



Goaltide
A Prelims IAS Academy

July 2020

part - I

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. UN75 Declaration

Link: <https://www.thehindu.com/news/international/un-75-declaration-delayed/article31927129.ece>

Not very major issue. Two big world UN and DECLARATION are used, so we will see what an issue is. **First of all, why this 75?**

The United Nations (UN) **will celebrate its 75th anniversary on 24 October 2020**. Each year on 24th October, the UN celebrates its anniversary. UN Day marks the anniversary of the *entry into force of the UN Charter and the founding of the Organization in 1945*.

What is in news?

Recently, a commemorative **declaration marking the 75th anniversary of the signing of the United Nations (UN) Charter was delayed** as member states could not reach an agreement on phraseology.

India had last week joined **five western countries (Australia, Canada, New Zealand and the United States)** to protest against a phrase reflecting Chinese President Xi Jinping's political creed.

The process had not been smooth as **six countries (Australia, Canada, India, New Zealand and the United States)** publicly 'broke' to object to the inclusion of a phrase in the final draft that was circulated on June 17. See the phrase below:

What we agree today, will affect the sustainability of our planet as well the welfare of generations for decades to come. Through reinvigorated global action and by building on the progress achieved in the last 75 years, we are determined to ensure the future we want. To achieve this, we will mobilize resources, strengthen our efforts and show unprecedented political will and leadership. We will work together with partners to strengthen coordination and global governance for the common good of present and future generations and to realize our shared vision for a common future.

We request the Secretary-General to report back before the end of the seventy-fifth session of the General Assembly with recommendations to advance our common agenda and to respond to current and future challenges.

We commit to take this declaration to our citizens, in the true spirit of We the Peoples.

The reason that these **six words** set off alarm signals in certain permanent missions in New York was that **these were a deliberate reference to Chinese President Xi Jinping's pet concept for the global order**. All the earlier drafts of the declaration, which were open for negotiation, did not have this phrase. It was only when the final draft was circulated that it was included – **and the silence period immediately began**. It meant that including the line in the declaration could not be negotiated anymore.

What is silence period?

The '**silence procedure**' is the method adopted to consider draft resolutions and declarations *as a consequence of the physical restrictions put in place due to the coronavirus pandemic*. After the text of a draft decision or resolution is circulated, the item is said to be finalized after a certain period if no country registers a formal objection.

What the countries demand?

The objecting countries wanted the resolution to read, "*We will work together with partners to strengthen coordination and global governance for the common good of present and future generations and to realize our shared vision for a better future as envisaged in the preamble of the UN Charter.*"

25 June 2020

Excellency,

Reference is made to my letter dated 24 June 2020, taking stock of the intergovernmental negotiations that led to a final draft Declaration for the Commemoration of the seventy-fifth anniversary of the United Nations, under the oversight of H.E. Alya Ahmed bin Saif Al-Thani, Permanent Representative of Qatar, and H.E. Anna Karin Eneström, Permanent Representative of Sweden, and acknowledging the strong support of Member States to the outcome that was reached.

I had announced my determination to work with Member States to overcome the limited remaining challenges and to put forward language in that respect. After further extensive consultations, I have the honour to propose the following language to substitute the sentence on which silence was broken:

"We will work together with partners to strengthen coordination and global governance for the common future of present and coming generations."

This was **acceptable compromise for the six** countries as the new proposed phrase echoed the language in the UN charter. Silence period was extended to see if they have any objection or not regarding the **new statement till 26 June**.

On June 26, the text of the Declaration of Commemoration of the 75th anniversary of the United Nations was finalized after the end of the "silence period".

26 June 2020

Excellency,

Reference is made to my previous correspondence, regarding the final draft Declaration for the Commemoration of the seventy-fifth anniversary of the United Nations.

As you know, the silence procedure was extended until Friday, 26 June 2020, at 6:00 p.m. to allow Member States consider the new formulation I proposed. I am pleased to inform there was no objection to the proposed formulation.

However, I have been notified of an issue regarding a particular element of the final draft Declaration, which would require further clarification in order to conclude the process. Therefore, the silence procedure has concluded. I will consult further with the co-facilitators and Member States to find a satisfactory outcome that will allow us to finalise the process and have the text ready for adoption, in accordance with General Assembly resolution 73/299.

So, for now it is: *"We will work together with partners to strengthen coordination and global governance for the common good of present and future generations and to realize our shared vision for a better future as envisaged in the preamble of the UN Charter."*
Wait for final updation of statement.

CA2. Government Declares Entire Nagaland 'Disturbed Area' for 6 More Months

Link: <https://www.nationalheraldindia.com/india/whole-of-nagaland-declared-as-disturbed-area-by-centre-to-extend-afspa-for-six-more-months>



News

The Central Government has declared the whole of the State of Nagaland to be a 'disturbed area' to extend the operation of Armed Forces (Special Powers) Act [AFSPA] in the state for a further period of six months with effect from 30th June, 2020.

Nagaland has been under the Armed Forces (Special Powers) Act for almost six decades now.

Origin to AFSPA.

The Armed Forces Special Powers Act, 1958, had its genesis in the 1942 Lord Linlithgow ordinance, which was enacted **to curb the Quit India movement**. Soon after Independence, the country faced various secession movements. The government quickly evoked the Armed Forces Special Powers Act: a law that was once used by the British to curb movements of freedom struggle which saw many Indians being killed or imprisoned.

What does the AFSPA mean?

In simple terms, AFSPA gives armed forces the power **to maintain public order in "disturbed areas"**. Section 4 of the Act provides the following wide powers to any commissioned officer, warrant officer, non-commissioned officer or any other person of equivalent rank in the armed forces: **You will read all four points below.**

(a) if he is of opinion that it is necessary so to do for the maintenance of public order, after giving such due warning as he may consider necessary, fire upon or otherwise use force, even to the causing of death, against any person who is acting in contravention of any law or order for the time being in force in the disturbed area prohibiting the assembly of five or more persons or the carrying of weapons or of things capable of being used as weapons or of fire-arms, ammunition or explosive substances;

(b) if he is of opinion that it is necessary so to do, destroy any arms dump, prepared or fortified position or shelter from which armed attacks are made or are likely to be made or are attempted to be made, or any structure used as a training camp for armed volunteers or utilised as a hide-out by armed gangs or absconders wanted for any offence;

(c) arrest, without warrant, any person who has committed a cognizable offence or against whom a reasonable suspicion exists that he has committed or is about to commit a cognizable offence and may use such force as may be necessary to effect the arrest;

(d) enter and search without warrant any premises to make any such arrest as aforesaid or to recover any person believed to be wrongfully restrained or confined or any property reasonably suspected to be stolen property or any arms, ammunition or explosive substances believed to be unlawfully kept in such premises, and may for that purpose use such force as may be necessary.

Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.

~~✓~~ **5. Arrested persons to be made over to the police.**—Any person arrested and taken into custody under this Act shall be made over to the officer in charge of the nearest police station with the least possible delay, together with a report of the circumstances occasioning the arrest.

~~✓~~ **6. Protection to persons acting under Act.**—No prosecution, suit or other legal proceeding shall be instituted, except with the previous sanction of the Central Government, against any person in respect of anything done or purported to be done in exercise of the powers conferred by this Act.

What is a “disturbed area” and who has the power to declare it?

A disturbed area is one which is declared by notification under **Section 3 of the AFSPA**. An area can be disturbed due to differences or disputes between members of different religious, racial, language or regional groups or castes or communities. **The Central Government, or the Governor of the State or administrator of the Union Territory** can declare the whole or part of the State or Union Territory as a disturbed area. A suitable notification would have to be made in the Official Gazette. As per Section 3, it can be invoked in places where “the use of armed forces in aid of the civil power is necessary”.

~~✓~~ **13. Power to declare areas to be disturbed areas.**—If, in relation to any State or Union territory to which this Act extends, the Governor of that State or the Administrator of that Union territory or the Central Government, in either case, is of the opinion that the whole or any part of such State or Union territory, as the case may be, is in such a disturbed or dangerous condition that the use of armed forces in aid of the civil power is necessary, the Governor of that State or the Administrator of that Union territory or the Central Government, as the case may be, may, by notification in the Official Gazette, declare the whole or such part of such State or Union territory to be a disturbed area.]

SC judgement on AFSPA: *You will use this in your answer writing. We have taken two important judgements from two different articles.*

~~✓~~ The futility of the advisory

The Supreme Court in the case *Naga People's Movement of Human Rights v Union of India (1998)* upheld the constitutionality of the AFSPA, but gave certain cautions in the form of ‘dos and don’ts’ by the armed forces chief. The dos and don’ts are a range of duties, such as: a person should not be kept in custody for a period longer than required and should be handed over to the nearest police station; no force should be used on a person arrested, except if he is trying to escape; third-degree methods, which are methods which cause pain and suffering should not be used against those arrested or under suspicion to extract information or confessions out of them; only the armed forces should arrest a person; the armed forces should not carry out any form of interrogation. These are only a few of the various guidelines mentioned by the court.

In the context of AFSPA invocation in the State of Manipur, the Supreme Court had in the year 2016 observed thus in Extra Judicial Execution Victim Families Association v. Union of India,

Be that as it may, what is of significance is that this Court has implied that the armed forces of the Union could be deployed in public order situations to aid the civil power and on such deployment, they shall operate in cooperation and conjunction with the civil administration and until normalcy is restored. This view is predicated on and postulates that normalcy would be restored within a reasonable period. What would be the consequence if normalcy is not restored for a prolonged or indeterminate period? In our opinion, it would be indicative of the failure of the civil administration to take effective aid of the armed forces in restoring normalcy or would be indicative of the failure of the armed forces in effectively aiding the civil administration in restoring normalcy or both. Whatever be the case, normalcy not being restored cannot be a fig leaf for prolonged, permanent or indefinite deployment of the armed forces (particularly for public order or law and order purposes) as it would mock at our democratic process and would be a travesty of the jurisdiction conferred by Entry 2A of the Union List for the deployment of the armed forces to normalize a situation particularly of an internal disturbance.

What different committees have to say about it??

How effective these dictums have been can be gauged from reports of the various committees constituted in the past to assess the impact of the AFSPA. The Justice Santosh Hegde Committee (2013), appointed by the Supreme Court to look into the extrajudicial killings in Manipur found that, that the *Dos and Don'ts* dictum of the Supreme Court hold no significance in the field and the army has not been following them. The committee found four out of six deaths it was inquiring in Manipur have similar patterns of cause of death and could be cases of fake encounters. The report also concluded that AFSPA has not been able to achieve peace in the Northeast, and on the contrary, it has widened the distance between the people of these areas and the mainland.

There have been other committees in the past which have found the law arbitrary and have recommended the repeal of AFSPA. They are the J.S. Verma Committee (2012) and the Justice Jeevan Reddy Committee (2005). The Justice Verma Committee also pointed out the vulnerability of the women in conflict zones such as Kashmir; that there are higher chances of women getting harassed and raped at the hands of Armed Forces in the disturbed areas.

Which all states presently have AFSPA?

See, the areas keep changing under AFSPA. Whenever there will be problem AFSPA will be imposed. So, no need to panic if new village or area comes under AFSPA. Suppose your paper has been set in April for exam in May and suddenly in May before exam, AFSPA is imposed somewhere, so it will create problem. So, they will never ask such things. But have rough idea:

The Armed Forces (Special Powers) Act-(AFSPA) was passed on September 11, 1958 to help the army in tackling the disturbed areas of the Northeast India. AFSPA was implemented in the **Kashmir** amid increase in the insurgency in 1990. Presently, AFSPA, 1958 is operational in entire States of **Assam, Nagaland, Manipur** (except Imphal Municipal area), three districts namely Tirap, Changlang and Longding of **Arunachal Pradesh** and the areas falling within the jurisdiction of the 8 police stations in the districts of Arunachal Pradesh, bordering the State of Assam.

CA3. Union govt flags off 'Accelerate Vigyan' scheme to push scientific research

Link: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1635591>

To provide a single platform for research internships, capacity building programs, and workshops across the country, **the Science and Engineering Research Board (SERB) has launched a new scheme called 'Accelerate Vigyan' (AV).**

'Accelerate Vigyan' (AV) strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. The aim of AV is to expand the research base in the country, with three broad goals - consolidation / aggregation of all scientific training programs, initiating high-end Orientation Workshops and creating opportunities for Research Internships.

The institution is also planning to launch an app in about two months. **Accelerate Vigyan has already started calling applications under its 'ABHYAAS' component** for the winter season. ABHYAAS is an attempt to boost research and development in the country by enabling and grooming potential post-graduate / PhD students by developing their research skills in select areas.

It has two components: High-end workshops (**'KARYASHALA'**) and **research internships ('VRITIKA')**. This is especially important for those who have limited opportunities to access such learning capacities / infrastructure.

The Union government scheme will work on mission mode, particularly with respect to its component dealing with consolidation / aggregation of all major scientific events in the country. An inter-ministerial overseeing committee involving all scientific ministries / departments and a few others has been constituted to support SERB in implementing the scheme.

To increase the volume of research studies and provide incentives for the same, Government has introduced many schemes/programmes, including the following:

1. Prime Minister Research Fellowship (**PMRF**) Scheme for promotion of research in the frontier areas of science & technology.
2. Scheme for Trans-disciplinary Research for India's Developing Economy (**STRIDE**) for Humanities and Human Sciences.
3. Impacting Research Innovation and Technology (**IMPRINT**) for technical research.
4. Impactful Policy Research in Social Science (**IMPRESS**) for social sciences research.
5. Scheme for Promotion of Academic and Research Collaboration (**SPARC**) for joint research with Foreign Universities; and
6. National Doctoral Fellowship (**NDF**) scheme to promote research culture and collaborative research between Institute and Industries leading to start-ups in AICTE institutions.

CA4. K.K.Venugopal reappointed as Attorney General for India

Link: <https://timesofindia.indiatimes.com/india/kk-venugopal-re-appointed-as-attorney-general-of-india-for-a-year/articleshow/76701359.cms>

Important topic today for us Attorney General. We will try to cover every detail of Attorney General Today.

The Attorney-General for India

76. Attorney-General for India.—(1) The President shall appoint a person who is qualified to be appointed a Judge of the Supreme Court to be Attorney-General for India.

(2) It shall be the duty of the Attorney-General to give advice to the Government of India upon such legal matters, and to perform such other duties of a legal character, as may from time to time be referred or assigned to him by the President, and to discharge the functions conferred on him by or under this Constitution or any other law for the time being in force.

(3) In the performance of his duties the Attorney-General shall have right of audience in all courts in the territory of India.

(4) The Attorney-General shall hold office during the pleasure of the President, and shall receive such remuneration as the President may determine.

88. Rights of Ministers and Attorney-General as respects Houses.—Every Minister and the Attorney-General of India shall have the right to speak in, and otherwise to take part in the proceedings of, either House, any joint sitting of the Houses, and any committee of Parliament of which he may be named a member, but shall not by virtue of this article be entitled to vote.

Now, the important part is:

The Act enacted to regulate terms, duties and conditions of Law officer in India including Attorney General: **Law Officer (Conditions of Service) Rules, 1987. Read every point mentioned.**

G.S.R. No.1(E) In exercise of the powers conferred by the proviso to article 309 of the Constitution read with article 76 of the Constitution and in supersession of the Law Officers (Conditions of Service) Rules, 1972, except as respects things done or omitted to have been done, the President hereby makes the following rules, regulating the remuneration, duties and other terms and conditions of the Attorney-General for India, the Solicitor-General for India and the Additional Solicitor-General for India, namely:-

1. Short title and commencement – (1) These rules may be called the Law Officer (Conditions of Service) Rules, 1987.

Term of Law officer:

3. Terms of Office – (1) A Law Officer shall hold office for a term of three years from the date on which he enters upon his office:

Duties of Law officer:

- (a) to give advice to the Government of India upon such legal matters, and to perform such other duties of a legal character, as may from time to time, be referred or assigned to him by the Government of India.
- (b) to appear, whenever required, in the Supreme Court or in any High Court on behalf of the Government of India in cases (including suits, writ petitions, appeal and other proceedings) in which the Government of India is concerned as a party or is otherwise interested;
- (c) to represent the Government of India in any reference made by the President to the Supreme Court under Article 143 of the Constitution; and
- (d) to discharge such other functions as are conferred on a Law Officer by or under the Constitution or any other Law for the time being in force.

A law officer shall not:

Restrictions- (1) A Law Officer shall not -

- (a) hold briefs in any court for any party except the Government of India or the Government of a State or any University, Government School or College, local authority, Public Service Commission, Port Trust, Port Commissioners, Government aided or Government managed hospitals, a Government company as defined in Section 617 of the Companies Act, 1956 (1 of 1956), any Corporation owned or controlled by the State, any body or institution in which the Government has a preponderating interest;
- (b) { advise any party against the Government of India or a Public Sector Undertaking, or in cases in which he is likely to be called upon to advise, or appear for, the Government of India or a Public Sector Undertaking; }
- (c) defend an accused person in a criminal prosecution, without the permission of the Government of India; or
- (d) accept appointment to any office in any company or corporation without the permission of the Government of India;
- (e) {advise any Ministry or Department of Government of India or any statutory organization or any Public Sector Undertaking unless the proposal or a reference in this regard is received through the Ministry of Law and Justice, Department of Legal Affairs.}⁶

Now we will see List of Attorneys and Order of Precedence of Attorney:

List of Attorneys General for India [edit]

The Attorneys General for India since independence are listed below:

Attorney General	Term
M. C. Setalvad ✓	28 January 1950 – 1 March 1963
C. K. Daphtary	2 March 1963 – 30 October 1968
Niren De	1 November 1968 – 31 March 1977
S. V. Gupte	1 April 1977 – 8 August 1979
L. N. Sinha	9 August 1979 – 8 August 1983
K. Parasaran	9 August 1983 – 8 December 1989
Soli Sorabjee	9 December 1989 – 2 December 1990
G. Ramaswamy	3 December 1990 – 23 November 1992
Milon K. Banerji	21 November 1992 – 8 July 1996
Ashok Desai	9 July 1996 – 6 April 1998
Soli Sorabjee	7 April 1998 – 4 June 2004
Milon K. Banerji	5 June 2004 – 7 June 2009
Goolam Essaji Vahanvati	8 June 2009 – 11 June 2014
Mukul Rohatgi	19 June 2014 – 18 June 2017 ^[14]
K. K. Venugopal ✓	1 July 2017 – present

No.33-Pres/79 -In supersession of all previous notifications issued on the subject, the following Table, with respect to the rank and precedence of the persons named therein which has been approved by the President, is published for general information: -

1. President
2. Vice-President
3. Prime Minister
4. Governors of States within their respective States
5. Former Presidents
- 5A. Deputy Prime Minister
6. Chief Justice of India
Speaker of Lok Sabha
7. Cabinet Ministers of the Union.
Chief Ministers of States within their respective States
Deputy Chairman, Planning Commission
Former Prime Ministers
Leaders of Opposition in Rajya Sabha and Lok Sabha
- 7A. Holders of Bharat Ratna decoration
8. Ambassadors Extraordinary and Plenipotentiary and High Commissioners of Commonwealth countries accredited to India
Chief Ministers of States outside their respective States
Governors of States outside their respective States)

9. Judges of Supreme Court
- 9A Chairperson, Union Public Service Commission
Chief Election Commissioner
Comptroller & Auditor General of India
10. Deputy Chairman, Rajya Sabha
Deputy Chief Ministers of States
Deputy Speaker, Lok Sabha
Members of the Planning Commission
Ministers of State of the Union {and any other Minister in the Ministry of Defence for defence matters}
11. Attorney General of India.
Cabinet Secretary.
Lieutenant Governors within their respective Union Territories

CA5. Chinese Researchers Warn of New Virus in Pigs with Human Pandemic Risk

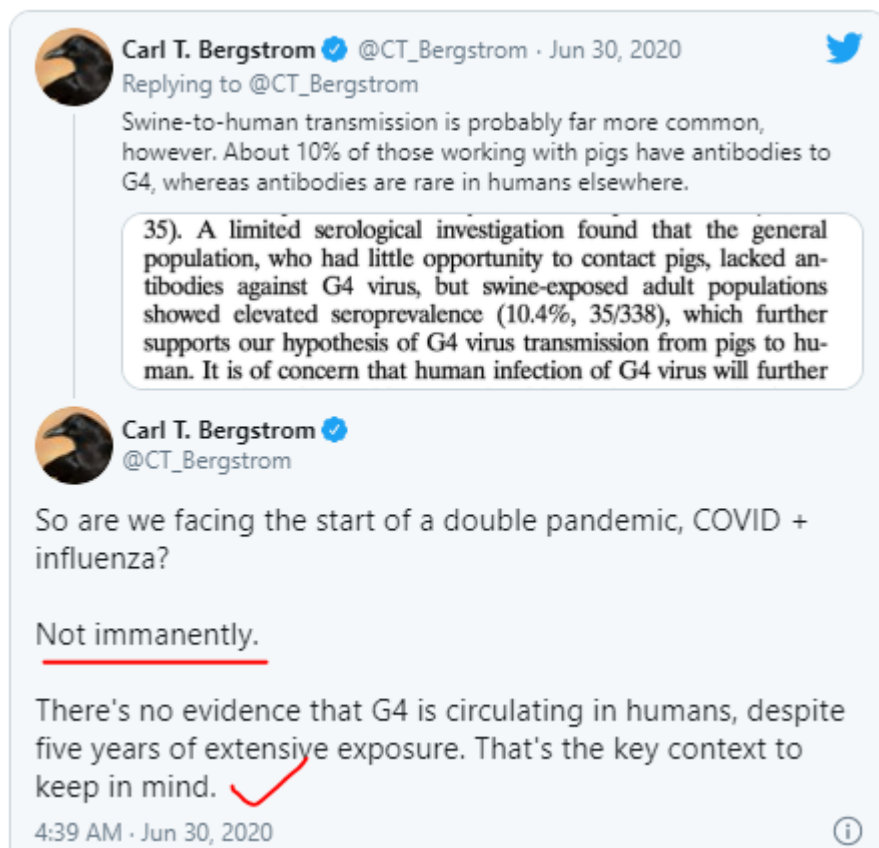
Link: <https://science.thewire.in/health/china-pigs-virus-pandemic/>

A news just to calm you that no need to worry about new virus now.

