix I.](#)

What is the Indian Scenario in Tiger Conservation?

- India is home to **52 Tiger Reserves covering approximately 75,000 Sq Km area in 18 States.**
- India is home to approximately **75% of the wild tigers at global level.**
- India achieved the **goal of doubling the tiger numbers in 2018 itself**, four years in advance **from the targeted year 2022.**
- 17 Tiger Reserves in the country **have got [CA/TS international accreditation](#)** and two Tiger Reserves (**[Sathyamangalam](#)** and **[Pilibhit](#)**) have got International **Tx2 Award.**
- India is having bilateral agreements and MoU with several **Tiger Range Countries and is working very closely with Cambodia, for technical assistance towards bringing back wild tigers.**

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UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Consider the following pairs: (2014)

1. Dampa Tiger Reserve : Mizoram
2. Gumti Wildlife Sanctuary : Sikkim
3. Saramati Peak : Nagaland

Which of the above pairs is/are correctly matched?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

Exp:

- **Dampa Tiger Reserve** cum Wildlife Sanctuary is situated in **Western Mizoram**. It has tropical forest with unique and endangered wild animals. **Hence, pair 1 is correctly matched.**

- **Gumti Wildlife Sanctuary** is situated in the southeast corner of **Tripura**. It is home to many animals like elephants, sambar, buffalo, and numerous reptiles. **Hence, pair 2 is not correctly matched.**
- Having an altitude of 3841 m, **Saramati** is the highest peak in the State of Nagaland. The peak is located on the **Nagaland-Myanmar border**. **Hence, pair 3 is correctly matched.**
- **Therefore, option (c) is the correct answer.**

Q. Among the following Tiger Reserves, which one has the largest area under “Critical Tiger Habitat”? (2020)

- (a) Corbett
- (b) Ranthambore
- (c) Nagarjunasagar-Srisailem
- (d) Sundarbans

Ans: (c)

Exp:

- **Critical Tiger Habitats (CTH)**, also known as core areas of tiger reserves, are identified under the **WildLife Protection Act, 1972** based on scientific evidence that “such areas are required to be kept as inviolative for the purpose of tiger conservation, without affecting the rights of the Scheduled Tribes or such other forest dwellers”.
- The CTHs are notified by the state government in consultation with the expert committee constituted for the purpose.
- **Area of the Core/Critical Tiger Habitat**
 - **Corbett (Uttarakhand):** 821.99 sq. Kms
 - **Ranthambore (Rajasthan):** 1113.36 sq. Kms
 - **Sundarbans (West Bengal):** 1699.62 sq. Kms
 - **Nagarjunsagar Srisailem (part of Andhra Pradesh):** 2595.72 sq. kms
- **Therefore, option (c) is the correct answer.**

Q. The term ‘M-STripES’ is sometimes seen in the news in the context of (2017)

- (a) Captive breeding of Wild Fauna
- (b) Maintenance of Tiger Reserves
- (c) Indigenous Satellite Navigation System
- (d) Security of National Highways

Ans: (b)

Exp:

- **M-STripES** is a step taken by the Indian government’s National Tiger Conservation Authority (NTCA) in 2010 for modernizing the infrastructure and field protection, besides launching ‘Monitoring system for Tigers’ Intensive Protection and Ecological Status (M-STripES)’ for effective field patrolling and monitoring.
- The system’s objective is to **strengthen patrolling and surveillance of the endangered Bengal Tiger**. Forest guards in tiger reserves are equipped with personal digital assistants and GPS devices to capture data relating to tiger sightings, deaths, wildlife crime and ecological observations while patrolling.
- **Therefore, option (b) is the correct answer.**

Source: PIB

RBI's Surveys & Indian Economy

For Prelims: RBI, RBI Survey, Monetary Policy

For Mains: Monetary Policy Review, Roles of RBI, Significance of Survey

Why in News?

Recently, the **RBI** unveiled its latest **monetary policy review** and **seven surveys**, ranging from consumer confidence to **GDP growth** expectations, that help it ascertain how the economy is doing.

- Widening Trade Deficit & Falling Rupee are also areas of major concern for Indian Economy.

Which Surveys were Unveiled by RBI?

▪ Consumer Confidence Survey (CCS):

◦ About:

- The CCS asks people across 19 cities about their current perceptions (in comparison with a year ago) and one-year ahead expectations on the **general economic situation, employment scenario, overall price situation and own income and spending**.

◦ Indices:

• The Current Situation Index (CSI)

- CSI has been recovering since falling to a historic low in July 2021.

