



Goaltide
A Prelims IAS Academy

September 2020

part - II

**Current
Affairs**
(consolidation)

Introduction

Hello Everyone,

Every year more than 50 percent of the Prelims Paper is based on Current Affairs. It become important for us to have very good command on Current Affairs. Hundreds of publications are available in market. Aspirants are always confused how to prepare Current Affairs and most of the times they end up choosing wrong publications. We will not let you fall in this trouble. Three important courses are running simultaneously on our website for Current Affairs from Monday to Friday- **Daily Quiz section, Daily Current Affairs section and Daily News Section.**

Daily Quiz will help you do the best preparation to handle any question in UPSC Prelims Exam, Daily News section contains best opinion based Articles important for your Mains Exam and Daily Current Affairs section will give you best Current Affairs which is relevant for you Exam from all important sources (PIB+ all government websites, The Hindu+ 10 different newspaper, etc.). Nothing will be missed. This document is related to Current Affairs section.

You might find it bulky but don't worry. It contains lot of images to simplify your understanding.

Hope you enjoy reading.

Thanks,

Abhishek Agarwal

Founder, GoalTide IAS Prelims Academy

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CA1. Narcotic Drugs and Psychotropic Substances Act (NDPS) and Narcotics Bureau

Link: <https://ncrb.gov.in/sites/default/files/Crime%20in%20India%202018%20-%20Volume%201.pdf>

Narcotics Act and Bureau are in news after Sushant Rajput case. So, we will see here:

- a. Few important provisions of NDPS Act.**
- b. NCRB latest Report on NDPS Act and offences**
- c. Narcotics Crime Bureau**

As per the data released by the National Crime Records Bureau (NCRB) in its annual 'Crime in India' report, the number of cases booked under the NDPS act for possession of drugs for personal use & trafficking increased by over 25% in 2017 & 2018 compared to the earlier three years (2014 to 2016).

In this document, we take a look at NDPS Act, its provisions and the incidence of offences under this act.

'NDPS Act 1985' prohibits possession, distribution & consumption of Narcotic drugs

Prior to NDPS Act, the control and legality of narcotic drugs was exercised under the provision of The Opium Act, 1852, The Opium Act, 1878 and The Dangerous Drugs Act, 1930. However, in 1985, the government of the day felt that the prevailing legislation was inadequate to deal with the illicit drug trade and drug abuse at both national and international level. **Therefore, a comprehensive new legislation was formulated and brought forth in the form of Narcotics Drugs and Psychotropic Substance Act, 1985 (NDPS Act, 1985).**

ACT 61 OF 1985

The Narcotic Drugs and Psychotropic Substances Bill having been passed by both the Houses of Parliament received the assent of the President on 16th September, 1985. It came on the Statute Book as **THE NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT, 1985 (61 of 1985)** (*Came into force on 14-11-1985*).

There have been multiple amendments to the original act in 1988, 2001 and 2014.

LIST OF AMENDING ACTS

1. The Narcotic Drugs and Psychotropic Substances (Amendment) Act, 1988 (2 of 1989) (w.e.f. 29-5-1989).
2. The Narcotic Drugs and Psychotropic Substances (Amendment) Act, 2001 (9 of 2001) (w.e.f. 2-10-2001).
3. The Narcotic Drugs and Psychotropic Substances (Amendment) Act, 2014 (16 of 2014) (w.e.f. 1-5-2014).

- a. The Act lists all the narcotics and other psychotropic substances which are considered as illegal. These includes various extracts from Cannabis plant (charas-resin, Ganja – fruiting/flowering tops), Coco extracts (cocaine), opium, poppy stalk and other manufactured drugs which are psychotropic in nature.
- b. The act **also prohibits the cultivation of coca, opium poppy or any cannabis plant.**
- c. It further prohibits the production, manufacturing, possession, selling, purchase, transport, storage or consumption of any narcotic drug or psychotropic substance.
- d. **The act restricts the interstate import & export along with import & export of these substances** into and outside of the country.

8. Prohibition of certain operations.—No person shall—

- (a) cultivate any coca plant or gather any portion of coca plant; or
- (b) cultivate the opium poppy or any cannabis plant; or
- (c) produce, manufacture, possess, sell, purchase, transport, warehouse, use, consume, import inter-State, export inter-State, import into India, export from India or tranship any narcotic drug or psychotropic substance,

The Act further lays down the punishment for contravention of any of the provisions in the act. For all students who are still enjoying. See the punishment.

Quantity	Details	Punishment
Small	Under 1 Kg – ganja 100 g – charas 2 g- cocaine 5 g – heroin	- Rigorous imprisonment up to 12 months or - Fine up to Rs. 10,000 or - Both
More than Small & less than Commercial	1 kg to 20 kg – ganja 100g to 1 kg – charas 2g to 100g – cocaine 5g to 250g - heroin	- Rigorous imprisonment up to 10 years and - Fine up to Rs. 1 Lakh
Commercial	Above 20 kg – ganja 1 kg – charas 100 g – cocaine 250 g - heroin	- Rigorous imprisonment of 10-20 years and - Fine of Rs. 1-2 lakh

The National Crime Records Bureau’s (NCRB) annual Crime in India report provides information of the various crimes registered under IPC (Indian Penal Code) and SLL (Special and Local Laws). **Offences which are booked under NDPS Act fall under SLL**, and the information related to these offences is provided in the annual Crime in India report. **The latest report is for 2018, as per which 63,137 cases were booked under NDPS Act in 2018. This is slightly less compared to that of previous year, when 63,800 cases were booked under this act.**

In terms of crime rate, it went up to 4.8 cases per million population in 2018, compared to that of 3.8 per million population in 2014.

S. No	Crime Head	2016		2017		2018		Percentage Share to SLL Crimes
		Incidence	Crime Rate	Incidence	Crime Rate	Incidence	Crime Rate	
1	2	3	4	5	6	7	8	9
32	The Narcotic Drugs & Psychotropic Substances Act	49256	3.9	63800	5.0	63137	4.8	3.3

The report also states that in 2018, Ganja, Acetic Anhydride, Opium, Hashish, Heroin, etc. are the type of drugs whose highest volumes were seized.

Seizure of Narcotic Drugs

- i. Ganja (3,91,275 kg), Acetic Anhydride (9,717 kg), Opium (4,307 kg), Hashish (3,911 kg), Heroin (1,258 kg) and Ephedrine /Pseudoephedrine (337 kg) accounted for the major part of the drugs seized in 2018. [Table 20C.4]

In the last two reports i.e. for 2017 and 2018, NCRB has categorized the total offences booked under NDPS Act into:

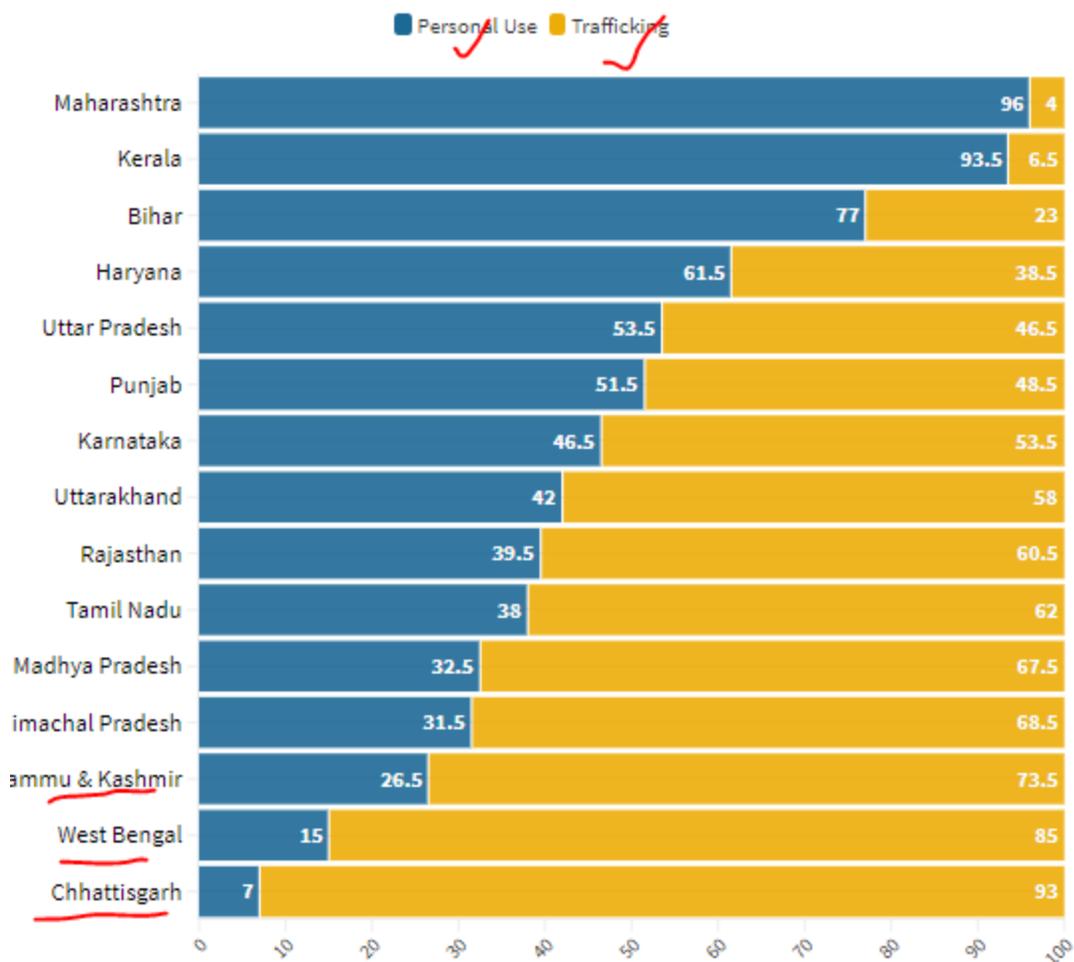
- a. Possession of drugs for Personal use/Consumption
- b. Possession of drugs for Trafficking

Greater number of cases booked for Possession of Drugs for personal consumption

S. No	State/UT	Liquor & Narcotic Drugs - Related Acts							
		The Narcotic Drugs & Psychotropic Substances Act, 1985			Liquor & Narcotic Drugs – Related Acts (Total)				
		The NDPS Act, 1985 (Total)	a) Possession of drugs for Personal use/Consumption	b) Possession of drugs for Trafficking					
TOTAL ALL INDIA		63137	4.8	38715	2.9	24422	1.8	863696	65.3

Share of Cases booked under NDPS Act - by Purpose

2017 & 2018



Maharashtra & Punjab report the greatest cases, but increasing trend observed in many other states. See below.

S. No	State/UT	Liquor & Narcotic Drugs - Related Acts		
		The Narcotic Drugs & Psychotropic Substances Act, 1985		Liquor & Narcotic Drugs – Related Acts (Total)
		The NDPS Act, 1985 (Total)	a) Possession of drugs for Personal use/Consumption	

STATES:									
1	Andhra Pradesh	534	1.0	169	0.3	365	0.7	4005	7.7
2	Arunachal Pradesh	122	8.2	72	4.8	50	3.3	123	8.2
3	Assam	478	1.4	231	0.7	247	0.7	549	1.6
4	Bihar	615	0.5	477	0.4	138	0.1	50883	43.0
5	Chhattisgarh	712	2.5	56	0.2	656	2.3	24286	85.3
6	Goa	222	14.5	132	8.6	90	5.9	222	14.5
7	Gujarat	150	0.2	60	0.1	90	0.1	199901	296.9
8	Haryana	2587	9.1	1487	5.2	1100	3.9	14257	50.2
9	Himachal Pradesh	1342	18.5	411	5.7	931	12.8	3926	54.0
10	Jammu & Kashmir	938	7.0	258	1.9	680	5.1	1489	11.1
11	Jharkhand	237	0.6	163	0.4	74	0.2	907	2.4
12	Karnataka	1030	1.6	517	0.8	513	0.8	8685	13.3
13	Kerala	8724	24.9	8095	23.1	629	1.8	47492	135.7
14	Madhya Pradesh	1874	2.3	793	1.0	1081	1.3	91643	112.5
15	Maharashtra	12195	10.0	11708	9.6	487	0.4	96867	79.8
16	Manipur	381	12.4	135	4.4	246	8.0	381	12.4
17	Meghalaya	81	2.5	47	1.5	34	1.1	81	2.5
18	Mizoram	164	13.9	28	2.4	136	11.5	400	33.8
19	Nagaland	66	3.1	29	1.4	37	1.7	338	15.8
20	Odisha	573	1.3	146	0.3	427	1.0	17228	39.6
21	Punjab	11654	39.2	5925	20.0	5729	19.3	23246	78.3
22	Rajasthan	1862	2.4	659	0.9	1203	1.6	20949	27.4
23	Sikkim	7	1.1	3	0.5	4	0.6	51	7.7
24	Tamil Nadu	3717	4.9	1578	2.1	2139	2.8	165316	219.1
25	Telangana	311	0.8	171	0.5	140	0.4	5842	15.8
26	Tripura	431	10.9	12	0.3	419	10.6	431	10.9
27	Uttar Pradesh	8821	4.0	4032	1.8	4789	2.1	64001	28.7
28	Uttarakhand	1064	9.6	715	6.5	349	3.2	5800	52.5
29	West Bengal	1479	1.5	253	0.3	1226	1.3	7689	8.0
	TOTAL STATES	62371	4.8	38362	3.0	24009	1.8	856988	65.9

As per the above mentioned two data, it is clear that few states are high on demand side and few are high on supply sides. We need to focus on both sides but most importantly we can put strict regulations to control supply side.

About Narcotics Control Bureau: Posting from original site. Read confidently.

The Narcotic Drugs and Psychotropic Substances Act, 1985 which came into effect from the 14th November 1985 made an express provision for **constituting a Central Authority** for the purpose of exercising the powers and functions of the Central Government under the Act.

In presence of this provision, the Government of **India constituted the NARCOTICS CONTROL BUREAU on the 17th of March 1986**. The Bureau, subject to the supervision and control of the Central Government, **is to exercise the powers and functions of the Central Government for taking measures with respect to:**

- a. **Co-ordination of actions by various offices**, State Governments and other authorities under the N.D.P.S. Act, Customs Act, Drugs and Cosmetics Act and any other law for the

time being in force in connection with the enforcement provisions of the NDPS Act, 1985.

- b. **Implementation of the obligation in respect of counter measures against illicit traffic under the various international conventions and protocols** that are in force at present or which may be ratified or acceded to by India in future.
- c. **Assistance to concerned authorities in foreign countries and concerned international organisation to facilitate coordination** and universal action for prevention and suppression of illicit traffic in these drugs and substances.
- d. **Coordination** of actions taken by the other concerned Ministries, Departments and Organizations **in respect of matters relating to drug abuse.**

Some important provisions for Prelims Exam:

- a. **India is a signatory to the single Convention on Narcotic Drugs 1961**, as amended by the 1972 Protocol, the Conventions on Psychotropic Substances, 1971 and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.
- b. The responsibility of drug abuse control, which is a central function, is carried out through a number of Ministries, Departments and Organizations.
- c. **These include the Ministry of Finance, Department of Revenue which has the nodal co-ordination role as administrator of the Narcotic Drugs and Psychotropic Substances Act, 1985** and the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988.

At last, any Constitution Provision you remember regarding drugs and all? *Few yeses, Few No. I will kill you if you say No. Please remember. If you write constitution provisions in exam, it will help you scoring extra mark. See below:*

The National Policy on Narcotic Drugs and Psychotropic Substances is based on the Directive Principles, contained in **Article 47 of the Indian Constitution**, which direct the State to endeavour to bring about prohibition of the consumption, except for medicinal purposes, of intoxicating drugs injurious to health.

CA2. Sundarbans endangered as per IUCN's Red List of Ecosystems framework

Link: <https://india.mongabay.com/2020/09/sundarbans-endangered-as-per-iucns-red-list-of-ecosystems-framework-cautious-optimism-advised/>

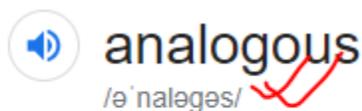
Highlights

- The Red List of Ecosystems is the global standard for assessing ecosystem collapse
- The outcome for the Indian Sundarbans is Endangered, driven by historical clearing
- The trend of clearing and degradation has since drastically slowed, giving cause for optimism
- A novel, spatially explicit dataset indicates low levels of degradation
- Ongoing threats remain, so effective management is highly pertinent

The **Sundarbans mangrove ecosystem** in India is evaluated as ‘**endangered**’ by a global team of researchers using the **IUCN’s Red List of Ecosystems framework**. The *clearing of mangroves dating back to the 1800s and declining fish populations* were the main historical threats. Ongoing threats such as climate change and reduced freshwater supply may further imperil this ecosystem.

At the same time, the assessment calls for ‘**cautious optimism**’ because of the slowdown in historically high rates of mangrove clearing, and recently stabilizing tiger populations.

Researchers from India, Australia, Singapore, and the U.K. **evaluated the Indian Sundarbans ecosystem using the Red List of Ecosystems (RLE) framework developed by the International Union for the Conservation of Nature (IUCN) to assess an ecosystem’s risk of collapse**. The framework is analogous to the IUCN Red List of Threatened Species. **Meaning of analogous:**



adjective

comparable in certain respects, typically in a way which makes clearer the nature of the things compared.

"they saw the relationship between a ruler and his subjects as **analogous** to that of father and children"

What is the Red List of Ecosystems?

The IUCN Red List of Ecosystems Categories and Criteria is a global standard for how we assess the status of ecosystems, applicable at local, national, regional and global levels. Assessments determine whether an ecosystem is not facing imminent risk of collapse, or whether it is vulnerable, endangered, or critically endangered. This will be measured by assessing losses in area, degradation or other major changes such as land conversion.

How can the IUCN Red List of Ecosystems be important for you?

We anticipate that the Red List of Ecosystems will be of great value to a number of different sectors, including:

- **Conservation:** to help prioritise action, for example, in terms of ecosystem restoration and land use practices, and as a means to reward good and improved ecosystem management.
- **Land Use Planning:** to highlight the risks faced by ecosystems and ecosystem services as important components of land use planning, for example, clean water, maintenance of soil fertility, pollination, and natural products.
- **Improvement of governance and livelihoods:** to link ecosystems services and livelihoods, and explore how appropriate governance arrangements can improve ecosystem management and livelihood security.
- **Macro-economic planners:** to provide a globally accepted standard that will enable planners to evaluate the risk and related economic costs of losing ecosystem services, and, conversely, the potential economic benefits of improved management.

The Sundarbans in the Bay of Bengal are the most extensive continuous mangrove forests globally, straddling India and Bangladesh. **The UNESCO World Heritage Site and biodiversity hotspot** harbours diverse species including the **royal Bengal tigers**. Four million people rely on the ecosystem services of the Sundarbans, with wild fisheries the second biggest employment source within the region.

CA3. The Aircraft (Amendment) Bill, 2020

Link: <https://www.prsindia.org/billtrack/aircraft-amendment-bill-2020>



The Bill seeks to amend the **Aircraft Act, 1934**. The Act (1934 one) regulates the manufacture, possession, use, operation, sale, import and export of civil aircrafts, and licensing of aerodromes.

Key provisions of the Bill include:

- a. Authorities: **The Bill converts three existing bodies under the Ministry of Civil Aviation into statutory bodies under the Act.** These three authorities are: (i) **the Directorate General of Civil Aviation (DGCA)**, (ii) **the Bureau of Civil Aviation Security (BCAS)**, and (iii) **the Aircraft Accidents Investigation Bureau (AAIB)**. Each of these bodies will be headed by a Director General who will be appointed by the centre.
- b. The DGCA will carry out safety oversight and regulatory functions with respect to matters under the Bill. The BCAS will carry out regulatory oversight functions related to civil aviation security. The AAIB will carry out investigations related to aircraft accidents and incidents. **The central government may issue directions to these authorities** on matters related to their functions, if considered necessary in public interest.
- c. Power of centre to make rules: Under the Act, the central government may make rules on several matters. These include: (i) registration of aircraft, (ii) regulating air transport services, and (iii) prohibition of flight over any specified area. **The Bill adds the regulation of air navigation services to this list.**
- d. **It also allows the centre to empower the Director General of BCAS or any authorized officer to issue directions and make rules on certain matters.** These matters include: (i) conditions under which an aircraft may be flown, (ii) inspection of aircrafts, and (iii) measures to safeguard civil aviation against acts of unlawful interference.
- e. **Adjudicating officers:** The Bill provides for the appointment of designated officers, not below the rank of Deputy Secretary to adjudicate penalties under the Bill. Persons aggrieved by an order of a designated officer **may appeal to an appellate officer**. Appeals must be filed by the aggrieved person within 30 days from the day the order is received.
- f. **Offences and Penalties:** Under the Act, the penalty for various offences is imprisonment of up to two years, or a fine of up to Rs 10 lakh, or both. These offences include: (i) carrying arms, explosives, or other dangerous goods aboard aircraft, (ii) contravening any rules notified under the Act, and (iii) constructing building or structures within the specified radius around an aerodrome reference

point. The Bill raises the maximum limit on fines for all these offences from Rs 10 lakh to one crore rupees.

- g. **Under the Bill, the central government may cancel the licences, certificates, or approvals granted to a person under the Act** if the person contravenes any provision of the Act. Such licences include those given for: (i) the establishment of an air transport service, (ii) the establishment of aerodromes, and (iii) the operation, repair, and maintenance of aircraft.
- h. **Courts will not take cognizance of any offence under this Act**, unless a complaint is made by, or there is previous sanction from the Director General of Civil Aviation, BCAS, or AAIB. Only courts equivalent or superior to a Metropolitan Magistrate or a Magistrate of the first class may try offences under the Act.
- i. **Exemption for Armed Forces: Aircraft belonging to the naval, military, or air forces of the Union are exempted from the provisions of the Act.** The Bill expands this exemption to include aircraft belonging to any other armed forces of the Union.

However, aircrafts belonging to an armed force other than the naval, military, and air forces which are currently regulated under the Act will continue to do so until specified otherwise by the central government.

CA4. Places in News- Namibia's Etosha Pan and Edakkal Caves

Namibia's Etosha Pan



A bright salt pan to a wet and lush landscape — **the United States National Aeronautics and Space Administration (NASA) recently captured** images depicting the wet and dry cycles of Etosha Pan in Africa's Namibia through the year.

- a. The Etosha pan is hollow in the ground, wherein water may collect or in which a deposit of salt remains after water has evaporated.
- b. **The pan is mostly dry, but after a heavy rain**, it acquires a thin layer of water that is heavily salted by the mineral deposits on the surface.
- c. According to NASA Earth Observatory, the salt pan receives most rainfall — as much as 46 centimetres — every year between October and March. During the dry season from April through September, water in the basin evaporates — **depositing salt** and other minerals on the land.

Edakkal Caves

Link: <https://india.mongabay.com/2020/09/present-versus-past-environmental-threats-can-destroy-edakkal-caves-with-their-stone-age-carvings/>

Edakkal Caves and their ancient rock carvings in Wayanad district of Kerala, the mountain which houses these archaeological riches **are facing a major environmental threat**. Located more than 1300 metres above sea level, the Edakkal rock shelters with their unique carvings, which are thousands of years old, are located in Ambukuthi Mountain.

The rock carvings at Edakkal are categorized as Neolithic Petroglyphs. Neolithic is the new stone age, estimated between 12,000 years before present to 6,500. Petroglyphs are images carved onto rock. **The Wayanad district website claims that the carvings date back to 6,000 B.C.**

CA5. RBI issues draft on rupee IR derivatives

Link: <https://www.thehindu.com/business/Industry/rbi-issues-draft-on-rupee-ir-derivatives/article32615206.ece#:~:text=The%20Reserve%20Bank%20on%20Tuesday,ciling%20of%20%E2%82%B95%2C000%20crore.>

RBI has released the draft version of Rupee Interest Rate Derivatives (Reserve Bank) Directions, 2020. They are aimed at encouraging **higher non-resident participation, enhance the role of domestic market makers in the offshore market, improve transparency, and achieve better regulatory oversight.**

Key Points:

- a. It seeks to allow foreign portfolio investors (FPIs) to undertake exchange-traded rupee interest rate derivatives transactions subject to an overall ceiling of Rs 5,000 crore.
- b. Net short position of an FPI on exchange traded IRDs should not exceed its long position in government securities and other rupee debt securities.

- c. The purpose of offering Rupee IRD contracts to a user, the market-maker (entities which provide bid and offer prices to users in order to provide liquidity to the market) should classify the user either as a retail user or as a non-retail user.
- d. Non-retail users, as per the draft, are entities regulated by RBI, SEBI, IRDAI or PFRDA; resident companies with a minimum net worth of Rs 500 crore; and non-residents, other than individuals.

What are Derivatives?

A derivative is a financial contract that derives its value from an underlying asset. The buyer agrees to purchase the asset on a specific date at a specific price. The most common types of derivatives are **forwards, futures, options, and swaps**. The most common **underlying assets include commodities, stocks, bonds, interest rates, and currencies**. Derivatives make future cash flows **more predictable**. They **allow companies to forecast their earnings more accurately**. That predictability boosts stock prices. Businesses then need less cash on hand to cover emergencies. **They can reinvest more into their business**.

If you have time, please see all types of Derivatives: A bit long explanation but in simple terms. You can understand EASILY.

Types of Derivative Instruments/ Contracts

There are various types of contracts that are available in the market. This may make it seem like a difficult and confusing task to deal with all those derivatives. However, that is not the case. There are hundreds of variations available in the market and all of these variations can be traced back to one of the four categories:

Forwards:

- A forward contract is an agreement between two parties to buy or sell underlying assets at specified date, at agreed rate in future.
- Forward contract takes place between two counterparties, which means that the exchange is not an intermediary to these transactions.
- Hence, there is an increase chance of counterparty credit risk and the credit exposure risk keeps on increasing since profit or loss is realized only at the time of settlement.

Futures:

- A futures contract is a standardized contract, traded on exchange, to buy or sell underlying instrument at certain date in future, at specified price.
- Futures are standardized contracts and they are traded on the exchange. Futures contract does not carry any credit risk because the clearing house acts as counterparty to both parties in the contract.

- To further reduce the credit exposure, all positions are marked-to-market daily, with margins required to be maintained by all participants all the time. In derivatives market, the lot size is predefined.
- Therefore, one cannot buy a contract for a single share in futures. A futures contract is very similar to a forwards contract. The similarity lies in the fact that futures contracts also mandate the sale of commodity at a future date but at a price which is decided in the present.
- Also, in case of a futures contract, the buyer and seller do not enter into an agreement with one another, rather both of them enter into an agreement with the exchange.

Options:

- Options are the most important part of derivatives contract. An Option contract gives the right but not an obligation to buy/sell the underlying assets.
- The buyer of the options pays the premium to buy the right from the seller, who receives the premium with an obligation to sell the underlying assets if the buyer exercises his right.
- Options can be traded in both OTC market and exchange traded markets. Options can be divided into two types – Call and Put. Call Option allows you the right but not the obligation to buy something at a later date at a given price whereas Put Option gives you the right but not the obligation to sell something at a later date at a given pre-decided price.

Swaps:

- A swap is a derivative contract which is not traded at exchange but made between two parties to exchange cash flows in the future.
- Interest rate swaps and currency swaps are the most popular swap contracts, which are traded over the counters between financial institutions.
- Swaps enable companies to avoid foreign exchange risks amongst other risks. These are private contracts which are negotiated between two parties.

Usually investment bankers act as middlemen to these contracts. Hence, they too carry a large amount of exchange rate risks.

CA6. The Human Capital Index (HCI) 2020

Link: <https://www.thehindu.com/business/Economy/india-ranks-116-in-world-banks-human-capital-index/article32627733.ece>

Very important to know the significance of this index.

The Human Capital Index (HCI) is an international metric that benchmarks key components of human capital across countries. **Measuring the human capital that a child**

born today can expect to attain by her 18th birthday, the HCI highlights how current health and education outcomes shape the productivity of the next generation of workers. The HCI was launched in 2018 as part of the Human Capital Project (HCP), a global effort to accelerate progress towards a world where all children can achieve their full potential.

The components of the HCI are combined into a single index by first converting them into contributions to productivity relative to a benchmark of complete education and full health. Multiplying these contributions to productivity together gives the overall HCI:

$$HCI = Survival \times School \times Health \quad (1)$$

The **Human Capital Index ranges between 0 and 1**. The index is measured in terms of the productivity of the next generation of workers relative to the benchmark of complete education and full health. **An economy in which a child born today can expect to achieve complete education and full health will score a value of 1 on the index.**

India has been ranked at the **116th position** in the latest edition of the World Bank's annual Human Capital Index that benchmarks key components of human capital across countries. However, India's score increased to **0.49 from 0.44 in 2018, as per the Human Capital Index report released by the World Bank.**

Economy	COMPONENTS OF HUMAN CAPITAL INDEX 2020						HUMAN CAPITAL INDEX (HCI)		
	Probability of Survival to age 5	Expected Years of School	Harmonized Test Scores	Learning-adjusted years of school	Adult survival rate	Fraction of Children under 5 not stunted	HCI 2020	HCI 2018 back-calculated	HCI 2010
India	0.96	11.1	399	71	0.83	0.65	0.49	0.48	-

With a score of 0.88, the Southeast Asian island state of Singapore is one of the top performers on the HCI.

Every report whatsoever covers now the effect of COVID Pandemic. So do Human Capital Index. Read below.

The World Bank Group's **2020 Human Capital Index** includes health and education data for 174 countries – covering 98 percent of the world's population – up to March 2020, providing a pre-pandemic baseline on the health and education of children. The analysis shows that pre-pandemic, most countries had made steady progress in building human capital of children, with the biggest strides made in low-income countries. Despite this progress, and even before the effects of the pandemic, a child born in a typical country could expect to achieve just 56 percent of their potential human capital, relative to a benchmark of complete education and full health.

"The pandemic puts at risk the decade's progress in building human capital, including the improvements in health, survival rates, school enrollment, and reduced stunting. The economic impact of the pandemic has been particularly deep for women and for the most disadvantaged families, leaving many vulnerable to food insecurity and poverty," said World Bank Group President David Malpass. "Protecting and investing in people is vital as countries work to lay the foundation for sustainable, inclusive recoveries and future growth."

CA7. Electric Power Survey Report 2019

Link:

<http://cea.nic.in/reports/others/planning/pslf/Long Term Electricity Demand For ecasting Report.pdf>

Introduction:

Keeping track of energy demands is important for countries since it is related to economic activity of that particular nation.

The economic development of our country is dependent upon the reliable power at affordable prices to various sectors and section of the country. Demand projection is an important exercise for power procurement planning and development of the whole power sector. Central Electricity Authority (CEA) carries out Electric Power Surveys for estimating the electricity demand of all the states/ UTs, Regions and for the country.

These trends also help in forecast of future energy needs for governments to plan based on the estimated demand. **We can do policy formulation, tariff estimation, and**

optimization of peak demand in the long run by knowing forecasting. With this objective, **the Central Electricity Authority (CEA) under the Ministry of Power conducts the Electric Power Survey for India**, giving projections on electricity demand for the next ten years. So far, 18 such surveys have been conducted in India. **The latest survey is the 19th edition** which was conducted by a committee constituted by CEA in 2015.

NITI Aayog in its [report](#).

Diagnostic study of the power distribution sector

Final report

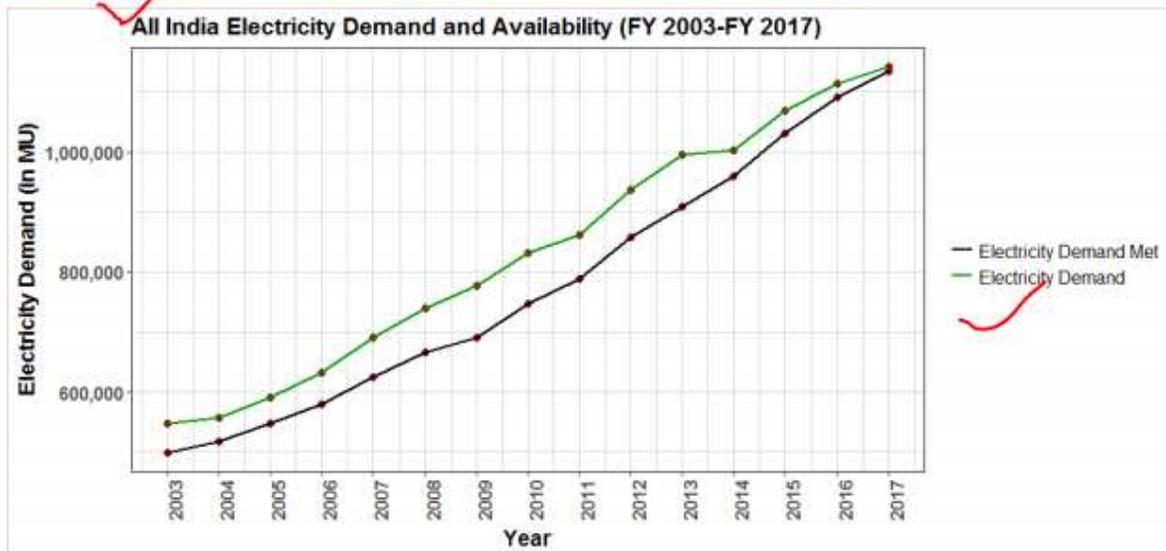
Niti Aayog

April 2019

already mentioned that **India is the third largest generator and fourth biggest consumer of electricity in the world.**

Overall, India has seen a rise in Electrical Energy Requirement and electrical energy met over the years. See below.