A team of Chinese researchers looked at influenza viruses found in pigs from 2011 to 2018 and found a “**G4**” strain of **H1N1** that has “all the essential hallmarks of a candidate pandemic virus”, according to the paper, published by the US journal, Proceedings of the National Academy of Sciences (PNAS).

A new flu virus found in Chinese pigs has become more infectious to humans and needs to be watched closely in case it becomes a potential “pandemic virus”, a study said, although experts said there is no apparent threat.

While it is capable of infecting humans, there is no imminent risk of a new pandemic, said Carl Bergstrom, a biologist at the University of Washington.

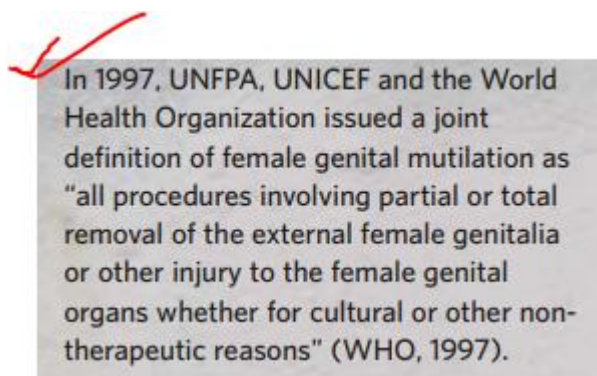


CA6. State of the World Population 2020: UNFPA

Link: <https://www.thehindu.com/news/national/india-accounts-for-458-million-of-the-worlds-missing-females-says-un-report/article31951401.ece>

Recently, the **United Nations Population Fund (UNFPA)** has released the State of the World Population 2020 report, titled '*Against my will: defying the practices that harm women and girls and undermine equality*'.

It highlights at least 19 human rights violations against women and focuses on the three most prevalent ones, **Female Genital Mutilation (FGM)**, **extreme bias against daughters**, **in favour of sons and child marriage**.



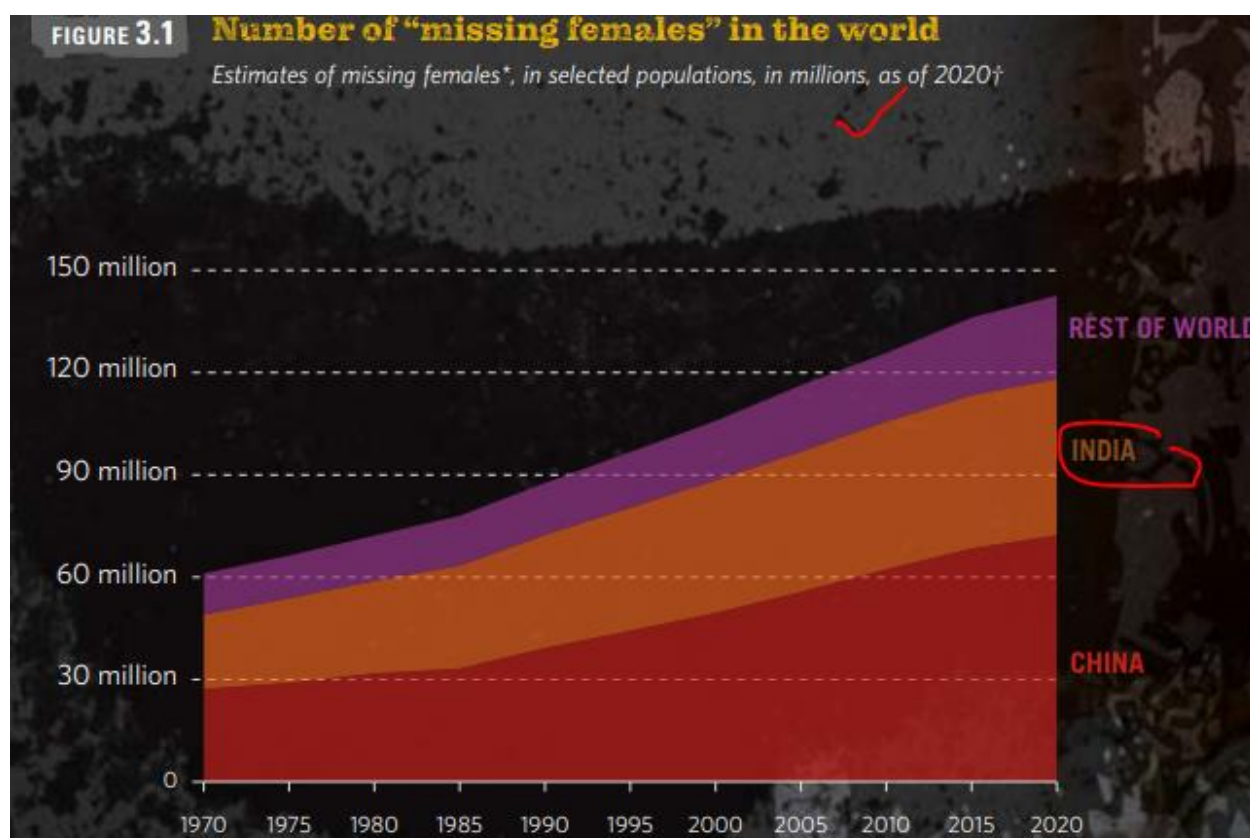
We will see all what reports talk about India: Just see images. Nothing to memorize.

Between 2013 and 2017, about 460,000 girls in India were "missing" at birth each year. According to one analysis, gender-biased sex selection accounts for about two thirds of the total missing girls, and post-birth female mortality accounts for about one third (Table 3.5).

TABLE 3.2 Deaths of some girls are attributable to neglect and other forms of postnatal sex selection

Estimates of excess female mortality below age 5, and its share of overall mortality rates among girls below age 5 in 2012

Country or territory	Excess female mortality rate	As a percentage of the overall female under-5 mortality
Afghanistan	5.2	2.7%
Bahrain	1.1	5.9%
Bangladesh	2.1	2.6%
China	1.0	3.3%
Egypt	2.4	5.6%
India	13.5	11.7%
Iran	1.8	5.2%
Jordan	1.9	5.0%
Nepal	2.9	3.5%
Pakistan	4.7	2.7%



China and India—together account for about 90 per cent to 95 per cent of the estimated 1.2 million to 1.5 million missing female births annually worldwide due to gender-biased (prenatal) sex selection.

TABLE 3.4

Missing female births total nearly 1.2 million annually

Estimates of missing female births due to gender (prenatal) sex selection in selected countries and territories, averaged over a five-year period[†]

	Country or territory	Missing female births [†]
Asia	China	666,300
	Hong Kong, SAR of China	100
	Taiwan, Province of China	1,200
	India	461,500
	Nepal	No available nationally representative data
	Republic of Korea	0
	Singapore	No available nationally representative data
	Viet Nam	40,800
South Caucasus	Armenia	1,100
	Azerbaijan	6,200
	Georgia	100
South-East Europe	Albania	500
	Montenegro	100
	Kosovo [†]	No available nationally representative data
North Africa	Tunisia	1,400
GLOBAL		1,179,000

TABLE 3.5

Two countries account for the majority of the world's missing females

Estimates of missing females, annual excess female deaths and missing female births in 2020 (figures in millions)

	WORLD TOTAL	China	India	Other countries
Missing females*	142.6	72.3	45.8	24.5
Excess female deaths**	1.71	0.62	0.36	0.72
Missing female births***	1.50	0.73	0.59	0.17

Level of education

Girls with only a primary education are twice as likely to be married or in a union than those with a secondary or higher education.

Girls with no education are three times more likely to be married or in a union before age 18 than those with a secondary or higher education (UNFPA, 2012a). In

India, 51 per cent of young women with no education and 47 per cent of those with only a primary education had married by age 18 (UNICEF, 2019c). Meanwhile, 29 per cent

Whichever system is in place, dowry and bride price represent the “commodification” of girls and women—an egregious violation of their human right to make their own life decisions, including on marriage. Because of this, and other negative social consequences, payment of dowries or bride prices has been banned in most countries, but enforcing such bans is difficult.

In India, which has the most experience in trying to end the dowry practice, the Dowry Prevention Act has been in place since 1961 and is enforced through different sections of the Indian penal code, but the practice remains widespread (Chiplunkar and Weaver, 2019).

2019b). In India, of women who had married before the age of 18, 60 per cent had given birth before they reached 18, and 79 per cent before the age of 20 (UNICEF, 2019c).

In India, one third (32 per cent) of women who had married before the age of 18 had

experienced physical violence at the hands of their husbands versus 17 per cent of those who had married after 18, according to a large-scale survey of more than 8,000 women in five states where child marriage is prevalent (Andhra Pradesh, Bihar, Jharkhand, Maharashtra and Rajasthan) (Santhya and

We will see now United Nations Population Fund.

UNFPA is the United Nations sexual and reproductive health agency. Its mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled. **The United Nations Fund for Population Activities was established as a trust fund in 1967** and began operations in 1969. In 1987, it was **officially renamed the United Nations Population Fund**, reflecting its lead role in the United Nations system in the area of population.

UNFPA is not supported by the UN budget, instead, all UNFPA funding is voluntary. UNFPA mobilizes financial resources from governments and other partners to support programmes that aim to achieve the "**three zeros**" – *zero unmet need for family planning, zero preventable maternal deaths, and zero harmful practices and gender-based violence* – and accelerate progress towards the Sustainable Development Goals by 2030.

What is the UNFPA mandate?

The mandate of UNFPA, as established by the United Nations Economic and Social Council (ECOSOC) in 1973 and reaffirmed in 1993, is (1) to build the knowledge and the capacity to respond to needs in population and family planning; (2) to promote awareness in both developed and developing countries of population problems and possible strategies to deal with these problems; (3) to assist their population problems in the forms and means best suited to the individual countries' needs; (4) to assume a leading role in the United Nations system in promoting population programmes, and to coordinate projects supported by the Fund.

CA7. National Mission of Clean Ganga.

Link: <https://www.thehindu.com/news/national/world-bank-approves-fresh-funds-for-ganga-cleaning-mission/article31957115.ece>

News:

Recently, the World Bank has approved a five- year loan (for the second phase) to the National Mission for Clean Ganga (NMCG) or Namami Gange Project worth Rs.3,000 crore to help stem pollution in the Ganga river basin.

*After you read this, please make sure **whenever you see this Mission again, you will remember all the points** we are going to mention now. **Don't start learning from new source again.** This is a big problem when you read so many things again and again.*

Ok. Before proceeding: **Ministry of Jal Shakti is a ministry under Government of India which was formed in May 2019.** This was formed by **merging of two** ministries: *Ministry of Water Resources, River Development & Ganga Rejuvenation and*

Ministry of Drinking Water and Sanitation. So, in explanation given below, replace given ministry by Ministry of Jal Shakti.

Read Now.

National Mission for Clean Ganga (NMCG) was registered as a society on 12th August 2011 under the Societies Registration Act 1860. It acted as implementation arm of **National Ganga River Basin Authority (NGRBA)** which was constituted under the provisions of the **Environment (Protection) Act (EPA), 1986**.

But, **NGRBA has since been dissolved**, consequent to constitution of **National Council for Rejuvenation, Protection and Management of River Ganga** (referred as **National Ganga Council**).

13. Dissolution of National Ganga River Basin Authority --- (1) On and from the date of constitution of the National Ganga Council in paragraph 11, the National Ganga River Basin Authority constituted by Notification of the Ministry of Water Resources, River Development and Ganga Rejuvenation, number S.O 2539 (E), dated the 29th September 2014 shall stand dissolved.

(2) All things done or omitted to be done or actions taken or any money spent or authorised to be spent by the National Ganga River Basin Authority before such dissolution shall be deemed to have been done or taken under the corresponding provisions of this Order.

So, from now,

National Council for Rejuvenation, Protection and Management of River Ganga = National Ganga Council). NO CONFUSION.

So, now we will study National Council for Rejuvenation, Protection and Management of River Ganga. We go through all provisions of the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016. See below. Everything will be clear.

1. Short title and commencement. – (1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. Applicability.– This Order shall apply to the States comprising River Ganga Basin, namely, Himanchal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as the National Council for Rejuvenation, Protection and Management of River Ganga may decide for the purpose of effective abatement of pollution and rejuvenation, protection and management of the River Ganga.

11. Constitution of National Council for Rejuvenation, Protection and Management of River Ganga. - With effect from the date of commencement of this Order, there shall be constituted an authority by the name to be called the National Council for Rejuvenation, Protection and Management of River Ganga, (hereinafter in this Order called as the National Ganga Council) for the purposes of the Act and to exercise powers and discharge functions as specified in this Order and the Act.

12. Composition of National Ganga Council.–The National Ganga Council shall consist of the following members, namely:-

(a) Prime Minister

-Chairperson, ex-officio

4. Principles to be followed for rejuvenation, protection and management of River Ganga. – (1) The following principles shall be followed in taking measures for the rejuvenation, protection and management of River Ganga, namely:-

- (i) the River Ganga shall be managed as a single system;
- (ii) the restoration and maintenance of the chemical, physical, and biological quality of the waters of River Ganga shall be achieved in a time bound manner;
- (iii) the River Ganga shall be managed in an ecologically sustainable manner;
- (iv) the continuity of flow in the River Ganga shall be maintained without altering the natural seasonal variations;
- (v) the longitudinal, lateral and vertical dimensions (connectivities) of River Ganga shall be incorporated into river management processes and practices;
- (vi) the integral relationship between the surface flow and sub-surface water (ground water) shall be restored and maintained;
- (vii) the lost natural vegetation in catchment area shall be regenerated and maintained;
- (viii) the aquatic and riparian biodiversity in River Ganga Basin shall be regenerated and conserved;

5. Ecological flow of water in River Ganga to be maintained. – (1) Every State Government, shall endeavor to ensure that uninterrupted flows of water are maintained at all times in River Ganga as required under clause (iv) of paragraph (4).

(2) Every State Government shall also endeavor to maintain adequate flow of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal, all concerned authorities shall take suitable actions in a time bound manner.

14. Superintendence, direction and control of management of River Ganga to vest in National Ganga Council.– The National Ganga Council shall, notwithstanding anything contained in this Order, be overall responsible for the superintendence, direction, development and control of River Ganga and the entire River Basin (including financial and administrative matters) for the protection, prevention, control and abatement of environmental pollution in River Ganga and its rejuvenation to its natural and pristine condition and to ensure continuous adequate flow of water in the River Ganga and for matters connected therewith.

16. Meetings of National Ganga Council.– (1) National Ganga Council may regulate its own procedure for transacting its business including its meetings.

(2) The Chairperson of the National Ganga Council shall preside over its meetings and in his absence, its Vice-Chairperson shall, preside over the meetings of the National Ganga Council and conduct its business.

(3) The Vice-Chairperson shall have the power to take decisions necessary for the National Ganga Council to achieve its objectives, in between the conduct of the two meetings of the Council subject to ratification in the next meeting.

(4) The National Ganga Council shall meet at least once every year or more as it may deem necessary.

17. Constitution of Empowered Task Force on River Ganga as authority.- (1) With effect from the date of commencement of this Order, there shall be constituted an authority by the name to be called the Empowered Task Force on River Ganga for the purposes of the Act and to exercise powers and discharge functions as specified in this Order and the Act.

(2) The Empowered Task Force on River Ganga shall consist of the following members, namely:-

(a) Union Minister for Water Resources, River Development and Ganga Rejuvenation	Chairperson, <i>ex-officio</i> ;
---	----------------------------------

Function of Empowered Committee: The Empowered Task Force on River Ganga shall co-ordinate and advise on matters relating to rejuvenation, protection and management of River Ganga and its tributaries.

31. Constitution of National Mission for Clean Ganga as an authority.- (1) With effect from the date of commencement of this Order, the National Mission for Clean Ganga, a society registered under the Societies Registration Act, 1860 (21 of 1860), shall be an authority constituted under the Act, by the same name for the purposes of the Act and to exercise powers and discharge functions as specified under this Order and the Act and the rules made or directions issued thereunder.

33. National Mission for Clean Ganga to be nodal agency.- The National Mission for Clean Ganga shall be the nodal agency for the nationwide implementation of the provisions of this Order and for effective abatement of pollution and rejuvenation, protection and management of the River Ganga and its tributaries.

34. National Mission for Clean Ganga to be an empowered organization.- The National Mission for Clean Ganga shall be an empowered organisation with two tier management having administrative, appraisal and approval powers and duties, functions and powers as specified in this Order. *Not needed*

35. Composition of National Mission for Clean Ganga.- The National Mission for Clean Ganga shall have a two-tier management structure and it shall comprise of the Governing Council and the Executive Committee.

(1) The Governing Council shall consist of the following members, namely:-

(a)	Director General of National Mission for Clean Ganga	Chairman, <i>ex-officio</i>
-----	--	-----------------------------

(2) The Executive Committee constituted out of the Governing Council, shall consist of the following members, namely:-

(a) Director General, National Mission for Clean Ganga – Chairperson, *ex-officio*;

There are also provisions of State Ganga Committees and District Ganga Committees in every specified district.

20. Constitution and Composition of Specified State Ganga Rejuvenation, Protection and Management Committees as authorities.— With effect from the date of commencement of this Order, these shall be constituted, in each State as specified in paragraph 2, an authority to be called the State Ganga Rejuvenation, Protection and Management Committee, which shall consist of a Chairperson and other members as specified in the Schedule to exercise powers and discharge functions as specified in this Order and the Act.

21. Meetings of State Ganga Committee.— (1) Every State Ganga Committee may regulate its own procedure for transacting its business including its meetings.