• The Future Expectations Index (FEI)

- The FEI is in the positive bracket but even now it stays below the pre-pandemic levels.

- An index **below the 100 mark** implies **people are pessimistic** and a **value higher than 100 conveys optimism**.

▪ Inflation Expectations Survey (IES):

◦ About:

- It tracks people's expectations of **inflation**.

◦ Findings:

- Households' inflation perception for the current period has moderated by 80 bps to 9.3%.

▪ OBICUS Survey:

◦ About:

- OBICUS stands for "**Order Books, Inventories and Capacity Utilisation Survey**"

- It covered **765 manufacturing companies** in an attempt to provide a snapshot of demand conditions in **India's manufacturing sector** from January 2022 to March 2022.

◦ Capacity Utilisation (CU):

- **A low level of CU** implies that manufacturing firms **can meet the existing demand** without needing to boost production.

- It has **negative implications** for job creation and the chances for **private sector investments** in the economy.

◦ Findings:

- The CU is well **above the pre-pandemic level**, suggesting India's **aggregate demand** is recovering steadily.

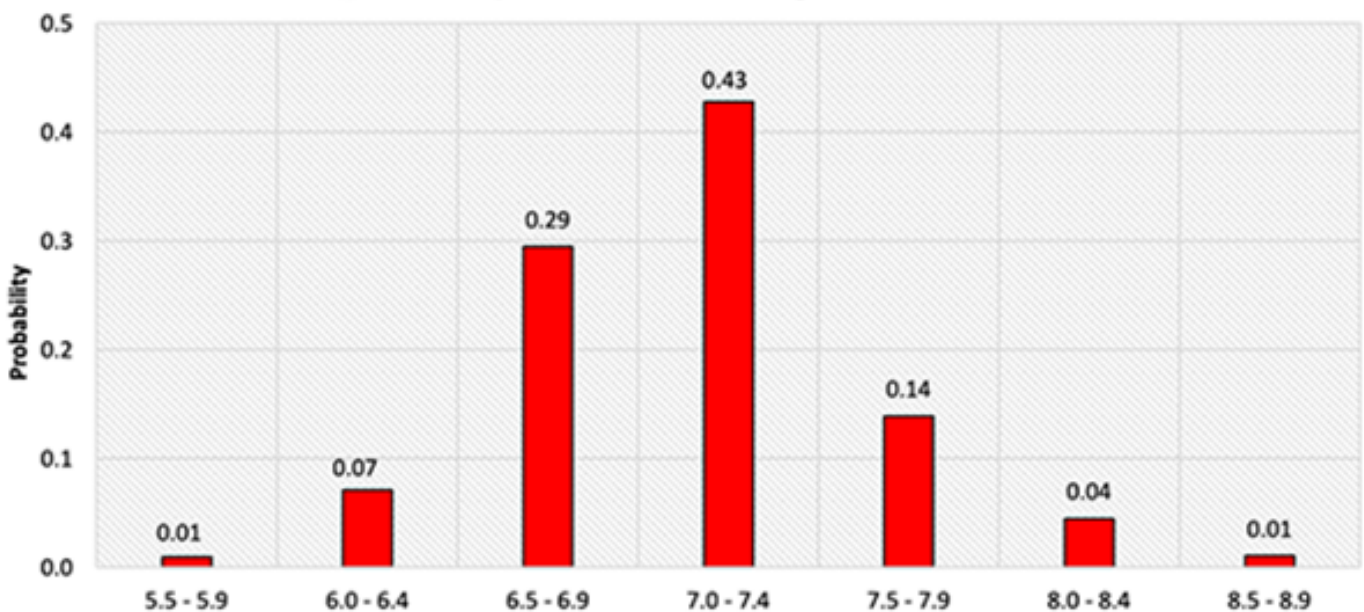
▪ Industrial Outlook Survey (IOS):

- This survey **tries to track the sentiments of the businessmen and businesswomen**.
- The survey encapsulates qualitative assessment of the business climate by Indian

manufacturing companies.

- **Services and Infrastructure Outlook Survey (SIOS):**
 - This survey does a qualitative assessment of **how Indian companies in the [services](#) and [infrastructure sectors](#)** view the current situation and the future prospects.
 - The companies in the services space are **far more optimistic than the companies in the infrastructure sector.**
- **Bank Lending Survey (BLS):**
 - It captures the mood (qualitative assessment and expectations) of major **scheduled commercial banks (SCBs)** on credit parameters (**loan demand and terms & conditions of loans**) for major economic sectors.
- **Survey of Professional Forecasters (SPF):**
 - It is a survey of 42 professional forecasters (**outside the RBI**) on key **macroeconomic indicators** such as **GDP growth rate** and **inflation rate** in the current year and the next financial year.