Figure 3.1 Trends in electrical energy requirement and electrical energy met



As per the [report](#), **Mumbai had the highest energy requirement** with a demand of 21,977 MU in 2019-20. **Hyderabad was closely behind Mumbai** with a requirement of 21,799 in 2019-20, among these 45 cities. As per the projections, **Hyderabad is all set to overtake Mumbai in 2020-21** in terms of energy requirement.

Sl. No.	Mega City	Energy Requirement in MU			CAGR in %		
		2019-20	2024-25	2029-30	2019-20 to 2024-25	2024-25 to 2029-30	2019-20 to 2029-30
12.	Mumbai ✓	21977 ✓	24709 ✓	27657 ✓	2.37	2.28	2.33
5.	Hyderabad	21799 ✓	30054 ✓	39267 ✓	6.63	5.49	6.06

Peak demand is the highest in Mumbai as of 2019-20. Peak Demand is when the electricity consumption is the highest. It is projected that Hyderabad will overtake Mumbai in peak demand in 2022-23.

Sl. No.	Mega City	Peak Demand in MW			CAGR in %		
		2019-20	2024-25	2029-30	2019-20 to 2024-25	2024-25 to 2029-30	2019-20 to 2029-30
12.	Mumbai	3710 ✓	4234	4812	2.68	2.59	2.63
5.	Hyderabad ✓	3390 ✓	4805	6458	7.22	6.09	6.66

Per capita consumption is highest for Hyderabad in 2018-19.

The per capita consumption of electricity for the mega cities in the survey is calculated using the 2011 census population estimates. It is observed that in 2011-12, Surat had the highest per capita consumption of electricity among the 9 cities considered. **In 2018-19, Hyderabad's per capita consumption was estimated to be the highest.**

Mega Cities	Population (in Lakh) in 2011	Per capita consumption in Units = Energy consumed in MU/Population in million		
		2011-12	2018-19	2021-22
Nagpur	24.97	731.60	1271.20	1680.00
Kanpur	29.2	798.28	1262.76	1503.79
Lucknow	28.17	1313.93	2261.07	2786.79
Surat ✓	44.67	1627.78	2550.89	3097.78
Pune	50.57	1400.00	2845.20	3848.20
Bengaluru	85.2	1284.35	1892.94	2232.00
Kolkata	141.12	956.24	1369.22	1593.69
Hyderabad ✓	69.71	1589.57	3021.14	3822.43
Greater Mumbai	124.42	1566.69	2537.42	3147.02

Energy consumption in different sectors:

Year ✓	2019-20 ✓	2020-21
Domestic ✓	1240	1334
Commercial	307	327
Public lighting	20	20
Public Water Works	49	52
Irrigation	17	18
LT Industries	45	47
HT Industries	2024	2159
Railway Traction	184	194
Bulk Supply	603	649
Others (if any)	216	235
Total (Energy Consumption)	4705	5036

CA8. Jupiter-sized planet found orbiting a dead star

Link: <https://theprint.in/science/jupiter-sized-planet-found-orbiting-a-dead-star-a-first-in-space-discoveries/504783/>



According to findings published in the journal Nature, **a planet the size of Jupiter is in orbit around a white dwarf** — the remnant after a star’s death — **which is 80 light years away from Earth**. The planet takes merely 1.4 days to complete one orbit.

- a. Earlier it was thought that planets could not form around a white dwarf due to the violent nature of the white dwarf formation.
- b. However, this study supports the theory that massive planets can survive the creation of a white dwarf, migrate close to it and then resume orbit around the new remnant.
- c. The observations were made using NASA’s Transiting Exoplanet Survey Satellite (TESS) and retired Spitzer Space Telescope.
- d. The findings have implications for the survival of other kinds of planets during the death of a star, including Earth-like rocky planets.

Formation of white dwarfs:

White dwarfs are formed when the star exhausts its nuclear fuel and towards the end of the fuel burning stage, expels its outer layers to form a planetary nebula around the core. A planetary nebula is a shell of gas that is ejected from stars.

- a. They do this by shedding up to 80 per cent of their original mass, which then incinerates everything nearby.
- b. The **process of a white dwarf formation is extremely energetic** but is slow and lasts years. This is unlike a supernova that more massive stars undergo, to form a neutron star or black hole, which occurs in a matter of minutes.
- c. The remaining hot core of the original star is the white dwarf.

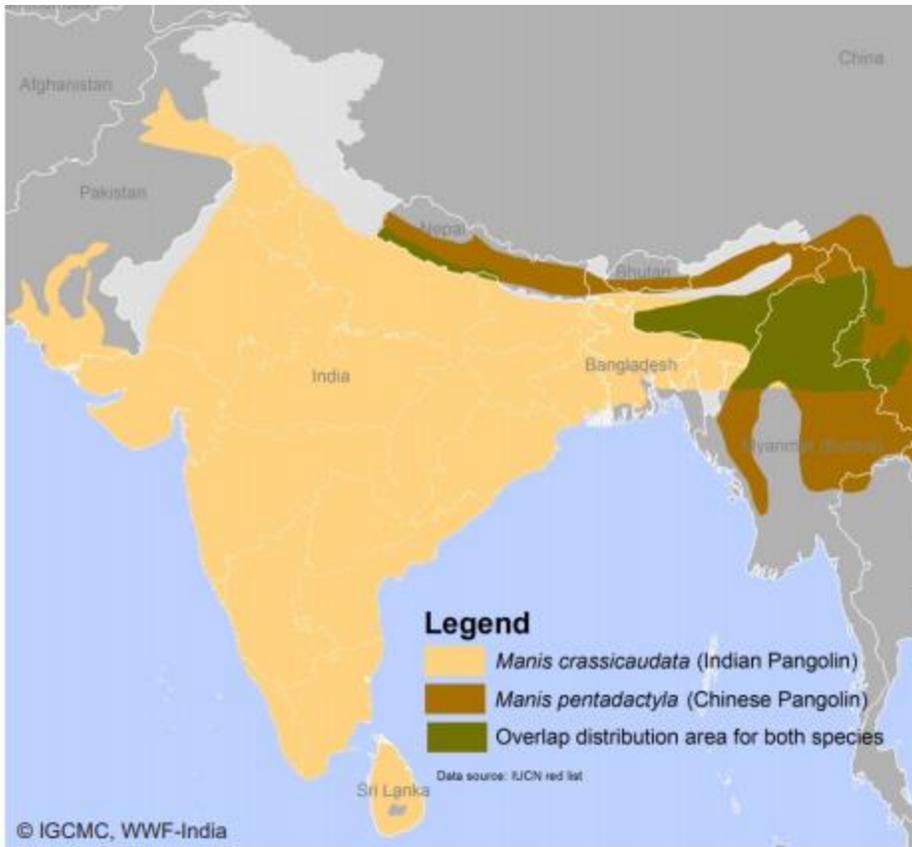
- d. **White dwarfs' mass is about half as much as the sun**, but they are only slightly bigger than the Earth in size. Only neutron stars and black holes, the other two 'compact objects' formed after the death of a star, are denser than them.
- e. Unlike stars, **the white dwarf is prevented from collapsing into itself under the weight of its gravity** because inside a compact object, there is no more space, as even electrons that cannot stay together are squished together to occupy close spaces.
- f. **White dwarfs do not have any fuel and don't burn energy but are sources of X-rays.** Upon formation, the white dwarf is hotter than 100,000 K (or almost 100,000 degrees Celsius), but it cools over the next billions of years.
- g. **They eventually stop emitting radiation, becoming a black dwarf.** No black dwarfs exist yet as the universe is younger than the time it takes to form a black dwarf.
- h. **The nearest known white dwarf is Sirius B**, one of the two stars that make up the Sirius binary star system. It is located 8.6 light years away.

CA9. Pangolins need protection in India

Link: <https://india.mongabay.com/2020/09/one-of-the-worlds-most-trafficked-animals-needs-focus-outside-indias-protected-areas/>

Of the eight species found worldwide (four each in Asia and Africa), two are found in India: **Indian Pangolin *Manis crassicaudata* and Chinese Pangolin *Manis pentadactyla*.**

The Indian Pangolin is found throughout the country **south of the Himalayas**, excluding the north-eastern region while the Chinese Pangolin ranges through Assam and the eastern Himalayas.



Pangolins are the only known mammals with large keratin scales covering their skin. They are toothless, nocturnal, live in burrows and feed mainly on ants and termites.

Of the eight species found worldwide (four each in Asia and Africa), two are found in India: **Indian Pangolin *Manis crassicaudata*** and **Chinese Pangolin *Manis pentadactyla***.

Pangolins, also known as scaly anteaters, are the only known mammals with large keratin scales covering their skin.

LEGAL STATUS:

Wildlife (Protection) Act, 1972:

Both Indian Pangolin and Chinese Pangolin are listed in Schedule I of the Act, therefore hunting, trade or any other form of utilisation of the species or their body parts and derivatives is banned.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

International trade in pangolin and their body parts and derivatives is prohibited since all pangolin species are now listed in CITES Appendix I.

Indian Pangolins are categorized as Endangered in IUCN Red List.

Status



Listed in Schedule I of Wildlife (Protection) Act, 1972 and as Endangered on IUCN Red List.

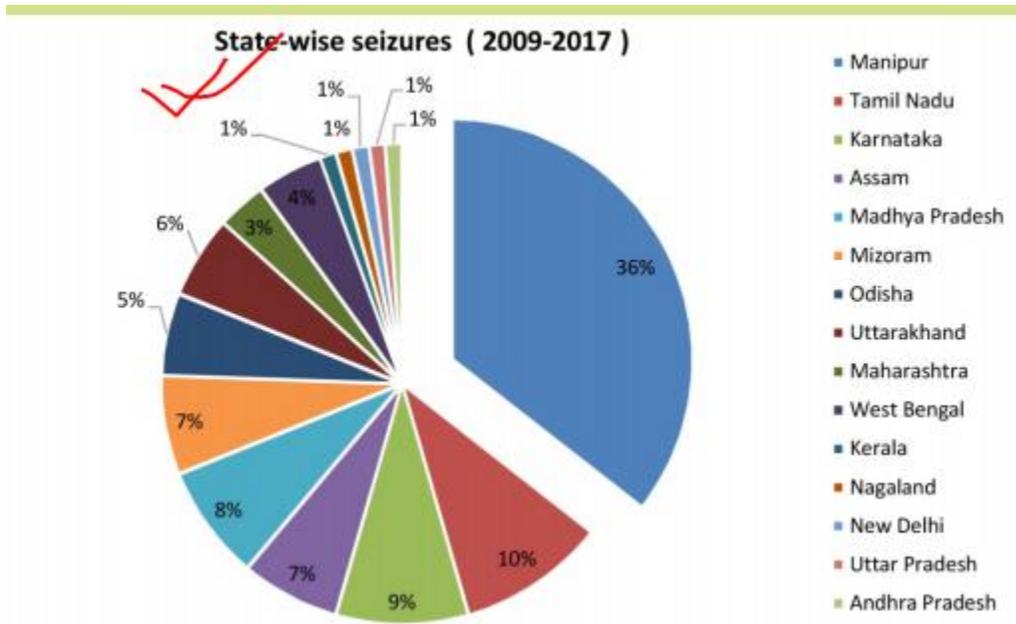
Threats to pangolins

- a. The primary threat to most pangolin species is illegal hunting and poaching, according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- b. Using Pangolin scales for traditional medicines is another huge threat to the species as the scales are used as an ingredient in traditional Asian medicine, especially in China and Vietnam.
- c. Scales are believed to be a cure for a various disease such as heart disease, cancer and are used to help lactating women produce milk.
- d. Consuming its meat either locally or as a luxury product is also listed as a serious threat because the mammals have been consumed as a source of protein throughout history.
- e. Pangolin also is a victim of illegal wildlife trade for its meat and scales although international trade of pangolin has been prohibited.
- f. Apart from these issues, habitat loss and degradation also play a negative role in the declining pangolin population.

Nearly 6000 pangolins were poached in India between 2009 and 2017, despite a ban, with Manipur and Tamil Nadu emerging as hotspots for pangolin smuggling, says a report released by wildlife trade monitoring network TRAFFIC.

THE SCALE OF PANGOLIN TRADE IN INDIA:

Nearly 6,000 pangolins poached between 2009-2017



CA10. The Salary, Allowances and Pension of Members of Parliament (Amendment) Bill, 2020

Link: <https://www.livelaw.in/news-updates/rajya-sabha-passes-bills-to-reduce-salary-allowances-of-mps-ministers-for-one-year-to-meet-pandemic-expenses-read-bill-163133>

The Parliament passed the Salary, Allowances & Pension of Members of Parliament (Amendment) Bill, 2020, and the Salaries and Allowances of Ministers (Amendment) Bill, 2020, by voice vote.

The Bills were moved by the Ministry of Parliamentary Affairs to reduce the salaries and allowances of MPs and sumptuary allowances of Ministers for one year, to supplement the financial resources of the centre to tackle the COVID-19 pandemic. To this end, the Bills seek to amend:

- a. the Salary, Allowances, and Pension of Members of Parliament Act, 1954 to reduce the salaries of MPs by 30%

- b. the Salaries and Allowances of Ministers Act, 1952, to reduce the sumptuary allowance of Ministers by 30%
- c. Rules under the 1954 Act to reduce constituency allowance and office expenses allowance of MPs.

What constitution says?

Article 106 of the Constitution empowers MPs to determine their salaries by enacting laws.

106. Salaries and allowances of members.—Members of either House of Parliament shall be entitled to receive such salaries and allowances as may from time to time be determined by Parliament by law and, until provision in that respect is so made, allowances at such rates and upon such conditions as were immediately before the commencement of this Constitution applicable in the case of members of the Constituent Assembly of the Dominion of India.

One thing more, **till 2018, MPs periodically passed laws to revise their salaries.** The Finance Act, 2018 provided that the salary, daily allowance, and pension of MPs will be **increased every five years**, on the basis of the cost inflation index provided under the Income-tax Act, 1961.

CA11. Departmentally Related Standing Committee

Link: <https://www.thehindu.com/opinion/op-ed/parliament-and-its-panels/article32613874.ece>

If you learn about basic about any body, you will never forget. Read now.

During the year 1989 (8th Lok Sabha) the Rules Committee considered and approved a proposal that three Subject Committees, on (i) Agriculture; (ii) Environment & Forests; and (iii) Science & Technology might be set up for ensuring effective parliamentary surveillance over the working of the concerned Ministries/ Departments and allied Governmental organisations. The rules relating to these Committees were finally approved by the House and the Committees were formally constituted with effect from 18 August, 1989.

2. After observing the functioning of these Committees for some time there was general consensus among all concerned that the Parliament should go in for a full-fledged Departmentally Related Standing Committee System. The Reports of Rules Committees of the Tenth Lok Sabha and Rajya Sabha adopted by the two Houses on 29 March, 1993 paved the way for the setting up of the seventeen Departmentally Related Standing Committees covering under their jurisdiction all the Ministries/Departments of the Union Government.

These DRSCs replaced the earlier three Subject Committees constituted in August 1989. The 17 Departmentally Related Standing Committees were formally constituted with effect from April 1993. After experiencing the working of the DRSC system for over a decade, the system was re-structured in July 2004 wherein the number of DRSCs was increased from 17 to 24.

Ok, one thing you remember here, that DRSC, are mentioned in the Rules of House of both Lok Sabha (331C) and Rajya Sabha (268).

Departmentally Related Standing Committees. **331C.** (1) There shall be Departmentally Related Standing Committees of the Houses (to be called the Standing Committees).
(2) The Ministries/Departments covered under the

268. Department-related Standing Committees

(1) There shall be Parliamentary Standing Committees of the Houses (to be called the Standing Committees) related to Ministries/Departments.

Composition:

Till 13th Lok Sabha, each of these Standing Committees used to consist of 45 members—30 nominated by the Speaker from amongst the members of Lok Sabha and 15 members

nominated by the Chairman, Rajya Sabha from amongst the members of Rajya Sabha. **However, with re-structuring of DRSCs in July 2004 each DRSC consists of 31 members—21 from Lok Sabha and 10 from Rajya Sabha.**

~~331D.~~ (1) Each of the Standing Committees Constitution. constituted under Rule 331C shall consist of not more than ¹⁰[31 members, 21 members to be nominated by the Speaker from amongst the members of Lok Sabha and 10] members to be nominated by the Chairperson, Rajya Sabha, from amongst the members of Rajya Sabha.

Minister not to be a Member of the Committee:

A Minister is not eligible to be nominated as a member of any of the Standing Committees and if a member, after her/his nomination to any of the Standing Committees, is appointed a Minister, she/he ceases to be a member of the Committee from the date of such appointment.

~~(2) A Minister shall not be nominated as a member of the Committee, and if a member after nomination to the Committee is appointed a Minister, such member shall cease to be a member of the Committee from the date of such appointment.~~

Term of Office:

The term of office of the “members” of the committees shall not exceed one year. Thus, it is the **term of office of the members** and not that of the committees per se that is one year. Remember this small thing

~~(4) The term of office of the members of the Committees shall not exceed one year.~~

Functions

8. The functions of each of the Standing Committees are :—

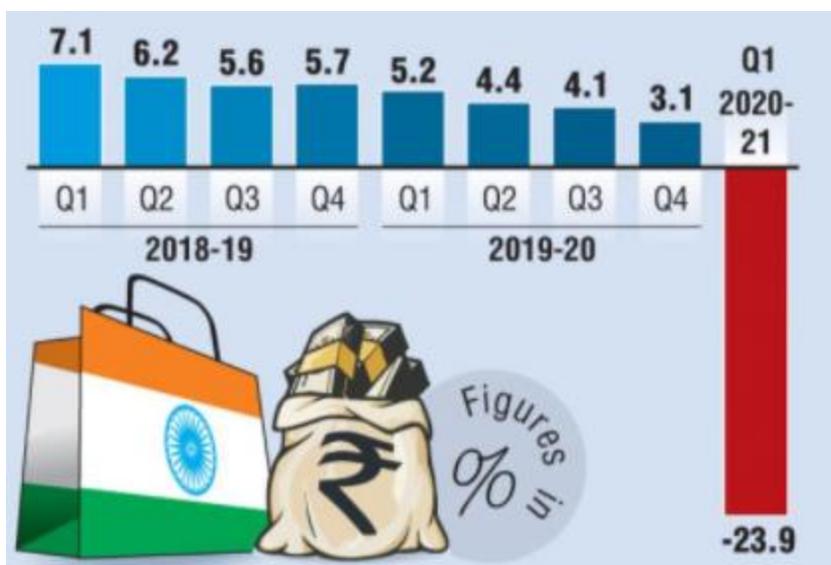
- (a) to consider the Demands for Grants of the concerned Ministries/Departments and make a report on the same to the Houses. The report shall not suggest anything of the nature of cut motions;
- (b) to examine such Bills pertaining to the concerned Ministries/Departments as are referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha as the case may be, and make report thereon;
- (c) to consider annual reports of Ministries/Departments and make reports thereon; and
- (d) to consider national basic long term policy documents presented to the Houses, if referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha as the case may be, and make reports thereon.

The **Committees do not consider the matters of day-to-day administration** of the concerned Ministries/ Departments. The Committees also **do not generally consider the matters which are under consideration by other Parliamentary Committees.**

CA12. India's GDP growth projection by different agencies

Because of the uncertainties around COVID-19 induced lockdowns and the economic slowdown, **multiple international rating agencies have been revising their GDP growth estimates for 2020** and beyond.

According to the Ministry of Statistics & Program Implementation's (MoSPI) press release on 31 August 2020, India's GDP for the first quarter of financial year 2020-21 contracted by 23.9% as compared to that of the same quarter during the financial year 2019-20. In other words, India's GDP growth rate in Q1 of 2020-21 was -23.9%.



Not just in India, but globally, many economies have contracted in the April-June quarter of 2020. Gradually economic activity is also picking up in a phased manner and hence, we might see improved GDP numbers for the July to September quarter of 2020 in India.

Today we will GDP forecast for India as well as few other major economies, as predicted by multiple prominent agencies.

The **International Monetary Fund (IMF) in June 2020** projected the global GDP growth to be at -4.9% in 2020, worse than the projection made in April 2020 at -3%. In January 2020, before the pandemic spread across the world, the projection was a growth of 3.3%.

Country/Region	Projections made in January 2020		Projections made in April 2020		Projections made in June 2020	
	2020	2021	2020	2021	2020	2021
World	3.3	3.4	-3	5.8	-4.9	5.4
India	5.8	6.5	1.9	7.4	-4.5	6
China	6	5.8	1.2	9.2	1	8.2
USA	2	1.7	-5.9	4.7	-8	4.5

The **World Bank projected** the global growth to be at 2.5% in 2020, slightly more than the global growth in 2019 at 2.4%, in its report published in January this year. However, following the coronavirus outbreak, in the June 2020 version of the report, the global economy has been projected to contract by 5.2% in 2020, which the World Bank termed as 'the deepest global recession in eight decades.'

Projections for 2020 and 2021 GDP Growth by World Bank

Country/Region	Projections made in Jan 2020		Projections made in June 2020	
	2020	2021	2020	2021
World	2.5	2.6	-5.2	4.2
India	5.8	6.1	-3.2	3.1
China	5.9	5.8	1	6.9
USA	1.8	1.7	-6.1	4

Organization for Economic Co-operation and Development (OECD)

India's GDP growth for 2020, projected at 6.2% in November 2019, was slashed to 5.1% in March 2020 and has been projected to contract 10.2% in the September 2020 forecast as a result of lockdowns being extended.

OECD's Real GDP Projections for 2020 and 2021

Country/ Region	Projections made in November 2019		Projections made in March 2020		Projections made in Sept 2020	
	2020	2021	2020	2021	2020	2021
World	2.9	3	2.4	3.3	-4.5	5
India	6.2	6.4	5.1	5.6	-10.2	10.7
Euro Area	1.1	1.2	0.8	1.2	-7.9	5.1
Germany	0.4	0.9	0.3	0.9	-5.4	4.6
France	1.2	1.2	0.9	1.4	-9.5	5.8

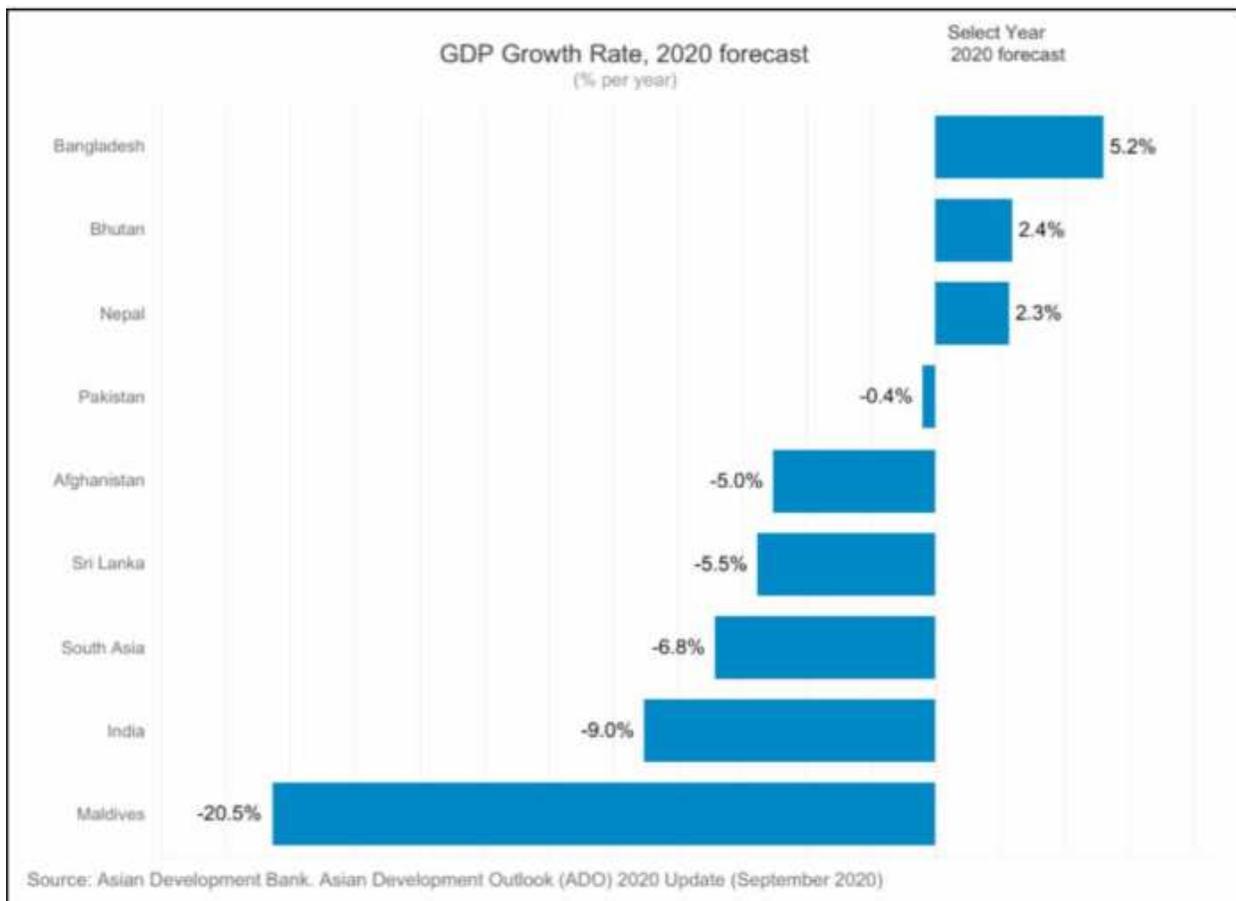
Fitch ratings

As per Fitch's forecast in March 2020, the global growth was projected at 1.3% which was later re-estimated at -4.4% in September 2020. Since COVID-19 cases in India were low in March 2020, India's GDP growth for financial year 2020-21 was projected to contract by 5%. After recording one of the sharpest GDP contractions in the world in the first quarter of 2020-21, India's GDP projection for 2020-21 has been slashed to -10.5% due to 'looming deterioration in asset quality in the financial sector'.

Projections for 2020 and 2021 by FITCH				
Country	Projections made in March 2020		Projections made in September 2020	
	2020	2021	2020	2021
World	1.3	3.3	-4.4	5.2
India*	5 (FY20)	5.1 (FY21) & 6.4 (FY22)	4.2 (FY20)	-10.5 (FY21) & 11 (FY22)
China	3.7	7.2	2.7	7.7
USA	1	1.9	-4.6	4
Euro Area	-0.4	1.8	-9	5.5

Asian Development Bank

Among the neighbouring countries, Maldives GDP is expected to contract by 20.5%, more than India's, whose GDP has been forecast to contract by -9% (from -4% projected in June 2020).



Conclusion:

The finance ministry, in its [monthly economic report](#) for August 2020 stated that India is witnessing a sharp V-shaped recovery.

As countries unlocked in the quarter starting in July, recovery is underway globally. India, too, is witnessing a sharp V-shaped recovery. India's manufacturing purchasing managers' index (PMI), at 52.2, has moved into expansionary zone in August for the first time since the lockdown, presenting much required recovery prospects for the manufacturing sector. The V-shaped pattern of recovery is seen in the following high-frequency indicators: auto sales, tractor sales, fertilizer sales, railway freight traffic, steel consumption and production, cement production, power consumption, e-way bills, GST revenue collection, daily toll collections on highways, retail financial transactions, manufacturing PMI, performance of core industries, capital inflows and exports.

However, there is still a lot of uncertainty around the pandemic and its effect on the economy. Wait and wait how government handles such situation.

CA13. The Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) programme

Link: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1656225>

Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) is a **Department of Biotechnology, Ministry of Science and Technology** initiative that empowers farmers, especially women farmers. It aims to understand the problems of water, soil, seed and market faced by the farmers and provide simple solutions to them.

The Scheme is for farmers, developed by and with farmers, it empowers women, impacts locally, connects globally, is Pan-India, has a hub-and spoke model and stimulates entrepreneurship and innovation in farmers.

Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) is being implemented in **15 agro-climatic zones of India in phased manner**

Salient features: Very important to know its features. Its very important to have clear understanding about features of it.

For Farmers: The Biotech-KISAN is a Farmer centric scheme launched by of the Department of Biotechnology, where scientists will work in sync with farmers to understand problems and find solutions.

By Farmers: Developed in consultation with the farmers. Soil, Water, Seed and Market are some key points that concern small and marginal farmers. Biotech-KISAN aims to link farmers, scientists and science institutions across the country in a network that identifies and helps solve their problems in a cooperative manner.

Empower women. The woman farmer is often neglected. It is important to empower the women farmer, help her meet her concerns for better seed, storage of seed and protection of the crops from disease and pest. The women farmer is also the prime caretaker of livestock and she is eager to combine traditional wisdom in handling the livestock and with current best practices, especially in the context of emerging livestock disease. The scheme includes the Mahila Biotech- KISAN fellowships, for training and education in farm practices, for women farmers. The Scheme also aims to support the women farmers/entrepreneur in their small enterprises, making her a grass root innovator.

Connects Globally: Biotech-KISAN will connect farmers to best global practices; training workshops will be held in India and other countries. Farmers and Scientists will partner across the globe.

Impacts Locally: The scheme is targeted towards the least educated marginalised farmer; Scientists will spend time on farms and link communication tools to soil, water seed and market. The aim is to understand individual problems of the smallholding farmers and provide ready solutions.

Across India: Biotech KISAN will connect farmers with science in the 15 agro-climatic zones of the country in a manner, which constantly links problems with available solutions.

Hubs and Spoke: In each of these 15 regions, a Farmer organisation will be the hub connected to different science labs, Krishi Vigyan Kendra and State Agriculture Universities co-located in the region. The hub will reach out to the farmers in the region and connect them to scientists and institutions.

Farmers as Innovators: The hub will have tinkering lab, communication cell and will run year-long training, awareness, workshops and which will act as education demonstration units to encourage grass root innovation in the young as well as women farmers.

Communicating Best Practices: There will be a communication set-up to make radio and TV programmes for local stations, as well as daily connectivity through social media.

They won't ask anything apart from this.

CA14. Hypersonic Technology Demonstrator Vehicle- a major indigenous achievement for India



Very important Article. So many questions from Prelims can be formed. Do read each line.

DRDO's successful test of a Hypersonic Technology Demonstrator Vehicle this month is a result of **several indigenous tech achievements** and know-how obtained over two decades. With this successful test of the Hypersonic Technology Demonstrator Vehicle, India will be making its first hypersonic missile in the next five years. **India is the fourth country** in the world after the US, China and Russia to develop and test the technology that will pave the way for missiles that will travel at six times the speed of sound.



Why this vehicle is unique?

Hypersonic Technology Demonstrator Vehicle **is powered by scramjet engine**. So, what is so unique about this scramjet engine?

Typical engines on airplanes, rockets, and missiles **burn a mixture of fuel and oxidizer (combustion) to generate power**, which is then used to create thrust forces to propel the vehicle. **Unlike the gas turbine engines found on commercial transport airplanes, ramjets have no moving or rotating mechanical parts.** At supersonic speeds, a stream of fast-moving air from the atmosphere, which contains oxygen, rushes into the engine. Fuel is injected into this airstream inside the engine, and a fast-moving mixture of fuel and oxygen is created. This mixture is ignited to initiate combustion and generate thrust. **The ramjet engine is what powers the Brahmos cruise missile.**

A scramjet, works on similar concepts as a ramjet but is designed for operation at even higher flight speeds, going into the hypersonic territory.