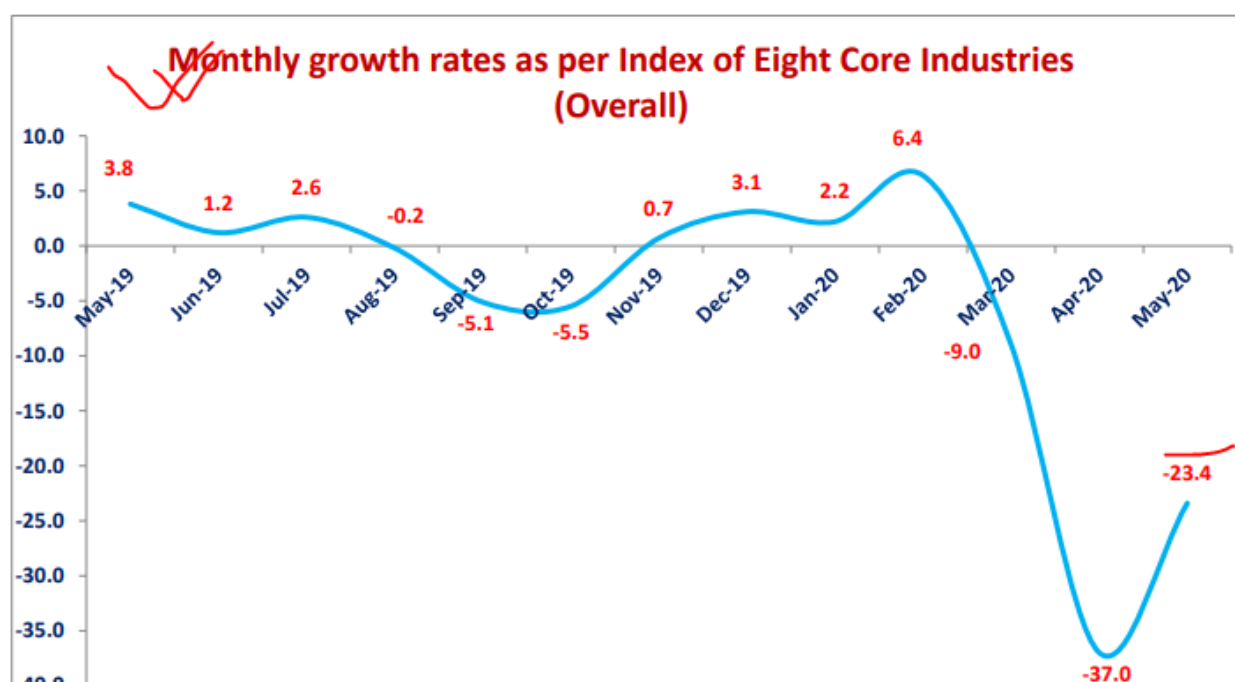
(2) Every State Ganga Committee shall convene its meetings at least once in every three months' time.

22. Superintendence, direction and control over Committee.— The superintendence, direction and control of the District Ganga Committees shall, notwithstanding anything contained in this Order, vest in the State Ganga Committee, for the purposes of rejuvenation, protection, prevention, control and abatement of environmental pollution in River Ganga and its tributaries so as to rejuvenate the River Ganga to its natural and pristine condition and ensure continuous and adequate flow of water in River Ganga and for protection and management of River Ganga in the States concerned.

CA8. Eight Core sectors output declines

Link: https://www.eaindustry.nic.in/eight_core_infra/Eight_Infra.pdf

Nationwide lockdown catapults eight core output to contract by 23.4% YoY in May 2020.



The eight- core industrial output contracted by 23.4% YoY in May 2020 slower than the decline in growth of 37% YoY seen in the previous month. The nationwide lockdown during April and May 2020 to control the spread of the Covid-19 pandemic, various industries experienced loss in production. Cement, steel, coal, and refinery and crude oil sectors were among the worst-hit sectors. **The fertilizer sector alone registered positive growth in May.**

The performance of Eight Core Industries will keep on fluctuating, but few important things we have to always remember. See below.

- The data on production of eight core industries of India **is published monthly** by the **Office of Economic Adviser, Department for Promotion of Industry and Internal Trade Ministry of Commerce and Industry**.
- The current base year for the index of the series is **2011-12=100**.
- The **eight core industries** included are- Coal, Crude oil, Natural Gas, Petroleum refinery products, Fertilizer, Cement, Steel, and Electricity generation.
- These eight industries comprise **40.27% of the weight** of the items included in the **Index of Industrial Production**.

See the weightage of all 8 sectors, which is highest and lowest. Have rough idea about growth of sectors. If it takes time, give time. These small things help in Prelims mostly when we have to eliminate options.

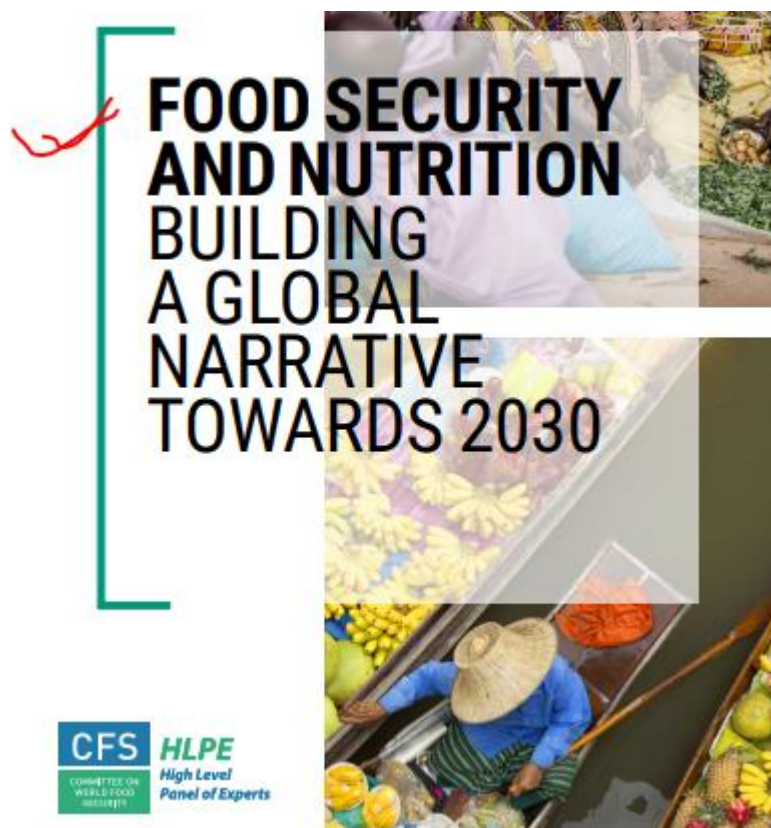
~~G~~rowth Rates (in per cent)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Apr-May 2019-20	Apr-May 2020-21
✓ Coal	10.3335	3.2	1.0	8.0	4.8	3.2	2.6	7.4	-0.4	2.4	-14.7
✓ Crude Oil	8.9833	-0.6	-0.2	-0.9	-1.4	-2.5	-0.9	-4.1	-5.9	-6.8	-6.7
✓ Natural Gas	6.8768	-14.4	-12.9	-5.3	-4.7	-1.0	2.9	0.8	-5.6	-0.4	-18.3
✓ Refinery Products	28.0376	7.2	1.4	0.2	4.9	4.9	4.6	3.1	0.2	1.3	-22.7
✓ Fertilizers	2.6276	-3.3	1.5	1.3	7.0	0.2	0.03	0.3	2.7	-2.6	2.0
✓ Steel	17.9166	7.9	7.3	5.1	-1.3	10.7	5.6	5.1	3.2	13.3	-63.3
✓ Cement	5.3720	7.5	3.7	5.9	4.6	-1.2	6.3	13.3	-0.9	2.5	-54.1
✓ Electricity	19.8530	4.0	6.1	14.8	5.7	5.8	5.3	5.2	0.9	6.7	-19.1
Overall Growth	100.0000	3.8	2.6	4.9	3.0	4.8	4.3	4.4	0.3	4.5	-30.0

CA9. United Nations Committee on World Food Security's High-Level Panel of Experts on Food Security and Nutrition (HLPE).

Link: <https://www.downtoearth.org.in/news/food/need-food-system-overhaul-to-combat-global-hunger-report-72093>

The novel coronavirus disease (COVID-19) pandemic has brought global hunger — and the need to address it urgently — under scrutiny. **United Nations Committee on World Food Security's High- Level Panel of Experts on Food Security and Nutrition (HLPE)** has published a report on June 25, 2020:



The committee called for *sustainable food systems to ensure the availability and access of sufficient food to all, but particularly the poor and marginalized*; agency for all people and groups; and stability in the face of shocks and crises.

The committee identified actions that governments needed to take eliminate hunger by 2030. Some of them are:

- ✓ • Regenerative production practices such as agroecology
- ✓ • Supporting development of diverse distribution market networks were among them
- ✓ • Improving coordination across sectors such as the economy, health, environment, agriculture and food.
- ✓ • Building more resilient systems and address climate change across food systems

We will learn about this committee.

✓ ABOUT THE HLPE

The High Level Panel of Experts (HLPE) on food security and nutrition was established as part of the 2009 reform of the international governance of food security, to advise the Committee on World Food Security (CFS) which is the foremost intergovernmental and international platform dealing with food security and nutrition.

In 2009, the Committee on World Food Security went through a reform to make it more effective by including a wider group of stakeholders and increasing its ability to promote policies that reduce food insecurity. An important part of this reform was the creation of the HLPE to keep CFS up to date with world wide knowledge and abreast of emerging trends in food security. The HLPE should lead to more informed policy debates and improve the quality, effectiveness and coherence of food security and nutrition policies from local to international levels.

KEY FUNCTIONS OF THE HLPE

✓ As directed by the CFS Plenary and Bureau, the HLPE will:

- ▶ ✓ Assess and analyze the current state of food security and nutrition and its underlying causes.
- ▶ ✓ Provide scientific and knowledge-based analysis and advice on specific policy-relevant issues, utilizing existing high quality research, data and technical studies.
- ▶ ✓ Identify emerging issues, and help members prioritize future actions and attentions on key focal areas.

✓ The Committee on World Food Security (CFS) is the foremost inclusive international and intergovernmental platform for all stakeholders to work together to ensure food security and nutrition for all. The Committee reports to the UN General Assembly through the Economic and Social Council (ECOSOC) and to FAO Conference.

CA10. Two New Species of Butterfly

Link: <https://www.thehindu.com/news/national/japanese-found-chinese-butterfly-is-now-indian/article31963607.ece#:~:text=Lepidopterists%20have%20discovered%20the%20Striped,in%20Hainan%20province%20of%20China.>

Recently, the lepidopterists have discovered the two new species of butterfly i.e. Striped Hairstreak and Elusive Prince in Changlang district of Arunachal Pradesh.

NATIONAL

Two more species added to India's list of butterflies



Rahul Karmakar

GUWAHATI: , JULY 01, 2020 18:42 IST

UPDATED: JULY 01, 2020 23:23 IST

Lepidopterists have discovered the Striped Hairstreak and Elusive Prince in Arunachal Pradesh

Lepidopterists in Arunachal Pradesh have helped add two species to India's expanding list of butterflies.

One of them, the Striped Hairstreak, was first recorded by Japanese entomologists in Hainan province of China. The other, Elusive Prince, has a Vietnamese connection and was thought to be the more familiar Black Prince found in the Eastern Himalayas.

The Striped Hairstreak was located in Vijaynagar bordering Myanmar while the Elusive Prince was found in Miao on the periphery of the Namdapha National Park.

✗ The Committee on World Food Security (CFS) is the foremost inclusive international and intergovernmental platform for all stakeholders to work together to ensure food security and nutrition for all. The Committee reports to the UN General Assembly through the Economic and Social Council (ECOSOC) and to FAO Conference.

Using a multi-stakeholder, inclusive approach, CFS develops and endorses policy recommendations and guidance on a wide range of food security and nutrition topics. These are developed starting from scientific and evidence-based reports produced by the High Level Panel of Experts on Food Security and Nutrition (HLPE) and/or through work supported technically by The Food and Agriculture Organization (FAO), The International Fund for Agricultural Development (IFAD), World Food Programme (WFP) and representatives of the CFS Advisory Group. CFS holds an annual Plenary session every October in FAO, Rome. Find out more about CFS and how it works in the About section.

CFS receives its core funding equally from The Food and Agricultural Organization (FAO), The International Fund for Agricultural Development (IFAD) and The World Food Programme (WFP).

CA11. Four new fungi species discovered on bat carcasses in China

Link: <https://www.downtoearth.org.in/news/wildlife-biodiversity/four-new-fungi-species-discovered-on-bat-carcasses-in-china-72109>



Questions won't be asking like name the species found. There are many more things hidden, why bats are important, what they carry, Bats are pollinating agents, etc. So, along with news focus on these aspects also.

A subterranean expedition by a group of researchers in China has led to the discovery of four novel fungal species on bat carcasses. The four new species are *Mortierella rhinolophicola*; *M multispora*; *M yunnanensis*; and *Neocosmospora pallidimors*.

Neocosmospora pallidimors, according to researchers, **is particularly important** as the *Neocosmospora* genus is known to contain numerous aggressive pathogens that can infect mammals. One of the more alarming findings was that many infections related to *Neocosmospora*, which have previously been associated with human and animal mycotoxicoses (ingestion of toxins produced by fungi affecting liver and endocrine), are thought to be on the rise.

✓ Why is the discovery important

The novel coronavirus disease (COVID-19) pandemic has shifted the spotlight on bats. Bats carry several viruses and pathogens in their bodies; but it is only when they get transferred to other living beings that the host is affected.

White-nose syndrome, caused by fungi *Pseudogymnoascus destructans*, has claimed at least six million bat lives since 2006. This fungal growth happens during their hibernation and has been observed in North American bats, according to a study.

"Bats can asymptotically carry the fungus," said Samantha Karunarathna, lead author of the study, who is affiliated with ICRAF and KIB. "Though it has caused many deaths among bats in North America, it has not ravaged other global regions. It can appear in other places also."

Studies have also estimated that if bats disappear from North America, it would result in a staggering \$3.7-billion loss to agriculture. This is because bats provide critical ecosystem services; they feed on pests and pollinate fruits.

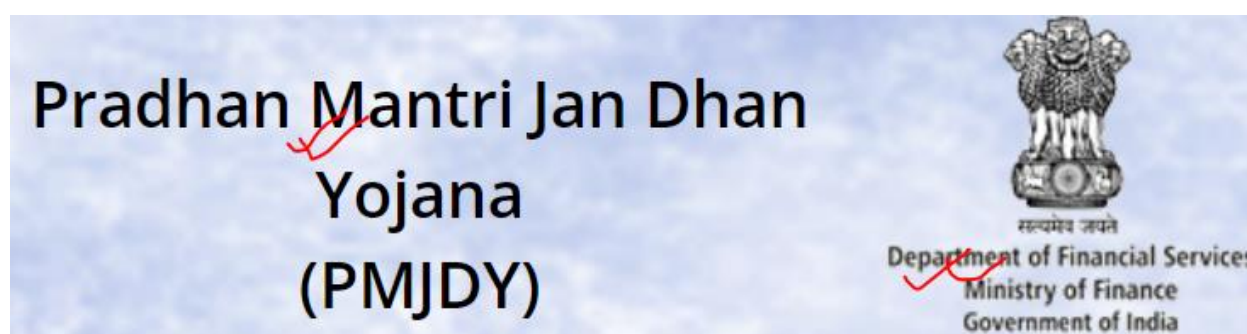
The study highlighted the importance of understanding relationships between fungal species and other cave organisms, for they may have serious ecological and economic implications.

CA12. Pradhan Mantri Jan Dhan Yojana (PMJDY)

Link: <https://www.downtoearth.org.in/news/governance/covid-19-relief-didn-t-reach-jan-dhan-a-cs-of-many-women-survey-72113>

"Pradhan Mantri Jan-Dhan Yojana (PMJDY)" under the **National Mission for Financial Inclusion** was launched initially for a period of 4 years (in two phases) on 28th August 2014. It envisages universal access to banking facilities with at least one basic banking account for **every household**, financial literacy, access to credit, insurance and pension.

The scheme is administered by Department of Financial Services, Ministry of Finance. Most important.



Special Benefits under PMJDY Scheme

1. Interest on deposit.
2. Accidental insurance cover of Rs. 2 lakhs
3. No minimum balance required.
4. The scheme provide life cover of Rs. 30,000/- payable on death of the beneficiary, subject to fulfillment of the eligibility condition.
5. Easy Transfer of money across India
6. Beneficiaries of Government Schemes will get Direct Benefit Transfer in these accounts.
7. After satisfactory operation of the account for 6 months, an overdraft facility will be permitted
8. Access to Pension, insurance products.
9. The Claim under Personal Accidental Insurance under PMJDY shall be payable if the Rupay Card holder have performed minimum one successful financial or non-financial customer induced transaction at any Bank Branch, Bank Mitra, ATM, POS, E-COM etc. Channel both Intra and Inter-bank i.e. on-us (Bank Customer/rupay card holder transacting at same Bank channels) and off-us (Bank Customer/Rupay card holder transacting at other Bank Channels) within 90 days prior to date of accident including accident date will be included as eligible transactions under the Rupay Insurance Program 2019-2020.
10. Overdraft facility upto Rs. 10,000/- is available in only one account per household, preferably lady of the household.

The Government has decided to extend the comprehensive PMJDY program beyond 28.8.2018 with the change in focus on opening accounts from “every household” to “every adult”, with following modification:

- (i) Existing Over Draft (OD) limit of Rs. 5,000 revised to Rs. 10,000.
- (ii) No conditions attached for active PMJDY accounts availing OD upto Rs. 2,000.
- (iii) Age limit for availing OD facility revised from 18-60 years to 18-65 years.
- (iv) The accidental insurance cover for new RuPay card holders raised from existing Rs.1 lakh to Rs. 2 lakh

National Strategy for Financial Inclusion (NSFI) for the period 2019-2024 initiated by RBI.

The Reserve Bank of India (RBI) has chalked out an ambitious strategy for financial inclusion till 2024, in which it aims to strengthen the ecosystem for various modes of digital financial services in all Tier-II to Tier VI centres to create the necessary infrastructure to move towards a less-cash society by March 2022.

One of the objectives of the strategy includes increasing outreach of banking outlets of to provide banking access to every village within a 5-km radius or a hamlet of 500 households in hilly areas by March 2020. RBI said that the aim was also to see that every adult had access to a financial service provider through a mobile device by March 2024. With the aim of providing basic of financial services, a target has been set that every willing and eligible adult, who has been enrolled under the Prime Minister Jan Dhan Yojana, be enrolled under an insurance scheme and a pension scheme by March 2020.