Probability distribution of GDP growth forecast for 2022-23

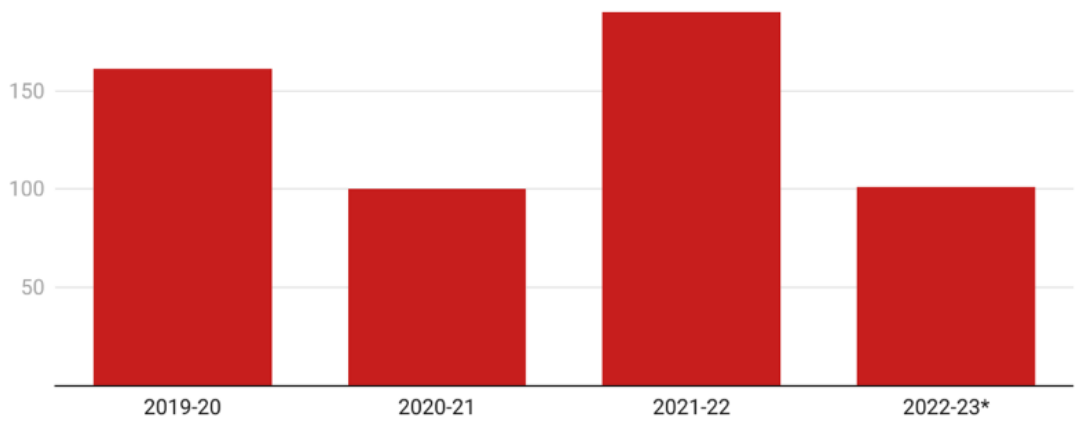


- **GDP Expectations:**
 - India's **real GDP** is expected to **grow by 7.1% in 2022-23**, projections revised down by 10 basis points from the last survey round and it is **expected to grow by 6.3% in 2023-24.**
- **Findings:**
 - The highest probability is that **GDP growth will range between 7%-7.4%**, the second most probable outcome is that the **growth rate will decelerate to 6.5%-6.9% range.**

What is the Current State of Trade Deficit & Indian Rupee?

- **Trade Deficit:**

■ Annual Trade Deficit (in \$ billion)



*First 4 months (April to July)

◦ **About:**

- The trade data details **what goods** (only goods, and not services) **India imported and exported in July 2022**. It presents this in value terms (in Indian rupees or US dollars).

◦ **Findings:**

- The Trade Deficit in the first four months of FY 2022-23 is already more than 50% of FY 2021-22 full year deficit.
 - On a Year-on-Year (YoY) basis, exports dipped, while imports recorded a sharp rise in July 2022 on the back of higher commodity prices.
 - The \$20 billion YoY rise in imports was led by petroleum products and coal, negating the relief offered by a fall in gold imports.

■ **Indian Rupee:**

Rupee has weakened against the US \$



- Indian Rupee, in comparison to US Dollar, has fallen from Rs 74.2 in August 2021 to Rs 80 in July 2022.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Consider the following statements:

1. The Governor of the Reserve Bank of India (RBI) is appointed by the Central Government.
2. Certain provisions in the Constitution of India give the Central Government the right to issue directions to the RBI in public interest.
3. The Governor of the RBI draws his power from the RBI Act.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

Exp:

- The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934.
- Though originally privately owned, since nationalisation in 1949, the Reserve Bank is fully owned by the Government of India.
- The RBI's affairs are governed by a central board of directors. The board is appointed by the Government of India in line with the Reserve Bank of India Act. **Hence, statement 1 is correct.**
- The directors are appointed/nominated for a period of four years.
- If in the opinion of the Central Government, the Bank fails to carry out any of the obligations imposed on it by or under the Act, the Central Government may declare the Central Board to be superseded, and thereafter the general superintendence and direction of the affairs of the Bank shall be entrusted to such agency as the Central Government may determine.
- The Central Government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider it necessary in the public interest. Hence, statement 2 is not correct.
- The Governor of RBI draws his powers from Section 7(3) of the RBI Act. He can exercise all powers and do all things that may be exercised and done by the RBI. Hence, statement 3 is correct.
- **Therefore, option (c) is the correct answer.**

[Source: IE](#)

Gold Exchange Traded Funds

Why in News?