What is the major challenge associated with scramjet?

One of the key challenging aspects of a scramjet is that the air ingested by the engine flows through at very high speeds — this internal air-flow speed is **itself supersonic**.

- a. In this scenario, proper injection of fuel into the airstream, holding of a steady flame, and ensuring complete fuel combustion in the engine is an immensely challenging engineering task — one that demands a good scientific understanding of supersonic flow and combustion mechanics.
- b. It's like lighting and holding a matchstick flame in the open during a cyclone with intense winds, as goes an analogy often used in aerospace engineering classrooms.
- c. The flame inside the engine, which initiates and sustains combustion, can very easily be extinguished by the high-speed airstream (known as flame blowoff), and
- d. this basically shuts down the engine, **leading to immediate loss of thrust and thereby control of the vehicle**.

Now, this challenge has been accepted by India.

The challenges mentioned above has been met by HSTDV powered by a scramjet, through intricate design that performs careful conditioning of the internal airstream and promotes a stable and continuous combustion process for steady engine operation.

The scramjet advantages

- a. The **Agni missiles use a solid propellant that contains both fuel and the oxidizer** needed for combustion. Similarly, ISRO space-launchers also carry both fuel and oxidizer onboard.
- b. In comparison, **a scramjet engine draws oxygen from the atmosphere**, resulting in significant savings in terms of the weight of oxidizer that does not have to be carried onboard.
- c. These savings **directly translate to higher payload capacity**, and/or extended flight range for the vehicle.
- d. Also, unlike solid-propellant engines, **scramjets allow for a certain level of on-demand acceleration and deceleration by regulating the fuel burn rate**, thereby enabling the vehicle to cruise in a controlled manner.
- e. **The flexibility of a scramjet-powered hypersonic vehicle adds a large degree of unpredictability to its flight path**, making interception much harder than for a ballistic missile like Agni.
- f. This aspect naturally **provides significant tactical advantages** in certain operational scenarios.

Apart from this wonderful technology, more technology gaps need to be answered. Government should try to rope in more private institutions and create an ecosystem that

enables synergy between industry and government-funded organizations/institutes for building advanced field-ready technologies augurs well for realizing the vision of an **Atmanirbhar Bharat**.

CA15. Five tropical storm systems in the Atlantic Ocean at the same time
 Link: <https://www.downtoearth.org.in/news/climate-change/storm-in-the-pond-5-brew-in-atlantic-only-the-2nd-time-73423>



A rare climatic event occurred in the Atlantic Ocean on September 14, 2020: Five storm systems — hurricanes, storms and depressions — were brewing in the ocean at the same time for only the second time on record.

The five active storms were **Hurricane Paulette, Hurricane Sally, tropical storm Teddy, tropical storm Vicky and tropical depression Rene**.

The last time such an event occurred was nearly half-a-century ago, in September 1971.

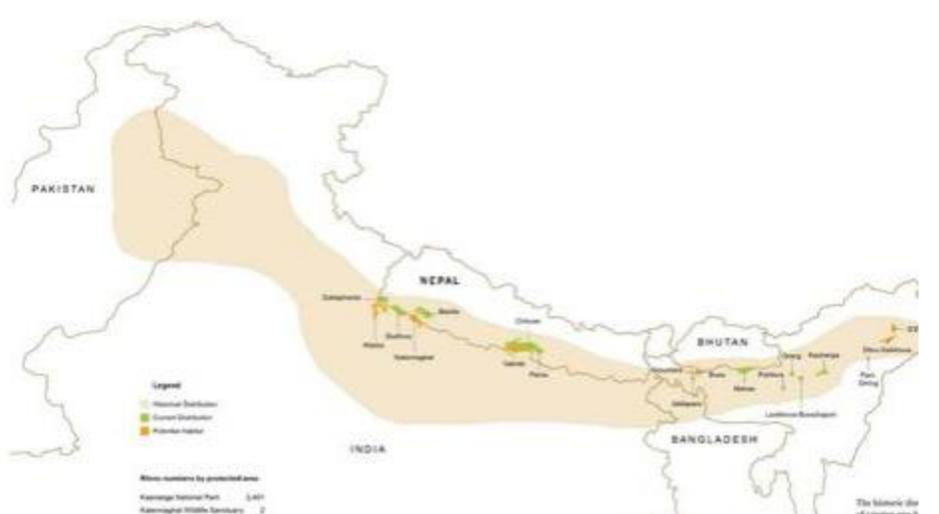
CA16. World Rhino Day



World Rhino Day is celebrated on September 22 every year. We chose this topic to understand few important things, no, not few, almost everything important for our UPSC exam.

There are majorly five species of Rhino- **Black, White, One-horned (Indian), Javan and Sumatran.**

The Indian Rhinoceros is an herbivorous grazer and is **one of the three species of Rhinos native to Asia- other two Javan and Sumatran.** The Indian rhinoceros lives primarily in northern **India and Nepal.**



Assam has the largest number of Indian one horn Rhino in the world where the Rhino census is conducted in every three years. As per the 2018 Census, Kaziranga has total of 2413 Rhinos.



What is India Rhino Vision 2020?

Launched in 2005, Indian Rhino Vision 2020 is an ambitious effort to attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.

It was launched by the Assam Forest Department, in partnership with the International Rhino Foundation (IRF) and WWF-India.

One more thing, we will learn here about Rhino is **Rhinoceros DNA Index System (RhODIS)**. **Not in news recently. But just for information you read. May be later, it might appear.**

RhODIS (Rhino DNA Index System) is a project that was initiated by the Veterinary Genetics Laboratory of the University of Pretoria in order to help with the plight of the

rhinos. The Veterinary Genetics Laboratory is collecting DNA samples of rhinos across the country to create a database using the unique DNA profile of individual rhinos. The goal is for all rhinos to be on the system. This will deter poachers and assist in forensic prosecutions.

The role of RhODIS in gathering incriminating evidence against suspects is in fact fast proving to be a critical requirement.

In 2016, **RhODIS India was launched** by the Ministry of Environment, Forest and Climate Change in partnership with Wildlife Institute of India. The progress of RhODIS implementation is reviewed by the Ministry on an annual basis.

Nothing more will be important for RhODIS. *If you remember 2017 Prelims Paper, they asked about M-STripES. Similarly, RhODIS may appear. So, remember this. Not difficult.*

10. The term 'M-STripES' is sometimes seen in the news in the context of

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

Steps taken by Indian Government to protect Rhinos:

- a. Indian government through its National Wildlife Action plan and National Rhino Conservation Strategy of India brought a more focused approach in conservation.
- b. India has been leading from the front in the preservation and conservation of Rhinos. Currently, **it has a population of approximately 2980 rhinos spread in seven Protected Areas.**
- c. Since 1999, the species is growing at an annual rate of around 3.5% in the country. The country has **re-established two new rhino population** during the last decade.
- d. Manas where the population was wiped out on account of poaching, through the Indian Rhino Vision 2020 program the **rhino population has been re-established** and currently it has around 40 rhinos.
- e. A small **second rhino population was also re-established in Dudhwa National Park**, Uttar Pradesh through the conduct of wild to wild translocations in 2018.

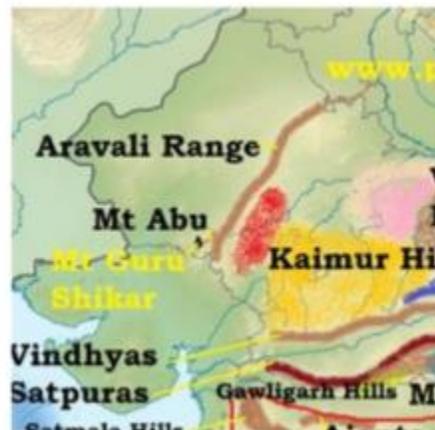
- f. Rhino breeding program under the Patna zoo is doing well too and is a very successful model of ex-situ rhino conservation. During the last 15 years more than 10 calves have been born in the zoo which is a record in itself.
- g. The **National Rhino Conservation Strategy was adopted for India in 2019** which outlines the roadmap for the conservation of the species in the country.
- h. Recently Ministry of Environment, Forest and Climate Change initiated **DNA based forensics investigation of rhino crime cases in India** in Rhino bearing areas like in Assam, West Bengal, and Uttar Pradesh.

All these measures have definitely helped in sustaining and preserving the species and World Rhino day through its campaign generated more awareness regarding the challenge.

CA17. Illegal Mining in the Aravalli Hills- A threat to Delhi and neighbours

Link: <https://science.thewire.in/environment/why-illegal-mining-in-the-aravalli-hills-should-scare-delhi-and-its-neighbours/>

First, we will see Aravalli Hills.



- a. Aravalli is almost 700 kilometres-long mountain range that **starts from India's western state of Gujarat, travels through Rajasthan and Haryana** before **terminating** at Raisina hill, at the heart of national capital **Delhi**.
- b. Most of the Aravalli hills – around 550 kilometres of its length – **is in Rajasthan**.
- c. The range has several peaks, hillocks and ridges, with different elevations, having a highest of 1,732 metres above mean sea level at **Guru Shikhar peak, Mount Abu**.
- d. It is one of the oldest mountain ranges in the world and full of minerals, flora and fauna.
- e. Many water streams originate from Aravalli and it stands as a barrier against the Thar desert to **protect parts of Rajasthan, Haryana and Delhi** from dust, **pollution and sandstorms**.

- f. The reason why **Rajasthan has so many Marble companies is that the Aravalli Range is rich in minerals such as Marble, Granite, and Sandstone**. Apart from that, it also produces commercially viable quantities of minerals such as rock phosphate, lead-zinc-silver mineral deposits at Zawar, etc.
- g. Aravalli range gives rise to a number of Rivers in which **Luni, Sakhi, Banas, Sabarmati**, and Sahibi are the prominent ones.

Now what is the threat?

A lot of mining is happening in this Area. Recent one is, in August 2020, the Supreme Court of India ordered the Haryana authorities to stop road construction in the ecologically sensitive zone of Aravalli hills.

DELHI

SC shocked over 'vanishing' Aravalli hills

PTI

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Illegal mining menace threatens millions

The estimated population for Delhi with its adjoining cities of Gurugram, Faridabad, Noida and Ghaziabad, which forms part of the National Capital Region, is about 30.2 million. In the last three decades, the population of the region has gone up rapidly and in just the last 10 years the number has shot up by an estimated 40%. This rapid growth in Haryana's Gurugram led to huge pressure on resources, especially land. The boom in real estate posed a threat to large tracts of the Aravallis in the region. For a state like Haryana, which is India's most forest deficient state with officially just 3.5% of its total area recorded as forest cover, this rapid development has put heavy pressure on ecology.

If we destroy this Aravalli line of defense that we have **which prevents the desertification** and in-road of the desert dust which is going to contribute **hugely to the local pollution problem**. **Delhi, Gurugram, Faridabad, Noida and Ghaziabad are already counted amongst the 20 most polluted cities of the world.**

"When we look at the google earth images of Aravalli in the western flanks, there are big deposits of sand or sand-dunes. So, basically all the hot winds which come from the west and carry sand with them, they get deposited at the western flank. So, for both these perspectives, Aravalli is very important,"

Air quality isn't the only issue. Experts note that the protection of Aravalli from illegal mining is also critical to maintaining the hydrological balance of the region. They state that if it continues then it may bring an irreversible transition into the lives of millions living in the region.

For prelims we need to learn the basics about Aravalli, and for environment and for ourselves, we need to protect Aravalli.

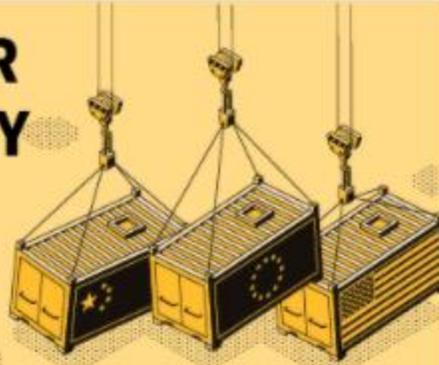
CA18. Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020

Link:

[https://pib.gov.in/PressReleasePage.aspx?PRID=1656254#:~:text=by%20PIB%20Delhi-.The%20Customs%20\(Administration%20of%20Rules%20of%20Origin%20under%20Trade%20Agreements,familiarize%20themselves%20with%20new%20provisions.](https://pib.gov.in/PressReleasePage.aspx?PRID=1656254#:~:text=by%20PIB%20Delhi-.The%20Customs%20(Administration%20of%20Rules%20of%20Origin%20under%20Trade%20Agreements,familiarize%20themselves%20with%20new%20provisions.)

The Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020 (CAROTAR, 2020) **came into force on September 21.**

CONSEQUENCES FOR NON-COMPLIANCE BY IMPORTERS



- ▶ Denial of benefit under FTA with possible recovery of custom duty differential (with interest and penalties) for past and future consignments of identical imports

- ▶ Future benefit to be restored only prospectively on demonstrating that origin criteria is met; this results in denial of benefits during the intermittent period

- ▶ Subsequent imports, where preferential duty claims have been made, are compulsorily verified, resulting in clearance delays with all attendant consequences

- ▶ Possible investigations of past transactions

- ▶ Provisional assessments (that are long drawn and time consuming)

Source: EY

What are these rules?

- a. They set guidelines for enforcement of the 'rules of origin' for allowing preferential rate on imports under free trade agreements.
- b. They supplement the existing operational certification procedures prescribed under different trade agreements (FTA/ PTA/ CECA/ CEPA).

Background:

They were notified on 21st August 2020 by the Department of Revenue. 30-day period was given to importers and other stakeholders to familiarize themselves with new provisions.

New Delhi, the 21st August, 2020

G.S.R. 521 (E).—In exercise of the powers conferred by section 156 read with section 28DA of the Customs Act, 1962 (52 of 1962), the Central Government hereby makes the following rules, namely:-

1. Short title, commencement and application.- (1) These rules may be called the Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020.

(2) They shall come into force on 21st day of September, 2020.

(3) They shall apply to import of goods into India where the importer makes claim of preferential rate of duty in terms of a trade agreement.

CAROTAR rules:

- a. An importer is now required to do due diligence before importing the goods to **ensure that they meet the prescribed originating criteria.**
- b. A list of minimum information which the importer is required to possess has also been provided in the rules along with general guidance.
- c. An importer would **now have to enter certain origin related information in the Bill of Entry**, as available in the Certificate of Origin.

Implications:

- a. The new norms have been framed with a view **to check inbound shipments of low-quality products and dumping of goods** by a third country routed through an FTA partner country.
- b. Under these rules, **a country that has inked an FTA with India cannot dump goods from some third country in the Indian market** by just putting a label on it.

Significance of these rules:

- a. The new Rules will **support the importer to correctly ascertain the country of origin**, properly claim the concessional duty and assist Customs authorities in smooth clearance of legitimate imports under FTAs.
- b. The new Rules would also **strengthen the hands of the Customs** in checking any attempted misuse of the duty concessions under FTAs.

CA19. Cuddalore beach found to have high level of microplastics: NCPOR study

Link: <https://www.downtoearth.org.in/news/pollution/famous-cuddalore-beach-found-to-have-high-level-of-microplastics-ncpor-study-73481>



Just in three small Paragraph what does study say. Nothing much to learn.

The famous **Silver Beach in Cuddalore, Tamil Nadu** was found to have a higher amount of **coloured plastic particles**, compared to fragmented and irregular-shaped plastic particles in a recent study by Periyar University in Salem, Tamil Nadu and the National Centre for Polar and Ocean Research (NCPOR) in Vasco Da Gama, Goa.

Untreated urban sewage, tourism and fishing activities were the sources of the plastic debris while storm-water runoff played a significant role in the transportation of plastic debris and wave-induced deposition through high tides, the study further noted.

Effective remediation could be possible through policy formulation to minimize plastic use, reducing the use of single-use plastics and their proper disposal, the study suggested. It emphasized the need for **future assessment of microplastics on ecologically sensitive organisms around the study area.**

Learn about National Centre for Polar and Ocean Research (NCPOR)



Welcome to NCPOR



National Centre for Polar and Ocean Research (NCPOR) is India's premier R&D institution responsible for the country's research activities in the Polar and Southern Ocean realms.

The mandate of NCPOR is multi-dimensional:

- ▷ Leadership role in niche areas of scientific research in the domain of polar and ocean sciences.
- ▷ Lead role in the geoscientific surveys of the country's EEZ and its extended continental shelf beyond 200M, deep-sea drilling in the Arabian Sea basin through the IODP, exploration for ocean non-living resources such as the gas hydrates and multi-metal sulphides in mid-ocean ridges.
- ▷ Facilitatory role in the scientific research activities being undertaken by several national institutions and organizations in Antarctica, the Arctic and in the Indian Ocean sector of the Southern Ocean.
- ▷ Management role in implementing all scientific and logistics activities related to the Annual Indian Expeditions to the Antarctic, Arctic and Southern Ocean.

CA20. O-SMART Scheme

Link: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1657412>

The Ocean Services, Modelling, Applications, Resources and Technology (O-SMART) Scheme was approved by the Union Cabinet in August 2018 and **is implemented by the Ministry of Earth Sciences.**

The services rendered under the O-SMART will provide economic benefits to a number of user communities in the coastal and ocean sectors, namely, fisheries, offshore industry, coastal states, Defence, Shipping, Ports etc. Currently, five lakhs fishermen community are receiving this information daily through mobile which includes allocation of fish potential and local weather conditions in the coastal waters. This will help in reducing the search time for fishermen resulting savings in the fuel cost.

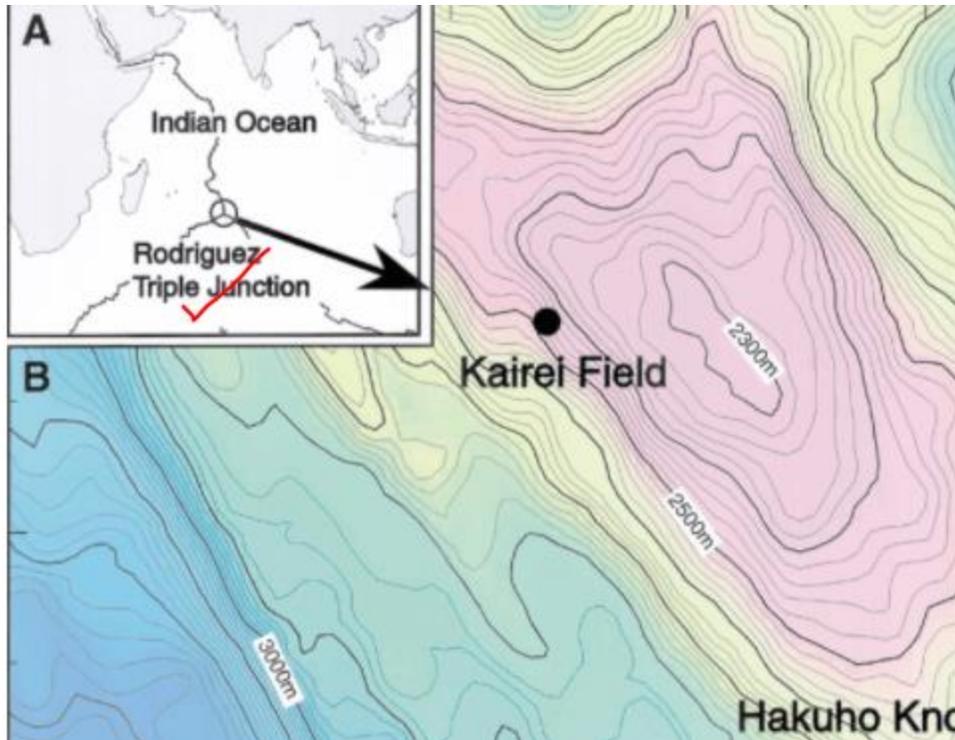
Implementation of O-SMART will help in addressing issues relating to Sustainable Development Goal-14, which aims to conserve use of oceans, marine resources for sustainable development. This scheme (O-SMART) also provide necessary scientific and technological background required for implementation of various aspects of Blue Economy.

There were total 16 objectives mentioned in PIB, we are pasting all of them:

The objectives of O-SMART (Ocean Services, Modelling, Applications, Resources and Technology) scheme of Ministry of Earth Sciences (MoES), Govt. of India are

- a. To **generate and regularly update information on Marine Living Resources** and their relationship with the physical environment in the Indian Exclusive Economic Zone (EEZ)

- b. To periodically **monitor levels of sea water pollutants** for health assessment of coastal waters of India, to develop shoreline change maps for assessment of coastal erosion due to natural and anthropogenic activities,
- c. To **develop** a wide range of state-of-the art ocean observation systems for **acquisition of real-time data from the seas** around India
- d. To generate and disseminate a suite of user-oriented ocean information, advisories, warnings, data and data products for the **benefit of society**,
- e. To develop **high resolution models for ocean forecast** and reanalysis system,
- f. To **develop algorithms for validation of satellite data** for coastal research and to monitor changes in the coastal research,
- g. To develop technologies **to tap the marine bio resources**,
- h. **To develop technologies generating freshwater** and energy from ocean,
- i. To develop underwater vehicles and technologies,
- j. Establishment of Ballast water treatment facility,**
- k. To support operation and maintenance of 5 Research vessels for ocean survey/monitoring/technology demonstration programmes,
- l. Establishment of state-of-the-art sea front facility to cater to the testing and sea trial activities of ocean technology,**
- m. **To carryout exploration of Polymetallic Nodules (MPN) from water depth** of 5500 m in site of 75000 sq.km allotted to India by United Nations in Central Indian Ocean Basin, to carryout investigations of gas hydrates,
- n. **Exploration of polymetallic sulphides near Rodrigues Triple junction (see below map) in 10000 sq. km** of area allotted to India in International waters by International Seabed Authority/UN and,
- o. Submission of India's claim over continental shelf extending beyond the Exclusive Economic Zone supported by scientific data, and Topographic survey of EEZ of India.



CA21. The 3 Farmers Bills and the controversies surrounding them

Link: <https://www.livelaw.in/know-the-law/explained-the-3-farmers-bills-and-the-controversies-surrounding-them-163375>

Farmers in many states are protesting against three recent bills passed by the Parliament.

The controversy pertains to:

- a. Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020
- b. Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020' and
- c. Essential Commodities (Amendment) Bill 2020.

Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020

Before reading: Read below paragraph.

Many states have passed laws to mandate agricultural trade only through APMCs with the aim of protecting farmers from exploitation and to ensure fair prices for the produces. **The Bill seeks to eliminate such restrictions.**

As per its Statement of Objects and Reasons, the regulatory framework of APMC laws "hindered the freedom of choice-based marketing and also the inflow of investment in the development of alternative markets and marketing infrastructure".



In simple terms, this **Bill seeks to permit the sale of agricultural produces outside the markets(mandis) regulated by the Agricultural Produce Marketing Committees (APMCs) constituted by different state legislations.**

Three important Points:

- a. **Trade of farmers' produce:** The Ordinance allows intra-state and inter-state trade of farmers' produce outside: (i) the physical premises of market yards run by market committees formed under the state APMC Acts and (ii) other markets notified under the state APMC Acts. Such trade can be conducted in an 'outside trade area', i.e., any place of production, collection, and aggregation of farmers' produce including: (i) farm gates, (ii) factory premises, (iii) warehouses, (iv) silos, and (v) cold storages.

(n) "trade area" means any area or location, place of production, collection and aggregation including—

- (a) farm gates;
- (b) factory premises;
- (c) warehouses;
- (d) silos;
- (e) cold storages; or
- (f) any other structures or places.

- b. **Electronic trading:** It permits the **electronic trading of scheduled farmers' produce (agricultural produce regulated under any state APMC Act) in the specified trade area.**

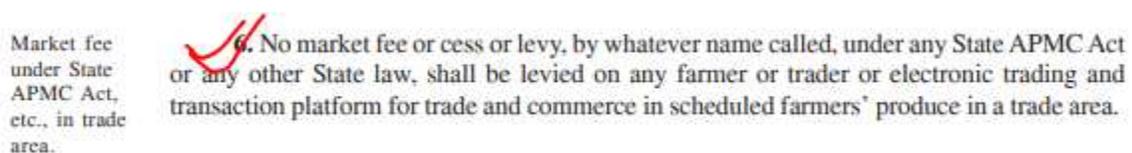
An electronic trading and transaction platform may be set up to facilitate the direct and online buying and selling of such produce through electronic devices and

internet. **To give effect to the same**, following entities may establish and operate an electronic trading and transaction platform:

- Companies
- partnership firms
- registered societies (having PAN)
- farmer producer organisation
- agricultural cooperative society

c. **Market fee abolished:**

It prohibits state governments from levying any market fee, cess or levy on farmers, traders, and electronic trading platforms for trade of farmers' produce conducted in an 'outside trade area'.



A key provision of the Bill is Clause 14, which gives it an **overriding effect over the inconsistent provisions of the State APMC Acts**. Also, the Central Government has been **given powers to frame rules and regulations under the Act**. Thus, **an intention to centralize** and homogenize the regulations relating to agricultural trade **is evident**. **This is the reason of protest**.

Do currently all states have APMCs?

In this regard, it may be noted that **all states do not have the APMC system**. Bihar had abolished it in 2006. Kerala, Manipur, Andaman & Nicobar Islands, Lakshadweep Islands, Dadar & Nagar Haveli and Daman & Diu do not have Agricultural Produce Market Committee (APMC) Act. While Sikkim does have APMC Act but is not implemented.

Also, many states such as Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Goa, Himachal Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Punjab, UT of Chandigarh, Jharkhand, Uttarakhand, Uttar Pradesh etc., **have brought in various amendments to APMC laws** at different stages to allow private markets, e-trading, contract-farming etc.

One important features of this Bill:

The Central Government may develop a **Price Information and Market Intelligence System** for farmers' produce and a framework for dissemination of information.

Price Information and Market Intelligence System.

(1) The Central Government may, through any Central Government Organisation, develop a Price Information and Market Intelligence System for farmers' produce and a framework for dissemination of information relating thereto.

(2) The Central Government may require any person owning and operating an electronic trading and transaction platform to provide information regarding such transactions as may be prescribed.

What are things are **not included** in the definition of "Trade Area"?

The definition of 'trade area' as per Clause 2(m) of the Bill specifically excludes "market yards, sub-market yards and market sub-yards managed and run by the market committees formed under each state APMC (Agricultural Produce Market Committee) Act" and "private market yards, private market sub-yards, direct marketing collection centres, and private farmer-consumer market yards managed by persons holding licenses or any warehouses, silos, cold storages or other structures notified as markets or deemed markets under each State APMC Act in force in India".

from where trade of farmers' produce may be undertaken in the territory of India but does not include the premises, enclosures and structures constituting—

(i) physical boundaries of principal market yards, sub-market yards and market sub-yards managed and run by the market committees formed under each State APMC Act in force in India; and

(ii) private market yards, private market sub-yards, direct marketing collection centres, and private farmer-consumer market yards managed by persons holding licenses or any warehouses, silos, cold storages or other structures notified as markets or deemed markets under each State APMC Act in force in India;

Now, we will jump to second Bill:

Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020

to provide for a national framework on farming agreements that protects and empowers farmers to engage with agri-business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed remunerative price framework in a fair and transparent manner and for matters connected therewith or incidental thereto.

- a. This Bill intends to **provide for contract-farming**.
- b. As per its preamble, it seeks to provide for a "national framework on farming agreements that empowers farmers to engage with agri-business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed 'remunerative price'".

- c. Clause 3 of the Bill states that a farmer may enter into a written farming agreement in respect of any farming produce. The bill seeks to fix some terms of such an agreement as follows:
 - a. Minimum period of agreement: one crop season/ one production cycle of livestock
 - b. Maximum period of agreement: five years (unless the production cycle is more than five years))
 - c. No farming agreement shall be entered into by a farmer in derogation of any rights of a sharecropper.
 - d. Pricing of farming produce: The price of farming produce and process of price determination should be mentioned in the agreement.
 - e. For prices subjected to variation, a guaranteed price for the produce and a clear reference for any additional amount above the guaranteed price, including bonus or premium, must be specified in the agreement.
- d. The Bill establishes a **Registration Authority** to provide for e-registry and for registration of farming agreements.
- e. **It also provides for conciliation and dispute settlement mechanism for settlement of disputes under the farming agreement.**
- f. The **jurisdiction of civil courts over such disputes have been barred**, and they are to be resolved through the resolution mechanism provided by the Bill.
- g. At first, **all disputes shall be referred to a Conciliation Board** for resolution. If the dispute remains unresolved by the Board after thirty days, parties may approach the **Sub-divisional Magistrate** for resolution.
- h. **Parties will have a right to appeal to an Appellate Authority** against decisions of the Magistrate. Both the Magistrate and Appellate Authority will be required to dispose of a dispute within thirty days from the receipt of the application.
- i. The Bill provides that a **farming agreement may be linked with insurance or credit instrument under any scheme of the Central Government or the State Government** or any financial service provider to ensure 'risk mitigation' and 'flow of credit' to farmer or Sponsor or both.
- j. The Bill further **prohibits sponsors from acquiring ownership rights or making permanent modifications on farmer's land or premises.**
- k. Clause 8 states that **no farming agreement shall be entered into for the purpose of any transfer, including sale, lease and mortgage of the land or premises of the farmer.**

Now, the final THIRD Bill:

Essential Commodities (Amendment) Bill 2020

- a. Apart from the above two Bills, the Parliament passed a Bill to amend the Essential Commodities Act (ECA) **with the objective of restricting the conditions on which the Government can impose stock limit on agricultural produces.**

- b. The Bill requires that the imposition of any stock limit on agricultural produce must be based on price rise alone.
- c. A stock limit may be imposed only if there is:
 - 100% increase in retail price of horticultural produce
 - 50% increase in the retail price of non-perishable agricultural food items.
- d. Also, the Bill states that the powers of ECA to regulate the supply of food items like cereals, pulses, potatoes, onions, edible oilseeds, and oils can be exercised only under "extraordinary circumstances" like **(i) war, (ii) famine, (iii) extraordinary price rise and (iv) natural calamity of grave nature.**

Otherwise, the government has the power to regulate the production, supply, distribution etc. of such food items even "for securing their equitable distribution and availability at fair prices".

Now why comprehensions and protest around the Bills? The major points of criticism raised by protesting groups are:

- a. Apprehensions about the **dismantling of state based APMC systems** which are intended to protect farmers from exploitation.
- b. Lack of assurance about **Minimum Support Price (MSP) in the contract-farming bills.**
- c. Apprehensions that the dilution of APMC systems and the deregulation of food items **will lead to large corporate entities exploiting small and marginal farmers.**



On the other hand, the government points out that there is no clause to abolish the APMC system and that the laws are instead expanding the choices of farmers to trade outside APMC. But the protesters say that the bill, with its overriding powers over state legislation, will eventually create an atmosphere to weaken the APMC system.

Now more than this is not required. Let political fight continue. You move ahead... **to next topic.**

CA22. Jammu & Kashmir Official Languages Bill, 2020

Link: <https://www.thehindu.com/news/national/lok-sabha-passes-the-jk-official-languages-bill-2020/article32671667.ece>

Very small concept under this. Do learn

Parliament has passed the Jammu & Kashmir Official Languages Bill, 2020, to declare certain languages as official languages of the UT.

The Bill declares the following languages as the official languages to be used for the official purposes of the union territory, from such date as the Administrator of the union territory may notify:

- a. Kashmiri
- b. Dogri
- c. Urdu
- d. Hindi
- e. English

Prior to this, Urdu has been the sole official language in J&K, for over 130 years. A small history:

✓ Before the reorganisation of J&K on August 5, 2019, Urdu was the sole official language of the state. In 1889, Dogra ruler Pratap Singh adopted Urdu as the official language of the princely kingdom of J&K, replacing Persian which had enjoyed that status for more than three centuries. The same was carried forward by J&K's constituent assembly while adopting the state constitution.

It may be noted that the J&K Re-Organisation Act empowers the J&K legislative assembly to decide on the adoption of official languages. Thus, some MPs opposed Bill. However, the Government clarified thus: **Read section 47 below.**

✓ 47. (1) The [Legislative Assembly] may by law adopt any one or more of the languages in use in the Union territory of Jammu and Kashmir or Hindi as the official language or languages to be used for all or any of the official purposes of the Union territory of Jammu and Kashmir. ✓

(2) The business in the Legislative Assembly of the Union territory of Jammu and Kashmir shall be transacted in the official language or languages of the Union territory of Jammu and Kashmir or in Hindi or in English:

So, why Parliament has passed this?