Few diagrams given below to help you with Answer writing:

Figure I.1 - Causes of Financial Exclusion

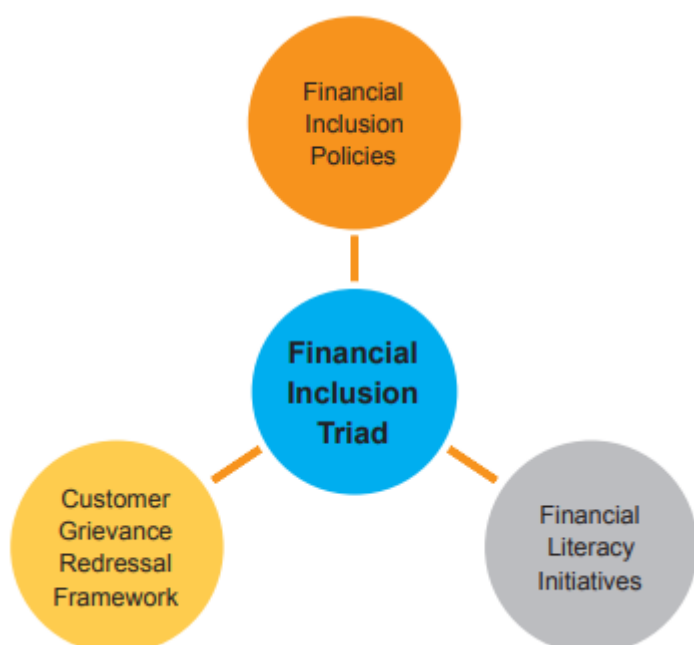
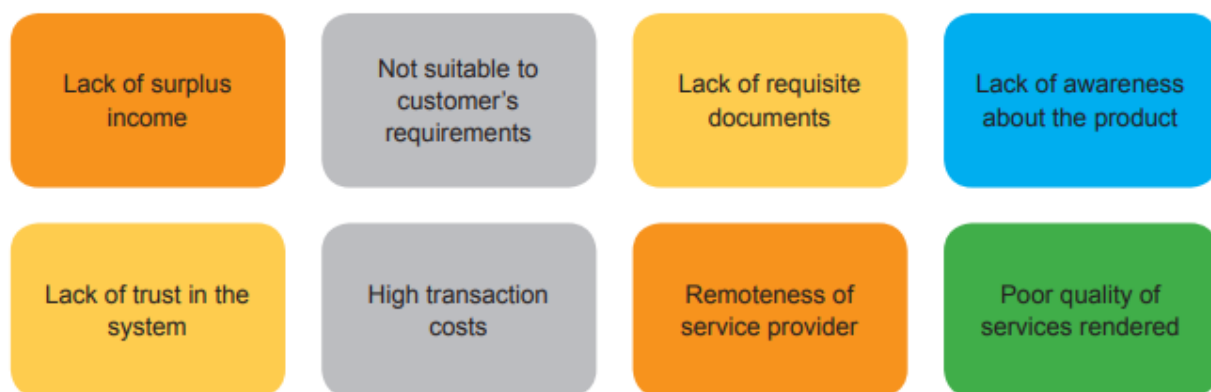
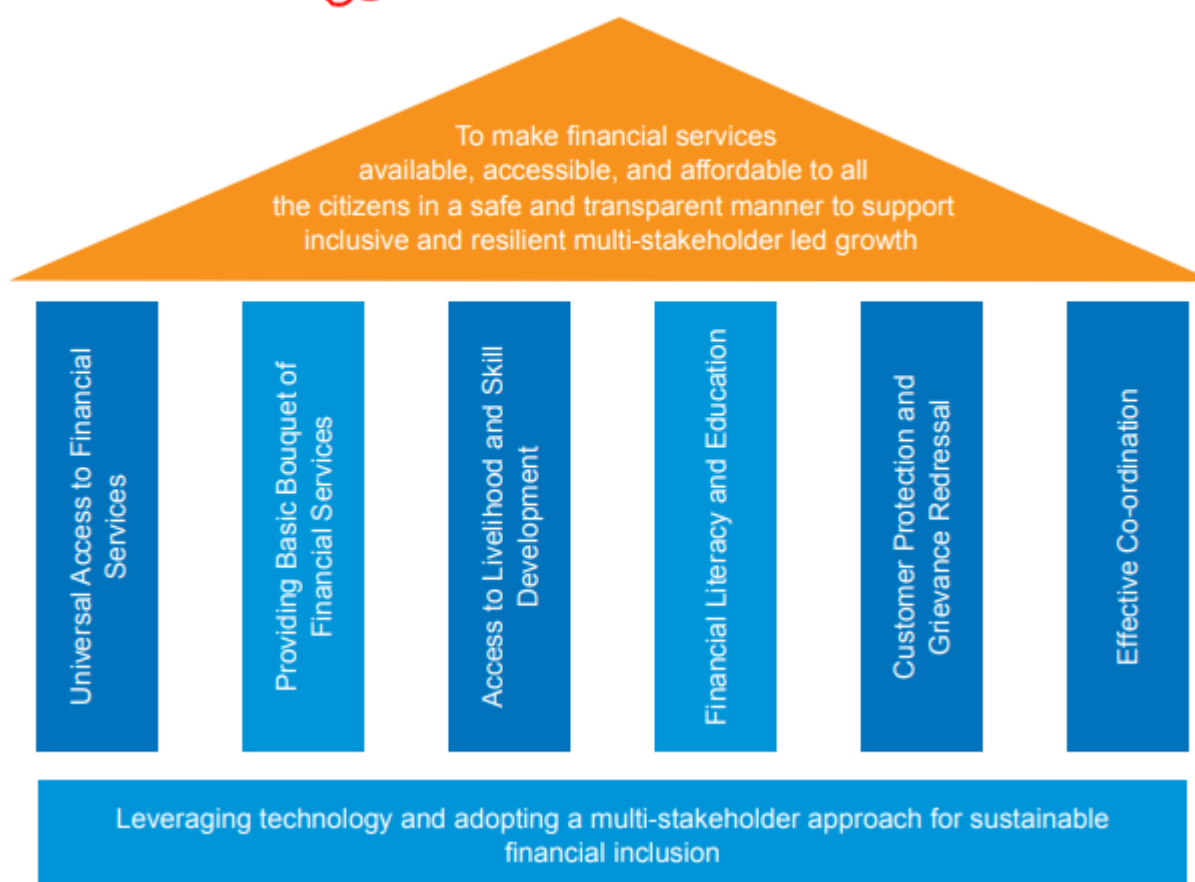


Figure IV.1-Strategic Pillars of National Strategy for Financial Inclusion

CA13. Elephant Deaths in Botswana

Link: <https://www.thehindu.com/news/international/over-350-elephants-found-dead-in-botswana/article31974023.ece>

INTERNATIONAL

Over 350 elephants found dead in Botswana



AFP

GABORONE, JULY 02, 2020 23:04 IST
 UPDATED: JULY 02, 2020 23:04 IST

SHARE ARTICLE



0 PRINT



Botswana is investigating a growing number of unexplained deaths of elephants, having confirmed 275 had died, up from 154 two weeks ago. The dead elephants were first spotted months ago in the **Okavango Panhandle region**, and the authorities say they have since been trying to discover the cause. Poaching has been ruled out as the cause of death, as the carcasses were found intact.

Africa's overall elephant population is declining due to poaching, but Botswana, home to almost a third of the continent's elephants, has seen numbers grow to 130,000 from 80,000 in the late 1990s.



If we have to learn about Elephants in India:

The Indian Elephant (*Elephas maximus*) is protected under **Schedule 1 of the Wildlife Protection Act, 1972**, which affords maximal protection. It is listed as “**Endangered**” in the Red List of Threatened Species of the International Union for Conservation of Nature (IUCN).



Asian Elephant

Elephas maximus

CITATION

Choudhury, A., Lahiri Choudhury, D.K., Desai, A., Duckworth, J.W., Easa, P.S., Jo Hedges, S., Gunawardena, M., Kurt, F., Karanth, U., Lister, A., Menon, V., Riddle, I., Wikramanayake, E. (IUCN SSC Asian Elephant Specialist Group). 2008. *Elephas List of Threatened Species 2008*: e.T7140A12828813. <https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T7140A12828813.en>. Downloaded



Latest Elephant Census has been conducted in 2017: *Remember very carefully. So, all numbers related to elephants comes from this census only.*

Synchronized Elephant Population Estimation

India 2017

August 2017

Project Elephant Division

Ministry of Environment, Forest and Climate Change

Government of India

Only three things you have remember from this report now:

- Elephant population in the country is estimated at 29,964 as per the census conducted in 2017. **The South Region accounted for 14,612** followed by North East with 10,139 elephants.
- According to the report, released by the Ministry of Environment, Forests and Climate Change on August 12, **Karnataka has the highest number of elephants** (6,049), followed by Assam (5,719) and Kerala (3,054).
- The numbers **are lower than from the last census** estimate in 2012 (between 29,391 and 30,711).

Now one more thing:

Monitoring the Illegal Killing of Elephants (MIKE)



Monitoring the Illegal Killing of Elephants (MIKE)

The **CITES Monitoring the Illegal Killing of Elephants (MIKE) Programme** is a site-based system designed to monitor trends in the illegal killing of elephants, build management capacity and provide information to help range States make appropriate management and enforcement decisions.

What is the objective of MIKE?

The overall aim of MIKE is *to provide information needed for elephant range States and the Parties to CITES to make appropriate management and enforcement decisions, and to build institutional capacity within the range States for the long-term management of their elephant populations*. MIKE aims to help range States improve their ability to monitor elephant populations, detect changes in levels of illegal killing, and use this information to provide more effective law enforcement and strengthen any regulatory measures required to support such enforcement.

CA14. Permanent Court of Arbitration

Link: <https://www.thehindu.com/news/national/italian-marines-case-india-loses-jurisdiction/article31973247.ece>

News:

Recently, the **Permanent Court of Arbitration (PCA)** has published an extract of the **final award** of the ad-hoc tribunal constituted to settle disputes related to the United Nations Convention for the Law of the Sea (UNCLOS) regarding **Italian marine Case between India and Italy**.

Background is: In 2012, Indian police had detained two Italian marines posted on oil tanker Enrica Lexie who had shot at two Indian fishermen on an Indian vessel, apparently mistaking them for pirates operating near the Kerala Coast.

It has **rejected India's contention** that the soldiers, who were accused of killing Indian fishermen, **could be tried in Indian courts** and ordered India to cease all criminal proceedings.

“DECIDES, by three votes to two, in respect of Italy's Submission (2)(f), that the Marines are entitled to immunity in relation to the acts that they committed during the incident of 15 February 2012, and that India is precluded from exercising its jurisdiction over the Marines.”

Permanent Court of Arbitration

Italy is, as a result, liable to pay compensation to India, the PCA ruled. It held:

"...that as a result of the breach by Italy of Article 87, paragraph 1, subparagraph (a), and Article 90 of the Convention, India is entitled to payment of compensation in connection with loss of life, physical harm, material damage to property (including to the "St. Antony") and moral harm suffered by the captain and other crew members of the "St. Antony", which by its nature cannot be made good through restitution..."

Important for you is to learn about Permanent Court of Arbitration

The PCA was established by the Convention for the Pacific Settlement of International Disputes, concluded at The Hague in 1899 during the first Hague Peace Conference. The Conference had been convened at the initiative of Czar Nicolas II of Russia "with the object of seeking the most objective means of ensuring to all peoples the benefits of a real and lasting peace, and above all, of limiting the progressive development of existing armaments."

It is an **intergovernmental** organization providing a variety of dispute resolution services to the international community.

Contracting Parties

The PCA has 122 Contracting Parties which have acceded to one or both of the PCA's founding conventions.



✓ Financial Assistance Fund

The PCA has a Financial Assistance Fund which aims at helping developing countries meet part of the costs involved in international arbitration or other means of dispute settlement offered by the PCA.

✓ In October 1994, the Administrative Council agreed to establish a Financial Assistance Fund which aims at helping developing countries meet part of the costs involved in international arbitration or other means of dispute settlement offered by the PCA.

The PCA provides administrative support in international arbitrations involving various combinations ***of states, state entities, international organizations and private parties.*** The PCA has experience in administering international arbitrations concerning **disputes arising out of treaties, including bilateral investment treaties and multilateral treaties, and other instruments.** The PCA also plays an **important role under the United Nations Commission on International Trade Law (UNCITRAL) Rules.**

✓ United Nations Convention on the Law of the Sea

Since the 1982 Convention came into force in 1994, the PCA has acted as registry in 14 arbitrations under Annex VII of UNCLOS.

CA15. What Moral Philosophy Teaches Us About Eliminating Drug Tests on Animals in India?

Link: <https://science.thewire.in/the-sciences/drug-testing-animal-trials-rights-moral-philosophy/>

Important for ethics Paper and also animal lovers will like this article.

Many drug and cosmetics manufacturers across the world currently test the safety and potency of their products on animals. As a result, thousands of animals like rabbits, rats, mice, monkeys and dogs are frequently kept in subpar conditions in laboratories and suffer physical and psychological trauma.

India was the first South Asian country to [ban animal testing for cosmetics](#).

Why law is impotent in India?

In India, the legal position on experimentation on animals is captured **under the Prevention of Cruelty to Animals (PCA) Act 1960 and its regulations.**

Under the PCA, a statutory body to control and supervise experiments on animals has been set up. Its main objective is to ensure **judicious use of animals in research.** It

also makes sure persons and establishments that experiment on animals are properly registered and oversees housing and feeding provisions. This body can also direct persons and institutions to not perform certain experiments.

However, contravening any decision by this body **invites a fine of only Rs 200**. Similarly, a person violating the PCA is liable to be punished **but the extent of punishment hasn't been specified**. So, the PCA is effectively impotent.

What other steps India has taken?

At the same time, India has taken a few steps to reduce animal testing for drugs.

- a. A 2016 amendment to the Drugs and Cosmetics Rules allows animal toxicity tests for a drug conducted in other countries to simply be resubmitted in India when registering the same drug.
- b. The Indian Pharmacopoeia Commission also has [guidelines](#) on drug tests by Indian manufacturers, enforced by regulatory authorities.
- c. In 2018, the commission approved two animal-free tests for drug makers: the pyrogen test to confirm the impurity of a drug or potential side-effects, and the abnormal toxicity test to confirm vaccines are free of biological contamination.

So, the Indian animal rights movement towards securing the rights of animals used in labs has achieved some victories. *Even if animal testing hasn't been eliminated altogether, the activism has helped erode the importance of animal-testing for drugs.*

A way Forward: What scientists have to say

- a. Within the scientific community, some have said the importance of animals to medical or scientific knowledge has been overstated. There have also been instances where animal testing has in fact had a detrimental impact on humans.
- b. Scientists found that the absence of toxicity in animals, including monkeys, provides no significant or additional insight into whether a new drug will also be safe for humans.
- c. importance of animal testing to breakthroughs in medicine have been exaggerated and that the inter-species variability is too high to draw sensible parallels.
- d. Finally, the manner in which animals are kept captive in labs often leaves them bereft of fresh air, natural light, free movement and company.
- e. This may cause animals to exhibit abnormal or unnatural behaviour, and potentially exposes them to lab-generated diseases and distresses. Animals have also been known to experience contagious anxiety, stress and high blood pressure if they can see, hear or in any way sense that their kin are hurt.

Research going on reduce animal testing.

- a. Some scientists are developing sophisticated non-animal testing techniques that have proven to be more effective, faster, more accurate, more economical and, most of all, more empathetic.

- b. Many organizations such as the UK's National Centre for the Replacement, Refinement and Reduction of Animals in Research, funds research into alternative technologies.
- c. Some related technologies include stem cell platforms, 3D tissue and organ cultures and 'organs on a chip'. Some experiments performed with the last item have proved to be more accurate than those performed on animals.

Conclusion: In a society that currently doesn't recognize the inherent worth of all animals, lobbying for laws to protect animal rights warrants a piecemeal rather than absolutist approach. Indian laws on animal testing are relative more progressive than those in other countries (but the PCA specifically also has no teeth), thanks in part to the Indian animal rights movement's cautious approach. Let's hope that they continue with similar success until the endgame: to replace animal testing with more sustainable, empathetic and fool-proof solutions.

CA16. Global E-waste Monitor 2020 report

Link: http://ewastemonitor.info/wp-content/uploads/2020/07/GEM_2020_def_july1_low.pdf#.

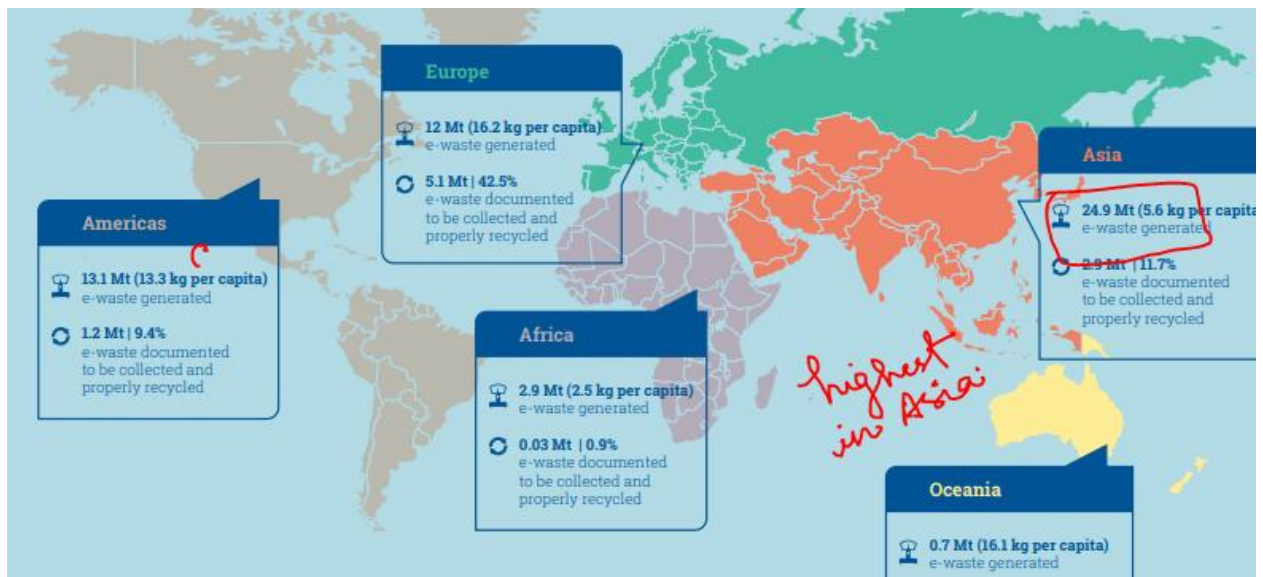
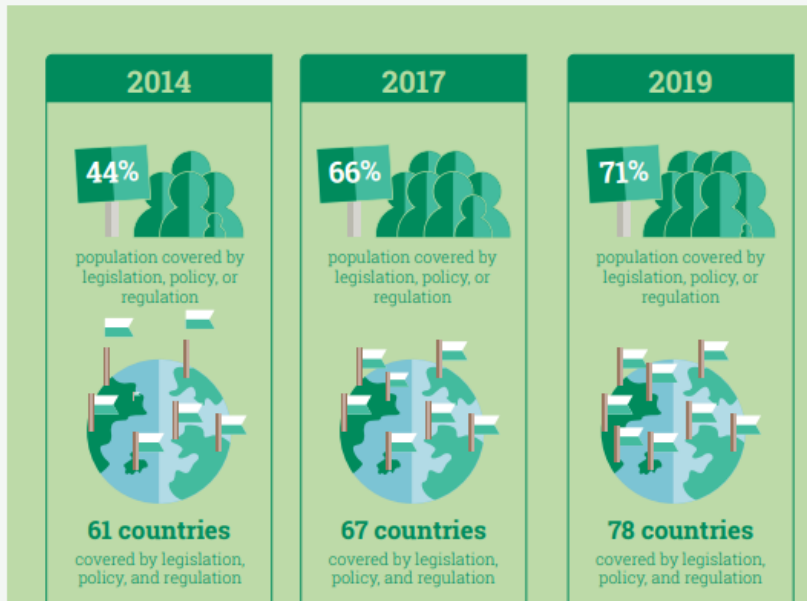
Ok, from such reports, they won't ask you ever data of anything. These reports are just to have rough idea what is going around E-waste. *If we will give you write-ups for this topic, you will never remember, neither you will read. So, see few diagrams given below. Try to remember these images roughly. It will help you. See below images.*

The Global E-waste Monitor 2020

The Global E-waste Monitor 2020 (www.globalewaste.org) is a collaborative product of the Global E-waste Statistics Partnership (GESP), formed by UN University (UNU), the International Telecommunication Union (ITU), and the International Solid Waste Association (ISWA), in close collaboration with the UN Environment Programme (UNEP). The World Health Organization (WHO) and the German Ministry of Economic Cooperation and Development (BMZ) also substantially contributed to this year's Global E-waste Monitor 2020.



As of October 2019, 71% of the world's population was covered by a national e-waste policy, legislation, or regulation. Improvements have been made since 2014 when only 44% of the population was covered. The high coverage rate is affected by the fact that the most populous countries, such as China and India, have national legal instruments in place. However, this population coverage equates to only 78 of the 193 countries. Thus, less than half of all countries in the world are currently covered by a policy, legislation, or regulation.



✓ E-waste is covered namely by SDGs 11 and 12.



Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities by paying special attention to air quality as well as municipal and other waste management. Since over half of the world's population lives in cities, rapid urbanization requires new solutions to address rising environmental and human health risks, especially in densely populated areas. Most e-waste will be generated in cities, and it is particularly important to properly manage e-waste in urban areas, improve collection and recycling rates, and reduce the amount of e-waste that ends up in dumpsites. The move towards smart cities and the use of ICTs for waste management offer new and exciting opportunities.

Indicator 11.6.1: Percentage of urban solid waste regularly collected and with adequate final discharge with regard to the total waste generated by the city.



Goal 12: Ensure sustainable consumption and production patterns

✓ **Target 12.4:** By 2030, achieve the environmentally sound management of chemicals and all waste throughout the life cycle, in accordance with agreed-upon international frameworks, and significantly reduce their release into air, water, and soil in order to minimize their adverse impacts on human health and the environment.

✓ *Indicator 12.4.2: Treatment of waste, generation of hazardous waste, and hazardous waste management, by type of treatment.*

✓ **Target 12.5:** By 2030, substantially reduce waste generation through prevention, reduction, repair, recycling, and reuse.