In July 2022, [Gold Exchange Traded Funds \(ETFs\)](#) witnessed a net outflow of **Rs 457 crore as investors parked their money in other asset classes** as part of their portfolio rebalancing strategy.

- This was in comparison to a **net inflow of Rs 135 crore in June 2022.**

What are Gold Exchange Traded Funds?

- **About:**
 - **Gold ETF**, which aims to track the **domestic physical gold price**, are passive **investment instruments** that are based on **gold prices and invest in gold bullion.**

- Gold ETFs are units representing **physical gold which may be in paper or dematerialised form.**
 - **One gold ETF** unit is equal to **1 gram of gold** and is backed by **physical gold of very high purity.**
 - They combine the **flexibility of stock investment** and the **simplicity of gold investments.**
- **Advantages:**
 - There is **complete transparency** on the holdings of an ETF.
 - Gold ETFs have much **lower expenses as compared to physical gold investments.**
 - **No wealth tax, no security transaction tax, no VAT and no sales tax** is levied on ETFs.
 - There is **no fear of theft** as ETFs are safe and secure as units held in Demat Account of the holder.

What could be the Reasons for the Outflow?

- Investors' expectations of a **rising interest rate cycle** leading to a fall in gold prices.
 - The fall in the gold price impacted the net flows into the gold ETFs.
- **A falling rupee** is another factor that has likely impacted the demand and supply dynamics of gold.
 - It has been witnessed globally too, with gold ETF's posting significant outflows on the back of lower gold prices.

Exchange Traded Fund

- **An Exchange-Traded Fund (ETF)** is a basket of securities that **trade on an exchange, just like a stock.**
- ETF reflects the **composition of an Index**, like BSE Sensex. Its trading value is based on the **Net Asset Value (NAV)** of the underlying stocks (such as shares) that it represents.
- ETF share prices **fluctuate all day as it is bought and sold.** This is different from **mutual funds** that only trade once a day after the market closes.
- An ETF can own hundreds or thousands of stocks across various industries, or it could be isolated to one particular industry or sector.
- **Bond ETFs are a type of ETFs** which may include **government bonds, corporate bonds, and state and local bonds**—called **municipal bonds.**
 - **A bond** is an instrument that represents a **loan made by an investor to a borrower** (typically corporate or governmental).
- Besides being cost efficient, ETFs offer a diversified investment portfolio to investors.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Indian Government Bond Yields are influenced by which of the following? (2021)

1. Actions of the United States Federal Reserve
2. Actions of the Reserve Bank of India
3. Inflation and short-term interest rates

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 only
- (c) 3 only
- (d) 1, 2 and 3

Ans: (d)

Explanation:

- Bond is an instrument to borrow money. A bond could be issued by a country's government or by a company to raise funds.
- Bond yield is the return an investor realizes on a bond. The mathematical formula for calculating yield is the annual coupon rate divided by the current market price of the bond.
- Movements in yields depend on trends in interest rates, it can result in capital gains or losses for investors.
- A rise in bond yields in the market will bring the price of the bond down.
- A drop in bond yield would benefit the investor as the price of the bond will rise, generating capital gains.
- Fed tapering is the gradual reduction in the bond buying program of the US Federal Reserve. So, any actions of the United States Federal Reserve impact the bond yield in India. **Hence, 1 is correct.**
- The actions of the RBI plays a crucial role in determining the yield of government bonds. The sovereign yield curve has a special significance for monetary policy in influencing a wide array of interest rates in the economy. **Hence, 2 is correct.**
- Inflation and short-term interest rates also influence the yield of government bonds. **Hence, 3 is correct.**
- **Therefore, option (d) is the correct answer.**

Q. With reference to 'IFC Masala Bonds', sometimes seen in the news, which of the statements given below is/ are correct? (2016)

1. The International Finance Corporation, which offers these bonds, is an arm of the World Bank.
2. They are rupee-denominated bonds and are a source of debt financing for the public and private sector.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

Explanation:

- The World Bank Group, which is a vital source of financial and technical assistance to developing countries, consists of five distinct yet complementary organizations, viz.,
- International Bank for Reconstruction and Development (IBRD),
- International Development Association (IDA),
- International Finance Corporation (IFC), **hence, statement 1 is correct.**
- Multilateral Investment Guarantee Agency (MIGA),
- International Centre for Settlement of Investment Disputes (ICSID).
- Masala Bonds are rupee-denominated borrowings issued by Indian entities in overseas markets. Masala means 'spices' and the term was used by International Finance Corporation (IFC) to popularise the culture and cuisine of India on foreign platforms. The objective of Masala Bonds is to fund infrastructure projects in India, fuel internal growth via borrowings and internationalize the Indian currency. **Hence, statement 2 is correct.**
- **Therefore, option (c) is the correct answer.**

Sources: IE

New START Treaty

Why in News?