“By the proclamation issued by the president on October 31, 2019 to impose president’s rule in J&K, the powers of the legislative assembly of the union territory of Jammu and Kashmir shall be exercisable by or under the authority of parliament. So the parliament will be exercising powers conferred upon the J&K assembly under Section 47 of the re-organisation Act,” he said.

Have other UTs have adopted any official language?

The **Pondicherry Official Language Act, enacted in 1965, adopted Tamil** as the official language, and Malayalam and Telugu as official languages in Mahé and Yanam regions of the UT, respectively.

The assembly of the **National Capital Territory of Delhi also enacted a law to adopt Urdu** and Punjabi as second official languages of the UT.

CA23. EU adopts new rules for state aid to reduce CO2 emissions

Link: <https://www.tribuneindia.com/news/world/eu-adopts-new-rules-for-state-aid-to-reduce-co2-emissions-144944#:~:text=The%20EU's%20revised%20Emission%20Trading,previous%20guidelines%20adopted%20in%202012.&text=This%20leads%20to%20less%20economic,globally%20C%20according%20to%20the%20Commission.>

The adoption was in line with the **European Green Deal**, which was presented by the Commission in December 2019 as a roadmap for making the EU's economy sustainable and achieving climate neutrality by 2050. The EU's revised **Emission Trading System (ETS)** State aid Guidelines, which will enter into force on January 1, 2021, will replace the previous guidelines adopted in 2012.

- a. The new guidelines are **aiming at reducing carbon leakage**, which happens when companies move their operations to countries outside the EU, which have less ambitious climate policies.
- b. This leads to less economic activity in the EU and no reduction in greenhouse gas emissions globally.
- c. Under the new guidelines, the aid will be targeted at sectors at risk of carbon leakage due to high indirect emission costs and their strong exposure to international trade.
- d. Based on an objective methodology, 10 sectors and 20 sub-sectors are eligible for the aid.
- e. The compensation will cover 75 percent of costs, rather the previous 85 per cent and will not cover non-efficient technologies, to maintain the companies' incentives for energy efficiency.

CA24. Improving Potassium deficiency in Rice

Link: <https://www.downtoearth.org.in/news/science-technology/study-zeroes-in-on-target-plant-hormone-to-improve-potassium-deficiency-in-rice-73495>

Potassium is one of the most important **macronutrients for plants**. Plants require, among other things, a high and relatively stable concentration of potassium ion to activate many enzymes that are involved in respiration and photosynthesis. Potassium is also involved in key cellular processes such as energy production, and cell expansion.

Availability of Potassium to plants is limited:

However, despite being among the most abundant minerals in the soil, **its availability to plants is limited**. This is because most of the soil potassium (about 98 per cent) is in **bound forms and its release into the soil solution is far slower than the rate of its acquisition by the roots**.

- a. The availability of potassium in the soil solution or exchangeable form depends on multiple factors like soil acidity, presence of other monovalent cations like sodium and ammonium ions and the type of soil particles.
- b. **Deficiency in potassium affects plants by inhibiting the growth of the roots and the shoots**. Studies have shown that plants that are deficient in potassium are **more susceptible to salt, drought, chilling and other abiotic and biotic stresses**.

Now news:

According to study, targeting a specific plant hormone would help rice plants have greater tolerance to potassium deficiency, in turn, improving rice productivity. **The plant hormone called Jasmonate (JA)** is often associated with the plant's defence against biotic factors like insects, pests and other pathogens.

- a. The overexpression of a gene called OsJAZ9 helped make rice plants more tolerant of potassium deficiency, the study noted.
- b. It was conducted by a **team of scientists at the Department of Biotechnology's** New Delhi-based National Institute of Plant Genome Research (DBT-NIPGR).
- c. There was an enhanced accumulation of JA-Ile — a bioactive form of the hormone, in rice on potassium deficiency, the scientist found. **The JA-Ile then activates potassium transporters for its uptake from the media**.
- d. The Green Revolution of the 1960s was driven by another plant hormone called Gibberellins (GA). **The new study suggests that future research could be targeted towards JA that could help achieve both, nutrient- efficient crops and protection against pests**.

CA25. Forward-looking declaration adopted

Link: https://www.business-standard.com/article/international/unga-adopts-forward-looking-declaration-to-mark-75th-anniversary-of-un-120092101402_1.html

~~UNGA~~ adopts forward-looking declaration to mark 75th anniversary of UN

UN Member States also underscored in the declaration that the UN must better address all fo and domains of threats

Topics

UNGA | United Nations | Terrorism

Press Trust of India | United Nations

Last Updated at September 21, 2020 22:25 IST

The UN General Assembly adopted by consensus on **21 September 2020 a forward-looking declaration** on the commemoration of the 75th anniversary of the world body that calls for strengthening mechanism to combat terrorism, reformed multilateralism, inclusive development and better preparedness to deal with challenges like the COVID-19 pandemic.

The landmark 'Declaration on the Commemoration of the 75th Anniversary of the United Nations' was adopted at the high-level meeting of the 193-member Assembly to commemorate the milestone anniversary of the world body.

It contains:

- a. In the declaration, the Heads of State and Government *vow to leave no one behind, protect the planet, promote peace and prevent conflicts, abide by international law and ensure justice, place women and girls at the centre, build trust, improve digital cooperation, upgrade the United Nations, ensure sustainable financing, boost partnerships, listen to and work with youth.*
- b. It is notable that **India's priorities for its tenure as non-permanent member of the Security Council find resonance in the declaration** that echoes New Delhi's call for strong mandate against terrorism, reformed multilateralism and inclusive development.
- c. The declaration, negotiated through an intergovernmental process, says that the **next 10 years, which have been designated as the Decade of Action, will be the most critical of our generation.** It is even more important as nations build back better from the COVID-19 pandemic.

- d. It calls for a strong **UN development system and effective collaboration between the United Nations and the international financial institutions**, with particular attention to people in vulnerable situations.
- e. It calls for **immediately curbing greenhouse gas emissions** and achieving sustainable consumption and production patterns in line with the Paris Agreement and the 2030 Agenda.
- f. **Terrorism and violent extremism conducive to terrorism are serious threats to international peace and security**, the declaration said, voicing full support to Secretary-General's initiative for a global ceasefire.
- g. The member states agreed that conflicts will not be resolved, and sustainable development will not occur, **without the equal and active participation of women at all levels**.
- h. Condemning acts of xenophobia, racism, intolerance, hate speech and disinformation, world leaders vowed in *the declaration that they will address the root causes of inequalities, including violence, human rights abuses, corruption, marginalization, discrimination in all its forms, poverty and exclusion, as well as lack of education and employment*.
- i. They further said that **shaping a shared vision on digital cooperation and a digital future that show the full potential for beneficial technology usage**, and addressing digital trust and security, must continue to be a priority "as our world is now more than ever relying on digital tools for connectivity and social-economic prosperity.
- j. It outlines the priorities of the world body and calls for **greater action and international cooperation** to meet varied global challenges in the years ahead.

It notes that the **world of today is not yet the world our founders envisaged 75 years ago**. It is plagued by growing inequality, poverty, hunger, armed conflicts, terrorism, insecurity, climate change, and pandemics. **We need to work together**.

CA26. Household Consumption on Education in India Report

Link:

http://www.mospi.gov.in/sites/default/files/publication_reports/Report_585_75th_round_Education_final_1507_0.pdf#page=124

The **National Statistical Office under the Ministry of Statistics and Programme Implementation (MOSPI)** recently released the report on *Household Consumption on Education in India*. The report is an outcome of the 75th round of National Sample Survey (NSS) conducted between July 2017 and June 2018.

The surveys of social consumption relating to education, conducted by the National Statistical Office (NSO) is the primary source of data for generating various indicators on education like, level of education, attendance, incentives received by the students, expenditure on education, etc. These are used in decision support, policy inferences and analysis.

Type of institution: This referred to the type of management by which the institution was run. It might be run by Government (Central/State/Local) or a private body irrespective of whether receiving government aid. Thus, the types of Institutions were: **(a) Government, (b) Private aided and (c) Private unaided.**

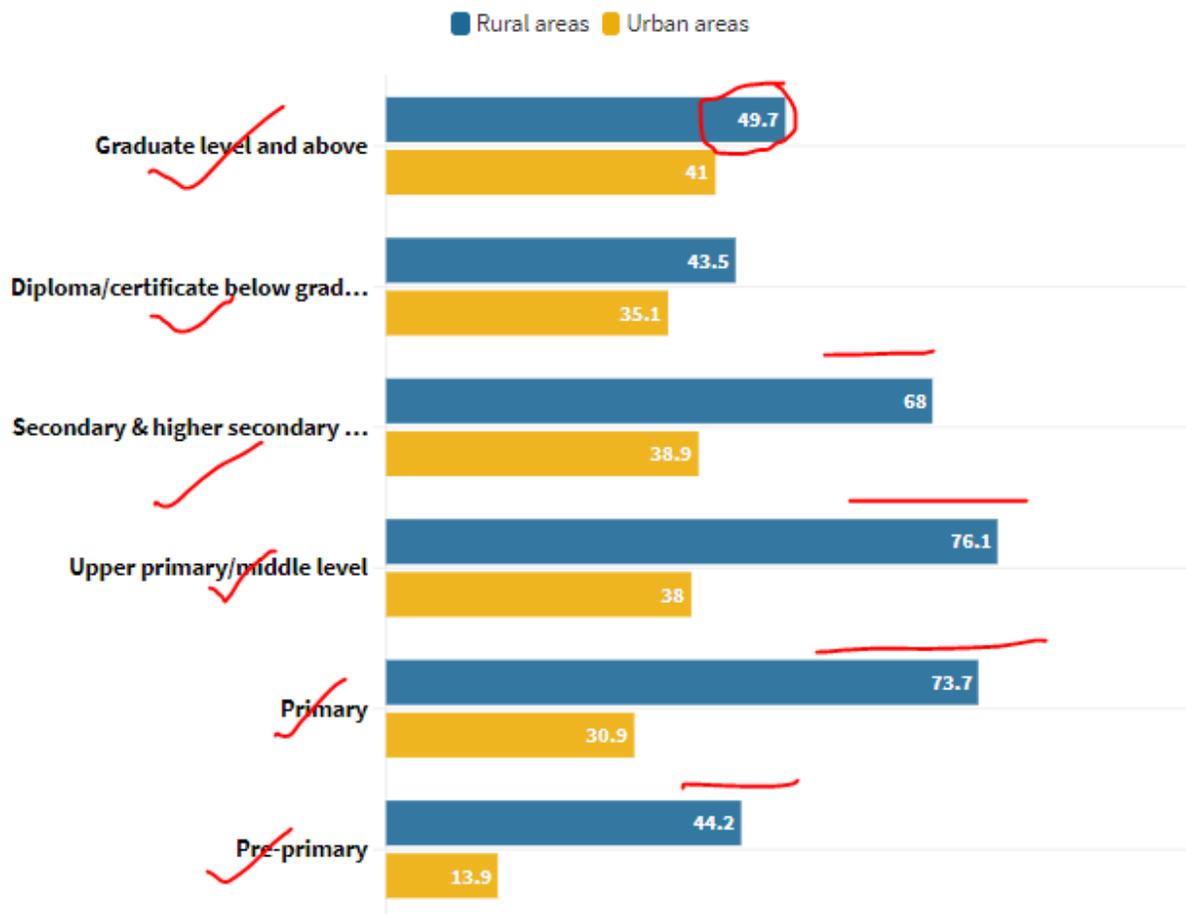
The report revealed around **3 students out of 5 students in classes I to XII, attended government schools.** The report revealed that, **except at the pre-primary level of education, majority of the students who were undergoing formal education attended government run educational institutions.** At least **60% of the students in classes I to XII went to government schools** as per the NSS DATA. Around 21% are private and about 5% are private aided schools. **See below image:**

Statement 4.14 (RU): Percentage distribution of students by type of institution in which currently attending education

		all-India		
level of education and type of institution		percentage		
		male	female	person
level of education	type of institution	rural+urban		
pre-primary level	government ✓	29.6	36.6	32.7
	private aided	12.3	10.8	11.7
	private unaided	57.7	52.1	55.2
	all (incl. n.r. and not known)	100.0	100.0	100.0
primary level	government ✓	61.5	64.9	63.0
	private aided	8.7	8.3	8.6
	private unaided	29.6	26.6	28.3
	all (incl. n.r. and not known)	100.0	100.0	100.0
upper primary/ middle level	government ✓	65.2	67.8	66.4
	private aided	10.7	10.1	10.4
	private unaided	24.1	21.9	23.1
	all (incl. n.r. and not known)	100.0	100.0	100.0
secondary & higher secondary level	government ✓	57.2	62.5	59.5
	private aided ✓	17.4	15.8	16.7
	private unaided	25.2	21.5	23.6
	all (incl. n.r. and not known)	100.0	100.0	100.0
Ref: Table 49, Appendix A diploma/certificate below graduate level	government ✓	39.4	43.4	40.4
	private aided	22.8	21.5	22.5
	private unaided	37.4	34.1	36.6
	all (incl. n.r. and not known)	100.0	100.0	100.0
graduate and above level including diploma	government ✓	45.9	45.7	45.8
	private aided ✓	24.4	24.7	24.5
	private unaided	29.4	29.4	29.4
	all (incl. n.r. and not known)	100.0	100.0	100.0

Greater share of students in rural areas went to government educational institutions

Percentage of students attending government institutions by level of education



The most important part of the Report was **Quality of Education**.

It is observed that **quality of education was cited as the reason by most students for opting private institutions**. This reason was cited by more than 38% of the students in rural areas and nearly 30% in urban areas. It was **perceived by majority that the quality of education was better in private institutions and unsatisfactory in nearby government institutions**.

Statement 4.16: Percentage of students currently attending private aided or unaided educational institutions reporting reason for attending current private institution

reason for attending current private institution	percentage		
	male	female	person
all-India			
rural			
located nearby	25.0	25.8	25.3
tried in government institution but could not get admission	10.9	8.9	10.1
social reasons (like children of colleagues/neighbours/relatives, etc. also attend this school)	11.5	11.7	11.6
private coaching not required to supplement the school education/private coaching is an integral part of school education	3.3	3.3	3.3
due to availability of specific facilities*	13.8	12.8	13.4
medium of instruction is English	14.4	14.3	14.4
less burden of homework	0.3	0.2	0.2
quality of education in nearby government institution is perceived to be not satisfactory	37.5	39.4	38.3
none of the above	3.9	3.5	3.7
urban			
located nearby	27.3	30.4	28.6
tried in government institution but could not get admission	12.8	11.7	12.4
social reasons (like children of colleagues/neighbours/relatives, etc. also attend this school)	10.2	11.4	10.7

Around 60 to 80% of the students in government schools' avail free education

Statement 4.20: Percentage of students receiving 'free education' in different type of institution

type of institution	percentage		
	male	female	person
all-India			
rural			
government	79.6	81.7	80.5
private aided	8.7	11.1	9.7
private unaided	1.7	1.8	1.8
all	54.9	59.5	57.0
urban			
government	62.5	61.5	62.0
private aided	8.1	5.7	7.1
private unaided	1.2	1.0	1.1
all	22.7	24.2	23.4
rural+urban			
government	76.7	78.2	77.4
private aided	8.4	8.6	8.5
private unaided	1.5	1.4	1.5
all	45.6	49.3	47.2

Free education is when students do not any fee for their education. The proportion of students receiving free education is substantially higher in government educational

institutions than in private aided and unaided institutions. Both in rural areas as well as urban areas, less than 10% of the students in private institutions got free education while in government schools, the percentage of students was in the range of 60-80% which may be attributed to the various welfare programs of the government.

CA27. Green Finance in India Report

Link: <https://www.climatepolicyinitiative.org/wp-content/uploads/2020/09/Landscape-of-Green-Finance-in-India-1-2.pdf>

Landscape of Green Finance in India

Report
September 2020



Just start with introduction and then we will see few images in which **we will see the status of Green Finance in India.**

The Landscape of **Green Finance in India** is a one-of-a-kind study undertaken by **Climate Policy Initiative (CPI)** that presents the most comprehensive information on green investment flows in the country in FY 2017-FY 2018. The study tracks both public and private sources of capital and builds a framework to track the flow of finance from source to end beneficiaries. This report **helps understand the nature and volume of green financial flows in the country** and identifies the methodological challenges and data gaps in conducting a robust tracking exercise.

Sources:

The **total green finance tracked in this study includes both public and private** finance flows, provided by both **Indian entities and international organizations.**

Green finance flows in India total INR 111 thousand crores¹ (USD 17 billion) for FY 2017 and INR 137 thousand crores (USD 21 billion) for FY 2018.

Figure ES1: Breakdown of investment by source

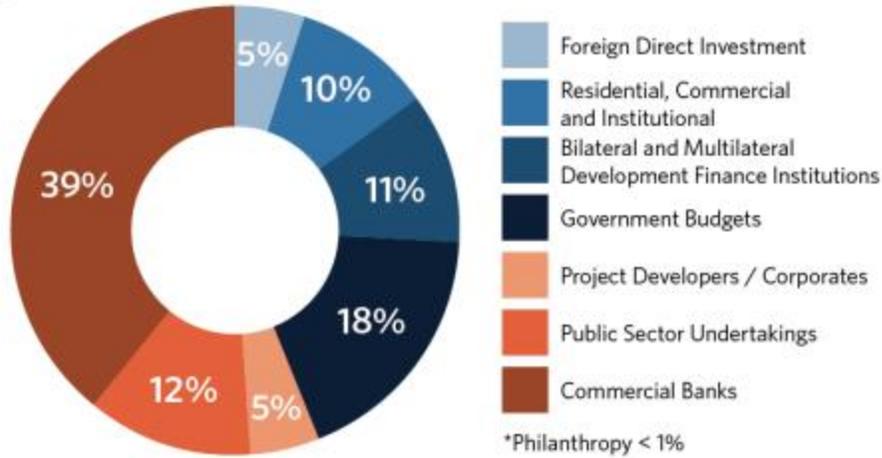
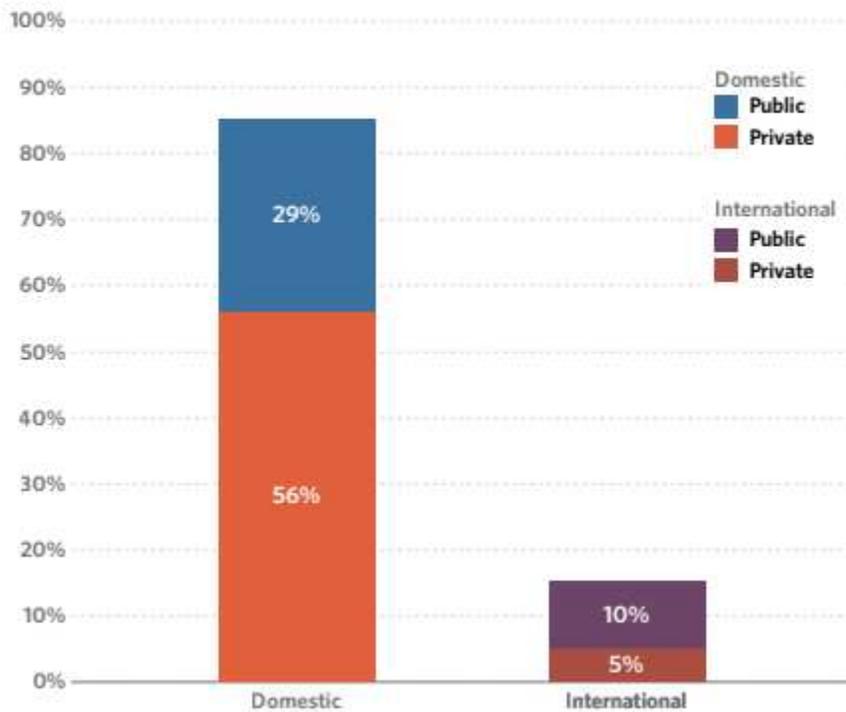
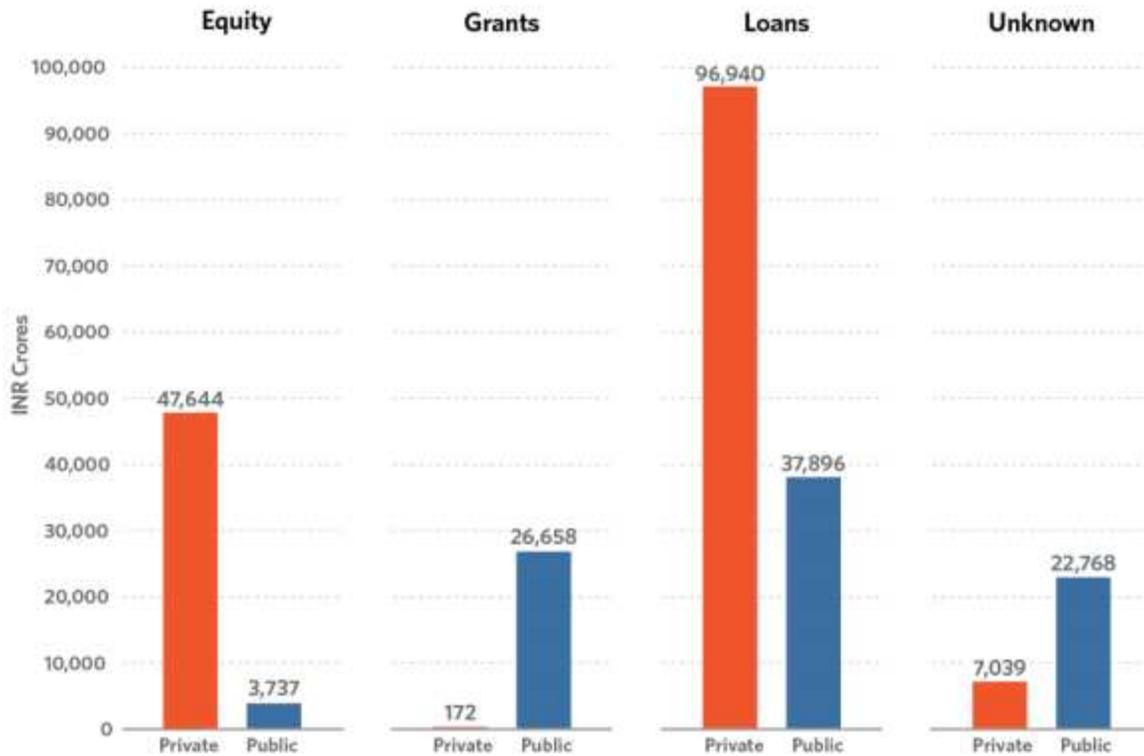


Figure ES2: Breakdown of source of finance by origin and channel of delivery



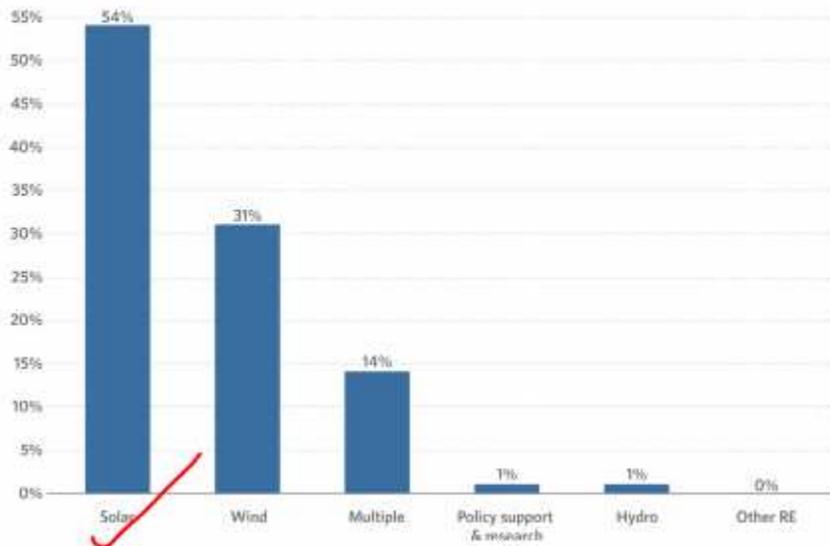
Debt, through project or corporate finance, was the **largest financial instrument used to channel green finance**.

Figure 6: Breakdown of green finance by instrument (in INR Crores)



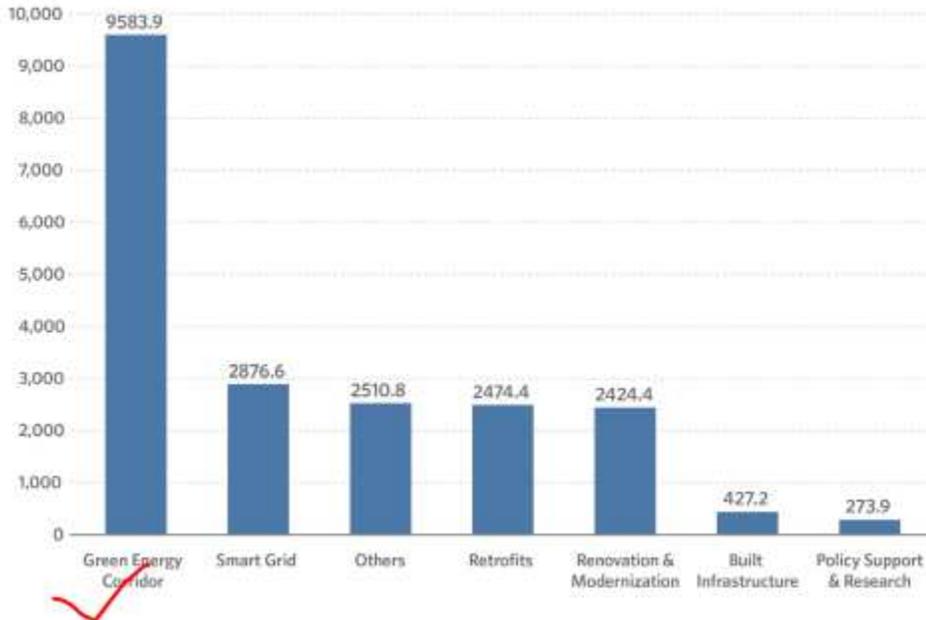
The power generation sector accounted for nearly INR 199 thousand crores over the two years tracked in this study. **In 2017, total new renewable energy investments increased by 19% over 2016 levels and were driven largely by an increase in capacity additions in both solar and wind energy.**

Figure 8: Breakdown of power investments by sub-sector.



Between 2016 and 2018, the energy efficiency and power transmission sector investments totaled INR 20 thousand crores. The green energy corridors projects emerged as the largest contributor to the tracked investments in energy efficiency and power transmission

Figure 13: Breakdown of energy efficiency and power transmission investments by sub-sectors



Conclusion:

The **tracked green finance falls far short of India’s green finance needs**. The tracked green finance for mitigation for FY 2017 and FY 2018, at an average INR 124 thousand crores (USD 19 billion) represents only about **10% of what the country actually requires**.

- a. There is a need for transformational upscaling of green finance across all low-carbon sectors.
- b. There is a requirement for a comprehensive climate budget tagging framework to track climate-related expenditures in national budget systems.
- c. A strong framework would help dedicated institutions assume a greater role in advancing the case for green investments.

The good news is that the **green investments have outpaced India’s GDP growth (during 2016-17 and 2017-18 period)**. The GDP of India grew at an average rate of 7.2 percent between 2016-17 and 2017-18, and the tracked investments suggest an increase of 24 percent. This indicates that green investments have the potential for driving economic growth of the country.

CA28. Electronic waste (e-waste) generation in India

Electronic waste (e-waste) generation in India increased by over 43 per cent between 2017-18 and 2019-20, according to the written statement presented by Union minister in the Lok Sabha. E-waste increased to over one million tonnes, from an estimated 0.7 million tonnes in three years.

Now, anytime they ask you about e-waste in Mains or essay, just use the latest data given below: Don't remember any data after this.

According to a 2019 United Nations report, titled 'A New Circular Vision For Electronics, Time for a Global Reboot' consumers discard 44 million tonnes worth of electronics each year; only 20% is recycled sustainably.

The Global E-Waste Monitor 2020 shows that consumers discarded 53.6 million tonnes worth of electronics in 2019 globally, up 20% in 5 years.

India generated 3.2 million tonnes of e-waste last year, ranking third after China (10.1 million tonnes) and the US (6.9 million tonnes). Following the current growth rate of e-waste, an ASSOCHAM-EY joint report, titled 'Electronic Waste Management in India' estimated India to generate 5 million tonnes by 2021. The study also identified computer equipment and mobile phones as the principal waste generators in India.

Now, we will learn E-waste Management Rules 2016.

The Ministry of Environment, Forest and Climate Change notified **the E-Waste Management Rules, 2016 on 23 March 2016 in supersession of the e-waste (Management & Handling) Rules, 2011.**

Now we will see the salient features of this Bill:

1. Manufacturer, dealer, refurbisher and Producer Responsibility Organization (PRO) have been introduced as additional stakeholders in the rules.

- 1. Short title and commencement.** - (1) These rules may be called the E-Waste (Management) Rules, 2016.
 (2) They shall come into force from the 1st day of October, 2016.

2. Application. - These rules shall apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational but shall not apply to -

- (a) used lead acid batteries as covered under the Batteries (Management and Handling) Rules, 2001 made under the Act;
- (b) micro enterprises as defined in the Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006); and
- (c) radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under.

2. It mandated extended producer responsibility (EPR) for all plastic producers, importers and brand owners (PIBOs). ERP is a mechanism through which producers are made responsible for handling and recycling end-of-life products.

(t) 'Extended Producer Responsibility' means responsibility of any producer of electrical or electronic equipment, for channelisation of e-waste to ensure environmentally sound management of such waste. Extended Producer Responsibility may comprise of implementing take back system or setting up of collection centres or both and having agreed arrangements with authorised dismantler or recycler either individually or collectively through a Producer Responsibility Organisation recognised by producer or producers in their Extended Producer Responsibility - Authorisation;

3. Compact Fluorescent Lamp (CFL) and other mercury containing lamp brought under the purview of rules.

4. Provision for **Pan India EPR (Extended Producer Responsibility)** Authorization by CPCB has been introduced replacing the state wise EPR authorization.

(u) 'Extended Producer Responsibility - Authorisation' means a permission given by Central Pollution Control Board to a producer, for managing Extended Producer Responsibility with implementation plans and targets outlined in such authorisation including detail of Producer Responsibility Organisation and e-waste exchange, if applicable;

5. **Deposit Refund Scheme** has been introduced as an additional economic instrument wherein the producer charges an additional amount as a deposit at the time of sale of the electrical and electronic equipment and returns it to the consumer along with interest when the end - of - life electrical and electronic equipment is returned.

'~~deposit refund scheme~~' means a scheme whereby the producer charges an additional amount as a deposit at the time of sale of the electrical and electronic equipment and returns it to the consumer along with interest when the end-of-life electrical and electronic equipment is returned;

6. The manufacturer is also now responsible to collect e - waste generated during the manufacture of any electrical and electronic equipment and channelize it for recycling or disposal and seek authorization from State Pollution Control Board (SPCB)

(dd) '~~Producer Responsibility Organisation~~' means a professional organisation authorised or financed collectively or individually by producers, which can take the responsibility for collection and channelisation of e-waste generated from the 'end-of-life' of their products to ensure environmentally sound management of such e-waste;

~~5 Responsibilities of the producer.~~ - The producer of electrical and electronic equipment listed in Schedule I shall be responsible for -

(1) implementing the Extended Producers Responsibility with the following frameworks, namely:-

(a) collection and channelisation of e-waste generated from the 'end-of-life' of their products or 'end-of-life' products with same electrical and electronic equipment code and historical waste available on the date from which these rules come into force as per Schedule I in line with the targets prescribed in Schedule III in Extended Producer Responsibility - Authorisation;

7. The roles of the State Government have been also introduced in the Rules in order to ensure safety, health and skill development of the workers involved in the dismantling and recycling operations.
8. Department of Industry in State or any other government agency authorized in this regard by the State Government is to ensure earmarking or allocation of industrial space or shed for e - waste dismantling and recycling in the existing and upcoming industrial park, estate and industrial clusters.

~~12. Responsibilities of State Government for environmentally sound management of E-waste.~~ – (1) Department of Industry in State or any other government agency authorised in this regard by the State Government, to ensure earmarking or allocation of industrial space or shed for e-waste dismantling and recycling in the existing and upcoming industrial park, estate and industrial clusters;

9. Department of Labour in the State or any other government agency authorized in this regard by the State Government need to ensure recognition and registration of workers involved in dismantling and recycling.