✓ About the Basel Convention

✓ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal is a multilateral treaty aimed at suppressing environmentally and socially detrimental hazardous waste trading patterns. The convention was opened for signature in 1989 and made effective in 1992 and, to date, has been signed by 187 countries. ⁽⁶⁾ E-waste, due to its constitution, often contains hazardous elements. Therefore, the Convention affirms that in order to protect human health and the environment, hazardous waste should not be traded freely like ordinary commercial goods, and thus it establishes a written notification and approval process for all cross-border movements of hazardous wastes. But the Basel Convention's regulatory

Legislation

The South Asian region has begun to recognise the importance of proper e-waste management. India is the only country in Southern Asia with e-waste legislation, although several other countries are considering such legislation. In India, laws to manage e-waste have been in place since 2011, mandating that only authorised dismantlers and recyclers collect e-waste. A manufacturer, dealer, refurbisher, and Producer Responsibility Organization (PRO) were brought under the ambit of the E-Waste (Management) Rules 2016. The National Resources Policy (still in draft at time of publishing) also envisages a strong role for producers in the context of recovering secondary resources from e-waste.

Countries with the highest e-waste generation per sub-region

Central Asia		Eastern Asia	
♻️ 0.2 Mt 7.1 kg per capita ♻️ 5% 0.01 Mt 🧑 31		♻️ 13.7 Mt 8.6 kg per capita ♻️ 20% 2.7 Mt 🧑 1590	
Kazakhstan	172 kt	✓ China	10.129 kt
Turkmenistan	39 kt	Japan	2.569 kt
Kyrgyzstan	10 kt	Republic of Korea	818 kt
South-Eastern Asia		Southern Asia	
♻️ 3.5 Mt 5.4 kg per capita ♻️ 0% 0 Mt 🧑 656		♻️ 4.8 Mt 2.6 kg per capita ♻️ 0.9% 0.04 Mt 🧑 1896	
Indonesia	1.618 kt	✓ India	3.230 kt
Thailand	621 kt	Iran (Isl. Rep.)	790 kt
Philippines	425 kt	Pakistan	433 kt

Electrical and Electronic Equipment (EEE) is very complex. Up to 69 elements from the periodic table can be found in EEE, including precious metals (e.g. gold, silver, copper, platinum, palladium, ruthenium, rhodium, iridium, and osmium), Critical Raw Materials (CRM)(e.g. cobalt, palladium, indium, germanium, bismuth, and antimony), and noncritical metals, such as Aluminium and iron. Iron, aluminum, and copper represent the majority of the total weight of raw waste materials that can be found in e-waste in 2019.

We have already covered E-waste Management Rules under Daily Current Affairs section. [Click here to read.](#)

CA17. Why do Indigenous Communities Continue to Practice Shifting Cultivation?

Link: <https://science.thewire.in/environment/why-do-indigenous-communities-continue-to-practice-shifting-cultivation/>



In the uplands of northeast India—Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura—**shifting cultivation, locally known as jhum**, continues to be a dominant mode of food production and the economic mainstay of many rural households.

In northeast India, [a 2018 report released by the Indian government](#) revealed that an area of **8500 square kilometres is still being used to practice shifting cultivation (SC)** – an agricultural system practiced for centuries.

The process consists of cultivating land temporarily and then abandoning it – usually for a period of one to two decades so the soil recuperates its fertility and reverts to its natural state. Because it involves the felling of trees for temporary cultivation, it is blamed for deforestation, soil erosion and loss of biodiversity, all contributors to global climate change.

Shifting Cultivation never got proper recognition:

A report was released by NITI Aayog in 2018 about shifting cultivation. According to the report, the fundamental characteristic of shifting cultivation—**two different types of land use on the same piece of land**—*has never been considered while formulating policies on managing shifting cultivation. The oversight has led to the present policy incoherence and contradictions in the management of shifting cultivation.*

Forest vs Agriculture

The Forest Policy (1988) considers *jhum* lands as forest land and it discourages shifting cultivation. Forest departments want to 'rehabilitate' the *jhum* lands through social forestry and energy plantations. However, agricultural development programmes promote agriculture, horticulture and cash crops on *jhum* lands as such lands are perceived as arable agricultural land. Multiple Central and state government agencies target *jhum* lands for cultivating cash crops like timber trees, tea, coffee, and rubber.

Attempts have been made in past to regulate shifting cultivation:

In a book called *Shifting cultivation policies: Balancing environmental and social sustainability* (2017), an outline of the role of government and local institutions in regulating shifting cultivation over time has been described. Interventions aimed at stopping shifting cultivation go as far back as pre-British rule when the Ahoms from upper Burma ruled over Assam state. The rulers discouraged the practice and instead introduced alternatives such as wet-rice farming. Additionally, between 1827 and 1947, in the early colonial period of British rule, shifting cultivation was seen as primitive and efforts were made to ban the practice and wean farmers away from it.

In 2011 a New Land Use Policy aimed at transforming SC in northeast India was implemented by the state government of Mizoram. Multiple efforts to discourage farmers continue to this present day.

Considering all these government policies, schemes, and interventions aimed at discouraging the practice over the last century, a burning question emerges: why, after so many years of attempts at termination and control, do these indigenous communities persist in practicing SC? A recent study published in the journal *Forest Policy and Economics* set out to investigate just that.

Why After regulation, still it is practiced?

The found attachment takes three forms: traditional or institutional social bonding (attachment to the local community and traditions), economic bonding (attachment to the form of livelihood and the place) and nature bonding (attachment to the natural landscape). The fourth dimension analysed was the lack of any worthwhile alternative.

Shifting Cultivation needs smooth transition:

Shifting cultivation fallows must be legally perceived and categorized as 'regenerating fallows', which may, if given sufficient time, regenerate into secondary forests. The government has to realize that the **practice of shifting cultivation could**

increase forest cover through the regenerating fallows. *This fact must be duly recognised and due credit accorded to the practice.*

Few approaches can help in transformation of Shifting Cultivation. You can use these five points given below in many places. Read them completely.

✓ Key principles for implementation

While facilitating transformations in shifting cultivation areas, five basic principles are recommended:

- Mountain agriculture has a landscape approach that links agriculture, animal husbandry and forest. Adopt a 'landscape or systems' approach, not a crop based approach. Integration of various land use elements at the landscape level is fundamental for the success of transformation of shifting cultivation in northeast India.
- Learn from and draw upon traditional agriculture in northeast India. The approaches for transformation should not summarily dismiss traditional land uses, but try to blend the traditional with the modern and wherever possible, improve the productivity of existing practices through locally acceptable technological interventions (e.g. Aji system of the Apatani, zabo system of the Chakesang, bun system of Khasi Hills, alder-based system of the Angami, tree-based rice cultivation of the Konyak, among others).
- The third principle, specifically applicable to shifting cultivation is 'Do not try to stop shifting cultivation – help communities to transform shifting cultivation practices rather than blanket ban'.
- Safeguard customary tenure and access rights to land and resources. This principle is of critical importance as this will ensure the continuance of tenurial security for all and thereby, allow an inclusive transformational process that will benefit all.
- Ideas based on experiences in other situations may not be the best fit. Let the communities take some time to evolve with the process of change. This principle states that indigenous innovation and participatory decision making are key to success.

If these five guiding principles are kept in mind while designing approaches for transformation, the chances of acceptance and affordability of the approaches will be higher.

Recently, the government has announced shifting cultivation may soon receive legal backing.

✓ Shifting cultivation may soon get legal stamp

Shifting cultivation, an age-old practice in parts of India, may soon get legal backing, with the government planning to define land use that will enable such cultivators access credit and agriculture-related benefits including subsidies.

By Yogima Sharma, ET Bureau | Last Updated: Feb 19, 2020, 07:36 AM IST



Save



NEW DELHI: Shifting cultivation, an age-old practice in parts of India, may soon get legal backing, with the government planning to define land use that will enable such cultivators access credit and agriculture-related benefits including subsidies.

NCERTs Points:

✓ The vegetation is usually cleared by fire, and the ashes add to the fertility of the soil. Shifting cultivation is thus, also called **slash and burn agriculture**. The cultivated patches are very small and cultivation is done with very primitive tools such as sticks and hoes. After sometime (3 to 5 years) the soil loses its fertility and the farmer shifts to another parts and clears other patch of the forest for cultivation. The farmer may return to the earlier patch after sometime. One of the major problems of shifting cultivation is that the cycle of *jhum* becomes less and less due to loss of fertility in different parcels. It is prevalent in tropical region in different names, e.g. **Jhuming** in North eastern states of India, **Milpa** in central America and Mexico and **Ladang** in Indonesia and Malaysia. Find out other areas and the names with which shifting cultivation is done.

✓ *Can you name some such types of farmings?*

It is *jhumming* in north-eastern states like Assam, Meghalaya, Mizoram and Nagaland; Pamlou in Manipur, Dipa in Bastar district of Chhattishgarh, and in Andaman and Nicobar Islands.

Jhumming: The 'slash and burn' agriculture is known as 'Milpa' in Mexico and Central America, 'Conuco' in Venezuela, 'Roca' in Brazil, 'Masole' in Central Africa, 'Ladang' in Indonesia, 'Ray' in Vietnam.

In India, this primitive form of cultivation is called 'Bewar' or 'Dahiya' in Madhya Pradesh, 'Podu' or 'Penda' in Andhra Pradesh, 'Pama Dabi' or 'Koman' or Bringa' in Odisha, 'Kumari' in Western Ghats, 'Valre' or 'Waltre' in South-eastern Rajasthan, 'Khil' in the Himalayan belt, 'Kuruwa' in Jharkhand, and 'Jhumming' in the North-eastern region.

Latest data on Shifting Cultivation: **Remember here that area has been decreased. See below.**

Table 1: ~~Changes~~ in the extent of shifting cultivation in India (2000-2010)
(Area in km²)

State/Union Territory	Shifting Cultivation Area (2000)	Shifting Cultivation Area (2010)	Change (km ²)	% Decadal change
Andhra Pradesh	13.80	16.45	+ 2.65	+ 1.92
Arunachal Pradesh	3,088.08	1,531.46	- 1,556.62	-50.41
Assam	8,391.48	239.56	- 8,151.92	- 97.15
Bihar	45.45	0.00	- 45.45	- 100.00
Manipur	12,014.06	852.20	- 11,161.86	- 92.91
Meghalaya	2,086.77	448.99	- 1,637.78	- 78.48
Mizoram	3,761.23	2,617.56	- 1,143.67	- 30.41
Nagaland	5,224.65	2,827.74	- 2,396.91	- 45.88
Orissa	115.28	1,445.44	+ 1,330.16	+1,153.85
Tripura	400.88	254.11	- 146.77	- 36.61
Total	35,142.21	10,306.84	- 24,835.37	- 70.67

Source: Data of the Indian Council of Forestry Research and Education published in Statistical Year Book-2014 by MoSPI

Nowhere you will get such comprehensive notes. Please read. We are providing news only what is important to you. The more irrelevant you read now, the less you revise in end and you don't succeed. Please follow our restrictions. We assure you of success.

CA18. National Food Security Act, 2013

Link: <https://www.thehindu.com/news/national/states-grain-offtake-for-april-june-doubles/article31994795.ece>

Very important topic. This topic comes daily in news. Every year it troubles student. But from this year it won't if you read entire document we have given now.

The National Food Security Act, 2013 was notified on 10th September, 2013 with the objective to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity.

~~THE~~ NATIONAL FOOD SECURITY ACT, 2013

ACT NO. 20 OF 2013

[10th September, 2013.]

An Act to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto.

1. Priority households are entitled to 5 kgs of food grains per person per month, and Antyodaya households to 35 kgs per household per month. The combined coverage of Priority and Antyodaya households (called "eligible households") shall extend "up to 75% of the rural population and up to 50% of the urban population".

3. Right to receive foodgrains at subsidised prices by persons belonging to eligible households under Targeted Public Distribution System.—(1) Every person belonging to priority households, identified under sub-section (1) of section 10, shall be entitled to receive five kilograms of foodgrains per person per month at subsidised prices specified in Schedule I from the State Government under the Targeted Public Distribution System:

Provided that the households covered under Antyodaya Anna Yojana shall, to such extent as may be specified by the Central Government for each State in the said scheme, be entitled to thirty-five kilograms of foodgrains per household per month at the prices specified in Schedule I:

(2) The entitlements of the persons belonging to the eligible households referred to in sub-section (1) at subsidised prices shall extend up to seventy-five per cent. of the rural population and up to fifty per cent. of the urban population.

2. For children in the age group of 6 months to 6 years, the Bill guarantees an age-appropriate meal, free of charge, through the local anganwadi. For children aged 6-14 years, one free mid-day meal shall be provided every day (except on school holidays) in all schools run by local bodies, government and government aided schools, up to Class VIII. For children below six months, “exclusive breastfeeding shall be promoted”.

5. Nutritional support to children.—(1) Subject to the provisions contained in clause (b), every child up to the age of fourteen years shall have the following entitlements for his nutritional needs, namely:—

(a) in the case of children in the age group of six months to six years, age appropriate meal, free of charge, through the local anganwadi so as to meet the nutritional standards specified in Schedule II:

Provided that for children below the age of six months, exclusive breast feeding shall be promoted;

(b) in the case of children, up to class VIII or within the age group of six to fourteen years, whichever is applicable, one mid-day meal, free of charge, everyday, except on school holidays, in all schools run by local bodies, Government and Government aided schools, so as to meet the nutritional standards specified in Schedule II.

3. Every pregnant and lactating mother is entitled to a free meal at the local anganwadi (during pregnancy and six months after childbirth) as well as maternity benefits of Rs 6,000, in instalments.

4. Nutritional support to pregnant women and lactating mothers.—Subject to such schemes as may be framed by the Central Government, every pregnant woman and lactating mother shall be entitled to—

(a) meal, free of charge, during pregnancy and six months after the child birth, through the local anganwadi, so as to meet the nutritional standards specified in Schedule II; and

(b) maternity benefit of not less than rupees six thousand, in such instalments as may be prescribed by the Central Government:

4. The Central Government is to determine the state-wise coverage of the PDS, in terms of proportion of the rural/urban population. Then numbers of eligible persons will be calculated from Census population figures.

✓ **Coverage of population under Targeted Public Distribution System.**— The percentage coverage under the Targeted Public Distribution System in rural and urban areas for each State shall, subject to sub-section (2) of section 3, be determined by the Central Government and the total number of persons to be covered in such rural and urban areas of the State shall be calculated on the basis of the population estimates as per the census of which the relevant figures have been published.

5. The identification of eligible households is left to state governments, subject to the scheme's guidelines for Antyodaya, and subject to guidelines to be "specified" by the state government for Priority households.

✓ **10. State Government to prepare guidelines and to identify priority households.**— (1) The State Government shall, within the number of persons determined under section 9 for the rural and urban areas, identify—

(a) the households to be covered under the Antyodaya Anna Yojana to the extent specified under sub-section (1) of section 3, in accordance with the guidelines applicable to the said scheme;

(b) the remaining households as priority households to be covered under the Targeted Public Distribution System, in accordance with such guidelines as the State Government may specify:

6. The Bill provides for the creation of State Food Commissions. Each Commission shall consist of a chairperson, five other members and a member-secretary (including at least two women and one member each from Scheduled Castes and Scheduled Tribes).

✓ **16. State Food Commission.**—(1) Every State Government shall, by notification, constitute a State Food Commission for the purpose of monitoring and review of implementation of this Act.

(2) The State Commission shall consist of—

(a) a Chairperson;

(b) five other Members; and

(c) a Member-Secretary, who shall be an officer of the State Government not below the rank of Joint Secretary to that Government:

Provided that there shall be at least two women, whether Chairperson, Member or Member-Secretary:

Provided further that there shall be one person belonging to the Scheduled Castes and one person belonging to the Scheduled Tribes, whether Chairperson, Member or Member-Secretary.

The main function of the State Commission is to monitor and evaluate the implementation of the act, give advice to the states governments and their agencies, and inquire into violations of entitlements (either suo motu or on receipt of a complaint, and with "all the powers of a civil court while trying a suit under the Code of Civil Procedure 1908"). State Commissions also have to hear appeals against orders of the District Grievance Redressal Officer and prepare annual reports to be laid before the state legislature.

7. The Centre should provide all possible resource and funds to prevent scarcity.

OBLIGATIONS OF CENTRAL GOVERNMENT FOR FOOD SECURITY

22. Central Government to allocate required quantity of foodgrains from central pool to State Governments.—(1) The Central Government shall, for ensuring the regular supply of foodgrains to persons belonging to eligible households, allocate from the central pool the required quantity of foodgrains to the State Governments under the Targeted Public Distribution System, as per the entitlements under section 3 and at prices specified in Schedule I.

8. Obligation of Local Authorities:

25. Implementation of Targeted Public Distribution System by local authority in their areas.—(1) The local authorities shall be responsible for the proper implementation of this Act in their respective areas.

(2) Without prejudice to sub-section (1), the State Government may assign, by notification, additional responsibilities for implementation of the Targeted Public Distribution System to the local authority.

26. Obligations of local authority.—In implementing different schemes of the Ministries and Departments of the Central Government and the State Governments, prepared to implement provisions of this Act, the local authorities shall be responsible for discharging such duties and responsibilities as may be assigned to them, by notification, by the respective State Governments.

9. Food security to people living in hilly areas:

PROVISIONS FOR ADVANCING FOOD SECURITY

30. Food security for people living in remote, hilly and tribal areas.—The Central Government and the State Governments shall, while implementing the provisions of this Act and the schemes for meeting specified entitlements, give special focus to the needs of the vulnerable groups especially in remote areas and other areas which are difficult to access, hilly and tribal areas for ensuring their food security.

10. The Act has three schedules. Schedule 1 prescribes issue prices for the PDS.

SCHEDULE I

[See sections 3(1), 22(1), (3) and 24(2), (3)]

SUBSIDISED PRICES UNDER TARGETED PUBLIC DISTRIBUTION SYSTEM

Eligible households shall be entitled to foodgrains under section 3 at the subsidised price not exceeding rupees 3 per kg for rice, rupees 2 per kg for wheat and rupee 1 per kg for coarse grains for a period of three years from the date of commencement of this Act; and thereafter, at such price, as may be fixed by the Central Government, from time to time, not exceeding,—

- (i) the minimum support price for wheat and coarse grains; and
- (ii) the derived minimum support price for rice,

as the case may be.

11. Schedule 2 prescribes “nutritional standards” for midday meals, take-home rations and related entitlements. For instance, take-home rations for children aged 6 months to 3 years should provide at least 500 calories and 12-15 grams of protein.

SCHEDULE II

[See sections 4(a), 5(1) and 6]

NUTRITIONAL STANDARDS

Nutritional standards: The nutritional standards for children in the age group of 6 months to 3 years, age group of 3 to 6 years and pregnant women and lactating mothers required to be met by providing "Take Home Rations" or nutritious hot cooked meal in accordance with the Integrated Child Development Services Scheme and nutritional standards for children in lower and upper primary classes under the Mid Day Meal Scheme are as follows:

Serial number	Category	Type of meal ²	Calories (Kcal)	Protein (g)
1	2	3	4	5
1.	Children (6 months to 3 years)	Take Home Ration	500	12-15
2.	Children (3 to 6 years)	Morning Snack and Hot Cooked Meal	500	12-15
3.	Children (6 months to 6 years) who are malnourished	Take Home Ration	800	20-25
4.	Lower primary classes	Hot Cooked Meal	450	12
5.	Upper primary classes	Hot Cooked Meal	700	20
6.	Pregnant women and Lactating mothers	Take Home Ration	600	18-20

12. Schedule 3 lists various "**provisions for advancing food security**", under three broad headings:

(1) Revitalisation of Agriculture—

- (a) agrarian reforms through measures for securing interests of small and marginal farmers;
- (b) increase in investments in agriculture, including research and development, extension services, micro and minor irrigation and power to increase productivity and production;
- (c) ensuring livelihood security to farmers by way of remunerative prices, access to inputs, credit, irrigation, power, crop insurance, etc.;
- (d) prohibiting unwarranted diversion of land and water from food production.