Recently, Russia suspended United States of America's on-site inspections under [New START Treaty](#) with Washington due to Western sanctions and coronavirus infections.

What is New START Treaty?

- **New START (Strategic Arms Reduction Treaty)** was the last remaining arms reduction pact between the former Cold War rivals and caps to 1,550 the number of nuclear warheads that can be deployed by **Russia and United States of America**.
- It entered into force on 5th February, 2011.
- It continues the bipartisan process of verifiably reducing U.S. and Russian strategic nuclear arsenals by limiting both sides to 700 strategic launchers and 1,550 operational warheads.
- Its duration was **for ten years** that is till 2021, but it was extended by five more years till 2026.

What are the various Treaties signed Between USA & Russia?

- **Strategic Arms Limitation Talks-1(SALT):**
 - It began in 1969, Under the Interim Agreement, **both sides pledged not to construct new Intercontinental Ballistic Missile (ICBM)** silos, not to increase the size of existing ICBM silos significantly, and capped the number of **Submarine-Launched Ballistic Missile (SLBM)** launch tubes and SLBM-carrying submarines.
- **Strategic Arms Reduction Treaty-1 (START):**
 - Signed in 1991, the agreement required the destruction of excess delivery vehicles which was verified using an intrusive verification regime that involved on-site inspections, the regular exchange of information (including telemetry), and the use of national technical means (i.e., satellites).
- **Strategic Arms Reduction Treaty-2:**
 - Signed in 1993, called for reducing deployed strategic arsenals to 3,000-3,500 warheads and banned the deployment of destabilizing multiple-warhead land-based missiles.
- **Strategic Offensive Reductions Treaty (SORT):**
 - Signed in 2004, under which the United States and Russia reduced their strategic arsenals to 1,700-2,200 warheads each.
- **Strategic Arms Reduction Treaty (START):**
 - Signed in 2010, **a legally binding, verifiable agreement that limits each side to 1,550 strategic nuclear warheads deployed on 700 strategic delivery systems** (ICBMs, SLBMs, and heavy bombers) and limits deployed and nondeployed launchers to 800.

Why Russia Suspended the Inspection?

- It is difficult for Russia to carry out inspections on American soil due to Western sanctions including the closure of air space for Russian planes and visa restrictions.
- It also pointed to a new spike in coronavirus cases in the United States.

[Source: HT](#)

Peninsular Rock Agama

Why in News?

Recently, a study has been carried out by researchers from **Indian Institute of Science (IISc)**, Bengaluru to understand several **environmental factors** (including urbanisation) that could affect the **presence of the Peninsular Rock Agama/ South Indian Rock Agama**.

What are Important Facts about Peninsular Rock Agama?



▪ About:

- **The Peninsular Rock Agama (Psammophilus dorsalis)** which is a type of **garden lizard** has a strong presence in **southern India**.
- This lizard is a **large animal**, strikingly coloured in **orange and black**.
- They **do not generate their own body heat**, so they need to seek **warmth from external sources** like a warm rock or a sunny spot on the wall.

▪ Geography:

- It is majorly found in India (Asia).
 - Indian states of **Tamil Nadu, Chhattisgarh, Kerala, Andhra Pradesh, Karnataka, Bihar** hosts the population of the lizard.

▪ Habitat:

- It belongs to the **Precocial Species**.
 - Precocial species are those in which the young are relatively mature and mobile from the moment of birth or hatching.

▪ Protection Status:

- **IUCN Red List:** Least Concern
- **CITES:** N/A
- **Wildlife Protection Act 1972:** N/A

What has the Study Revealed about the Lizard?

- Rock Agama can indicate **which parts of the city are warming**, and their numbers **show how the food web is changing**.
 - Lizards need to **seek warmth from external sources** like a warm rock or a sunny spot on the wall as they do not generate their own body heat.
- These lizards **eat insects and are in turn eaten by raptors, snakes and dogs**, they **cannot live** in places where there are no insects.
 - Insects are **critical components** of a healthy **ecosystem** as they provide many services, including **pollination**.
 - Hence, the presence of rocky agamas **presents a good model system** to understand **other aspects of the ecosystem**.

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