(2) Department of Labour in the State or any other government agency authorised in this regard by the State Government shall:

- a. ensure recognition and registration of workers involved in dismantling and recycling;
- b. assist formation of groups of such workers to facilitate setting up dismantling facilities;
- c. undertake industrial skill development activities for the workers involved in dismantling and recycling;
- d. undertake annual monitoring and to ensure safety & health of workers involved in dismantling and recycling;

10. State Government to prepare integrated plan for effective implementation of these provisions, and to submit annual report to Ministry of Environment, Forest and Climate Change.

(3) State Government to prepare integrated plan for effective implementation of these provisions, and to submit annual report to Ministry of Environment, Forest and Climate Change.

11. Liability for damages caused to the environment or third party due to improper management of e - waste including provision for levying financial penalty for violation of provisions of the Rules has also been introduced.

21. Liability of manufacturer, producer, importer, transporter, refurbisher, dismantler and recycler.- (1) The manufacturer, producer, importer, transporter, refurbisher, dismantler and recycler shall be liable for all damages caused to the environment or third party due to improper handling and management of the e-waste;

(2) The manufacturer, producer, importer, transporter, refurbisher, dismantler and recycler shall be liable to pay financial penalties as levied for any violation of the provisions under these rules by the State Pollution Control Board with the prior approval of the Central Pollution Control Board.

12. Urban Local Bodies (Municipal Committee/Council/Corporation) has been assign the duty to collect and channelized the orphan products to authorized dismantler or recycler.

24. Urban Local Bodies (Municipal Committee or Council or Corporation) shall ensure that e-waste pertaining to orphan products is collected and channelised to authorised dismantler or recycler.

13. The import of electrical and electronic equipment shall be allowed only to producers having Extended Producer Responsibility authorisation.

(3) the import of electrical and electronic equipment shall be allowed only to producers having Extended Producer Responsibility authorisation;

CA29. India's offset policy

Link: <https://theprint.in/defence/cag-report-flags-vendors-dilly-dallying-on-offsets-deals-cites-rafale-as-example/509229/>

The Comptroller and Auditor General (CAG) has recently questioned India's offset policy and came down heavily on foreign vendors for not fulfilling their offset commitments. In its report titled '**CAG's Performance Audit Report on Management of Defence Offset**', the CAG has pointed out that French aerospace major Dassault Aviation and European missile maker MBDA, which supplied armaments for the Rafale jets, **have not yet discharged their 30% offset obligation.**

The CAG has highlighted that most of the time Foreign vendors such as Dassault Aviation give commitment for offsets in order to win the tender, but later on do not fulfil their commitments. In this case, Dassault Aviation was required to transfer the technology to DRDO for the indigenous development of Kaveri Engine for the Light Combat Aircraft (LCA) Tejas. **However, it has failed to do so.**

The CAG has pointed out that between 2005-2018, 46 contracts with offset commitments worth Rs 66,000 crores was made by foreign vendors. However, so far only Rs 11,300 crore has been realized. Accordingly, there is a need to have a relook at our Defence Offset policy to promote indigenisation of defence Industry.

Understanding the Defence Offset Policy

- a. An offset is a mechanism to partially compensate for the significant outflow of a country's resources in large purchases of foreign goods and services by making the foreign supplier to invest in industry, or in research and development, etc. in the buyer country.
- b. The idea behind such a policy is to persuade foreign vendors to outsource orders, transfer technologies to Indian companies and invest in India. The objective is to create a strong local ecosystem for defence manufacturing and step up exports.
- c. India adopted the offset policy for defence capital purchases in 2005, according to which all capital purchases above Rs 300 crore through imports will have the foreign vendor invest at least 30% of the value of the purchase in India.
- d. As per the latest Defence Acquisition procedure 2020, offsets would be applicable in case of capital purchases of above Rs 2000 crores.

CA30. Centre retained ₹1.1 lakh cr. of cess receipts

Link: [https://www.thehindu.com/business/centre-retained-11-lakh-cr-of-cess-receipts/article32680256.ece#:~:text=The%20Centre%20retained%20in%20the,Comptroller%20and%20Auditor%20General%20\(CAG](https://www.thehindu.com/business/centre-retained-11-lakh-cr-of-cess-receipts/article32680256.ece#:~:text=The%20Centre%20retained%20in%20the,Comptroller%20and%20Auditor%20General%20(CAG)

News:

The Government has collected around Rs 2.75 lakh crores in 2018-19 through the imposition of various cesses. Usually, the proceeds of **such cess are initially credited to the Consolidated Fund of India** and later on, with the Parliament's approval, the proceeds are transferred to separate dedicated funds. However, **in a recent report, CAG has highlighted that Central Government has not transferred more than Rs 1.1 lakh crores to dedicated funds.** The proceeds have continued to remain part of consolidated fund of India.

Understanding Cess

A cess is considered to be "Tax on tax". It is levied by the government for a specific purpose. Cess collected for a particular reason has to go towards the purpose for which it was charged. It cannot be used for, or diverted, to other purposes. For example, Health and Education Cess is imposed at 4% on major central taxes such as Corporate Tax and Income Tax. It is to be used only for the promotion of education and health and cannot be diverted for other purposes.

How is it different from Tax?

Any tax collected goes into Consolidated Fund of India (CFI) which can be allocated for any purpose. However, **Cess is a different form of tax and may initially get credited to the CFI but has to be ultimately used for the purpose for which it is imposed.** In order to utilize the cess proceedings, the government has to create a dedicated fund. **The proceeds of such funds are non-lapsable.** Example: Prarambhik Shiksha kosh (Primary Education), Madhyamik and Uchchatar Shiksha kosh (Secondary and Higher Education).

Further, **unlike the normal taxes, Cess fund need not be shared by the Central Government with State Governments.** Government also resorts to Cess as it is easy to introduce, modify and abolish compared to normal taxes as any change in normal tax need to go through a lot of procedure. **Examples of some important Cesses in India**

Health and Education Cess: It is imposed at 4% on major central taxes such as Corporate Tax and Income Tax. The Government has set up separate funds such as Prarambhik Shiksha kosh (Primary Education) Madhyamik and Uchchatar Shiksha kosh (Secondary and Higher Education) to transfer the cess collected.

Cess on Crude oil: The Oil Industry (Development) Act, 1974 provides for collection of cess as a excise duty on indigenous crude oil. The cess was levied at Rs 60 per tone in July 1974 and subsequently revised from time to time. The Cess is currently levied at the rate of 20 per cent of the value of oil. The cess first gets credited to the Consolidated fund of India and from there it is transferred to Oil Industry Development Fund.

Cess on Bidi: It is provided under THE BEEDI WORKERS WELFARE CESS ACT, 1976. It is a form of excise duty which is imposed on the manufactured beedis. The proceeds of this cess is directly credited to the Consolidated fund of India and is used for the welfare of the bidi workers.

NOTE: Krishi Kalyan Cess, Clean Environment Cess, Swachh Bharat Cess have been subsumed under the GST through Taxation Laws Amendment Act 2017

CA31. SAFAR (System of Air Quality and Weather Forecasting and Research under the Central government)

Link: <https://www.thehindu.com/news/cities/Delhi/epca-chief-asks-punjab-haryana-to-act-against-stubble-burning/article32672708.ece#:~:text=The%20Supreme%20Court%2Dappointed%20Environment,address%20the%20issue%20%E2%80%9Curgently%E2%80%9D.>



According to a SAFAR (System of Air Quality and Weather Forecasting and Research under the Central government) estimate, early burning of crop residue is taking place in Punjab. The data is based on harmonizing the INSAT-3, 3D and NASA satellite, the fire counts were around 42 on September 21, 2020.

About SAFAR:

Govt. of India, has introduced a major national initiative, "*System of Air Quality and Weather Forecasting and Research*" known as "*SAFAR*" for greater metropolitan cities of India to provide **location specific information on air quality in near real time and its forecast 1-3 days in advance for the first time in India**. It has been combined with the early warning system on weather parameters.

Who has developed it?

The SAFAR system is developed by **Indian Institute of Tropical Meteorology, Pune, along with ESSO partner institutions namely India Meteorological Department (IMD) and National Centre for Medium Range Weather Forecasting (NCMRWF)**. The implementation of SAFAR is made possible with an active collaboration with local municipal corporations and various local educational institutions and governmental agencies in that Metro city.

The **ultimate objective of the project is to increase awareness** among general public regarding the air quality in their city well in advance so that appropriate mitigation measures and systematic action can be taken up for betterment of air quality and related health issues. It engineer's awareness drive by educating public, prompting self-mitigation and also to help develop mitigation strategies for policy makers.

How the monitoring is done?

Air Quality monitoring is not an easy task, the common mistake which any one can do is representing city air quality based on single station value or single hour data.

- a. To provide an AQI representative of a city, single station data is not suitable. It may even mislead as it will be biased towards a particular activity or environment. As per international guidelines, correct way to know ONE index for a city air quality is to consider different microenvironments.
- b. Based on scientific knowledge one should develop the methodology for the same. For a typical metro city Background; Commercial; Urban complex; Sub-urban; Residential; Industrial; Roadside; Traffic junction etc. **are the microenvironments which should be covered in the monitoring network.**

The SAFAR observational network of Air Quality Monitoring Stations (AQMS) and Automatic Weather Stations (AWS) established within city limits represents selected microenvironments of the city including industrial, residential, background/ cleaner, urban complex, agricultural zones etc. as per international guidelines which ensures the true representation of city environment.

What it measures?

Pollutants monitored: **PM1, PM2.5, PM10, Ozone, CO, NOx (NO, NO2), SO2, BC, Methane (CH4), Non-methane hydrocarbons (NMHC), VOC's, Benzene, Mercury**

Monitored Meteorological Parameters: **UV Radiation, Rainfall, Temperature, Humidity, Wind speed, Wind direction, solar radiation.**

This is the first of such kind of network in India which continuously monitors all these parameters and maintain up to date data base with robust quality control and quality assurance.

CA32. Environment Pollution Control Authority

Link: <https://www.thehindu.com/news/cities/Delhi/epca-raises-red-flag-over-jhilmil-industrial-area-anand-vihar-isbt/article32672373.ece>

News was: EPCA raises red flag over Jhilmil industrial area, Anand Vihar ISBT. **But EPCA is very important body. We need to know about this.**

The EPCA was constituted with the objective of protecting and improving the quality of the environment and preventing and controlling the environmental pollution in the National Capital Region, **under the provisions of the Environment (Protection) Act, 1986.** It was first constituted in 1988.

1. ✓ That in pursuance of this Hon'ble Court's directions issued vide its order dated 7th January, 1998 in Writ Petition 13029/85, [the Environment Pollution (Prevention and Control) Authority (hereinafter called 'EPCA') for the National Capital Region was constituted under sub-section (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 by Ministry of Environment, Forest and Climate Change (hereinafter called 'MoEF & CC') on 29.01.1998

So, it is a permanent body?

NO. Though it has existed for 20 years, its term is extended by specific notifications issued by the Government of India. **The latest notification is dated October 3, 2018**, when it was reconstituted by including new members.

10. The tenure of the Authority will be for a period of two year from the date of notification of the reconstitution of the Authority.

f

**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
ORDER**

New Delhi, the 3rd October, 2018

S.O.—Whereas in pursuance of the order dated the 7th January, 1998 of the Hon'ble Supreme Court in Writ Petition (C) No. 13029 of 1985, the Central Government constituted the Environment Pollution (Prevention and Control) Authority (hereafter in this notification referred to as the 'EPCA'), *vide* notification of the Government of India, in the erstwhile Ministry of Environment and Forests, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), *vide* number S.O.93 (E), dated the 29th January, 1998;

And whereas, the EPCA was constituted with the objective of protecting and improving the quality of the environment and preventing and controlling the environmental pollution in the National Capital Region;

And whereas, the EPCA is assisting the Hon'ble Supreme Court in various environment related matters in the National Capital Region in terms of the aforesaid notification;

And whereas, the tenure of the EPCA was extended from time to time by the Central Government and lastly it was extended up to 3rd October, 2018 *vide* notification of the Government of India, in the Ministry of Environment, Forests and Climate Change, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), *vide* number S.O. 3243(E), dated the 4th July, 2018;

EPCA was reconstituted with 20 members after the expiry of its last tenure in 2018.

1.	Shri Bhure Lal, Ex-Secretary, Government of India	Chairman
2.	Ms. Sunita Narain, Director General, Centre for Science and Environment, New Delhi	Member
3.	Secretary (Environment and Forests), Government of National Capital Territory of Delhi	Member

- a. The EPCA is also **mandated to enforce Graded Response Action Plan (GRAP)** in the city as per the pollution levels.
- b. The reason why **EPCA is an authority, and not just an advisory committee**, is because it has powers similar to those enjoyed by the Centre. Specifically, it can issue directions in writing to any person, officer or authority:
 3. The Authority shall, for controlling vehicular pollution, take all necessary steps to ensure compliance of specified emission standards by vehicles including proper calibration of the equipment for testing vehicular pollution, ensuring compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.
 4. The Authority shall, for ensuring maintenance of the prescribed ambient noise standards, have the power to issue directions under section 5 of the said Act, including banning or restricting any industry, process or operation emitting noise.
- c. If its directions are not followed, **it has powers to file criminal complaints** (under section 19 of the Act) before courts.
- d. The EPCA has been empowered to take **Suo motu action as well as on the basis of complaints** made by any individual, representative body or organisation functioning in the environmental issues sector.

- e. One of the EPCA's important powers is the **redressal of grievances through complaints.**

Other powers of EPCA:

- (a) exercise the powers under section 5 of the said Act for issuing directions in respect of complaints relating to the violation of an order by any authority or measure specified pertaining to-
- ✓ (i) standards for the quality of the environment in its various aspects;
 - ✓ (ii) standards for emission or discharge of environmental pollutants from various sources;
 - ✓ (iii) restriction of areas in which any industries, operations or processes of class of industries or process shall not be carried out or shall be carried out subject to certain safeguards;
 - ✓ (iv) procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents;
 - ✓ (v) procedures and safeguards for the handling of hazardous substances.

Others:

11. The Authority shall furnish a progress report about its activities once in a month to the Central Government.

12. The Authority shall have its headquarters in National Capital Region,

We have covered everything required for EPCA. Learn and enjoy.

CA33. Govt. unveils 2.6% hike in wheat MSP amid protests

Link: <https://www.thehindu.com/news/national/govt-announces-26-hike-for-wheat-msp-amid-farmers-protests/article32663652.ece>

Declaration of MSP:

The **Cabinet Committee on Economic Affairs (CCEA)** notifies MSP based on the recommendations of the **Commission on Agricultural Costs and Prices (CACP)**. These recommendations are made separately for the Kharif marketing season and the Rabi marketing season. Post harvesting, the government procures crops from farmers at the MSP notified for that season, in order to ensure remunerative prices to farmers for their produce.

The Commission for Agricultural Costs & Prices (CACP) is an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India. It came into existence in January 1965. Currently, the Commission comprises a Chairman, Member Secretary, one Member (Official) and two Members (Non-Official). The non-official members are representatives of the farming community and usually have an active association with the farming community.

As of now, CACP recommends MSPs of 23 commodities, which comprise 7 cereals (paddy, wheat, maize, sorghum, pearl millet, barley and ragi), 5 pulses (gram, tur, moong, urad, lentil), 7 oilseeds (groundnut, rapeseed-mustard, soyabean, seasmum, sunflower, safflower, nigerseed), and 4 commercial crops (copra, sugarcane, cotton and raw jute).

Dated: 21.09.2020

Commodity
Paddy Common #
Paddy (F)/Grade'A'
Jowar-Hybrid
Jowar-Maldandi
Bajra
Ragi
Maize
Tur (Arhar)
Moong
Urad
Groundnut
Sunflower Seed
Soyabean Black
Soyabean Yellow
Sesamum
Nigerseed
Medium Staple Cotton
Long Staple Cotton ^^
Wheat
Barley
Gram
Lentil (Masur)
Rapeseed/ mustard
Safflower
Jute (TD5)
Sugarcane
Copra (Milling)
Copra (Ball)

How are the MSPs fixed?

The CACP considers various factors such as the cost of cultivation and production, productivity of crops, and market prices for the determination of MSPs.

Different methodologies may be used to calculate the MSPs. These are **(i) A2 Approach, which includes cost of inputs such as seeds, fertilizer, labour;** **(ii) A2+FL Approach,**

which includes A2 and the implied cost of family labour (FL); and (iii) C2 Approach, which includes the implied rent on land and interest on capital assets and A2+FL.

Hence, C2 approach is considered to be the most comprehensive approach which can be used to calculate the MSP.

The National Commission on Farmers led by M.S. Swaminathan had recommended for the adoption of C2 Approach for fixing the MSP. However, presently, the MSPs are fixed at least **50% more than cost of production as calculated according to A2+FL approach.**

Limitations in the MSP Regime

The MSP Policy of the Government has come under immense criticism on account of number of reasons. These flaws with the MSP regime have been highlighted by number of committees such as the Committee on Doubling Farmers' income which was headed by Ashok Dalwai. Some of these fundamental flaws include:

- a. **Promoted Cultivation of Water Intensive Crops:** Even though, the Government declares MSP for 23 crops, the procurement is quite strong only for Rice and Wheat. The procurement of other commodities, particularly Pulses and Oilseeds is quite lower. Hence, it has incentivized the cultivation of more water intensive crops such as Rice and Wheat leading to an adverse impact on the Indian Agriculture.
- b. **Lack of Safeguards:** The present MSP regime is not geared to pay compensation to the farmers when they are forced to sell the agricultural commodities in the open market below the MSP. Ideally, the MSP regime should be able to compensate such farmers for the losses incurred.
- c. **Flawed Approach:** It has been stated that the fixing of MSP based on A2+FL approach would lead to declaration of lower MSP and hence does not adequately compensate the farmers. Accordingly, some of the economists have pointed out that the MSP should be declared based on the C2 Approach as recommended by Swaminathan Committee.
- d. **Benefitted only Large Farmers:** The Shanta Kumar Committee on FCI reforms has highlighted that the MSP procurement has benefitted only 6% of farmers in India. Hence, only the large farmers which higher surplus of agricultural commodities have got benefitted from MSP. The Small and marginal farmers who comprise of almost 83% of the farming community have failed to get benefitted from the MSP regime.
- e. **Undue delay:** In some of the cases, the Government has not been able to declare the MSPs as per the schedule. These delays in the announcement of the MSPs have not able to send the price signals to the farmers on time.

Way Forward

In order to address these problems associated with the MSP regime, the Government has unveiled the PM-AASHA scheme. The Government has to effectively implement the PM-

AASHA Scheme so as to improve the agricultural outcomes. Ultimately, the Government must realize that unless the prices received by the farmers increase, we would not be able to realize the vision of doubling farmers' income by the end of 2022. Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) is an umbrella scheme aimed at ensuring remunerative prices to the farmers for their produce.

CA34. Snakehead fish species found in Kerala a living fossil

Link: <https://theprint.in/science/snakehead-fish-species-found-in-kerala-a-living-fossil-belongs-to-unique-family-study-says/513846/>



A team of scientists have determined that a species of **snakehead fish discovered in the Western Ghats in Kerala** belongs to a unique family distinct from fish species found in the world.

- a. Named after the creature 'Gollum' from the epic fantasy novel **The Lord of The Rings**, authored by J.R.R. Tolkien, the Aenigmachanna gollum was studied by scientists from India, Germany, the United Kingdom and Switzerland. Their findings were published in Scientific Reports.
- b. Snakehead fish are freshwater species, usually found in Africa and Asia. They are predatory fish distinguished by their long dorsal fins, large mouths, and shiny teeth.
- c. What is most interesting about the Gollum snakehead, according to the study, is that scientists describe it as a **'living fossil'**.

CA35. Point of order

Link: <https://www.thehindu.com/opinion/editorial/a-point-of-order/article32663531.ece>

Rajya Sabha Deputy Chairman Harivansh's refusal to conduct a division of votes on two controversial pieces of legislation on Sunday, despite persistent demands from members, was unprecedented in its sheer brazenness.

During the point of order to be raised, he did not allow many members opposing the "anti-farmer bill" to even speak, purported to extend the session beyond 1pm on September 20. As per the convention of parliament, the House functions with the consensus of all political parties. This was specifically pointed out by Leader of Opposition Ghulam Nabi Azad.

In parliamentary procedure, **a point of order occurs when someone draws attention to a rules violation in a meeting of a deliberative assembly.**

POINTS OF ORDER

What is a Point of Order?

A point of order is an extraordinary process which, when raised, has the effect of suspending the proceedings before the House and the member who is on her/his legs gives way. This is meant to assist the Speaker in enforcing the Rules, Directions and provisions of the Constitution for regulating the business of the House. It should essentially refer to procedure and relate to the business before the House at the moment. Also, it should relate to arrangement of items already included in the List of Business for the day.

What is a Point of Order?

- a. **Any member** can and should bring to the Chair's immediate notice any instance of what he considers a **breach of order or a transgression of any written or unwritten law of the House** which the Chair has not perceived, and he may also **ask for the guidance and assistance of the Chair** regarding any obscurities in procedure.
- b. A member is entitled, in such cases only, to interrupt proceedings of the House by rising and saying, **'On a point of order, Mr. Chairman'** and then to state the point in question concisely before him.
- c. However, there is often some doubt amongst members as to what exactly constitutes a point of order, and the Presiding Officer **often replies that the point in question is not a point of order.**

Provision in the Rajya Sabha (news is about Rajya Sabha) Rules regarding points of order

Rule 258 of the Rules of Procedure and Conduct of Business in Rajya Sabha makes a provision to enable a member to raise a point of order. It provides as follows:

- a. Any member may at any time submit a point of order for the decision of the Chairman, but in doing so, shall confine himself to stating the point.
- b. The **Chairman shall decide** all points of order which may arise, **and his decision shall be final.**

Point of Order is also raised on similar line in Lok Sabha.

CA36. Laws regarding Hate Speeches in India and world

Understand the news first.

Recently **Sudarshan News**, a Hindi news-channel announced the telecast of a TV show with its Editor-in-Chief Suresh Chavhanke, claiming to have done an expose of alleged infiltration of the Muslim community into Civil Services and also termed it as 'Bureaucracy Jihad'. Certain sections of the society have termed this program as a case of hate speech. The Students of Jamia Millia Islamia university approached the Delhi High Court, which issued a stay on the telecast of the Programme.

Sudarshan News telecasting a program about Muslims infiltrating the Civil Services has once again ignited the debate on Hate Speech. Meanwhile, the government of India also issued a show cause notice to Sudarshan TV under the Cable Television Network Act.

While one side of the argument in this case is that the contents of the program fall under hate speech targeting a particular community, there are others who feel that a prior restraint on the telecast of this program is a violation of the free speech rights. The Supreme Court is set to hear this issue again on 05 October 2020.

As the Supreme Court discusses this issue, **we take a look at laws** and regulation regarding hate speech in India, along with the regulations internationally.

Constitution provides for reasonable restriction on Right to Freedom of Speech

Article 19(1)(a) of the Constitution of India guarantees the 'Right to Freedom of Speech and Expression' to all its citizens. While the constitution does not permit any arbitrary restrictions on freedom of speech, there are certain reasonable restrictions or limitations on free speech the details of which are mentioned in Article 19(2).

✓³[(2) Nothing in sub-clause (a) of clause (1) shall affect the operation of any existing law, or prevent the State from making any law, in so far as such law imposes reasonable restrictions on the exercise of the right conferred by the said sub-clause in the interests of ⁴[the sovereignty and integrity of India,] the security of the State, friendly relations with foreign States, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence.]

It provides for the following three important things that ought to be considered before imposing any restrictions on Freedom of speech:

- The speech cannot be restricted for any reason not mentioned in Article 19(2).
- The restrictions on speech must be reasonable
- The restrictions may be imposed only 'in the interests of' certain specified grounds.

The current provisions in Article 19(2) were included in the constitution via the first ever amendment, the Constitution (First Amendment) Act, 1951 and the Constitution (Sixteenth Amendment) Act, 1963 to enable legislature to impose 'reasonable' restrictions on free speech. These restrictions are the following.

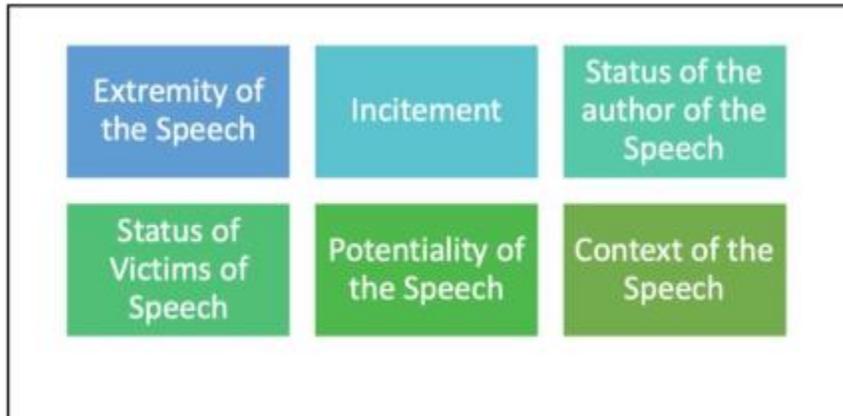
- In the interest of security of the State and sovereignty and integrity of India
- In the interest of friendly relations with foreign States
- In the interest of Public order Decency of morality or in relation to contempt of court, defamation or incitement of an offence.

While no law in India defines 'Hate Speech', there are certain legal provisions and legislations that prohibit select forms of speech as exceptions to freedom of speech.

Legislation	Section of Law	Details
Indian Penal Code (IPC)	124A	Sedition
	153A	Promotion of enmity between different groups on basis of – religion, race, place of birth, residence, language etc. and doing acts prejudicial to maintenance of harmony
	153B	Imputations, assertions prejudicial to national integration
	295A	Deliberate and malicious acts intended to outrage religious feelings of any class by insulting its religion or religious beliefs.
	298	Uttering, words etc. with deliberate intent to wound the religious feelings of any person
	505 (1) & (2)	Publication or circulation of any statement, rumour or report causing public mischief and enmity, hatred or ill-will between classes.
Representation of the People Act, 1951	8	Disqualification of a person from contesting election if convicted for indulging in acts amounting to illegitimate use of freedom of speech and expression
	123(3A) & 125	Prohibits promotion of enmity on grounds of religion, race, caste, community or language in connection with election as a corrupt electoral practice.
Protection of Civil Rights Act, 1955	7	Incitement to and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.
Religious Institutions (Prevention of Misuse) Act, 1988	3(g)	Prohibits religious institutions (or its manager) to allow the use of any premises belonging or under their control for – promoting disharmony, hatred, ill-will between different religious, racial, language, regional groups, castes or communities.
The Cable Television Network Regulation Act, 1995	5,6,7	Prohibits transmission or retransmission of a programme through cable network in contravention with the prescribed programme code or advertainment code.
Cinematograph Act, 1952	4, 5B, 7	Empowers Board of Film Certification to prohibit and regulate the screening of a film.
Code of Criminal Procedure, 1973	95	Empowers State Government to forfeit publications that are punishable under (Sections – 124 A, 153A, 153B, 292, 293 or 295 A of IPC)
	107	Empowers Executive Magistrate to prevent a person from committing a breach of the peace or disturb the public tranquillity.
	144	Empowers District magistrate/Sub divisional magistrate to issue order in urgent cases of nuisance or apprehended danger.

Law Commission advises on criteria to determine Hate speech

The Law Commission of India in its Report on Hate Speech has identified [criteria](#) that can be used to determine Hate speech based on summarizing the different State jurisdictions:



In order to identify hate speech, recognize differentiate and control it, various countries are party to various international conventions or have evolved laws in the respective countries:

Universal Declaration of Human Rights (UDHR)	Article 7 – Right to be protected against any form of discrimination and against incitement to discrimination. Article 29 – defines the limitations applicable for Standard of equality.
International Covenant on Civil and Political Rights (ICCPR)	Article 19 & Article 20 advocate for Free Speech and also requires states to advocate prohibition of hatred. India has signed and ratified ICCPR.
The International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)	Article 4 condemns all propaganda which is based on ideas of superiority of one race/group/ethnicity etc. over others.
The Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)	This Convention which has 189 parties (along with India) condemns any gender-based discrimination and in 2014 recommended all the States that are party to convention to take measures where Social Media can be used for dissemination. It further made recommendations to prevent stereotypical portrayal of women.

In many countries including India, the challenge with codification of Hate Speech **is to balance it with right to the Freedom of Expression that is guaranteed to its citizens.** It is also important to ensure that the **freedom is not put to indiscriminate use**, especially by those who are powerful and thereby compromising and infringing on the rights of the disadvantaged communities. **Let's see in coming verdict, what SC says.**

CA37. Technology Vision for Cyber Security for Urban Cooperative Banks (UCBs) 2020-23

Link: <https://www.rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=1159>

The RBI has recently come out with a document titled as "**Technology Vision for Cyber Security for Urban Cooperative Banks (UCBs) 2020-23**". This vision document aims at enhancing cyber security of the UCBs.

It envisages to achieve its objective through a five-pillared strategic approach **GUARD-Governance Oversight, Utile Technology Investment, Appropriate Regulation and**

Supervision, Robust Collaboration and Developing necessary IT, cyber security skills set.

'Vision for Cyber Security' for UCBs – 2023

Enhancing the cyber security posture of the Urban Co-operative banking sector against evolving IT and cyber threat environment through a five-pillared strategic approach GUARD., viz., - Governance Oversight, Utile Technology Investment, Appropriate Regulation and Supervision, Robust Collaboration and Developing necessary IT, cyber security skills set.

To accomplish the Vision, the Mission is established with following action points:

Mission – Specific Action Points

Governance Oversight

- i. Focus on Board Oversight over Cyber security
- ii. IT Vision document

Utile Technology Investment

- iii. Creation of reserve/ fund for implementation of IT/ cyber security projects
- iv. Management of Business IT Assets
- v. Banking Services Availability

Appropriate Regulation and Supervision

- vi. Supervisory reporting framework
- vii. Appropriate guidance in implementing secure practices

Robust Collaboration

- viii. Forum to share best Practices and discuss practical issues and challenges
- ix. CISO Forum for UCBs
- x. Adoption of Cloud Services – Phase I

Developing necessary IT, cyber security skills set

- xi. Imparting technical Skills to manage IT and Cyber Security
- xii. Providing awareness/ training for all UCBs on cyber security

The implementation of the approach outlined in this Technology Vision document will strengthen the cyber resilience of the Urban Co-operative Banks.

Importance

According to some of the estimates, In the last 5 years, the Urban cooperative banks have reported nearly 1000 cases of fraud worth more than Rs 220 crores. This failure of the UCBs is attributed to mainly two reasons:

- Dual regulation by the RBI and Registrar of Cooperative Societies. This has been addressed through the passage of banking Regulation (Amendment) Bill 2020.
- Poor adoption of Cybersecurity measures. This has been addressed through GUARD approach.

CA38. Regional Rapid Transit System (RRTS)

Link: <https://timesofindia.indiatimes.com/india/indias-first-rrts-train-with-design-speed-of-180-kmph-unveiled-to-have-business-class/articleshow/78321755.cms>

A subjective topic. This topic of Regional Transit System is important form the perspective of GS 1 mains syllabus: **Urbanization, their problems and their remedies.**

The first look of Regional Rapid Transit System (RRTS) trains was unveiled. The state-of-the-art RRTS rolling stock will be the first-of-its-kind in the country with a design speed of 180 kmph, said the National Capital Region Transport Corporation (NCRTC).

The entire rolling stock for the 82-km-long Delhi-Ghaziabad-Meerut RRTS corridor, the first such corridor being implemented in India aimed to bring down travel time between Delhi and Meerut to an hour (one-third of the 3-4 hours taken by road), will be manufactured at Bombardier's Savli plant in Gujarat.

So, in this regard we will understand the RTS, its need and the benefits derived from it. What is Rapid Transit System?

Rapid transit or mass rapid transit (MRT), also known as heavy rail, metro, subway, tube, U-Bahn, metropolitan or underground, is a type of high-capacity public transport generally found in urban areas.

Why do we need RRTS?

The National Capital Region (NCR) has grown over the years to cover parts of states around Delhi namely, Haryana, Uttar Pradesh and Rajasthan. Today the total area which falls under NCR is about 55,083 km² with the total population of over 46 million (4.6 crores) (Census 2011). The region has seen a decadal population growth of ~24% between 2001 and 2011. Entire NCR is an urban agglomeration with an urbanization of about 62%.

Further, in 2007, the number of Passenger vehicles crossing Delhi borders breached 1,100,000 (Eleven Lakhs) per day. This has triggered the need to have effective regional public transport system on a priority.