(2) Procurement, Storage and Movement related interventions—

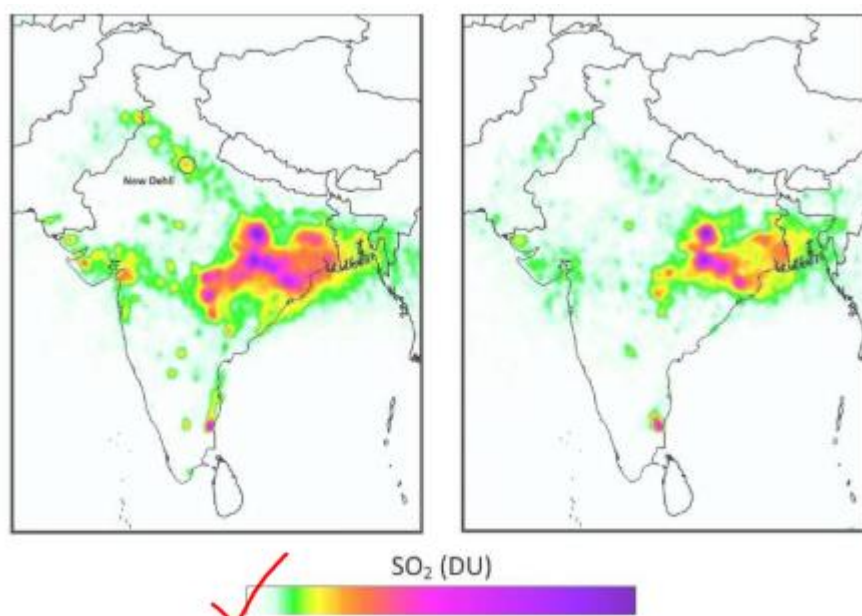
- (a) incentivising decentralised procurement including procurement of coarse grains;
- (b) geographical diversification of procurement operations;
- (c) augmentation of adequate decentralised modern and scientific storage;
- (d) giving top priority to movement of foodgrains and providing sufficient number of rakes for this purpose, including expanding the line capacity of railways to facilitate foodgrain movement from surplus to consuming regions.

(3) Others: Access to—

- (a) safe and adequate drinking water and sanitation;
- (b) health care;
- (c) nutritional, health and education support to adolescent girls;
- (d) adequate pensions for senior citizens, persons with disability and single women.

CA19. Sulphur dioxide concentrations drop over India during COVID-19

Link: <https://phys.org/news/2020-07-sulphur-dioxide-india-covid-.html>



Based on measurements gathered by the Copernicus Sentinel-5P satellite, the map shows the average..

Concentrations of **sulfur dioxide in polluted areas in India have decreased** by around 40% between April 2019 and April 2020. Using data from the **Copernicus Sentinel-5P satellite, from the European Union Copernicus program**, scientists have produced new maps which show the drop in concentrations across the country in times of COVID-19.

In a report by Greenpeace last year, India was named the **world's largest emitter of anthropogenic sulfur dioxide**—a significant contributor to air pollution. Sulfur dioxide causes many health-related problems, can harm sensitive ecosystems and is also a precursor to acid rain.

While some atmospheric sulfur dioxide is produced from natural processes, such as volcanoes, **a substantial amount is produced by human activities**—predominantly from power plants burning fossil fuels.

In India, emissions of sulfur dioxide have strongly increased over the last ten years, exacerbating haze problems over large parts of the country. However, owing to the COVID-19 pandemic, human and industrial activity dropped considerably since the beginning of its lockdown on 25 March 2020.

Sulfur dioxide concentrations have dropped significantly compared to the previous year, notably over New Delhi, over many large coal-fired powers plants as well as other industrial areas. Some large plants in the northeast states of Odisha, Jharkhand, and Chhattisgarh have maintained a substantial level of activity, while others appear to have ceased entirely.

CA20. Compulsory Licencing of Remdesivir

Link: <https://www.thehindu.com/news/national/issue-compulsory-licences-for-manufacture-of-an-affordable-generic-version-of-remdesivir-cpim-tells-govt/article31994596.ece>

Recently, Recently, the **CPI (Marxist) party** has suggested that the government shall issue compulsory licences for the manufacturing of a generic version of Remdesivir which is being used to treat Covid-19 patients. News is not very important, but two topics are important:

- a. **Remdesivir**
- b. **Compulsory Licensing**

Remdesivir is developed to treat Ebola and related viruses. According to the World Health Organization (WHO), the drug helps to prevent Covid-19 viral replication. It has the best potential and can be used in high doses without causing toxicities. Thus, the party has suggested the government invoking Clause 92 of the Patent Act (1970) that allows it to issue compulsory licences.

What is compulsory licensing?

Compulsory licensing is when a government allows someone else to produce a patented product or process without the consent of the patent owner or plans to

use the patent-protected invention itself. It is one of the flexibilities in the field of patent protection included in the WTO's agreement on intellectual property — the TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement.

This concept is recognised at both national as well as international levels, with express mention in both (Indian) Patent Act, 1970 and TRIPS Agreement. There are certain pre-requisite conditions, given under sections 84-92, which need to be fulfilled **if a compulsory license is to be granted in favour of someone.**

As per Section 84, any person, regardless of whether he is the holder of the license of that Patent, can make a request to the Controller for grant of compulsory license on expiry of three years, when any of the following conditions is fulfilled –

- a. **the reasonable requirements of the public with respect to the patented invention have not been satisfied**
- b. **the patented invention is not available to the public at a reasonably affordable price**
- c. **the patented invention is not worked in the territory of India.**

Further, compulsory licenses can also be issued suo motu by the Controller under section 92, pursuant to a notification issued by the Central Government if there is either a "national emergency" or "extreme urgency" or in cases of "public non-commercial use".

The Controller takes into account some more factors like the nature of the invention, the capability of the applicant to use the product for public benefit and the reasonability, but the ultimate discretion lies with him to grant the compulsory license. Even after a compulsory license is granted to a third party, the patent owner still has rights over the patent, including a right to be paid for copies of the products made under the compulsory licence.

Have India applied for Compulsory License?

India's [first ever compulsory license](#) was granted by the Patent Office on March 9, 2012, to Natco Pharma for the generic production of Bayer Corporation's Nexavar, a life saving medicine used for treating Liver and Kidney Cancer.

CA21. Legal obligation in Blocking Of 59 Apps

Link: <https://www.livelaw.in/top-stories/section-69a-it-act-shreya-singhal-judgment-and-blocking-of-59-apps-159442>

While making public its decision to block 59 mobile apps, mostly Chinese, including Tik Tok, Cam Scanner, Xender etc., the Ministry of Electronics & Information Technology has mainly referred to its powers under **Section 69A of the Information Technology Act, 2000**, read with the relevant provisions of the **Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules**,

2009, to block these apps, citing threat to **sovereignty and integrity of India**, defence of India, security of state and public order.

Why Ministry has taken this decision?

- The Ministry has taken this decision in view of information available that these applications are engaged in activities which is *prejudicial to sovereignty and integrity of India*, defence of India, security of state and public order.
- It has also taken into account the recommendation made by the Indian Cyber Crime Coordination Centre, Ministry of Home Affairs for '*blocking these malicious apps*'.
- It further states that the *Computer Emergency Response Team (CERT-IN)* has also received many representations from citizens regarding security of data and breach of privacy impacting upon public order issues.
- Finally, it justifies its decision by stating that '*there has been a strong chorus in the public space to take strict action against Apps that harm India's sovereignty as well as the privacy of our citizens.*'

This document intends to **examine the provisions of Information Technology Act** and Rules framed under it, **which has been invoked by the Government to decide to block 59 mobile applications.**

Section 69A of Information Technology Act

The Section 69A, introduced vide an Amendment Act of 2009 with effect from 27.10.2009, deals with the **power to issue directions for blocking for public access** of any information through any computer resource. The provision 69A (1) reads as follows:

Where the Central Government or any of its officers specially authorised by it in this behalf is satisfied that it is necessary or expedient so to do, in the interest of sovereignty and integrity of India, defence of India, security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of any cognizable offence relating to above, it may subject to the provisions of sub-section (2), for reasons to be recorded in writing, by order, direct any agency of the Government or intermediary to block for access by the public or cause to be blocked for access by the public any information generated, transmitted, received, stored or hosted in any computer resource.

Understand in simple terms:

Section 69A empowers the Central Government to direct any Central Government agency or intermediary to block public access to any information which is stored or disseminated over any computer resource. Such directions must only be issued in the interest of sovereignty and integrity of India, defence of India, security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of any cognizable offence relating to above. Therefore, Section 69A and the IT Blocking Rules

2009 empower the State to block public access to websites, web applications and other computer resources.

The intermediary who fails to comply with the direction issued under the above sub section shall be punished with an imprisonment for a term which may extend to seven years and shall also be liable to fine.

SC Upheld Validity of Section 69A and Rules in Shreya Singhal Judgment

We will understand the Shreya Singhal Case first:

Shreya Singhal v. Union of India is perhaps best known for striking down Section 66A of the Information Technology Act, 2000 ('IT Act') as unconstitutional.

However, **in the same judgement, the Supreme Court also upheld the constitutionality of another tool of web censorship under the IT Act: Section 69A and the accompanying Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules, 2009 ('IT Blocking Rules 2009').**

Why 69A was challenged and what SC ordered?

The main grounds of challenge against Section 69A were:

- a. There is no pre-decisional hearing afforded by the Rules particularly to the "originator" of information, which is defined under Section 2(za) of the Act to mean a person who sends, generates, stores or transmits any electronic message; or causes any electronic message to be sent, generated, stored or transmitted to any other person.

(za) "Originator" means a person who sends, generates, stores or transmits any electronic message or causes any electronic message to be sent, generated, stored or transmitted to any other person but does not include an intermediary;

- b. Procedural safeguards such as which are provided under Section 95 and 96 of the Code of Criminal Procedure are not available here.

96. Application to High Court to set aside declaration of forfeiture.—(1) Any person having any interest in any newspaper, book or other document, in respect of which a declaration of forfeiture has been made under section 95, may, within two months from the date of publication in the Official Gazette of such declaration, apply to the High Court to set aside such declaration on the ground that the issue of the newspaper, or the book or other document, in respect of which the declaration was made, did not contain any such matter as is referred to in sub-section (1) of section 95.

- c. The confidentiality requirement present under Rule 16 of the IT Blocking Rules 2009 allowed violation of fundamental rights in secrecy.

16. Requests and complaints to be confidential.— Strict confidentiality shall be maintained regarding all the requests and complaints received and actions taken thereof.

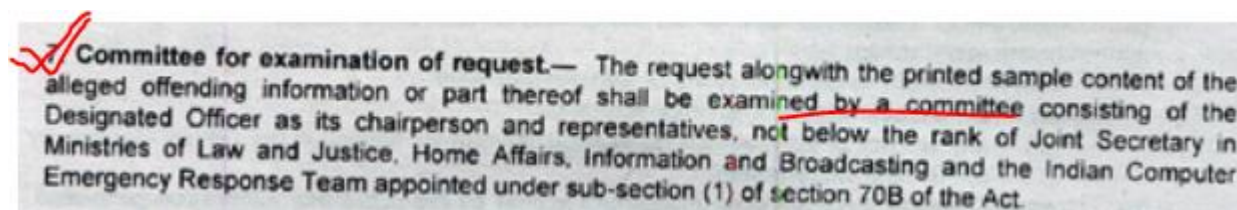
Supreme Court Observation:

While dealing with these contentions, the Court observed that that Section 69A:

First and foremost, blocking can only be resorted to where the Central Government is satisfied that it is necessary so to do. Secondly, such necessity is relatable only to some of the subjects set out in Article 19(2). Thirdly, reasons have to be recorded in writing in such blocking order so that they may be assailed in a writ petition under Article 226 of the Constitution.

Referring to the Rules (Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules, 2009), the Court further observed:

*The Rules further provide for a hearing before the Committee set up - which Committee then looks into whether or not it is necessary to block such information. **It is only when the Committee finds that there is such a necessity that a blocking order is made.** It is also clear from an examination of Rule 8 that it is not merely the intermediary who may be heard. If the "person" i.e. the originator is identified he is also to be heard before a blocking order is passed.*



The Supreme Court had upheld the validity of the Section 69A and Rules taking note of the fact that there are sufficient safeguards which are to be met before blocking orders are made.

How to relate this with present case?

In the present case, the Government seems to have issued an 'interim order' blocking the applications even before affording an opportunity of hearing to them. No safeguards used (as provided earlier) while pronouncing order. So, government might face some legal challenges in court if banning Chinese apps is challenged.

Conclusion:

To put it briefly, the applications that are blocked by an interim order, will be given an opportunity to present their version before the Committee. The Committee will consider whether it is justifiable to block them and will give specific recommendation in writing. On receipt of recommendations of committee, Secretary, Department of Information Technology, will pass the final order as regard to approval of such request.

In case the request for blocking is not approved by the Secretary, Department of Information Technology in his final order, the 'interim blocking direction' will be revoked.

There are many more technicalities in this topic, but as an UPSC aspirant, you don't need to go much in detail. The details provided will suffice the need in exam.

So, in Prelims:

- a. What is Shreya Singhal Case related to?
- b. Which Provisions were invoked while banning?

becomes important.

CA22. Provision of Hindi Language in our Indian Constitution

Link: <https://indianexpress.com/article/cities/chandigarh/punjab-petition-challenging-imposition-of-hindi-language-in-lower-courts-disposed-of-hc-says-its-premature-6482306/>

Haryana is trying to impose Hindi Language in Lower courts. We will not focus much on news as it is still in SC. Let us wait for new updates.

We will here deal with **Part XVII of the Constitution, Articles 343 to 345 which deals with Languages of the Union and Regional Languages.**

We will provide you brief explanations along with clippings of article. Please read both.

The Constitution contains the following provisions in respect of the official language of the Union.

- a. Hindi written in Devanagari script is to be the official language of the Union. But the form of numerals to be used for the official purposes of the Union has to be the international form of Indian numerals and not the Devanagari form of numerals.
- b. However, for a period of fifteen years from the commencement of the Constitution (i.e., from 1950 to 1965), the English language would continue to be used for all the official purposes of the Union for which it was being used before 1950.
- c. Even after fifteen years, the Parliament may provide for the continued use of English language for the specified purposes.

CHAPTER I.—LANGUAGE OF THE UNION

✓ 343. **Official language of the Union.**—(1) The official language of the Union shall be Hindi in Devanagari script.

The form of numerals to be used for the official purposes of the Union shall be the international form of Indian numerals.

(2) Notwithstanding anything in clause (1), for a period of fifteen years from the commencement of this Constitution, the English language shall continue to be used for all the official purposes of the Union for which it was being used immediately before such commencement:

Provided that the President may, during the said period, by order² authorise the use of the Hindi language in addition to the English language and of the Devanagari form of numerals in addition to the international form of Indian numerals for any of the official purposes of the Union.

(3) Notwithstanding anything in this article, Parliament may by law provide for the use, after the said period of fifteen years, of—

- (a) the English language, or
- (b) the Devanagari form of numerals,

for such purposes as may be specified in the law.

At the end of five years, and again at the end of ten years, from the commencement of the Constitution, **the president should appoint a commission** to make recommendations with regard to the progressive use of the Hindi language, restrictions on the use of the English language and other related issues.

✓ 344. **Commission and Committee of Parliament on official language.**—(1) The President shall, at the expiration of five years from the commencement of this Constitution and thereafter at the expiration of ten years from such commencement, by order constitute a Commission which shall consist of a Chairman and such other members representing the different languages specified in the Eighth Schedule as the President may appoint, and the order shall define the procedure to be followed by the Commission.

✓ (2) It shall be the duty of the Commission to make recommendations to the President as to—

- (a) the progressive use of the Hindi language for the official purposes of the Union;
- (b) restrictions on the use of the English language for all or any of the official purposes of the Union;
- (c) the language to be used for all or any of the purposes mentioned in article 348;
- (d) the form of numerals to be used for any one or more specified purposes of the Union;

A committee of Parliament is to be constituted to examine the recommendations of the commission and to report its views on them to the president.

✓ (4) There shall be constituted a Committee consisting of thirty members, of whom twenty shall be members of the House of the People and ten shall be members of the Council of States to be elected respectively by the members of the House of the People and the members of the Council of States in accordance with the system of proportional representation by means of the single transferable vote.

(5) It shall be the duty of the Committee to examine the recommendations of the Commission constituted under clause (1) and to report to the President their opinion thereon.

Now what Constitution talks about Regional Languages:

The Constitution does not specify the official language of different states. The legislature of a state may adopt any one or more of the languages in use in the state or Hindi as the official language of that state. Until that is done, English is to continue as official language of that state. Under this provision, most of the states have adopted the major regional language as their official language. **For example, Andhra Pradesh has adopted Telugu, Kerala—Malayalam, Assam—Assamese, West Bengal—Bengali, Odisha—Odia.**

345. Official language or languages of a State.—Subject to the provisions of articles 346 and 347, the Legislature of a State may by law adopt any one or more of the languages in use in the State or Hindi as the language or languages to be used for all or any of the official purposes of that State:

Provided that, until the Legislature of the State otherwise provides by law, the English language shall continue to be used for those official purposes within the State for which it was being used immediately before the commencement of this Constitution.

Now special directives given under Article 350. The Constitution makes the following provisions:

Article 350: Every aggrieved person has the right to submit a representation for the redress of any grievance to any officer or authority of the Union or a state in any of the languages used in the Union or in the state, as the case may be. This means that a representation cannot be rejected on the ground that **it is not in the official language.**

Article 350A:

Every state and a local authority in the **state should provide adequate facilities for instruction in the mother-tongue at the primary stage of education** to children belonging to linguistic minority groups. The president can issue necessary directions for this purpose.

Article 350B:

The president should appoint a **special officer for linguistic minorities** to investigate all matters relating to the constitutional safeguards for linguistic minorities and to report to him. The president should place all such reports before the Parliament and send to the state government concerned.

✓ **350. Language to be used in representations for redress of grievances.**—Every person shall be entitled to submit a representation for the redress of any grievance to any officer or authority of the Union or a State in any of the languages used in the Union or in the State, as the case may be.

✓ **350A. Facilities for instruction in mother-tongue at primary stage.**—It shall be the endeavour of every State and of every local authority within the State to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups; and the President may issue such directions to any State as he considers necessary or proper for securing the provision of such facilities.

✓ **350B. Special Officer for linguistic minorities.**—(1) There shall be a Special Officer for linguistic minorities to be appointed by the President.

(2) It shall be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under this Constitution and report to the President upon those matters at such intervals as the President may direct, and the President shall cause all such reports to be laid before each House of Parliament, and sent to the Governments of the States concerned.]

Article 351: It shall be the duty of the Union to promote the spread of the Hindi language, to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India.

✓ **351. Directive for development of the Hindi language.**—It shall be the duty of the Union to promote the spread of the Hindi language, to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India and to secure its enrichment by assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule, and by drawing, wherever necessary or desirable, for its vocabulary, primarily on Sanskrit and secondarily on other languages.

CA23. Shifting seasons on Russian steppe captured by NASA

Link: <https://www.downtoearth.org.in/news/environment/shifting-seasons-on-russian-steppe-captured-by-nasa-72161>

Significant seasonal changes have been observed in southwestern **Russia's Kulunda steppe** — a large area of flat, unforested grassland — by US space agency **National Aeronautics and Space Administration's Terra and Aqua satellites**.

The images shared by NASA show the terrain of the land — that looks like a giant claw scraped across its surface — between April 1 and June 11, 2020. The 'scratch' marks are the result of tectonic forces that folded rock layers and created shallow valleys filled with pine forests and lakes in the region.

Changes observed:

- The images captured using data from NASA's Moderate Resolution Imaging Spectroradiometer — show many changes, apart from the loss of snow and ice cover.
- The forested valleys of the region appear dark green compared to the lighter green and brown farmland that surrounds them.
- The aquatic population in the lakes — including brine shrimp and salt-loving Halobacteria — increases during the seasonal changes, which results in these lakes changing colour, according to NASA's Earth Observatory.

- d. The most interesting phenomenon witnessed, however, is the **change in colour of the region's lakes**. The colour of **Lake Kuchukskoye** shifts from green to pink, a phenomenon seen in other lakes in Russia's Altai Krai district as well.



Such questions are very important for Prelims exam. *Silent killers*.

CA24. New global study reveals 'time-tree' of Earth's flowering plants

Link: <https://phys.org/news/2020-07-global-reveals-tree-earth.html>



Interesting news.

New research published today in *Nature Ecology & Evolution* by scientists from Australia and Mexico reveals the **world's first complete angiosperm "time tree"—a reconstruction of the evolution of the Earth's flowering plants through time.**

The rise of angiosperms (flowering plants) began about 140 million years ago, sparking one of the most dramatic biological revolutions of our planet's recent history. Crucial questions around the timing and location of the origin of the families involved in creating the most diverse type of plants on Earth were until now, largely unanswered.

Fossils are the most important pieces of evidence needed to understand these important evolutionary questions around angiosperm divergence times.

Every group of living species on Earth has a 'stem' age (the age of its origin) and a 'crown' age (the beginning of its diversification into the living species we see today) and birds provide a great example of this. The stem age of birds is marked by their split from crocodiles around 240 million years ago and their crown age is marked by the most recent common ancestor of all living birds, around 100 million years ago. What happened between the stem and crown ages is very interesting because this is when the dinosaurs roamed the Earth. It's also when all the traits that define modern birds evolved and this is exactly what we set out to understand in our angiosperm study.

✓ By estimating both the stem and crown ages for angiosperm families we found a difference of 37 to 56 million years between family origins and the beginning of their diversification into the living species we see today," said Professor Magallón. "To put this into context, the average time lag corresponds to around a third of the entire duration of angiosperm evolution, which is at least 140 million years."

Dr. Sauquet said the new study sheds new light on crucial temporal and geographic aspects of the most critical phases of angiosperm evolution after their origin.



CA25. Himalayan butterfly is India's largest after 88 years

Link: <https://www.thehindu.com/sci-tech/energy-and-environment/himalayan-butterfly-is-indias-largest-after-88-years/article32012652.ece#:~:text=It%20has%20dethroned%20an%20unknown,had%20held%20for%2088%20years.>



A Himalayan butterfly named Golden Birdwing is India's largest, a record an unknown specimen had held for 88 years.

ENVIRONMENT

Himalayan butterfly is India's largest after 88 years



Rahul Karmakar

GUWAHATI: , JULY 07, 2020 17:27 IST
UPDATED: JULY 07, 2020 17:27 IST

SHARE ARTICLE



With a wingspan of 194 mm, the female of the species is marginally larger than the Southern Birdwing (190 mm) recorded in 1932. But the male Golden Birdwing (Troides aeacus) is much smaller at 106 mm.

The smallest is the Quaker (Neopithecops zalmora) with a wingspan of 18 mm and forewing length of 8 mm.

CA26. UN Report on Zoonotic Diseases

Link:

<https://wedocs.unep.org/bitstream/handle/20.500.11822/32316/ZP.pdf?sequence=1&isAllowed=y>

According to a report published by the **United Nations Environment Programme (UNEP)** and the International Livestock Research Institute (ILRI), about 60% of known infectious diseases in humans and **75% of all emerging infectious diseases are zoonotic**. The title of the report: *Preventing the Next Pandemic: Zoonotic disease and how to break the chain of transmission*.



PREVENTING THE NEXT PANDEMIC

Zoonotic diseases and how to break the chain of transmission

We will cover few important points and diagrams important for you. Nothing will be asked beyond this.

As the UN Framework for the Immediate Socio-economic Response to COVID-19, published in April 2020, says:

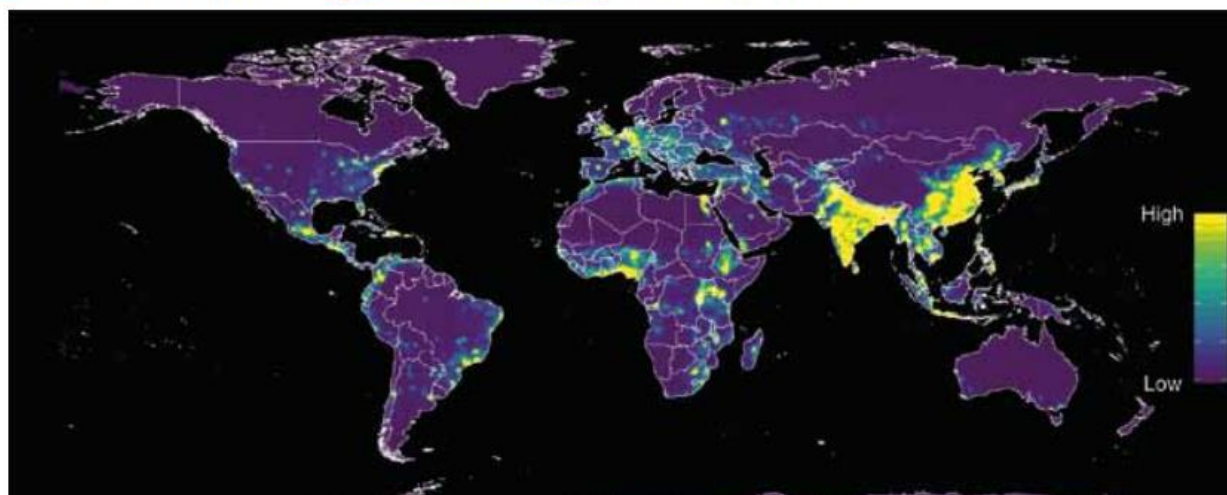
*"The success of post-pandemic recovery will also be determined by a better understanding of the context and nature of risk. In view of the COVID-19 crisis, this includes **developing and maintaining a global mapping of encroachment, illegal trade, wet markets, etc. that are pathways for future pathogen transmission and thus potential future zoonoses identified.** It will also mean supporting efforts to arrest ecosystem encroachments and harmful practices, restore degraded ecosystems, close down illegal trade and illegal wet markets, while protecting communities that depend on these for their food supply and livelihoods.*

This report (**Preventing the Next Pandemic: Zoonotic disease and how to break the chain of transmission**) is one of the first that specifically focuses on the environmental side of the zoonotic dimension of disease outbreaks during the COVID-19 pandemic. It tries to fill a critical knowledge gap and provide policymakers with a better understanding of the context and nature of potential future zoonotic disease outbreaks. **A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans. Animals thus play an essential role in maintaining zoonotic infections in nature.**

When do zoonoses become human disease outbreaks?

Historically, the emergence of new human diseases from animals has been associated with major societal change. For example, during the Neolithic transition from hunter-gathering to agricultural societies, humans lived shorter lives, ate less and poorer-quality foods, were smaller in size and were sicker than their hunter-gatherer ancestors. With the advent of agriculture, the dramatic rise in population and the settlement of people in close proximity to their waste led to increases in human disease; the domestication of animals led to livestock pathogens jumping species into people, where they became the probable cause of diseases such as diphtheria, influenza, measles and smallpox.

Global hotspot map of estimated risk in zoonotic disease emergence



Types of zoonotic diseases

Emerging zoonotic diseases

are those that newly appear in human populations or have existed previously but are now rapidly increasing in incidence or geographical range. Fortunately, these diseases are often not highly lethal and most do not spread widely. But some emerging diseases have enormous impacts. Ebola, HIV/AIDS and now COVID-19 are well-known examples of emerging zoonoses particularly harmful to human health and the economy.

Ebola outbreak
of 2013-2016 in
Guinea, Liberia
and Sierra
Leone

11,323 deaths


USD 2.8 billion
in economic losses

Zika virus outbreak
2015-2016 in
the Americas

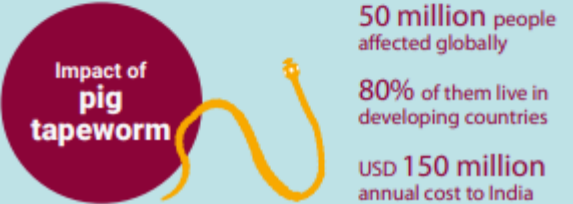
1 in 7 babies of pregnant
women infected with Zika virus
develops neurological problems

USD 912,000 life-time cost
per case of Zika-associated
microcephaly

Epidemic zoonoses
typically occur intermittently and are mostly domestic in origin. Examples are anthrax, leishmaniasis and Rift Valley fever. Epidemic zoonoses are often triggered by events such as climate variability, flooding and other extreme weather, and famines. The overall health burden of outbreak/epidemic zoonoses is much less than that of neglected zoonoses, but because epidemic zoonoses cause 'shocks' to food production and other systems, they can significantly reduce the resilience of affected impoverished communities



Neglected zoonotic diseases
are mostly domestic in origin, and continuously present to a greater or lesser degree in certain populations. These common diseases affect mostly poor populations and are commonly neglected by the international donor, standard-setting and research communities alike as well as by national governments. It is likely that poor detection and surveillance of these diseases diminish their recognition and hence prioritization by researchers and policymakers.



Some zoonotic diseases damages in the past:

- The true zoonotic bubonic plague or pest (Black Death caused by the bacteria *Yersinia pestis*) of the mid-fourteenth century killed millions in Eurasia and North Africa, wiping out a third of Europe's population.
- The tuberculosis outbreak of the nineteenth century, associated with the industrialization in Western Europe and over-crowding, killing up to one in four people.
- The expansion of colonial rule in Africa facilitated outbreaks of zoonotic sleeping sickness that killed one third of the population in Uganda and up to one fifth of the people living in the Congo River Basin in the first decade of the twentieth century.
- The 1918 influenza pandemic killed some 40 million people in the last months of World War I and the following years (1918–1921).

Seven major anthropogenic drivers of zoonotic disease emergence. Very important points. You will use them in answer for any disease. Do remember.

- a. Increasing demand for animal protein
- b. Unsustainable agricultural intensification
- c. Increased use and exploitation of wildlife
- d. Unsustainable utilization of natural resources accelerated by urbanization, land use change and extractive industries
- e. Changes in food supply chains
- f. Travel and Transportation
- g. Climate change

✓ 1. Increasing demand for animal protein

High-income countries have experienced little change in consumption of animal source foods during the last four decades. In contrast, Southeast Asia has seen a rapid increase: Since the 1960s, the share of the region's daily food supply of proteins from animal products has doubled to 21 per cent; from fish, it has increased by half to 15 per cent. The share of total calories from both fish and animal products doubled to total of 12 per cent of the supply.

✓ 2. Unsustainable agricultural intensification

Increasing demand for animal-source foods stimulates the intensification and industrialization of animal production.

The intensification of agriculture, and in particular of domestic livestock farming (animal husbandry), results in large numbers of genetically similar animals.

These are often bred for higher production levels; more recently, they have also been bred for disease resistance.

As a result, domestic animals are being kept in close proximity to each other and often in less than ideal conditions. Such genetically homogenous host populations are more vulnerable to infection than genetically diverse populations, because the latter are more likely to include some individuals that better resist disease. Factory farming of pigs, for example, promoted transmission of swine flu due to a lack of physical distancing between the animals.²⁷

✓ 3. Increased use and exploitation of wildlife

There are many ways in which wildlife are used and traded. Section three provides more detail on the complexities. However, in general, an increasing use and exploitation of wildlife includes the following:

1. Harvesting wild animals (wild meat, sometimes called "bushmeat") as a source of protein, micronutrients and money for the poor;
2. Recreational hunting and consumption of wildlife as a status symbol;
3. Consumption of wildlife in the belief that wild meat is fresh, natural, traditional and safe;
4. Trade in live animals for recreational use (pets, zoos) and for research and medical testing; and
5. Use of animal parts for decorative, medicinal and other commercial products.

✓ 4. Unsustainable utilization of natural resources accelerated by urbanization, land use change and extractive industries

Rapid urbanization, especially when unplanned and with poor infrastructure, creates novel and diverse contacts among wildlife, livestock and people. The greater movement of people, animals, food and trade that is associated with accelerated urbanization often provides favourable grounds for the emergence of infectious diseases, including zoonoses. ~~For example, irrigation~~

5. Travel and transportation

Diseases can now move around the world in periods shorter than their incubation periods (the time between exposure to a pathogen and the first clinical sign of illness). The increasing amounts of human travel and trade, including the increasing handling, transport and (legal and illegal) trade of animals and animal products, increases the risk of zoonotic diseases emerging and spreading.

6. Changes in food supply chains

Food supply chains are lengthening and diversifying, especially in low- and middle-income countries. This trend—which is being driven by increased demand for animal source food, new markets for wildlife food, and poorly regulated agricultural intensification—is creating additional opportunities for disease transmission. These include the following:

1. There are increased opportunities for cross-contamination.
2. It can be more difficult to identify where a given food comes from. Traceability challenges make it harder for officials to follow up quickly on any potential problems.
3. Changes in processing can encourage the proliferation of zoonotic diseases (e.g., the formation of biofilms—microbial ecosystems—in food processing plants).

Climate change

Many zoonoses are climate sensitive and a number of them will thrive in a warmer, wetter, more disaster-prone world foreseen in future scenarios.³⁵ Some pathogens, vectors and host animals probably fare more poorly under changing environmental conditions, disappearing in places and resulting in the loss of their population-moderating effects or the establishment of other species in the new ecological niches created by their departure. There is some speculation that the SARS-CoV-2 may survive better in cooler, drier conditions when outside the body.³⁶

Now, we will learn about Coronavirus.

What are coronaviruses?

Coronaviruses are a large group of viruses that infect many animals and humans and are responsible for numerous diseases. They are named “corona” for the crown-like arrangement of the spike-shaped proteins on the surface of their membranes.



Family of Coronaviruses

Coronaviruses are diverse. They belong to the Coronavirinae subfamily in the Coronaviridae family. The Coronavirinae subfamily comprises four genera:

Alphacoronavirus

Alphacoronaviruses cause respiratory tract illnesses and common colds in humans, and gastroenteritis in animals.

Gammacoronavirus

They infect mainly avian species and sometimes mammals including cetaceans. IBV is a gammacoronavirus that causes avian infectious bronchitis.

Betacoronavirus

Betacoronaviruses affect mainly mammals, and include those that cause MERS, SARS and COVID-19.

Deltacoronavirus

They are found primarily in birds and some mammals. Porcine deltacoronavirus (PDCoV) recently emerged, causing severe diarrhoea in newborn piglets.

Emergence of significant diseases caused by coronaviruses and other pathogens



1931

Avian infectious bronchitis

Pathogen: Infectious bronchitis virus (IBV)

Genus: Gammacoronavirus

Host: Chickens

Place of emergence: North Dakota, USA

IBV causes an acute, highly contagious respiratory disease in chickens. It can also damage the reproductive tract, causing decreased egg quality and production. First documented in USA, the disease is now prevalent in all countries with an intensive poultry industry.



1971

Porcine epidemic diarrhoea (PED)

Pathogen: Porcine epidemic diarrhoea virus (PEDV)

Genus: Alphacoronavirus

Host: Pigs

Place of emergence: United Kingdom

Following the first appearance in the UK, it spread to other European countries and Asia. A highly virulent PEDV strain emerged in 2013 and caused nationwide outbreaks in the US, and rapidly spread to North, Central and South American countries. The virus is not zoonotic and poses no risk to humans, or food safety.



2003

Severe acute respiratory syndrome (SARS)

Pathogen: SARS coronavirus (SARS-CoV)

Genus: Betacoronavirus

Natural reservoir: Horseshoe bats

Intermediate host: Masked civet cats

Place of emergence: Guangdong, China

This pneumonia-like infection spread from Guangdong, China, to more than 26 countries in Asia, Europe, North America and South America before it was contained. SARS-like coronavirus has been found in horseshoe bats, suggesting that bats are natural reservoirs.



2012

Middle East respiratory syndrome (MERS)

Pathogen: MERS coronavirus (MERS-CoV)

Genus: Betacoronavirus

Natural reservoir: Probably bats

Intermediate host: Dromedary camels

Place of emergence: Saudi Arabia

First reported in Saudi Arabia, MERS has spread to 27 countries with a large outbreak in Korea in 2015. A study in 2018 shows high prevalence of MERS-CoV strains in local camels in Saudi Arabia, compared to imported camels from Africa.



2016

Swine acute diarrhoea syndrome (SADS)

Pathogen: SADS coronavirus (SADS-CoV)

Genus: Alphacoronavirus

Natural reservoir: Probably bats

Host: Pigs

Place of emergence: Guangdong, China

SADS-CoV caused severe and acute diarrhoea and vomiting in newborn piglets. The outbreak killed nearly 25,000 piglets in Guangdong. Case fatality ratio: 90% in piglets less than five days old. This coronavirus did not appear to jump to humans.



2019

Coronavirus disease 2019 (COVID-19)

Pathogen: SARS-CoV-2

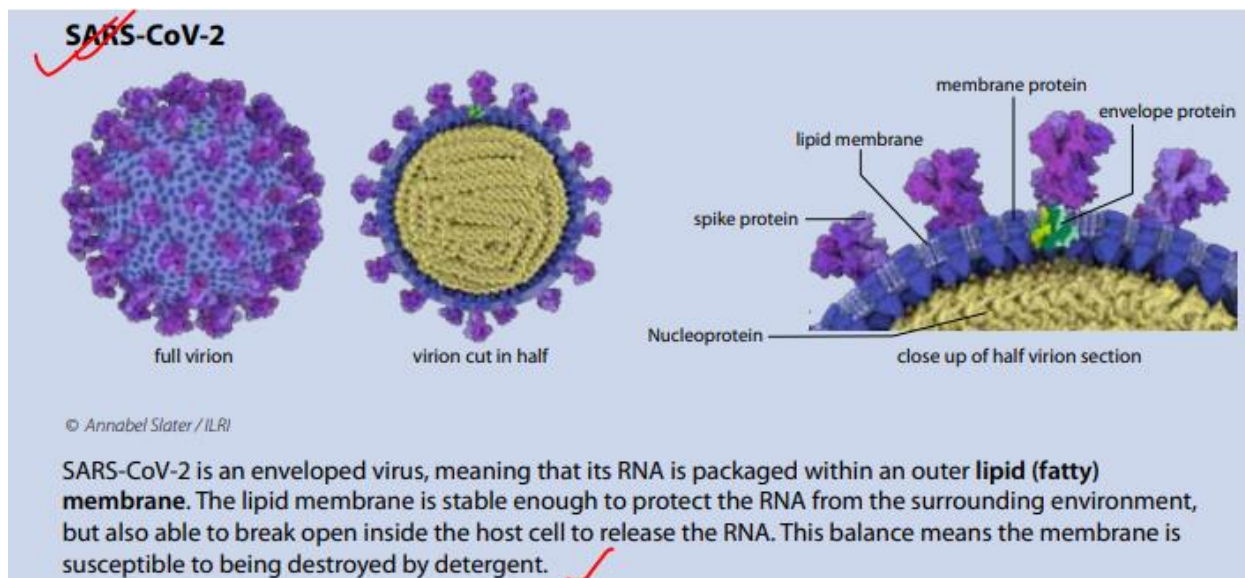
Genus: Betacoronavirus

Natural reservoir: Probably bats

Intermediate host: Unknown

Place of emergence: Wuhan, China

SARS-CoV-2 appears to be a recent mix, or genetic recombination, of two coronaviruses. Genome sequencing suggests that SARS-CoV-2 is 96% identical to a coronavirus in horseshoe bats.



CA27. Biodiversity Heritage Sites

Link: <https://krishijagran.com/agripedia/biodiversity-heritage-sites-a-step-to-sustain-livelihoods-through-biological-diversity-conservation/>

We will try to connect points. Read complete document. **Start with Convention on Biological Diversity (CBD).**

The Convention on Biological Diversity (CBD), adopted at the Rio Earth Summit, 1992 is based on three-fold objectives: *conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the utilization of genetic resources.*

The primary requirement for the first objective, as noted by CBD, is the **in-situ conservation of ecosystems and natural habitats**. To ensure in-situ conservation of biological diversity, every contracting party to the CBD is required to establish a system of Protected Areas (PA). PAs are geographical defined areas which are designated or regulated and managed to achieve specific conservation objectives. The CBD also mandates parties to develop guidelines for selection, establishment and management of such areas.

So, what India did after reading CBD objective?

In order to fulfill the objectives of CBD, **India enacted the Biological Diversity Act, 2002 (BD Act, 2002).**

THE BIOLOGICAL DIVERSITY ACT, 2002
ACT NO. 18 OF 2003

[5th February, 2003.]

An Act to provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

For its implementation, the BD Act, 2002 institutes a three-tier structure: **National Biodiversity Authority (NBA) at the apex level, State Biodiversity Boards (SBB) at state level and Biodiversity Management Committees (BMCs) at local body level.**

One of the salient features of the Act *with respect to in-situ conservation is conserve and develop areas of importance from the standpoint of biological diversity by **declaring them as biodiversity heritage sites (BHS)**. The Act grants State Governments the power to notify areas of biodiversity importance as BHS* and in consultation with the Central Government to frame rules for their management and conservation.

37. Biodiversity heritage sites.—(1) Without prejudice to any other law for the time being in force, the State Government may, from time to time in consultation with the local bodies, notify in the Official Gazette, ~~areas of biodiversity importance as~~ biodiversity heritage sites under this Act.

(2) The State Government, in consultation with the Central Government, may frame rules for the management and conservation of all the heritage sites.

(3) The State Government shall frame schemes for compensating or rehabilitating any person or section of people economically affected by such notification.