So, if you consider the Urban areas, the problems faced by the residents are:

- Excessive travels times because
- Long distances of Urban sprawls
- Congestion due to incapacity of roads
- Excessive Pollution
- Creating health problems
- Loss of economic activity
- Due to increased cost and timing
- Deters agglomeration

What are the benefits?

Enhanced Economic Activities

- A high-speed, comfortable and affordable mode of transport like RRTS has the potential to change the movement patterns of people and usher-in economic development across the region.
- With reduced travel times, the overall productivity of the region would improve, leading to improved overall economic activity leading to balanced economic development.
- The RRTS would lead to a polycentric economic development in a uniform manner across the region.

Lower Emissions

- With a reduced number of private vehicles and shift towards clean transportation system like RRTS, fuel consumption is expected to go down. Low fuel consumption means lower emissions and less pollution.

Easing of Road Congestion

RRTS has capacity to ferry a larger number of people per hour. RRTS, which could shift a large amount of traffic from road to rail could free up a lot of road space and ease congestion on highways across the NCR.

CA39. Dams affecting the gene flow of golden mahseer in the Himalayas

Link: <https://india.mongabay.com/2020/10/how-dams-affect-the-gene-flow-of-golden-mahseer-in-the-himalayas/>

Scientists have **found close genetic relationships between populations of the golden mahseer, an iconic freshwater fish in Indian rivers Bhagirathi and Ganga**, while significant genetic differentiation was observed between Alaknanda and Yamuna populations.

In the study, conducted by scientists from the Wildlife Institute of India, the authors proposed establishing a microscale protected area near breeding sites of golden mahseer and the construction of a fish pass in dams to allow dispersal of golden mahseer and maintain genetic connectivity.

About Golden Mahseer

The **golden mahseer (Tor putitora), known for their striking golden hues, are large-bodied fish that have reached weights greater than 50 kg and lengths of over 200 centimetres**. Consequently, they are popular as sport fish. Found in cold-water habitats of the Himalayan region, the presence of the endangered golden mahseer, **a flagship species**,

indicates healthy freshwater ecosystems. The fish is very sensitive to change in water temperature; therefore, small climatic fluctuation may lead to a change in its genetic structure.



Length:

Maximum size recorded- 2.74 m



Weight:

Maximum recorded- 50 kg



Status:

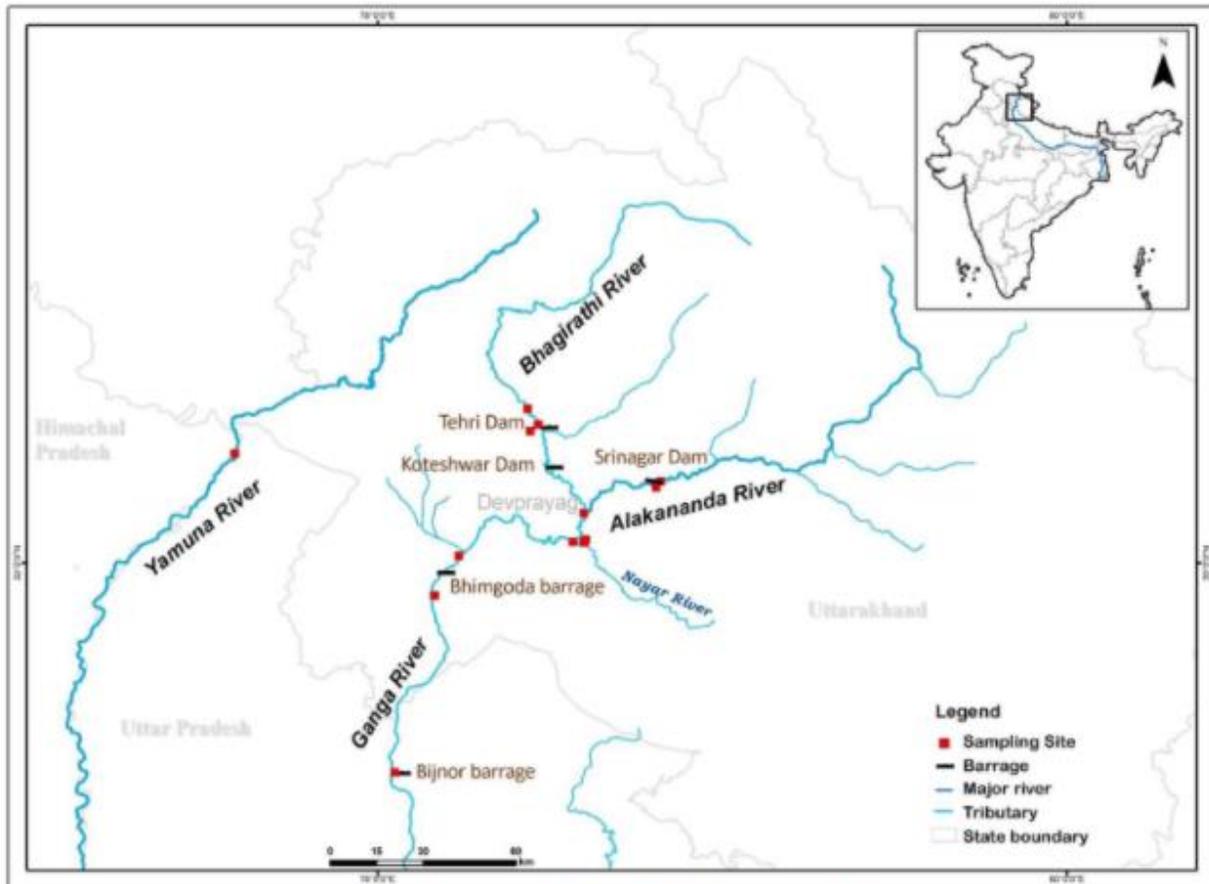
Listed as endangered on IUCN Red List.



Golden mahseer is “naturally distributed” throughout the rivers (and associated reservoirs) of the south Himalayan drainage (**the Indus, Ganges-Yamuna and Brahmaputra**) from Pakistan (also unverified reports from Afghanistan) in the west to Myanmar in the east. Records are also available from several river systems and associated reservoirs in the Mahanadi (previously recorded as *Tor mosal mahanadicus*) and the Krishna (as a consequence of captive breeding and stocking from hatcheries) located south of the Himalayan landscape.

What is the problem?

Dams and barrages across rivers **disrupt ‘longitudinal connectivity’ or the free flow of water, sediment, and organisms.** These barriers limit the dispersal of species and create isolated microhabitats. Previous studies have shown that the barrier effect caused by Tehri dam, located at the confluence of Bhagirathi and Bhilangana, has **resulted in a decline in the populations of mahseer upstream of Bhagirathi river.** A citizen’s report, ‘Rejuvenating Ganga released in 2019 claimed that the Ganga is being “bled at almost 1000 diversion points” in its basin. And still more diversionary proposals are on the drawing boards. Two major dams, at Tehri and Koteshwar, have been constructed across the Bhagirathi, whereas the Srinagar dam is constructed across the Alaknanda in Uttarakhand.



Sampling sites of golden mahseer. Photo by Yadav et al. 2020

Gupta and Hussain's team, which included researchers Prabhaker Yadav and Ajit Kumar, investigated how river connectivity and structures such as dams and barrages affect the population genetic structure, gene flow, and demography of golden mahseer populations found in four Himalayan rivers, the Ganga, and its tributaries, Bhagirathi, Alaknanda, and Yamuna. They focused on a gene called Cytochrome *b* found in mitochondria, maternally-inherited organelles, and tracts of repetitive DNA sequences called microsatellite markers.

Genetic diversity of river populations: conclusion

The team found a structuring pattern in golden mahseer populations at the microsatellite level with three genetic clusters in the Ganga-Bhagirathi, Alaknanda and Yamuna. Close genetic relationships were observed between Bhagirathi and Ganga populations whereas significant levels of genetic differentiation were seen among Alaknanda and Yamuna populations. The close genetic relationship of Bhagirathi and Ganga populations might be due to the high rate of unidirectional migration of golden mahseer from the Bhagirathi river (to the Ganga).

This movement due to the availability of high-water levels in the upper region of Tehri dam across the Bhagirathi that replenishes the major golden mahseer stock in the Ganga river.

✓ A low rate of migration of golden mahseer was observed from the Alaknanda into the Ganga and isolation of stocks in the upstream region of the Alaknanda. Gupta explains that this may be because of the presence of the Srinagar dam across Alaknanda with parallel inside tunnel and channel. "It resulted in a low water level in the downstream of the dam that leads to a patchy area and unfavorable conditions for the mahseer."

✓ Physical differences in flow, depth, and other features in a river result in a diverse range of potential niches for aquatic organisms. The distributions of fish and other organisms tend to form a patchy mosaic that shifts and responds dynamically to high-water events, explained Gupta. For fish, he said a patchy area signifies "fragmented niche due to low water level and unsuitable habitat."

Suggestions:

As the study found evidence of unidirectional gene flow of fish populations from the Bhagirathi to the Ganga and a low migration rate from Alaknanda to the Ganga, **the authors call for the creation of 'fish passes' to maintain genetic connectivity of aquatic species in Himalayan rivers. Such passes would facilitate more fish to migrate towards the Ganga and also back upstream, enhancing genetic diversity.** Also known as fishways, **fish passes** are structures built on or around dams or weirs that allow fish to migrate past the obstruction. They "play a pivotal role in enabling aquatic fauna to overcome obstacles blocking their inter and intra-river journeys,

CA40. Bio-decomposer technique will curb stubble burning pollution

Link: <https://www.thehindu.com/news/cities/Delhi/bio-decomposer-technique-will-curb-stubble-burning-pollution/article32689736.ece#:~:text=Chief%20Minister%20Arvind%20Kejriwal%20visited,due%20to%20crop%20stubble%20burning.>

DELHI

'Bio-decomposer technique will curb stubble burning pollution'



SPECIAL CORRESPONDENT

NEW DELHI, SEPTEMBER 24, 2020 23:51 IST
 UPDATED: SEPTEMBER 24, 2020 23:51 IST

Pusa Agricultural Institute has developed a new and innovative bio-decomposer technique of converting crop stubble into compost, which is deemed a cost-effective way to deal with air pollution caused due to crop stubble burning.

The technology, called 'Pusa Decomposer', involves making a liquid formulation using decomposer capsules and readily available inputs (jaggery and chickpea flour), fermenting it over 8-10 days and then spraying the mixture on fields with crop stubble to ensure speedy bio-decomposition of the stubble.

How it works?

- Pusa Agricultural Institute has made capsules, with the help of which the farmers can prepare 25 litre of liquid mixture with jaggery and chickpea flour. This is sufficient to cover 1 hectare of land.
- When the farmer sprays the liquid mix on the stubble, the stubble softens and melts down in 20 days.
- The farmer can then begin sowing again and he does not need to burn the crop stubble.
- The soil loses its richness due to stubble burning and it also destroys the useful bacteria and fungi in the soil, apart from causing harm to the environment.
- Bio-decomposer technique improves the fertility and productivity of the soil as the stubble works as manure and compost for the crops and lesser fertiliser consumption is required in the future.

Delhi and many other North Indian States are covered with smoke due to stubble burning in the neighbouring States by the farmers. Bio-decomposer technique ('Pusa Decomposer') can become a practical solution to the problem.

The cost of the capsule is very less. It is simple, doable and practical technique to stop stubble burning.

CA 41. Latest report on Fluorosis in India

Link: <http://164.100.24.220/loksabhaquestions/annex/174/AU895.pdf>

Data was recently provided in Lok Sabha and we have good news. The data indicates that the number of fluorides affected habitations have decreased by almost 80% in the last 10 years. Five-states make up for more than 80% of the affected habitations as on date. Despite the significant progress, thousands are still susceptible to the disease and there are 1.2 million suspected cases of fluorosis in the country.

Learn about Fluorosis first:

Fluoride is beneficial to humans when consumed at optimum levels as it helps prevent dental caries. However, exposure to fluoride in high concentrations frequently results in damage to the bones and teeth of humans.

Fluorosis

The disease and how it affects people

Ingestion of excess fluoride, most commonly in drinking-water, can cause fluorosis which affects the teeth and bones. Moderate amounts lead to dental effects, but long-term ingestion of large amounts can lead to potentially severe skeletal problems. Paradoxically, low levels of fluoride intake help to prevent dental caries. The control of drinking-water quality is therefore critical in preventing fluorosis. The condition and its effect on people Fluorosis is caused by excessive intake of fluoride. The dental effects of fluorosis develop much earlier than the skeletal effects in people exposed to large amounts of fluoride. Clinical dental fluorosis is characterized by staining and pitting of the teeth. In more severe cases all the enamel may be damaged. However, fluoride may not be the only cause of dental enamel defects. Enamel opacities similar to dental fluorosis are associated with other conditions, such as malnutrition with deficiency of vitamins D and A or a low protein-energy diet. Ingestion of fluoride after six years of age will not cause dental fluorosis.

Both natural and human activities release fluoride into the atmosphere

pesticides and industrial waste. The details of both of the sources are discussed below [15].

2.1. Anthropogenic

The major anthropogenic sources of fluoride pollution in water are instinctive use of phosphate fertilizers [16]. This is very common in developing countries such as India. Aluminum melting, glass, phosphate fertilizer, brick manufacturing and coal-based thermal also give fluoride into the environment [17]. Irrigation by fluoride-enriched water also contributes fluoride into groundwater [18]. It is estimated that up to 0.34 mg/L of fluoride can be contributed by the use of superphosphate fertilizers in agricultural land [19]. Areas nearby brick oven productions also show a higher concentration of fluoride in groundwater [20]. Clay used in the manufacture of bricks contains several hundred ppm of fluoride [21]. A research in the Republic of South Africa has shown that underground mine waters may contain high fluoride concentration of levels beyond 3 mg/L [22].

2.2. Mineral Extraction

Mineral process actions can also products significant fluoride pollution, both from direct extraction processes (which typically entail size reduction - greatly increasing the surface area for mass transfer - and generate effluents) as well as through leaching from ore and tailings stockpiles [23].

2.3. Mobilization of Fluoride

The concentration of fluoride in natural water depends on many factors. This includes temperature pH [24], solubility of fluorine-bearing minerals anion exchange between hydroxyl and fluoride ions, water residence time and the geological formations [25]. The process of mobilization is still unclear, but the most common mechanism for fluoride mobilization is displacement of fluoride ions (F-) by hydroxyl ions (OH-) [26, 27] Temperature and residence time speed up the dissolution of fluorine bearing minerals present in the rocks [28].

Naturally, weathering of rocks rich in Fluoride ends up in the groundwater, mainly in arid and semi-arid regions. At the foot of high mountains and in areas where the sea has made geological deposits, the concentration of Fluoride is generally higher. Apart from this,

emission of fly ash and use of phosphate containing fertilizers which also end up in water sources result in contamination of the water bodies. Other industrial activities such as cement production and aluminum smelting, also release fluoride into the environment.

17 states in India have been affected by Fluoride contaminated drinking water

As per the latest data presented in the Lok Sabha in September 2020, a total of 5,485 habitations across 17 states are affected by fluoride contamination in drinking water across India. According to the Bureau of Indian Standards, the desirable limit of fluoride is 1 part per million or 1 milligram per litre. Nearly 54% of these affected habitations are in Rajasthan (2,956).

State-wise details of Fluoride-affected habitations

(As on 13.09.2020)

S. No.	State	Number of Fluoride-affected habitations
1.	Andhra Pradesh	111
2.	Assam	33
3.	Bihar	861
4.	Chhattisgarh	154
5.	Haryana	33
6.	Jammu & Kashmir	2
7.	Jharkhand	81
8.	Karnataka	177
9.	Kerala	15
10.	Madhya Pradesh	276
11.	Maharashtra	29
12.	Odisha	69
13.	Punjab	211
14.	Rajasthan	2,956
15.	Tamil Nadu	236
16.	Uttar Pradesh	72
17.	West Bengal	169

Source: IMIS, DDWS

In the last 10 years, the area affected by contamination has reduced

On a positive note, there has been a decline in the number of habitations affected by fluoride in drinking water in 2020, **as compared to 2015**.

Annex-I referred in the reply to Lok Sabha Unstarred Question No. 838 due for reply on 17.09.2020

State-wise details of habitations having Arsenic and Fluoride-affected drinking water sources

S. No.	State Name	As on 01.04.2015		As on 01.08.2020	
		No. of Arsenic-affected Habitations	No. of Fluoride-affected Habitations	No. of Arsenic-affected Habitations	No. of Fluoride-affected Habitations
1.	Andhra Pradesh	0	402	0	111
2.	Assam	290	112	2,006	34
3.	Bihar	66	498	405	861
4.	Chhattisgarh	0	78	0	154
5.	Gujarat	0	6	0	0
6.	Haryana	0	10	0	33
7.	Jammu & Kashmir	0	1	0	2
8.	Jharkhand	0	10	2	81
9.	Karnataka	9	225	0	177
10.	Kerala	0	95	0	15
11.	Madhya Pradesh	0	405	0	280
12.	Maharashtra	0	191	0	30
13.	Odisha	0	252	0	69
14.	Punjab	178	257	616	211
15.	Rajasthan	0	7,056	0	3,095
16.	Tamil Nadu	0	0	0	236
17.	Telangana	0	967	0	0
18.	Uttar Pradesh	39	145	164	72
19.	Uttarakhand	0	2	0	0
20.	West Bengal	1,218	1,015	1,395	171

[Source: IMIS, DDWS]

Telangana, Uttarakhand, and Gujarat reported zero fluoride affected habitations in 2020

The three states of **Telangana, Gujarat & Uttarakhand** which reported fluoride affected habitations in 2015 have now reported that no habitation is fluoride affected in their respective states. The 2020 data indicates zero affected habitations in these states.

State-wise details of habitations having Arsenic and Fluoride-affected drinking water sources

S. No.	State Name	As on 01.04.2015		As on 01.08.2020	
		No. of Arsenic-affected Habitations	No. of Fluoride-affected Habitations	No. of Arsenic-affected Habitations	No. of Fluoride-affected Habitations
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2.	Assam	290	112	2,006	34
3.	Bihar	66	498	405	861
4.	Chhattisgarh	0	78	0	154
5.	Gujarat ✓	0	6	0	0 ✓
6.	Haryana	0	10	0	33
7.	Jammu & Kashmir	0	1	0	2
8.	Jharkhand	0	10	2	81
9.	Karnataka	9	1,225	0	177
10.	Kerala	0	95	0	15
11.	Madhya Pradesh	0	405	0	280
12.	Maharashtra	0	191	0	30
13.	Odisha	0	252	0	69
14.	Punjab	178	257	616	211
15.	Rajasthan	0	7,056	0	3,095
16.	Tamil Nadu	0	0	0	236
17.	Telangana ✓	0	967	0	0 ✓
18.	Uttar Pradesh	39	145	164	72
19.	Uttarakhand ✓	0	2	0	0 ✓
20.	West Bengal	1,218	1,015	1,395	171

[Source: IMIS, DDWS]

Karnataka accounts for lion's share of fluorosis cases in India

The number of suspected cases of Fluorosis reported across states shows that Karnataka accounts for nearly 60% of the dental fluorosis cases at the community level in India. It also accounts for more 72% of the skeletal fluorosis cases reported at the community level and 77% of the dental fluorosis cases at the school level across the country.

Suspected Cases of Dental and Skeletal Fluorosis Under National Programme for Prevention and Control of Fluorosis (NPPCF)

S.N.	State/UTs	Community			School	
		Total Examined	Suspected Dental Cases	Suspected Skeletal Cases	Total Examined	Suspected Dental Cases
1	Andhra Pradesh	163419	24120	404	20847	10128
2	Assam	37004	5333	480	3068	911
3	Bihar	8740	5270	1606	6250	1650
4	Chhattisgarh	6796	2579	272	2995	1115
6	Gujarat	9400	1320	657	48142	5473
7	Haryana	7853	2949	66	5476	2669
8	Jammu and Kashmir	N.A.	N.A.	N.A.	N.A.	N.A.
9	Jharkhand	4931	1378	281	12531	1506
10	Karnataka	1336380	553477	199462	1105938	401109
11	Kerala	21178	1475	43	64040	13084
12	Madhya Pradesh	44760	20532	431	73579	26078
13	Maharashtra	4424437	6011	1355	535504	4940
14	Odisha	102992	6663	3728	N.A.	N.A.
15	Punjab	38920	4612	58	32840	7297
16	Rajasthan	535449	247322	39081	314530	N.A.
17	Tamil Nadu	41437	19948	13834	2471	16890
18	Telangana	12885	4920	3223	5119	2776
19	Uttar Pradesh	14876	3984	588	3734	2437
20	West Bengal	37147	12688	9765	39598	22731
Total:		6848604	924581	275334	2276662	520794

National Programme for Prevention and Control of Fluorosis was launched in 2009

Programme coverage: The Government of India started the National Programme for Prevention and Control of Fluorosis (NPPCF) as a new health initiative in the 11th Five Year Plan (2008-09) with the aim to prevent and control Fluorosis in the country. 100 districts of 17 States were covered during 11th Plan and additional 32 districts have been covered during the 12th Five Year Plan. State wise list of districts under implementation of NPPCF is at

In the year 2009, Government of India rolled out a national programme for the prevention and control of fluorosis (NPPCF). The plan has targeted around 200 districts across 17 states by focusing on diagnostic activities, treatment, and rehabilitation at village and district level. Under the programme, the central government extends financial and technical support to States to strengthen their healthcare systems based on the requirements submitted by the States in their Programme Implementation Plans.

CA42. Azerbaijan and Armenia Dispute over Nagorno-Karabakh region.

Link: <https://www.thehindu.com/news/international/the-hindu-explains-whats-behind-the-armenia-azerbaijan-clashes/article32723277.ece>

Please don't start reading history of it. Once upon a time.....No. Just read what we have provided. That is only required.

One of the world's oldest conflicts, a territorial dispute between Armenia and Azerbaijan, has re-erupted with the heaviest clashes in years. At least 23 people were reported to have been killed as the two ex-Soviet republics battled over the **Nagorno-Karabakh region**.



Nagorno-Karabakh is at the centre of an ethnic and territorial conflict between the two countries that dates back to the early 20th century. A breakaway Armenian-majority region inside Azerbaijan, Nagorno-Karabakh has around 150,000 inhabitants. Armenia is majority Christian, while Azerbaijan is majority Muslim.

Though it is **part of Azerbaijan**, Nagorno-Karabakh is run by separatist Armenians supported by the Armenian government. They have **sought for decades to split from Azerbaijan** and become part of Armenia, though unsuccessfully. In the 1990s, the region broke away from Azerbaijan, **but has yet to be recognised by any country in the world.**



Geopolitics:

Russia

Russia has good relations with both Armenia and Azerbaijan, but it also has a defence alliance with Armenia, as both are members of the Collective Security Treaty Organisation (CSTO) and Russia has a military base in Armenia. Moscow has acted as the main mediator between the two countries for years, with its attempts so far largely unsuccessful.

Iran

Shia-Muslim majority Iran shares its northern borders with Azerbaijan and Armenia. While Azerbaijan has the same religious majority as Iran, the latter is reportedly backing Armenia due to trade ties with Yerevan (capital of Armenia) as well as Tehran's political alliance with Russia.

Turkey

Turkey supports Azerbaijan, not least because of cultural and linguistic ties between the two countries. Ankara was the first to recognize Azerbaijan after its independence from the Soviet Union in 1991. On the other hand, Turkey has strained relations with Armenia, rooted in Armenian genocide accusations against the Ottoman empire. The two countries have no official diplomatic relations. During the war between Armenia and Azerbaijan over Nagorno-Karabakh in 1993, Turkey closed its borders with Armenia in support for Baku.

CA43. Sandalwood Spike Disease (SSD)

Link: <https://www.thehindu.com/news/cities/bangalore/invisible-killer-threatens-indias-sandalwood-forests/article32709703.ece>

India's sandalwood trees are facing a serious threat due to **Sandalwood Spike Disease (SSD)**. The natural population of sandalwood in Marymoor Sandal Forest of Kerala and various reserve forests in Karnataka, including MM Hills (Malai Mahadeshwara Wildlife Sanctuary), are heavily infected with SSD.



About the disease:

- a. The disease is caused by **phytoplasma** — bacterial parasites of plant tissues — which are transmitted by insect vectors.
- b. Since there is no cure as of now for SSD, **the only option is to cut down and remove the infected tree** to prevent the spread of the disease.
- c. SSD has been one of the major causes for the decline in sandalwood production in the country for over a century.
- d. The disease was first reported in Kodagu in 1899.
- e. The present rapid spread of the infection is largely due to restrictions on green felling in forests, which has allowed vectors to spread the disease to healthy trees.
- f. It is very difficult to identify the symptoms of SSD until the tree gets completely affected.

Recent Steps: In an effort to combat the killer disease, the Institute of Wood Science and Technology (IWST), Bangalore will join hands with the Pune-based National Centre for Cell Sciences for a three-year study, initiated by the Union Ministry of AYUSH with a financial allocation of Rs. 50 lakhs.

About Indian Sandalwood:

Santalum album L. popularly known as Indian sandalwood, “**Srigandha**” or “**Chandana**” has been the most valuable timber in India known for its religious and cultural value since time immemorial. It is deeply associated with the social rituals of Indians and has held a special place in all the major religions of India.

The significance of Indian sandalwood and its intimate association with Indians is greatly reflected in written records and oral traditions of India. The heartwood is highly priced for its **enriched aromatic essential oil in national and international markets**. The oil is used in aroma therapy, cosmetics, perfumes, pharmaceuticals and as an essential commodity on special occasions.



Indian sandalwood is indigenous to peninsular India. Due to over-exploitation and illicit felling, *S. album* is **enlisted in vulnerable category of IUCN Red List**.

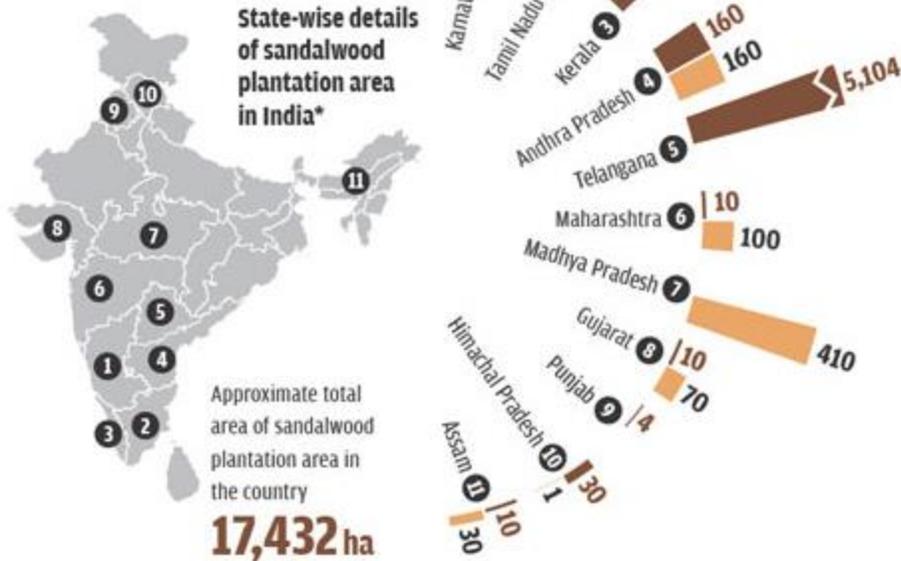
Sandalwood distribution in India

In India, sandalwood is grown in around 9,000 sqkm, of which 8,200 sqkm is in Karnataka and Tamil Nadu

State	Area (in sqkm)	Location
Karnataka	5,245	Districts of Shimoga, Chikkamagalur, Coorg, Hassan, Mysore, Chamarajnagar, Dharwad, Bangalore, Kolar, Belgaum, Uttara Kannada, Dakshina Kannada, Bellary and Tumkur
Tamil Nadu	3,040	Districts of Salem, Dharamapuri Erode, Tiruvannamalai, Vellore, the Nilgiris, Villupuram and to a certain extent in Madurai, Virudhunagar and Tirunelveli
Kerala	15	Marayoor Range and to a limited extent in Arienkavu Range
Andhra Pradesh	200	Anantapur, Chittoor and Kadapa, Tirumala Hills and Paderu Forest Division of Arakku valley
Odisha	25	Jeypore and Rayagada forest divisions of Komput district
Madhya Pradesh	33	Forests of Seoni, Sagar, Sehore, Mandasaur, Dewas, Guna and Rewa forest divisions
Maharashtra	33	Ahmednagar, Latur, Buldana, Washim, Amravati, Osmanabad, Beed, Pune and Satara
Rajasthan	Sparse	Udaipur, Rajsamand, Chittorgarh, Pratapgarh, Pali, Sirohi, Banswara, Dungarpur, Jhalawar, Ajmer and Karoli forest divisions

Rise of the royal tree

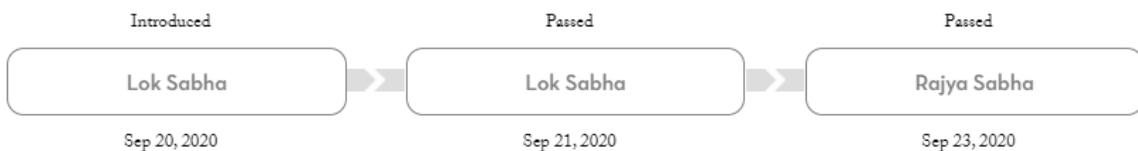
Total land under sandalwood cultivation in India is increasing by 600 hectares annually



CA44. Foreign Contribution (Regulation) Amendment Bill, 2020

The Foreign Contribution (Regulation) Amendment Bill, 2020

Ministry: Finance



The **Amendment Bill amends the Foreign Contribution (Regulation) Act, 2010**. The Act regulates the acceptance and utilization of foreign contribution by individuals, associations and companies. Foreign contribution is the donation or transfer of any currency, security or article (of beyond a specified value) by a foreign source.

Its very important you read the objective of this Bill:

STATEMENT OF OBJECTS AND REASONS

The Foreign Contribution (Regulation) Act, 2010 was enacted to regulate the acceptance and utilisation of foreign contribution or foreign hospitality by certain individuals or associations or companies and to prohibit acceptance and utilisation of foreign contribution or foreign hospitality for any activities detrimental to the national interest and for matters connected therewith or incidental thereto.

2. The said Act has come into force on the 1st day of May, 2011 and has been amended twice. The first amendment was made by section 236 of the Finance Act, 2016 and the second amendment was made by section 220 of the Finance Act, 2018.

3. The annual inflow of foreign contribution has almost doubled between the years 2010 and 2019, but many recipients of foreign contribution have not utilised the same for the purpose for which they were registered or granted prior permission under the said Act. Many of them were also found wanting in ensuring basic statutory compliances such as submission of annual returns and maintenance of proper accounts. This has led to a situation where the Central Government had to cancel certificates of registration of more than 19,000 recipient organisations, including non-Governmental organisations, during the period between 2011 and 2019. The criminal investigations also had to be initiated against dozens of such non-Governmental organisations which indulged in outright misappropriation or mis-utilisation of foreign contribution.

4. Therefore, there is a need to streamline the provisions of the said Act by strengthening the compliance mechanism, enhancing transparency and accountability in the receipt and utilisation of foreign contribution worth thousands of crores of rupees every year and facilitating genuine non-Governmental organisations or associations who are working for the welfare of the society.

As per the 'Statement of Objects' of the Bill, "***the annual inflow of foreign contribution has almost doubled between the years 2010 and 2019, but many recipients of foreign contribution have not utilized the same for the purpose for which they were registered or granted prior permission under the said Act***"

The Ministry observed that **many organizations failed to ensure basic statutory compliances, and this had led to a situation where the Central Government had to cancel certificates of registration of more than 19,000** recipient organizations. With this in mind, the object of the Centre seems to be streamlining the provisions of the FCRA "by strengthening the compliance mechanism, enhancing transparency and accountability in the receipt and utilization of foreign contribution" and "facilitating genuine non-Governmental organizations" working for the welfare of the society".

What are the changes in new bill? [Act= 2010 Act, Bill= new one] Read now.

Prohibition to accept foreign contribution: Under the Act, certain persons are prohibited to accept any foreign contribution. These include election candidates, editor or publisher of a newspaper, judges, government servants, members of any legislature, and political parties, among others. The Bill adds public servants (as defined under the Indian Penal Code) to this list. Public servant includes any person who is in service or pay of the government or remunerated by the government for the performance of any public duty.

Transfer of foreign contribution: Under the Act, foreign contribution cannot be transferred to any other person unless such person is also registered to accept foreign contribution (or has obtained prior permission under the Act to obtain foreign contribution). The Bill amends this to prohibit the transfer of foreign contribution to any other person. The term 'person' under the Act includes an individual, an association, or a registered company.

Aadhaar for registration: The Act states that a person may accept foreign contribution if they have: (i) obtained a certificate of registration from central government, or (ii) not registered, but obtained prior permission from the government to accept foreign contribution. Any person seeking registration (or renewal of such registration) or prior permission for receiving foreign contribution must make an application to the central government in the prescribed manner. The Bill adds that any person seeking prior permission, registration or renewal of registration must provide the Aadhaar number of all its office bearers, directors or key functionaries, as an identification document. In case of a foreigner, they must provide a copy of the passport or the Overseas Citizen of India card for identification.

FCRA account: Under the Act, a registered person must accept foreign contribution only in a single branch of a scheduled bank specified by them. However, they may open more accounts in other banks for utilization of the contribution. The Bill amends this to state that foreign contribution must be received only in an account designated by the bank as "FCRA account" in such branch of the State Bank of India, New Delhi, as notified by the central government. No funds other than the foreign contribution should be received or deposited in this account. The person may open another FCRA account in any scheduled bank of their choice for keeping or utilising the received contribution.

Restriction in utilization of foreign contribution: Under the Act, if a person accepting foreign contribution is found guilty of violating any provisions of the Act or the Foreign Contribution (Regulation) Act, 1976, the unutilized or unreceived foreign contribution may be utilized or received, only with the prior approval of the central government. The Bill adds that the government may also restrict usage of unutilized foreign contribution for persons who have been granted prior permission to receive such contribution. This may be done if, based on a summary inquiry, and pending any further inquiry, the government believes that such person has contravened provisions of the Act.

Renewal of license: Under the Act, every person who has been given a certificate of registration must renew the certificate within six months of expiration. The Bill provides that the government may conduct an inquiry before renewing the certificate to ensure that the person making the application: (i) is not fictitious or benami, (ii) has not been prosecuted or convicted for creating communal tension or indulging in activities aimed at

religious conversion, and (iii) has not been found guilty of diversion or misutilization of funds, among others conditions.

Reduction in use of foreign contribution for administrative purposes: Under the Act, a person who receives foreign contribution must use it only for the purpose for which the contribution is received. Further, they must not use more than 50% of the contribution for meeting administrative expenses. The Bill reduces this limit to 20%.

Surrender of certificate: The Bill adds a provision allowing the central government to permit a person to surrender their registration certificate. The government may do so if, post an inquiry, it is satisfied that such person has not contravened any provisions of the Act, and the management of its foreign contribution (and related assets) has been vested in an authority prescribed by the government.

Suspension of registration: Under the Act, the government may suspend the registration of a person for a period not exceeding 180 days. The Bill adds that such suspension may be extended up to an additional 180 days.

CA45. G7 ministers back extension of debt freeze for poorest nations

Link: <https://www.thehindu.com/business/Economy/g7-backs-extension-of-debt-freeze/article32699128.ece>

ECONOMY

G7 backs extension of debt freeze



REUTERS

WASHINGTON/PARIS , SEPTEMBER 25, 2020 22:56 IST
 UPDATED: SEPTEMBER 25, 2020 23:25 IST

G7 finance ministers has backed an extension of a G20 bilateral debt relief initiative for the world's poorest countries but said it must be revised to address shortcomings hindering implementation.

The G20 Debt Service Suspension Initiative

In response to the COVID-19 "call to action" from the World Bank and the IMF, the G20 announced a debt service suspension initiative (the "DSSI") on 15 April, supporting an NPV-neutral, time-bound suspension of principal and interest payments for eligible countries that make a formal request for debt relief from their official bilateral creditors, and encouraging private creditors to participate on comparable terms.

We will also learn about G-7 Countries.

G7 stands for “Group of Seven” industrialized nations. It used to be known as the G8 (Group of Eight) until 2014 when Russia was excluded because of its annexation of Crimea from Ukraine.

Why was G7 created?

The G7 was created more than four decades ago as an annual gathering of political leaders to discuss and exchange ideas on a broad range of issues, including global economy, security and energy.

France, Italy, Japan, the United Kingdom, the United States and West Germany formed the Group of Six in 1975 so that the noncommunist powers could come together to discuss economic concerns, which at the time included inflation and recession following an OPEC oil embargo. Canada joined the following year. Russia eventually joined in 1998 and its inclusion was meant as a signal of cooperation between East and West after the Soviet Union’s collapse in 1991.

The G7 is an informal bloc and takes no mandatory decisions, so the leaders’ declarations at the end of the summit are not binding.

Which countries are members of the G7?

The group includes the **United States, the United Kingdom, Germany, Canada, Japan, France and Italy**. Together, the G7 countries represent 40% of global GDP and 10% of the world’s population.

Why was Russia kicked out of the G8?

Russia was kicked out of the then G8 in 2014 **after it annexed Crimea from Ukraine**, which was seen by leaders as a “violation of Ukraine’s sovereignty and territorial integrity”.

What's the difference between G7 and G20?

They have similar names and similar functions. While the G7 mainly has to do with politics, the G20 is a broader group that focuses on the global economy. It's also known as the "Summit on Financial Markets and the World Economy" and represents 80% of global GDP.

It gathers leaders from Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States, as well as the European Union.

Founded in 1999 after the Asian financial crisis in 1997-1998, the G20 started off as a meeting of finance ministers and central bank governors. However, as a response to the financial crisis of 2008, the G20 was upgraded to head of state level in an inaugural summit in Washington, D.C.

CA46. India needs self-reliance in Active Pharmaceutical Ingredients (APIs)

Active Pharmaceutical Ingredients (APIs) are essential for the manufacture of various drugs. The Indian pharma industry is heavily reliant on imports for APIs. This is not good. Recently PM Modi has pronounced that dependence on single source for anything can be dangerous. A government body has called for urgent policy & other measures to become self-reliant in APIs & other raw materials in the wake of changed global norms.

India's pharmaceutical industry relies heavily on **import of Active Pharmaceutical Ingredients (APIs) and imports from China make up for almost two-thirds of it.**

Of the total import of API and intermediates worth Rs. 249 billion in 2019, around Rs.169 billion, amounting to **68%, was from China alone.** In 2019-20, according to a Lok Sabha response, more than 87% of India's API imports were from 10 countries alone. After China, **USA had the second highest share with 3.53% followed by Italy with 3.02%.** In 2016-17, China's share was 66.69% which increased to 68.04% by 2019-20.

(a) & (b): Bulk drugs accounted for 63% of the total pharmaceutical imports in the country during 2019-20. India imports bulk drugs largely for economic considerations. The following are major countries from which India imported APIs during 2019-20.

S. No.	Country	Percentage share of import
1	CHINA P RP	68.04
2	U S A	3.53
3	ITALY	3.02
4	SINGAPORE	2.88
5	SPAIN	2.17
6	GERMANY	1.85
7	FRANCE	1.56
8	JAPAN	1.53
9	DENMARK	1.26
10	HONG KONG	1.25

Source: DGCIS, Kolkata

Noting this, the **Technology Information Forecasting and Assessment Council (TIFAC)** which is an autonomous organization under the Department of Science & Technology released a [report](#) titled '*Active Pharmaceutical Ingredients- Status, Issues, Technology Readiness, and Challenges*' which calls for scaling up the production of API in India in order to make India self-reliant in API production and reduce import dependence, especially from China.

Now, why Active Pharmaceutical Ingredients (APIs) is important?

In many WHO guidelines the following definition for an active pharmaceutical ingredient (API) (in the singular) is found under the Glossary (for instance it appears three times in the recently published WHO Technical Report Series, No. 961):

"active pharmaceutical ingredient (API)

Any substance or combination of substances used in a finished pharmaceutical product (FPP), intended to furnish pharmacological activity or to otherwise have direct effect in the diagnosis, cure, mitigation, treatment or prevention of disease, or to have direct effect in restoring, correcting or modifying physiological functions in human beings."

Active Pharmaceutical Ingredients, abbreviated as API, are chemical compounds which are used to manufacture medicinal drugs and cause pharmacological activity or give direct effect in diagnosis, cure, or treatment of disease. For example, Acetaminophen or paracetamol is the API in Panadol, Dolo, and Crocin. APIs is therefore required for the production of drugs for many kinds of illnesses like flu, aches, diabetes, cancer, AIDS, malaria, infections.

Status of India's Pharma in the world

The pharmaceutical industry in India is [third largest](#) in the world, in terms of volume, behind China and Italy, and fourteenth largest in terms of value. It has a strong network of 3,000 drug companies and about 10,500 manufacturing units with a domestic turnover of Rs 1.4 lakh crore (USD 20.03 billion) in 2019, with exports to more than 200 countries in the world. Import of APIs has increased substantially because of cheaper import options from countries like China. Manufacturing of certain APIs has almost stopped in India.

China's pharmaceutical industry has gone up from 9th position in 2007 to 2nd in 2019.

The pharmaceutical market in China has grown rapidly in the past few years. In 2007, China had the ninth largest market. Now, China's market is the second largest globally, next to only the US. China is the global leader in production and export of APIs contributing to one-fifth of the global API output by volume. China's production capacity is above 2 million tons per annum.

Why China is the best in APIs production?

- a. The major reason behind China's ability to capture the global API market is the cheap and cost-effective production of APIs resulting out of the large-scale manufacturing.
- b. If India were to produce these APIs, the cost incurred would be 20% more than that of China.
- c. The infrastructure in China is also highly favourable for the producers.
- d. The average size of a SEZ in China is 10 to 15 times bigger than India's. Land is subsidized with common waste treatment and utilities which help reduce the physical infrastructure cost to an extent.
- e. Besides, financial support in India is also a concern. It is difficult to get financial support due to the banking practices and time-consuming processes.
- f. A study pointed out that the cost of finance in China was 5% to 7% as compared to 11% to 14% in India.

Its not only India, **other countries too dependent on China for APIs**. See below chart, how China exports to countries: Data is of May 2019.

RANK	EXPORT
1	India
2	America
3	Japan
4	South Korea
5	Germany
6	Netherland
7	Brazil
8	Italy
9	Spain
10	Indonesia

India’s effort and steps to do something in APIs:

The Indian government has been trying many different policy initiatives to support pharmaceutical industries for many years now.

- a. A committee was set up **under V M Katoch in 2013 to study the issue during the UPA’s tenure.**
- b. The year **2015 was declared the ‘Year of API’ to boost API manufacturing in India.**
- c. **Later in 2017, a draft Pharmaceutical Policy was prepared** with the objective to provide guidance and nurture the pharmaceutical industry of India to regulate production and marketing of pharmaceutical products in India.
- d. However, there has not been much progress with the draft. **A task force** was also set in 2018 to revive API sector.

The Indian government is currently advocating for Atmanirbhar Bharat or self-sufficient India to revive the economy post the economic slowdown caused by COVID-19. A package to revive the API industry in the country has been announced as a part of the scheme.

Two schemes- Production Linked Incentive (PLI) Scheme for promotion of domestic manufacturing of critical Key Starting Materials (KSMs)/ Drug Intermediates (DIs) & Active Pharmaceutical Ingredients (APIs) and Promotion of Bulk Drug Parks were rolled out by the government in July this year.

(d) & (e): Under the scheme 'Promotion of Bulk Drug Parks' financial assistance will be provided to the State implementing agencies for creation of common infrastructure facilities in Bulk Drug Parks to be developed by State Governments. Three Bulk Drug parks will be financed under the scheme. States will be selected on the basis of scores obtained by the proposals submitted by the states on a predefined selection criteria (given in the scheme guidelines available on the website of the department under the tab titled 'schemes'). A State Implementing Agency has to be a legal entity set up for the purpose of developing the Bulk Drug Park and having minimum 51% equity of the State government. No proposal has been submitted by the state government of Tamil Nadu. States can submit proposals under this scheme within a period of 60 days from the date of issuance of the scheme guidelines (guidelines were issued on 27th July, 2020).

CA47. Production linked incentive scheme for electronics manufacturers

Link:

[https://www.meity.gov.in/writereaddata/files/Frequently Asked Questions on PLI Scheme.pdf](https://www.meity.gov.in/writereaddata/files/Frequently%20Asked%20Questions%20on%20PLI%20Scheme.pdf)

News: Three Apple Inc.'s top contract manufacturers are planning to invest a total of almost \$900 million in India in the next five years to tap into a new production-linked incentive plan. **Now, we will see Production linked incentive scheme**



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Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing

- Incentive:** 4% to 6% on incremental sales (over base year) of goods manufactured in India
- Target Segments:** Mobile phones and specified electronic components
- Eligibility:** Subject to thresholds of incremental investment and incremental sales of manufactured goods
- Tenure of the Scheme:** Five years subsequent to the base year as defined (FY19-20)

About the PLI scheme:

It offers a production **linked incentive to boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components**, including Assembly, Testing, Marking and Packaging (ATMP) units. The Scheme would tremendously boost the electronics manufacturing landscape and establish India at the global level in electronics sector.

Objective: The Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing proposes a financial incentive to boost domestic manufacturing and attract large investments in the electronics value chain including electronic components and semiconductor packaging.

Key features of the scheme:

- The scheme shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five (5) years with financial year (FY) 2019-20 considered as the base year for calculation of incentives.
- The Scheme will be implemented through a Nodal Agency which shall act as a Project Management Agency (PMA) and be responsible for providing secretarial,

managerial and implementation support and carrying out other responsibilities as assigned by MeitY from time to time.

Eligibility:

- a. Support under the Scheme **shall be provided only to companies engaged in manufacturing of target segments in India.**
- b. According to the scheme, companies that make mobile phones which sell for Rs 15,000 or more will get an incentive of up to **6 per cent on incremental sales of all such mobile phones made in India.**
- c. In the same category, companies which are owned by Indian nationals and make such mobile phones, the incentive has been kept at Rs 200 crore for the next four years.

What kind of investments will be considered?

All electronic manufacturing companies which are either Indian or have a registered unit in India will be eligible to apply for the scheme. These companies can either create a new unit or seek incentives for their existing units from one or more locations in India. However, all investment done by companies on land and buildings for the project will not be considered for any incentives or determine eligibility of the scheme.

- 6. **Tenure of the Scheme:** Support under the Scheme shall be provided for a period of five (5) years subsequent to the base year as defined in Para 7.
 - 6.1. The Scheme shall be open for applications for a period of 4 months initially which may be extended.
 - 6.2. The Scheme may also be reopened for applications anytime during its tenure based on response from the industry.
 - 6.3. For applications received post the initial application period, applicants shall only be eligible for incentives for the remainder of the Scheme's tenure.

List of Specified Electronic Components eligible under PLI Scheme

Sl. No.	Description of Goods
1.	SMT components
2.	Discrete semiconductor devices including transistors, diodes, thyristors, etc.
3.	Passive components including resistors, capacitors, etc. for electronic applications
4.	Printed Circuit Boards (PCB), PCB laminates, prepregs, photopolymer films, PCB printing inks
5.	Sensors, transducers, actuators, crystals for electronic applications
6.	System in Package (SIP)
7.	Micro / Nano-electronic components such as Micro Electromechanical Systems (MEMS) and Nano Electromechanical Systems (NEMS)
8.	Assembly, Testing, Marking and Packaging (ATMP) units

CA48. Astronomers have found a rogue planet, which is about the same mass as Earth



Astronomers have found a **rogue planet, which is about the same mass as Earth**, seemingly adrift in the Milky Way, without being a part of any star system. Such planets are called rogue planets, and this new planet is considered to be a low mass planet.

Finding rogue planets is extremely challenging because, unlike stars, planets do not emit light of their own. The team behind the discovery used the gravitational **microlensing technique to find the planet**.

The planet, called OGLE-2016-BLG-1928, was discovered using the OGLE (Optical Gravitational Lensing Experiment) collaboration and the KMTN (Korean Microlensing Telescope Network) collaboration.

Microlensing

Microlensing is a form of gravitational lensing where light from a background source, such as a star, is bent by the gravitational field of a foreground planet or any other source of gravity. This creates distorted or multiple images, which show both intensity of light and position of the background source of light inaccurately.

- A. Gravitational microlensing is a scaled-down version of gravitational lensing, where a large structure, such as a galaxy cluster, is used to focus light that's coming from a background galaxy or star.
- B. While discovering this planet, the planet itself acted as the lens, distorting light from behind it. However, a low-mass planet like this doesn't bend light too much and does so only for a short period of time.
- C. According to the astronomers, this planet's micro-lensing event lasted only 41.5 minutes. The researchers describe the event as the "most extreme short-timescale microlens discovered to date".

Rogue planet formation

Planets form in protoplanetary discs, which is a swirling flat disc of dust, rock, and gases that form around a star being born. But astronomers theorize that very early in the planetary formation process, some low mass planets could get ejected from their host star's gravitational control due to the high energy nature of planetary formation processes. As we discover more and more exoplanets, astronomers also estimate that **there could potentially be millions of such free-floating rogue planets in every galaxy.**

Watch this small [video](#).

CA49. Green Strategic Partnership between India and Denmark

Link: <https://www.thehindu.com/news/national/india-denmark-launch-green-strategic-partnership/article32726691.ece>



Under the India-Denmark 'Green Strategic Partnership', a joint statement said, the **"ambitious goals and actions will be identified within the areas and outlined in an Action Plan that will be worked out and endorsed as soon as possible"**.

Further emphasizing on the strategic partnership, the statement read: "The Green Strategic Partnership is a mutually beneficial arrangement to advance political cooperation, expand economic relations and green growth, create jobs and strengthen cooperation on addressing global challenges and opportunities; with focus on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals."

The Ministry of Commerce and Industry **has also signed a Memorandum of Understanding (MoU) for Intellectual Property (IP) Cooperation with Denmark.** The MoU aims at increasing IP co-operation between the two countries by way of, exchange of information and best practices on processes for disposal of applications for patents, trademarks, industrial designs, and Geographical Indications, and cooperation in the field of protection of Traditional Knowledge.



CA50. Ministry of Road Transport and Highways has allowed use of H-CNG (18% mix of hydrogen) in CNG engines.

Link: <https://www.livemint.com/news/india/govt-specifies-hydrogen-enriched-cng-as-automobile-fuel-11601267630446.html>

In a step towards promoting alternative clean fuel for transportation, **the Union road transport and highways ministry has notified hydrogen-enriched compressed natural gas (CNG) as an automobile fuel.** An ideal blend of 18% hydrogen in CNG can be used as automotive fuel after compression. This can lower emissions and promote green fuel for automobiles in the country. It can also reduce carbon monoxide emission by 70%, according to a study.

HCNG is hydrogen-enriched compressed natural gas (CNG).
 In Delhi, instead of physically blending hydrogen with CNG, hydrogen-spiked CNG will be produced using compact reforming process patented by Indian Oil Corporation



► It is cleaner and more economical; power output of HCNG engine is also better than CNG ones

4-tonne-per-day production plant will come up at DTC's Rajghat-1 bus depot by December

50 CLUSTER BUSES WILL RUN ON HCNG

₹40cr cost of HCNG plant

6-month pilot project will start in January

BENEFITS OF HCNG

4% more fuel economy than CNG



70% more reduction in carbon monoxide emissions compared to CNG

4% more fuel economy than CNG

When used in an internal combustion engine, even the addition of small amount of hydrogen to natural gas (5-30% by volume) leads to many advantages, because of some particular physical and chemical properties.

Some of the most notable features are as given below:

- Addition of hydrogen increases the H/C ratio of the fuel. A higher H/C ratio results in less CO₂ per unit of energy produced and thereby **reduces greenhouse gas emissions.**
- Natural gas has low flame speed while hydrogen has the flame speed about eight times higher, therefore, when excess air ratio is much higher than the stoichiometric condition, the combustion of natural gas is not as stable as HCNG. The problem encountered using natural gas is that the engine will experience incomplete combustion (misfire) before sufficient NO_x reductions are achieved. **Adding hydrogen to the fuel extends the amount of charge dilution that can be achieved while still maintaining efficient combustion**

- Hydrogen also has a **very low energy density per unit volume** and as a result, volumetric heating value of the HCNG mixture decreases as the proportion of hydrogen is increased in the mixture
- Blends of HCNG ranging from 15-30% extend the lean operating limit **ensuring complete combustion** which reduces HC and CO emissions
- The laminar burning speed of hydrogen is nearly eight times higher than that of natural gas, so the addition of hydrogen can **increase the burning velocity of the mixture**, and it brings some advantages such as shorter combustion duration, greater degree of constant volume combustion and improved indicated thermal efficiency.
- Special properties of hydrogen as a combustion stimulant can produce leverage factors much greater than 1 by improving fossil fuels and not just displacing them, an obvious benefit of the leverage effect is that CO2 reduction is possible even if the hydrogen used is produced by natural gas without any 'sequestration' of CO2.

CA51. Relation between total Production and Procurement at MSP

See all the data carefully. Prelims exam needs this preparation only.

In this topic, we will look at numbers relating to **MSP and the MSP procurement trend across the country and understand what proportion of the total production in the country is procured at MSP**. We also look at state-wise MSP procurement (for wheat and rice) trends to understand which states benefit the most today from the MSP regime.

MSP of Jowar and Ragi increased the greatest over the last 10 marketing years

The MSP for Rice and Wheat, the largest produced crops has only marginally increased over the 10-year period (2011-21). For the Marketing year 2011-12, the MSP provided by the government for Paddy of Common type was Rs.1080 per quintal, while that of Grade-A paddy was Rs.1,110 per quintal. After a marginal increase year-on-year, there was a considerable increase for Marketing year **2018-19**. For the Marketing year of 2020-21, the MSP for the two variants of Paddy is Rs. **1868 and Rs. 1888** respectively i.e. an increase by 73% and 70% respectively in these 10 years.

Dated: 21.09.2020

Minimum Support Prices Recommended by CACP and Fixed by Government (Crop Year)

Commodity	2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21	
	Reco	Fixed																
Paddy Common #	1250	1250	1310	1310	1360	1360	1410	1410	1470	1470	1550	1550	1745	1750	1815	1815	1868	1868
Paddy (F)/Grade'A'		1280	1345	1345	1400	1400	1450	1450	1510	1510	1590	1590	1770	1770	1835	1835	1888	1888

During the same period, the MSP of Wheat increased by 64.5% i.e. from Rs. 1350 in 2012-13 to Rs. 1975 in 2020-21.

Dated: 21.09.2020

Minimum Support Prices Recommended by CACP and Fixed by Government (Crop Year)

Commodity	2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21	
	Reco	Fixed																
Wheat	1285	1350	1400	1400	1450	1450	1525	1525	1625	1625	1735	1735	1840	1840	1925	1925	1975	1975

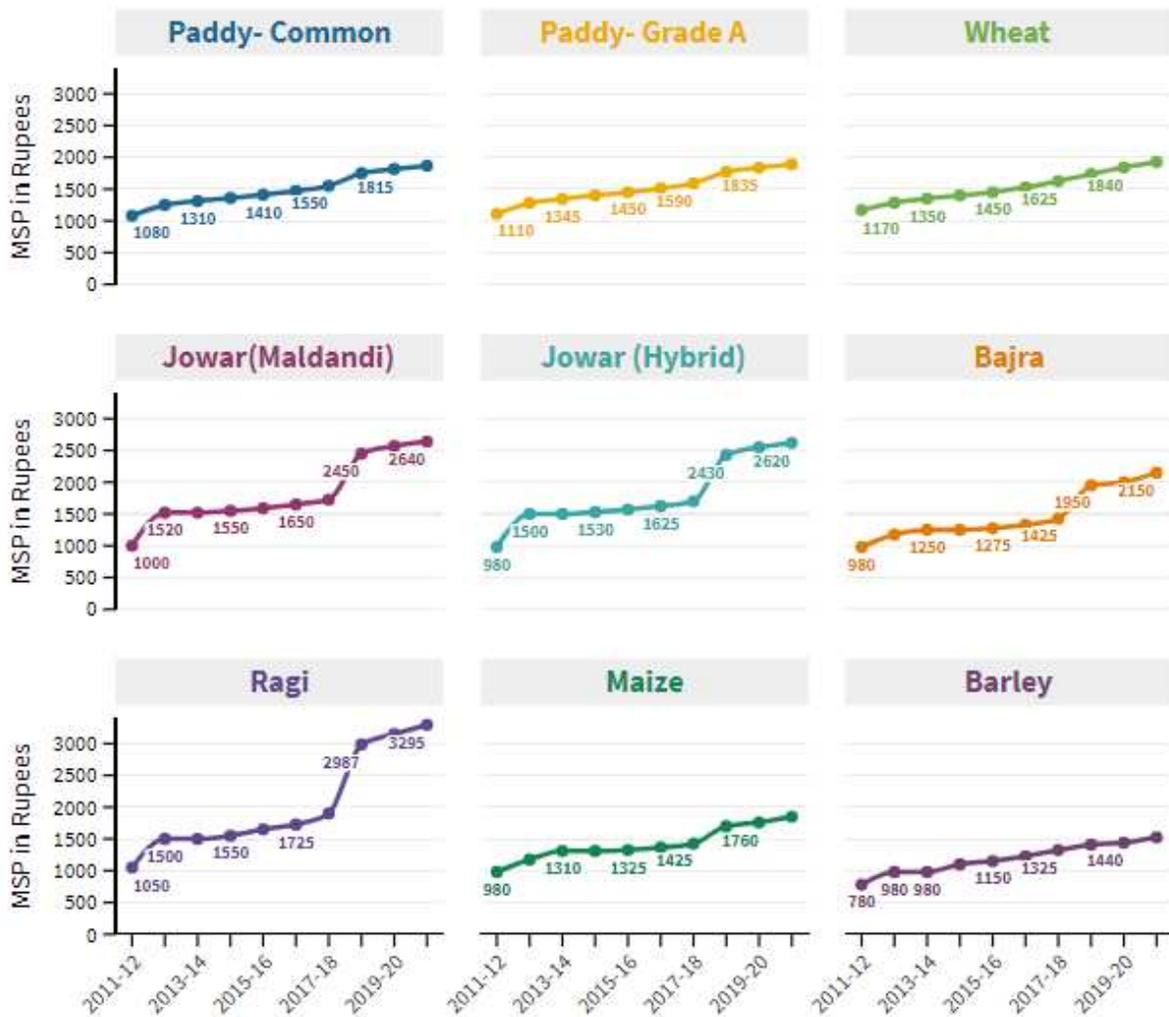
Meanwhile, the MSP for few of the **coarse grains has increased considerably compared to Rice and Wheat**. The two variants of Jowar i.e. Maldandi and Hybrid have increased by around 165% during the 10-year period.

Currently, **Ragi is the crop which receives the highest MSP**. For the Marketing year 2020-21, the **MSP for Ragi is Rs. 3295 per quintal**. It also has the highest increment during the 10-year period, the MSP has more than tripled from Rs. 1050 in 2011-12 to Rs. **3295 in 2020-21**.

Date: 21.09.2020 Minimum Support Prices Recommended by CACP and Fixed by Government (Crop Year)

Commodity	2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21	
	Reco	Fixed																
Jowar Hybrid ✓	1500	1500	1500	1500	1530	1530	1570	1570	1625	1625	1700	1700	2430	2430	2550	2550	2620	2620
Jowar Maldandi ✓		1520	1520		1550	1550	1590	1590	1650	1650	1725	1725	2450	2450	2570	2570	2640	2640
Bajra ✓	1175	1175	1175	1250	1250	1275	1275	1330	1330	1425	1425	1950	1950	2000	2000	2150	2150	2150
Ragi ✓	1500	1500	1500	1500	1550	1550	1650	1650	1725	1725	1900	1900	2895	2897	3150	3150	3295	3295

MSP for Food Grains
(per quintal in Rs. from 2011-12 to 2020-21)



The proportion of Rice procured at MSP has slightly increased over the last two years

During the five-year period 2015-20, the total production of Rice has increased from **1,044.88 lakh tons** to **1,179.39 lakh tons**. During this period, the MSP for Paddy (common) has increased from Rs. 1410 per quintal to Rs. 1815 per quintal.

RICE PRODUCTION AND PROCUREMENT IN FIVE CROP YEARS

(In Lakh Tons/लाख टन में)

2015-16		2016-17		2017-18		2018-19		2019-20	
Prod.	Proc.	Prod.	Proc.	Prod.	Proc.	Prod.	Proc.	\$Prod.	Proc. (As on 31.8.2020)
1044.08	342.18	1096.98	381.06	1127.58	381.85	1164.78	443.99	1179.39	510.12

Slight increase in the proportion of wheat procured but still below the set target

In 2015-16, the total **wheat production in India is 922.88 lakh tons**, whereas the procurement by the government was only around 25% of the total produce i.e. 229.62 lakh tons. This was also below the set procurement target of 330 lakh tones.

WHEAT PRODUCTION AND PROCUREMENT IN FIVES CROP YEARS

(In Lakh Tons/लाख टन में)

Sates/Uts/ राज्यसंघ राज्य क्षेत्र /	Prod. Crop Year 2015-16	Proc. RMS 2016-17	Prod. Crop Year 2016-17	Proc. RMS 2017-18	Prod. Crop Year 2017-18	Proc. 2018-19 RMS	Prod. Crop Year 2018-19	Proc. RMS 2019-20	\$ Prod. Crop Year 2019-20	Proc. RMS 2020-21 31.8.2020
ALL INDIA TOTAL	922.88	229.62	985.11	308.25	998.70	357.95	1035.96	341.33	1071.79	389.83

The quantum of MSP procurement is highly uneven across the states

Proportion of Procurement of Rice – by State						
State	2017-18		2018-19		2019-20	
	Production in lakh tons	% Procurement	Production in lakh tons	% Procurement	Production in lakh tons	% Procurement
Telangana	62.62	57.78	66.7	77.81	76.78	97.08
Punjab	133.82	88.40	128.22	88.36	118.23	91.99
Haryana	45.23	88.26	45.16	87.29	48.24	89.20
Chhattisgarh	49.31	66.01	65.27	60.84	64.99	76.00
Andhra Pradesh	81.66	48.98	82.35	58.36	87.13	61.15
Odisha	65.51	50.18	77.34	57.51	80.64	58.63
Maharashtra	27.31	6.55	32.76	17.70	31.1	37.20
Madhya Pradesh	41.24	26.58	44.95	31.03	48.06	36.20
Tamil Nadu	66.39	15.23	61.31	21.11	66.15	30.79
Uttar Pradesh	132.74	21.66	155.45	20.80	155.23	24.42
Bihar	80.93	9.80	61.56	15.42	65.84	20.37
West Bengal	149.67	11.18	162.42	12.18	153.96	10.59
Jharkhand	40.78	0.00	28.94	5.29	31.9	7.99
Assam	52.84	0.66	52.21	1.93	50.83	3.56
Karnataka	30.17	0.43	34.31	1.72	33.02	1.24
Gujarat	18.91	0.05	19.12	0.47	19.3	0.73

Proportion of Procurement of Wheat – by State						
State	2017-18		2018-19		2019-20	
	Production in lakh tons	% Procurement	Production in lakh tons	% Procurement	Production in lakh tons	% Procurement
Punjab	178.30	71.17	182.62	70.69	182.07	69.83
Madhya Pradesh	159.10	45.96	165.21	40.71	185.83	69.61
Haryana	107.60	81.64	125.74	74.12	120.73	61.28
Rajasthan	93.69	16.35	100.83	13.99	105.73	21.04
Uttar Pradesh	318.70	16.61	327.41	11.30	320.89	11.15
Gujarat	30.69	1.21	24.07	0.21	32.61	2.36
Bihar	61.04	0.29	64.66	0.05	65.46	0.08
Maharashtra	16.97	0.00	12.49	0.00	20.76	0.00

It is apparent from the data that the government procurement of Rice and Wheat at MSP across the states is **highly uneven**. MSP is helping the rice & wheat producing farmers, but only in a few states **where the government is procuring substantial amounts**. In the case of the other crops, **the MSP procurement is very little across the country**.

CA52. U.S. keen on finalizing BECA at 2+2 dialogue

Link: <https://www.thehindu.com/news/national/us-keen-on-finalising-geo-spatial-cooperation-at-22-dialogue-in-october/article32633882.ece>

The U.S. is keen that India sign the last foundational agreement, Basic Exchange and Cooperation Agreement for Geo-Spatial cooperation (BECA), at the next India-U.S. 2+2 ministerial dialogue likely to be held in October end.

Beginning 2016, India has signed three foundational agreements: The Logistics Exchange Memorandum of Agreement (LEMOA), the Communications Compatibility and Security Agreement (COMCASA) while the General Security of Military Information Agreement (GSOMIA) was signed a long time ago. An extension to the GSOMIA, the Industrial Security Annex (ISA), was signed at the last 2+2 dialogue.

Let us understand the agreements.

India-US foundational agreements

US requires its strategic partners to sign 4 foundational agreements to enable the strategic engagement including sharing of information, technology transfer, extension of logistic facilities etc.

The 4 foundational agreements include GSOMIA, BECA, LEMOA, COMCOSA.

Being a 'Major Defence Partner' of the US, it is imperative for India to sign the foundational pacts which allow greater interoperability between critical technologies and smooth facilitation of classified information. So far, India has signed 3 of the foundational agreements, namely, GSOMIA (in 2002), LEMOA (Logistics Exchange Memorandum of Agreement, 2016) and COMCASA (Communications Compatibility and Security Agreement, 2018).

About foundational agreements

GSOMIA (General Security of Military Information Agreement)

This is an agreement signed to safeguard the information that is shared during a technology transfer. India signed this agreement in 2002, however so far this covered only Indian government and PSUs. Now with the defence cooperation deepening and most deals signed under Strategic Partnership model which includes the private sector, it is necessary to sign the ISA annexure to GSOMIA in order to safeguard information shared to private sector during the technology transfer.

LEMOA (signed in 2016)

- a. Logistic Exchange Memorandum of Agreement
- b. Modified version of the Logistics Support Agreement (LSA).
- c. It will enable access to each other's military facilities for purposes of refueling and replenishment.

COMCASA

- Communications Compatibility and Security Agreement

- Will safeguard information with respect to communications equipments in weapons such as precision armament, air-to-air missiles, UAVs, fighter jets, space systems and navigation systems etc.
- Signed in 2018

BECA

- Basic Exchange and Cooperation Agreement for Geospatial Information and Services Cooperation
- Will enable sharing of geospatial and satellite data.
- A meeting of the Quad Foreign Ministers is scheduled to take place in Tokyo in October, the source said. Earlier, the meeting was expected to be held in New Delhi.
- **The U.S. wants BECA to be signed at the ministerial 2+2 in October.**

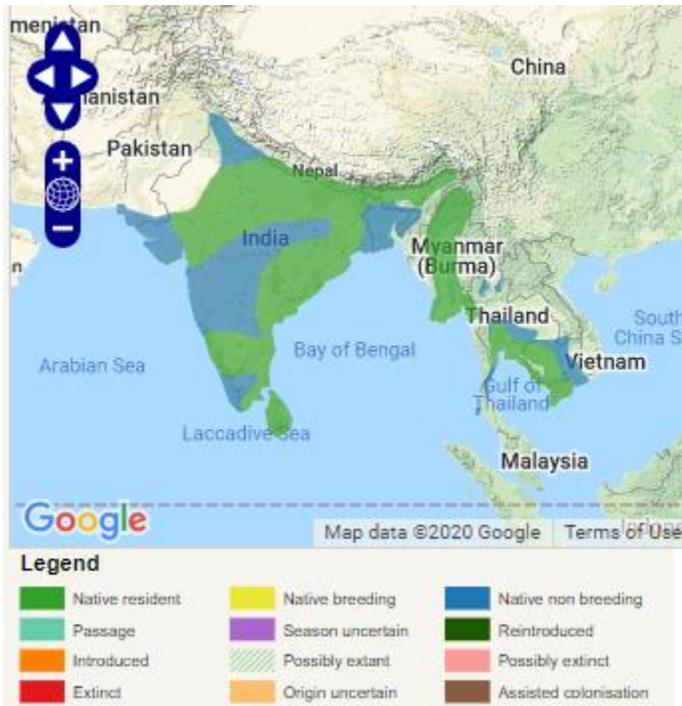
CA53. Two Environment related news

Asian openbill stork

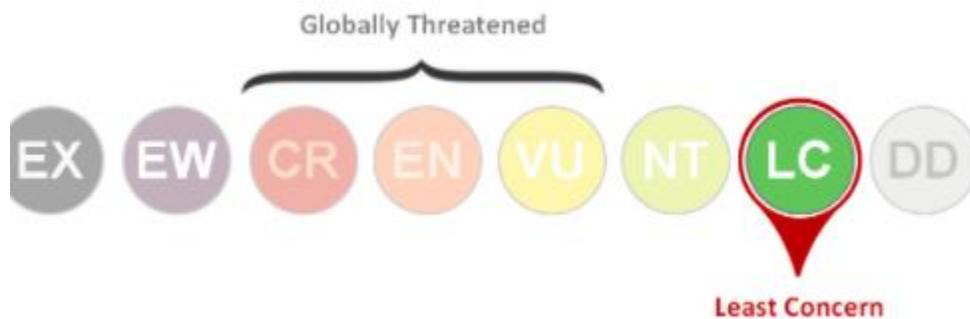
Telukunchi village's community in [Andhra Pradesh welcomes Asian openbill storks](#) every monsoon in the hope of good rains and prosperity. The community has framed rules to punish those who harm the birds.



The Asian Openbill Stork (*Anastomus scitans*) is one major species among the 11 stork species in Asia and **apart from India it is found in small numbers in Pakistan, Bangladesh and Sri Lanka in South Asia.**



The storks migrate to north India in June and to the southern part of the country in November every year.



Dumna Nature Reserve (DNR) in Madhya Pradesh

Spread over hundreds of hectares and home to a rich variety of wildlife, the Dumna Nature Reserve (DNR) in **Madhya Pradesh's Jabalpur area**, is being threatened by a series of projects with the latest being a tiger safari, aimed at promoting tourism to the area. However, there is an ongoing movement to keep the reserve undisturbed and at least three public interest litigations (PILs) have been filed in the Madhya Pradesh High Court for this.

Dumna is among the most well-preserved ecological habitats in an urban area and it is also a catchment area for the **Khanderi Lake** which is an important source of drinking water supply to the city. It has a population of nine leopards, more than 2,000 deer, host of other wildlife such as cheetal, barking deer, four-horned antelope, jungle cat, Asiatic wild cat, wild boar, crocodile and more than 300 species of birds (both migrant and resident).

CA54. Ambedkar Social Innovation & Incubation Mission (ASIIM)

launched

Link: <https://indiaeducationdiary.in/thaawarchand-gehlot-e-launches-ambedkar-social-innovation-incubation-mission-under-venture-capital-fund-for-scsasiim/>

Read Introduction:

1.1. With a view to developing entrepreneurship amongst the SC/Divyang youth and to enable them to become 'job-givers', Ministry of Social Justice, Government of India had launched the Venture Capital Fund for SCs (VCF-SC) in 2014-15. The Objective of this fund is to provide concessional finance to the entities of the SC entrepreneurs. Under this fund, 117 companies promoted by SC entrepreneurs have been sanctioned financial assistance to set up business ventures.

1.2. In order to promote innovation and entrepreneurship amongst SC students in the higher education campuses, there is a need to identify innovative ideas and provide focussed support to young entrepreneurs who are engaged in working on innovative and technology-oriented business ideas either in educational campuses or Technology Business Incubators (TBIs) to help them setup successful commercial enterprises. Such an action will not only allow the SC students to pursue with innovation and entrepreneurship, but will give a further boost to the Stand Up India programme of the Government.

1.3. In accordance with the above, the Ministry of Social Justice & Empowerment, Government of India has decided to launch an initiative named "Ambedkar Social Innovation Incubation Mission (ASIIM)" through the Venture Capital Fund for Scheduled Castes (VCFSC).

Objectives:

✓ The main objectives of ASIIM are:

- a) To promote entrepreneurship among the SC Youth with special preference to Divyangs.
- b) To support (1,000) innovative ideas till 2024 through a synergetic work with the Technology Business Incubators (TBIs) set up by Department of Science and Technology.
- c) To support, promote, hand-hold the start-up ideas till they reach commercial stage by providing liberal equity support.
- d) To incentivise students with innovative mindset to take to entrepreneurship with confidence.

Benefits:

- a. 1,000 SC youth would be identified in the next 4 years with start-up ideas through the Technology Business Incubators (TBIs) in various higher educational institutions.
- b. They will be funded @ Rs. 30 lakhs in 3 years as equity funding so that they can translate their start-up ideas into commercial ventures.
- c. Successful ventures would further qualify for venture funding of up to Rs. 5 Crore from the Venture Capital Fund for SCs.

Who is eligible for support under ASIIM?

3.2. ✓ Eligibility: The following SC/Divyang youth would be eligible for support under ASIIM:

- a) Youth who have been identified by the TBIs being promoted by Department of Science & Technology.
- b) Youth who are identified for incubation by reputed private TBIs.
- c) Students who have been awarded under the Smart India Hackathon or Smart India Hardware Hackathon being conducted by Ministry of Education.
- d) Innovative ideas focusing on the socio-economic development of the society identified in the TBIs.
- e) Start-ups nominated and supported by corporates through CSR funds.

CA55. ESG Funds Becoming Popular in India

Link: <https://indianexpress.com/article/explained/explained-what-are-esg-funds-and-why-are-they-becoming-popular-6619234/>

The ESG funds are increasingly becoming popular in the mutual fund industry in India. The ESG funds, **which factor in the environment, social responsibility and corporate governance** aspects of a company during investment, are sought after abroad. In India, their popularity is fairly new but is increasing rapidly.

Environmental	Social	Governance
<ul style="list-style-type: none"> • Energy efficiency • Climate change • Clean technology • Pollution/ toxics • Sustainable agriculture • Natural resource management • Water management and conservation 	<ul style="list-style-type: none"> • Human rights • Workplace safety • Labour relations • Diversity • Community development • Avoidance of tobacco and other harmful products 	<ul style="list-style-type: none"> • Corporate political contributions • Executive compensation • Board diversity • Anti-corruption policies • Board independence

The **first ESG mutual fund** was launched by the **State Bank of India - SBI Magnum Equity ESG Fund**.

Some of the challenges faced by SBIFMPL in starting the first ESG based fund and the strategy adopted to overcome the challenges: Just read

S.No.	Challenges
1	Absence of quality ESG data (including current and historical data for benchmarking)
2	Availability of India specific data and lack of data for companies with low disclosures
3	Lack of disclosure on quantitative metrics
4	Lack of examples of ESG Funds in domestic market to understand market expectations
5	No comparable ESG funds to benchmark performance

Source: SBI Funds Management Private Limited

ESG Fund: This is important

- ESG is a combination of three words i.e. environment, social and governance.
- It is a kind of mutual fund. Its investing is used synonymously with sustainable investing or socially responsible investing.
- Typically, a mutual fund looks for a good stock of a company that has potential earnings, management quality, cash flows, the business it operates in, competition etc.
- However, while selecting a stock for investment, the ESG fund shortlists companies that score high on environment, social responsibility and corporate governance, and then looks into financial factors.
- Therefore, the key difference between the ESG funds and other funds is 'conscience' i.e. the ESG fund focuses on companies with environment-friendly practices, ethical business practices and an employee-friendly record.
- The fund is regulated by Securities and Exchange Board of India (SEBI).**

Reason for Popularity:

- a. Modern investors are re-evaluating traditional approaches and look at the impact their investment has on the planet. Thus, investors have started incorporating ESG factors into investment practices.
- b. The United Nations Principles for Responsible Investment (UN-PRI) (an international organization) works to promote the incorporation of environmental, social, and corporate governance factors into investment decision-making.

CA56. The Crime in India report of 2019

Link: <https://ncrb.gov.in/sites/default/files/CII%202019%20Volume%201.pdf>

Go through Introduction first.

It is my proud privilege to present the 67th edition of the "Crime in India", the most comprehensive set of statistics on crime for the year 2019. This is an annual publication of National Crime Records Bureau (NCRB), being published since 1953.

Change is an inevitable consequence of societal progression and neither people nor institutions are immune from its influence. Increased population, technological advancements and heightened competition for economic resources have brought about change in crime and its pattern as well and this has thrown new challenges to the law enforcement agencies. Consequently, crime statistics becomes an important resource base to effectively prepare for and manage the challenges for positive outcomes.

The general objective of the report is to help develop insights into the extent of crime for use in law enforcement, operation, research and management. The data provided by the report over the years has become one of the country's most sought after statistics.

The Crime in India report of 2019 was released recently by the National Crime Records Bureau (NCRB).

The report is important as it is the only report that comprehensively covers a wide range of crime statistics across all States/UTs in the country, representing the state of crime registration, disposal etc.

In 2019, a total of 51.56 lakh cognizable crimes were registered in India. When compared to 2018, the number of cognizable crimes went up by around 1.6%. In 2018, a total of 50.7 lakh cognizable crimes were registered in 2018.

Crimes under Indian Penal Code (IPC) and Special & Local Laws (SLL) - 2017-2019

S. No.	Year	Mid-Year Projected Population (in Lakhs)	Crime Incidence +			Crime Rate ++			Percentage of IPC Crimes to Total Cognizable Crimes
			IPC	SLL	Total	IPC	SLL	Total	
1	2	3	4	5	6	7	8	9	10
1	2017	12885.3	3062579	1944465	5007044	237.7	150.9	388.6	61.2
3	2018	13233.8	3132955	1941680	5074635	236.7	146.7	383.5	61.7
3	2019	13376.1	3225701	1930471	5156172	241.2	144.3	385.5	62.6

Among the states, **Uttar Pradesh (UP)** continues to register the highest number of cognizable crimes with over 6.28 lakh cases, accounting for more than 12.2% of the national total. After UP, **Maharashtra** is next in line with over 5.09 lakh registered cases accounting for nearly 10% of the crimes in India followed by **Tamil Nadu** (4.55 lakh cases) and **Kerala** (4.53 Lakh cases) contributing to around 8.8% of the crimes each.

TABLE 1A.3
Total IPC & SLL Crimes (State/UT-wise) - 2017-2019

S. No	State/UT	2017	2018	2019	Percentage Share of State (2019)	Mid-Year Projected Population (in Lakhs) (2019)	Rate of Cognizable Crimes (IPC+SLL) (2019)+
1	2	3	4	5	6	7	8
STATES:							
1	Andhra Pradesh	148002	144703	145751	2.8	523.2	278.6
2	Arunachal Pradesh	2746	2817	2877	0.1	15.1	190.9
3	Assam	109952	120573	132783	2.6	344.2	385.8
4	Bihar	236055	262815	269109	5.2	1201.1	224.0
5	Chhattisgarh	90516	98233	96561	1.9	288.5	334.7
6	Goa	3943	3884	3727	0.1	15.4	241.5
7	Gujarat	334799	393194	431066	8.4	682.5	631.6
8	Haryana	224816	191229	166336	3.2	288.1	577.4
9	Himachal Pradesh	17796	19594	19924	0.4	73.2	272.4
10	Jammu & Kashmir	25608	27276	25408	0.5	135.3	187.8
11	Jharkhand	52664	55664	62206	1.2	375.8	165.5
12	Karnataka	184063	163416	163691	3.2	659.7	248.1
13	Kerala ✓	653500	512167	453083 ✓	8.8	351.9	1287.7
14	Madhya Pradesh	379682	405129	395619	7.7	826.1	478.9
15	Maharashtra ✓	467753	515674	509433 ✓	9.9	1225.3	415.8
16	Manipur	4250	3781	3661	0.1	31.1	117.7
17	Meghalaya	3952	3482	3897	0.1	32.3	120.6
18	Mizoram	7738	7351	7880	0.1	17.0	241.0
19	Nagaland	1553	1775	1661	0.0	21.6	77.1
20	Odisha	103866	107408	121525	2.4	437.3	277.9
21	Punjab	70673	70318	72855	1.4	299.4	243.3
22	Rajasthan	245553	250546	304394	5.9	776.0	392.3
23	Sikkim	979	869	821	0.0	6.7	123.5
24	Tamil Nadu ✓	420876	499188	455094 ✓	8.8	758.1	600.3
25	Telangana	133197	126858	131254	2.5	372.8	352.0
26	Tripura	4238	6078	5988	0.1	40.0	149.6
27	Uttar Pradesh ✓	600082	585157	628578 ✓	12.2	2259.7	278.2
28	Uttarakhand	28861	34715	28268	0.5	111.8	252.8
29	West Bengal	195537	188063	188063	3.6	971.1	193.7
TOTAL STATE(S)		4748250	4796957	4826513	93.6	13135.2	367.4

Crime rate increased marginally in 2019

Crime Rate = Number of Cases Reported / Population in Lakhs

The Crime rate in 2019 has increased marginally to 385.5 from 383.5 in 2018.

Crimes under Indian Penal Code (IPC) and Special & Local Laws (SLL) - 2017-2019

S. No.	Year	Mid-Year Projected Population (in Lakhs)	Crime Incidence +			Crime Rate ++			Percentage of IPC Crimes to Total Cognizable Crimes
			IPC	SLL	Total	IPC	SLL	Total	
1	2	3	4	5	6	7	8	9	10
1	2017	12885.3	3062579	1944465	5007044	237.7	150.9	388.6	61.2
3	2018	13233.8	3132955	1941680	5074635	236.7	146.7	383.5	61.7
3	2019	13376.1	3225701	1930471	5156172	241.2	144.3	385.5	62.6

State wise crime rate reveals that **Delhi was on the top with a crime rate of 1586.1 followed by Kerala with 1287.7** crimes per lakh persons. **Kerala is the only state** to have reported a crime rate of more than 1000.

S. No	State/UT	2017	2018	2019	Percentage Share of State (2019)	Mid-Year Projected Population (in Lakhs) (2019)	Rate of Cognizable Crimes (IPC+SLL) (2019)+
1	2	3	4	5	6	7	8

UNION TERRITORIES:

30	A&N Islands	3014	3699	4034	0.1	4.0	1013.6
31	Chandigarh	5462	5967	4518	0.1	11.8	381.6
32	D&N Haveli	309	315	290	0.0	5.6	52.2
33	Daman & Diu	382	334	370	0.0	4.2	87.5
34	Delhi ✓	244714	262612	316261	6.1	199.4	1586.1
35	Lakshadweep	114	77	182	0.0	0.7	267.6
36	Puducherry	4799	4674	4004	0.1	15.2	264.3
TOTAL UT(S)		258794	277678	329659	6.4	240.8	1368.8
TOTAL ALL INDIA		5007044	5074635	5156172	100.0	13376.1	385.5

+ Crime Rate is calculated as Crime per one lakh of population.

TABLE 1A.3 Page 1 of 1

13	Kerala ✓	653500	512167	453083	8.8	351.9	1287.7 ✓
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The report cautions: lower crime rate may not mean a better working police system and a higher crime rate the opposite. For instance, Kerala's overall higher crime rate and UP's lower crime rate may not be a useful marker to conclude about the law & order situation in these states.

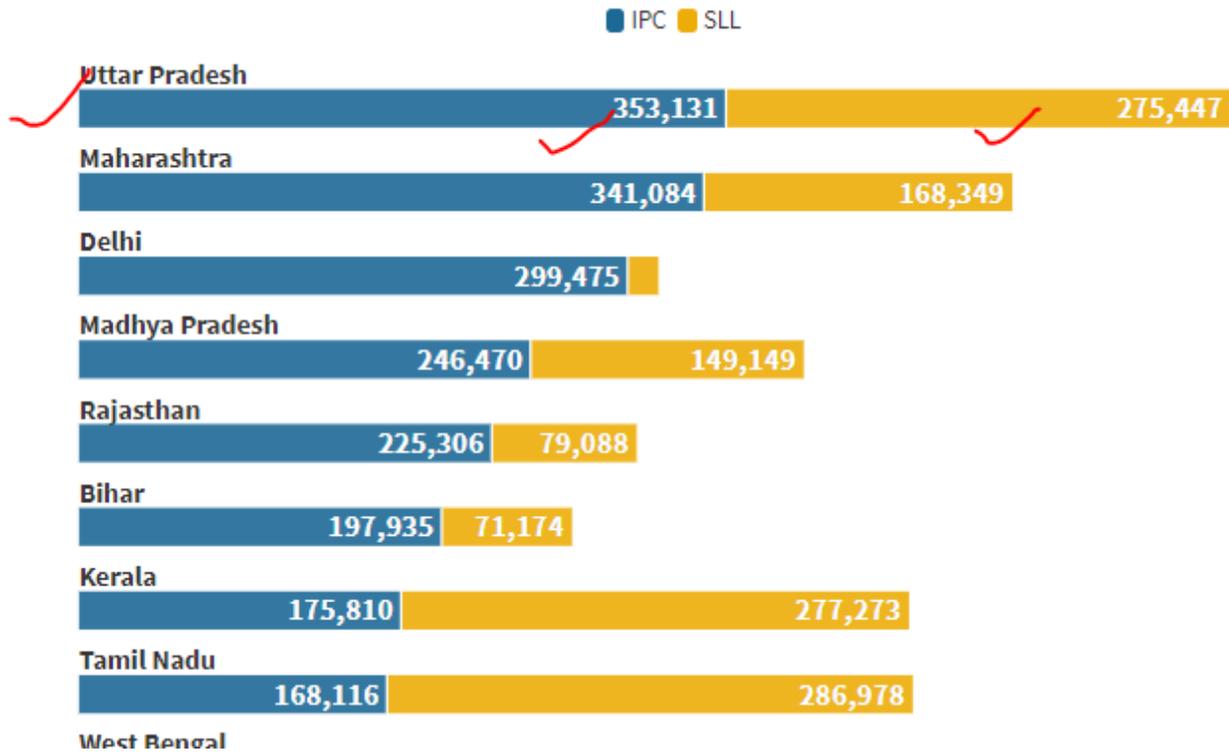
Lastly, as crime increases with population, Crime per lakh population (Crime Rate) may be a better indicator to assess increase or decrease in crime. However, a word of caution here! The primary presumption that the upward swing in police data indicates an increase in crime and thus a reflection of the ineffectiveness of the police is fallacious. 'Rise in crime' and 'increase in registration of crime by police' are clearly two different things, a fact which is often confused. Thus an oft-repeated expectation from certain quarters that an effective police administration will be able to keep the crime figures low is misplaced. Increase in crime numbers in a State police data may in fact be on account of certain citizen centric police initiatives, like launching of e-FIR facility or women Helpdesks, etc. The increase or decrease in crime numbers, however, does call for a professional investigation of underlying factors jointly with local communities to suitably address the issues involved.

Cognizable and non-cognizable crimes

Crimes are classified into two broad categories, cognizable and non-cognizable crimes, according to the Code of Criminal Procedure. Cognizable crimes are those under which an officer in-charge of a police station may investigate upon receiving the complaint or information, without the order of a magistrate and effect arrest without warrant. Non cognizable crimes are those which cannot be investigated by police without the order of a competent magistrate.

In 2019, 32.25 lakh crimes (62.6%) were registered under the Indian Penal Code (IPC) while 19.3 lakh (37.4%) under the Special & Local Laws (SLL). Compared to 2018, the share of IPC crimes has increased by 3.0% whereas SLL crimes have reduced by 0.6%.

Nearly 2/3rds of the crimes registered in India are under IPC. Uttar Pradesh reported the highest number of cases under IPC in 2019. Around 56% of the cases in UP, i.e. 3.53 lakh cases were registered under IPC.



Violent Crimes

Violent crimes are an important category of crimes as categorized by the NCRB due to their grave nature. NCRB classifies crimes like Murder, Culpable Homicide not amounting to murder, Dowry Deaths, Attempt to Commit Murder, Grievous Hurt, Rape, Rioting etc. as violent crimes.

Of all crimes registered in the country, 8.1% are violent crimes. Around 13.3% of the violent crimes in India have been reported from Uttar Pradesh. About **55,519** such violent crimes were registered there, accounting for 8.8% of all the crimes in Uttar Pradesh.

Violent Crimes (Incidence & Crime Rate) – 2019

S. No	State/UT	2017	2018	2019	Percentage Share of State/UT (2019)	Mid-Year Projected Population (in Lakhs) (2019)	Rate of Total Violent Crimes (2019)+
1	2	3	4	5	6	7	8
STATES:							
1	Andhra Pradesh	8288	8211	7670	1.8	523.2	14.7
2	Arunachal Pradesh	639	622	678	0.2	15.1	45.0
3	Assam	25875	29418	28696	6.9	344.2	83.4
4	Bihar	50700	44407	45004	10.8	1201.1	37.5
5	Chhattisgarh	8501	8669	7823	1.9	288.5	27.1
6	Goa	512	452	415	0.1	15.4	26.9
7	Gujarat	10509	11358	9453	2.3	682.5	13.9
8	Haryana	13040	14018	12812	3.1	288.1	44.5
9	Himachal Pradesh	1566	1861	1833	0.4	73.2	25.1
10	Jammu & Kashmir	3789	3959	3100	0.7	135.3	22.9
11	Jharkhand	9961	11617	12187	2.9	375.8	32.4
12	Karnataka	18655	17616	16445	3.9	659.7	24.9
13	Kerala	13315	13133	12736	3.0	351.9	36.2
14	Madhya Pradesh	27953	27106	24972	6.0	826.1	30.2
15	Maharashtra	40010	45706	44074	10.6	1225.3	36.0
16	Manipur	834	658	673	0.2	31.1	21.6
17	Meghalaya	715	662	678	0.2	32.3	21.0
18	Mizoram	143	161	163	0.0	12.0	13.6
19	Nagaland	217	233	181	0.0	21.6	8.4
20	Odisha	19885	15955	21187	5.1	437.3	48.4
21	Punjab	5538	6153	6764	1.6	299.4	22.6
22	Rajasthan	16328	18047	22961	5.5	776.0	29.6
23	Sikkim	177	178	188	0.0	6.7	28.3
24	Tamil Nadu	10358	11654	10946	2.6	758.1	14.4
25	Telangana	7633	7652	8661	2.1	372.8	23.2
26	Tripura	1589	2456	2146	0.5	40.0	53.6
27	Uttar Pradesh	64450	65155	55519	13.3	2259.7	24.6
28	Uttarakhand	2740	3137	2845	0.7	111.8	25.4
29	West Bengal	48609	44446	44446	10.6	971.1	45.8
TOTAL STATE(S)		412529	414700	405256	97.0	13135.2	30.9

CA57. Ecological Disaster in Kamchatka Peninsula

An ‘ecological disaster’ of sorts is unfolding on a black volcanic beach of the **Kamchatka Peninsula** in the Russian Far East, according to a report in the media outlet Siberian Times.



On October 3, 2020, users on Twitter also shared satellite photos showing a river in the area flowing into the Pacific Ocean. The river displayed a yellow colour. There is a training camp of the Russian military upstream. Another theory being speculated is that ships carrying oil in the vicinity had leaked it into the sea water. **Kamchatka is a UNESCO world heritage site.**



CA58. Beijing Declaration and Platform for Action

Link: <https://www.undp.org/content/undp/en/home/blog/2020/celebrating-the-beijing-declaration.html>

This year the world is commemorating the 25th anniversary of the **Beijing Declaration and Platform for Action (Beijing+25)**, the most visionary agenda for achieving gender equality.

The United Nations has organized 4 world conferences on women.

- A. Mexico City,1975
- B. Copenhagen,1980
- C. Nairobi,1985
- D. Beijing,1995

The 1995 4th World Conference on Women (WCW), held in Beijing, was one of the largest ever gatherings of the United Nations, and a critical turning point in the world's focus on gender equality and the empowerment of women.

It marked a significant turning point for the global agenda for gender equality. **The Beijing Declaration was adopted unanimously the UN at the end of the 4th WCW.**

Beijing Declaration is an agenda for women's empowerment and considered the key global policy document on gender equality.

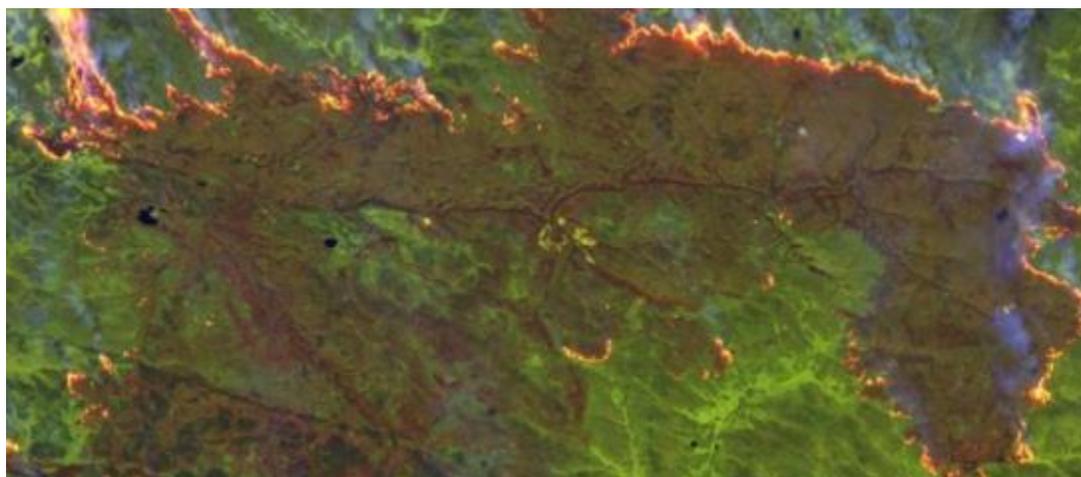
Critical areas of concern

- Women and the environment
- Women in power and decision-making
- The girl child
- Women and the economy
- Women and poverty
- Violence against women
- Human rights of women
- Education and training of women
- Institutional mechanisms for the advancement of women
- Women and health
- Women and the media
- Women and armed conflict

It sets strategic objectives and actions for the advancement of women and the achievement of gender equality in 12 critical areas of concern like women and health, women in power and decision-making, the girl-child, women and the environment.

CA59. Zombie fires in a warming Arctic region a worry: Study

Link: <https://www.downtoearth.org.in/news/climate-change/zombie-fires-in-a-warming-arctic-region-a-worry-study-73605>



The fire regimes in the Arctic are changing rapidly, **with ‘zombie fires’ becoming more frequent in addition to fires occurring in the once-frozen tundra**, according to a new study.

A **‘zombie fire’ is a fire from a previous growing season** that can smoulder under the ground which is made up of carbon-rich peat. When the weather warms, **the fire can reignite**, according to the study by scientists from the Institute of Arctic and Alpine Research at the University of Colorado, Boulder, in the United States.

- a. The second, even more worrying feature, is of **fires in the Arctic spreading to areas which were formerly fire-resistant**.
- b. The tundra — north of the Arctic Circle — is drying up and vegetation there like moss, grass, dwarf shrubs, etc. are starting to catch fire, according to the study published in Nature Geoscience.
- c. Nearly all of this year’s fires inside the Arctic Circle occurred on continuous permafrost, with over half of these burning on ancient carbon-rich peat soils, a statement by the university said.

There was an urgent need to understand the nature of fires in the Arctic which are evolving and changing rapidly, the study said. In fact, the issue was so important to the climate system that it had to be taken up as an issue of global importance.

CA60. What is government borrowing?

Why in News?

The Finance Ministry has said that the government will borrow Rs 4.34 lakh crore in the second half of the current fiscal to meet its expenditure requirement amid COVID-19 crisis afflicting the country’s economy. With this, the government will stick to the revised borrowing target for the current fiscal.

What was the target?

The Centre had revised the borrowing target to Rs 12 lakh crore in May against Rs 7.8 lakh crore approved in the Budget 2020-21.

What is the fiscal deficit target?

The Budget has pegged fiscal deficit at 3.5 per cent for the current fiscal, down from 3.8 per cent of the GDP in the last financial year.

Last fiscal, the government had to resort to the “escape clause” in the Fiscal Responsibility and Budget Management (FRBM) Act for deviating from fiscal deficit target to 3.8 per cent from the Budget estimate of 3.3 per cent for 2019-20.

What is an escape clause?

The “escape clause” allows the government to breach its fiscal deficit target by 0.5 percentage points at times of severe stress in the economy, including periods of structural change and those when growth falls sharply.

What is government borrowing?

Borrowing is a loan taken by the government and falls under capital receipts in the Budget document. Usually, Government borrows through issue of government securities called G-secs and Treasury Bills.

How does increased government borrowing affect govt finances?

Bulk of government’s fiscal deficit comes from its interest obligation on past debt. If the government resorts to larger borrowings, more than what it has projected, then its interest costs also go up risking higher fiscal deficit. That hurts government’s finances.

Larger borrowing programme means that the public debt will go up and especially at a time when the GDP growth is subdued, it will lead to a higher debt-to-GDP ratio.