BHS are well defined areas that are unique, ecologically fragile ecosystems which may be terrestrial, coastal or spread over inland /marine waters.

Important concept here now,

The existing legally defined Protected Areas network in India consist of National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves as notified under India's Wildlife (Protection) Act, 1972. However, the **purpose of the BHS provision is to as far as possible cover those sites which are not covered under the already existing PA network.** The guidelines on BHS clarify that areas which have been designated, identified or notified (for example as PA, biosphere reserve etc.) under Acts or programmes may not be considered under this provision. *The basic idea is to identify those areas important from biodiversity point of view which do not enjoy protection/ support under any other Act or programme.*

Status of Biodiversity Heritage Sites in India

Name of Site	Location
1. Nallur Tamarind Grove	Karnataka
2. Hogrekan	Karnataka
3. University of Agricultural Sciences, GKVK Campus	Karnataka
4. Ambaragudda	Karnataka
5. Glory of Allapalli	Maharashtra
6. Tonglu Medicinal Plant Conservation Area (MPCA)	West Bengal
7. Dhotrey Medicinal Plant Conservation Area (MPCA)	West Bengal

8. Chilkgarh Kanak Durga Sacred Grove	West Bengal
9. Ameenpur Lake	Telangana
10. Longku Forest, Dialong Village	Manipur
11. Majuli River Island	Assam
12. Ghariyal Rehabilitation Centre	Uttar Pradesh

It is clear that even after 15 years of the promulgation of the BD Act, 2002 only 12 sites have been notified as BHS, which is grossly inadequate. Yet, it is significant that the provision of BHS is not just being to strengthen biodiversity conservation but is also being seen as a way to stem loss of biodiversity from ecosystems facing threat.

Other Important Provisions of National Biodiversity Act 2002.

3. Certain persons not to undertake Biodiversity related activities without approval of National Biodiversity Authority.—(1) No person referred to in sub-section (2) shall, without previous approval of the National Biodiversity Authority, obtain any biological resource occurring in India or knowledge associated thereto for research or for commercial utilisation or for bio-survey and bio-utilisation.

(2) The persons who shall be required to take the approval of the National Biodiversity Authority under sub-section (1) are the following, namely:—

- (a) a person who is not a citizen of India;
- (b) a citizen of India, who is a non-resident as defined in clause (30) of section 2 of the Income-tax Act, 1961 (43 of 1961);
- (c) a body corporate, association or organisation—
 - (i) not incorporated or registered in India; or
 - (ii) incorporated or registered in India under any law for the time being in force which has any non-Indian participation in its share capital or management.

6. Application for intellectual property rights not to be made without approval of National Biodiversity Authority.—(1) No person shall apply for any intellectual property right, by whatever name called, in or outside India for any invention based on any research or information on a biological resource obtained from India without obtaining the previous approval of the National Biodiversity Authority before making such application:

8. Establishment of National Biodiversity Authority.—(1) With effect from such date as the Central Government may, by notification in the Official Gazette, appoint, there shall be established by the Central Government for the purposes of this Act, a body to be called the National Biodiversity Authority.

(2) The National Biodiversity Authority shall consist of the following members, namely:—

- (a) a Chairperson, who shall be an eminent person having adequate knowledge and experience in the conservation and sustainable use of biological diversity and in matters relating to equitable sharing of benefits, to be appointed by the Central Government;

18. Functions and powers of National Biodiversity Authority—(1) It shall be the duty of the National Biodiversity Authority to regulate activities referred to in sections 3, 4 and 6 and by regulations issue guidelines for access to biological resources and for fair and equitable benefit sharing.

(2) The National Biodiversity Authority may grant approval for undertaking any activity referred to in sections 3, 4 and 6.

(3) The National Biodiversity Authority may—

(a) advise the Central Government on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the utilisation of biological resources;

(b) advise the State Governments in the selection of areas of biodiversity importance to be notified under sub-section (1) of section 37 as heritage sites and measures for the management of such heritage sites;

(c) perform such other functions as may be necessary to carry out the provisions of this Act.

(4) The National Biodiversity Authority may, on behalf of the Central Government, take any measures necessary to oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge associated with such biological resource which is derived from India.

48. National Biodiversity Authority to be bound by the directions given by Central Government.—(1) Without prejudice to the foregoing provisions of this Act, the National Biodiversity Authority shall, in the discharge of its functions and duties under this Act, be bound by such directions on questions of policy as the Central Government may give in writing to it from time to time:

52. Appeal.—Any person, aggrieved by any determination of benefit sharing or order of the National Biodiversity Authority or a State Biodiversity Board under this Act, may file an appeal to the High Court within thirty days from the date of communication to him, of the determination or order of the National Biodiversity Authority or the State Biodiversity Board, as the case may be:

CA28. Agriculture Infrastructure Fund

Link: <http://newsonair.com/News?title=Cabinet-gives-nod-to-setting-up-of-One-Lakh-Crore-Rupees-Agriculture-Infrastructure-Fund&id=393275>

The Union Cabinet today gave its approval to a new pan India Central Sector Scheme- **Agriculture Infrastructure Fund. Read all important points.**

- The scheme will provide a **medium- and long-term debt financing facility** for investment in viable projects for post-harvest management Infrastructure and community farming assets through interest subvention and financial support.
- Under the scheme, **one lakh crore rupees will be provided by banks and financial institutions** as loans to Primary Agricultural Credit Societies, Marketing Cooperative Societies, Farmer Producers Organizations, Self Help Group, Farmers, Startups and Centre and State agency among others.
- The duration of the Scheme will be **for ten years from Fiscal year 2020 to 2029**. Under it, **loans will be disbursed in four years** starting with sanction of

10 thousand crore rupees in the current year and 30 thousand crore rupees each crore in next three financial years.

- d. All loans under this financing facility **will have interest subvention of 3 per cent per annum** up to a limit of two crore. rupees and this subvention will be available for a maximum period of seven years.
- e. Further, **credit guarantee coverage will be available for eligible borrowers** from this financing facility under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme **for a loan up to two crore rupees.**
- f. The Project by way of facilitating formal credit to farm and farm processing-based activities is expected to create numerous job opportunities in rural areas.
- g. Agri Infra fund will be managed and monitored through an online Management **Information System (MIS) platform.** It will enable all the qualified entities to apply for loan under the fund.
- h. The **National, State and District level Monitoring Committees** will be set up to ensure real-time monitoring and effective feed-back.

CA29. Sun like stars in their later life hold key for Li increase in the Universe

Link: <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1636949>

News from PIB.

In a study recently published in Nature Astronomy (On 6th July 2020) scientists from Indian Institute of Astrophysics (IIA) an autonomous institute of the Department of Science & Technology, Government of India along with their international collaborators have provided a robust observational evidence for the first time that **Li production is common among low mass Sun-like stars** during their He-core burning phase.

Findings of the Study:

- a. Scientists performed a large-scale systematic investigation of the 'He-flash' (onset of He-ignition at the star's core via violent eruption), at the end of the star's core hydrogen-burning phase.
- b. This **He-flash has been identified as the source of Li production** suggesting that *all low-mass stars undergo Li production.*
- c. The study challenges the long-held idea that **stars only destroy lithium** and indicates that there is some physical process missing in stellar theory.

Origin of Lithium:

- a. The origin of much of the Li can be traced to the Big-Bang that happened about 13.7 billion years ago.

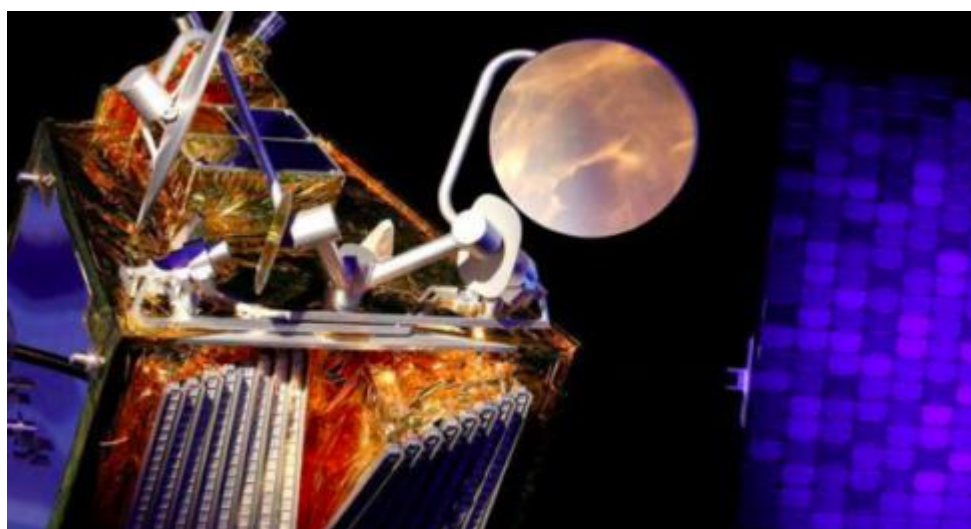
- b. Over the course of time, Li content in the physical universe has increased by about a factor of four, which is meagre compared to the rest of the elements which grew about a million times.
- c. Stars are primary contributors to the significant enhancement of heavier elements through mass ejections and stellar explosions. Li, however, was thought to be an exception till now.

IIA is an autonomous institute of the Department of Science and Technology (DST), Government of India.



CA30. Britain and India's Bharti Win Auction to Buy Collapsed Satellite Company OneWeb

Link: <https://science.thewire.in/space/oneweb-bharti-global-british-govt-satellite/>



As India is involved, so need to know this.

Britain has joined forces with India's Bharti Global to buy the collapsed satellite operator OneWeb, with the two sides pledging \$1 billion between them to develop a constellation that could boost broadband and other services.

Under the deal announced, **Britain will invest \$500 million** and take a significant equity share in OneWeb while **Bharti will invest the same amount** and provide commercial and operational leadership.

The deal means the two sides will be pitted against Elon Musk's SpaceX in the race to build low earth orbit satellites to provide high-bandwidth and low-latency communications services.

CA31. Marmots

Link: <https://www.downtoearth.org.in/news/young/after-bats-do-not-make-marmots-into-villains-expert-72167>

Recently, reports of an outbreak of bubonic plague in Mongolia, China and far east Russia have emerged, caused mainly by Tarbagan Marmot (a species of Marmot).



Marmot (genus *Marmota*) belongs to the squirrel family (Sciuridae) within the order Rodentia. Marmots are well suited for life in cold environments and have small fur-covered ears, short, stocky legs, and strong claws for digging.

They are found primarily in the continents of Europe, Asia and North America.

South Asia or the Indian Subcontinent is home to the **Himalayan Marmot and the Long-tailed Marmot (both are Least Concerned in the IUCN Red List)**.

CA32. Maldives, Sri Lanka eliminate measles and rubella, ahead of 2023 target

Link: <https://www.who.int/southeastasia/news/detail/08-07-2020-maldives-sri-lanka-eliminate-measles-and-rubella-ahead-of-2023-target>

✓ Maldives, Sri Lanka eliminate measles and rubella, ahead of 2023 target

8 July 2020 | News release | SEARO

Maldives and Sri Lanka were today verified for having eliminated rubella, making them the first two countries in WHO South-East Asia Region to achieve measles and rubella elimination ahead of the 2023 target. Bhutan, DPR Korea and Timor-Leste are other countries in the Region who have eliminated measles.

What does elimination means?

A country is verified as having eliminated measles and rubella when there is no evidence of endemic transmission of the measles and rubella viruses for over three years in the presence of a well performing surveillance system.

What was the target?

Member Countries of **WHO South-East Asia Region** resolved to eliminate measles and rubella **by 2023**, to prevent deaths and disabilities caused by these highly infectious childhood killers diseases.

The Member countries adopted a “**Strategic Plan for Measles and Rubella Elimination 2020-2024**” that lays down the road map and focus areas to achieve the elimination targets in the Region

Who are the members of WHO South-East Asia Region?

The WHO South East Asia Region has **11 Member States**: Bangladesh, Bhutan, Democratic People's Republic of Korea, **India**, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste (a South-Eastern Asian country).

Here, we will also learn about **South East Asia Regulatory Network “SEARN”**



This (SEARN) is the website of Network National Regulatory Authorities responsible for regulation of medical products, including medicines, vaccines, biological and medical devices and diagnostics for human use in the eleven countries of the South East Asia Region. **WHO is providing secretariat support to the network.**

Now, one more important thing is, don't compare this SEARN (South East Asia Regulatory Network) with other SEARN which is The South East Asia Research Network (SEARN).

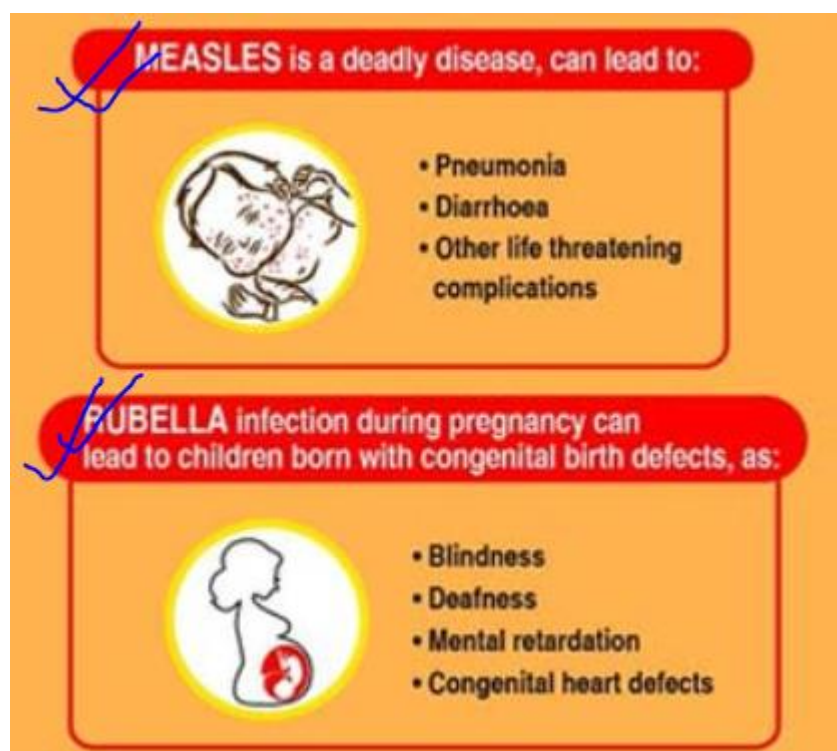
LONDON
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~~South East Asia Research
Network~~

SEARN (South East Asia Research Network) provides a forum to support the communication and dissemination of research findings, highlight research areas, and link people in **LSHTM (London School of Hygiene & Tropical Medicine)** and outside collaborators with an interest in South East Asia. **It includes all ASEAN countries:** Thailand, Vietnam, Laos, Myanmar (Burma), Cambodia, Malaysia, Indonesia, Brunei, Singapore, Timor-Leste (East Timor) and the Philippines.

With respect to India: First learn what is Measles and Rubella Disease?



Measles-Rubella Vaccination Campaign India, 2017

What are measles and rubella diseases?

- Measles and Rubella are highly contagious viral diseases that are spread by contact with an infected person through coughing and sneezing.
- Infection with Measles is followed by high fever, rash that spreads over the body, cough, running nose and red watery eyes.
- Measles weakens the immune system of the body. Hence infection with Measles often leads to serious complications that include blindness, encephalitis, severe diarrhoea and severe respiratory infections such as pneumonia.
- Most measles-related deaths are caused by complications associated with the disease.
- One-third of all measles-related deaths worldwide occur in India.
- Rubella is a mild viral infection that occurs most often in children and young adults.
- Infection with Rubella is followed by rash and low fever. It may be associated with swelling of lymph node and joint pain.
- Rubella infection during pregnancy can cause abortion, stillbirth and may lead to multiple birth defects in the new born; like blindness, deafness, heart defects; known as Congenital Rubella Syndrome (CRS).
- India accounts for around one third of all children born worldwide with congenital rubella syndrome (CRS).

What is Congenital Rubella Syndrome (CRS)?

Rubella infection in pregnant women may have serious consequences causing miscarriages, stillbirths or severe birth defects known as **congenital rubella syndrome (CRS)**. Children with CRS can suffer hearing impairments, cataracts, heart defects, developmental delay and many other lifelong disabilities.

CA33. Foreign Contribution (Regulation) Act (FCRA), 2010

News: *The Ministry of Home Affairs (MHA) has constituted an inter-ministerial committee to coordinate investigations into violation of various legal provisions of PMLA, Income Tax Act, FCRA etc. by Rajiv Gandhi Foundation, Rajiv Gandhi Charitable Trust & Indira Gandhi Memorial Trust.*

Foreign funding of voluntary organizations in India is regulated under FCRA act and is implemented by the Ministry of Home Affairs. We will see provisions of the Act. Learn carefully. Very important topic.

What is the objective of this Act? See below.

- To prohibit on certain persons from accepting foreign contribution
- To restrict certain persons from accepting foreign hospitality
- To regulate the acceptance of foreign contribution by persons having a definite cultural, economic, educational, religious or social programme

~~THE~~ FOREIGN CONTRIBUTION (REGULATION) ACT, 2010

ACT NO. 42 OF 2010

[26th September, 2010.]

An Act to consolidate the law 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.

Some important definition:

Definition of Association:

(a) "association" means an association of individuals, whether incorporated or not, having an office in India and includes a society, whether registered under the Societies Registration Act, 1860 (21 of 1860), or not, and any other organisation, by whatever name called;

Definition of Foreign Contributions and Foreign Source:

Foreign Contribution - Section 2(1)(h)	Definition	<ul style="list-style-type: none"> It means any donation, delivery or transfer made by a foreign source of : <ul style="list-style-type: none"> any article excluding any article given as gift or personal use and value of gift does not exceed Rs. 25,000, currency (whether Indian or foreign) or any security.
	Elements	<ul style="list-style-type: none"> Definition is very wide both in terms of coverage and the mode of transfer of the assets covered. It covers not only money, but also covers any asset transferred from a foreign source. It covers all modes of receipt of foreign contribution, be it transfer, gift or delivery in any manner. Even advance or loan received from a foreign source would be treated as foreign contribution.

Foreign Source - Section 2(1)(j)	<ul style="list-style-type: none"> ◆ It includes: <ul style="list-style-type: none"> ■ The Government of any foreign country or territory and any agency of such Government ■ Any international agency, not being the United Nations or any of its specialised agencies ■ The World Bank, International Monetary Fund or such other agency as the Central Government may, by notification, specify in this behalf ■ A foreign company ■ Foreign incorporated corporation. ■ A company within the meaning of the Companies Act, 1956 or 2013, and more than one-half of the nominal value of its share capital is held, either singly or in the aggregate, by one or more of the following, namely: <ul style="list-style-type: none"> • The Government of a foreign country • Foreign citizens • Corporations incorporated in a foreign country or territory; • Trusts, societies or other associations of individuals formed or registered in a foreign country. • Foreign company
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Person who can't accept foreign contribution - Section 3

3. Prohibition to accept foreign contribution.—(1) No foreign contribution shall be accepted by any—

- (a) candidate for election;
- (b) correspondent, columnist, cartoonist, editor, owner, printer or publisher of a registered newspaper;
- (c) Judge, Government servant or employee of any corporation or any other body controlled or owned by the Government;
- (d) member of any Legislature;
- (e) political party or office-bearer thereof;

Foreign contribution should not affect:

(f) the acceptance of foreign contribution by the person referred to in sub-section (1) is not likely to affect prejudicially—

- (i) the sovereignty and integrity of India; or
- (ii) the security, strategic, scientific or economic interest of the State; or
- (iii) the public interest; or
- (iv) freedom or fairness of election to any Legislature; or
- (v) friendly relation with any foreign State; or
- (vi) harmony between religious, racial, social, linguistic, regional groups, castes or communities;

Who can accept Foreign Contribution?

A person having a definite cultural, economic, educational, religious or social programme can accept foreign contribution after getting registration or prior permission from the Central Government

11. Registration of certain persons with Central Government.—(1) Save as otherwise provided in this Act, no person having a definite cultural, economic, educational, religious or social programme shall accept foreign contribution unless such person obtains a certificate of registration from the Central Government:

Prohibition to transfer foreign contribution to another person:

7. Prohibition to transfer foreign contribution to other person.—No person who—

- (a) is registered and granted a certificate or has obtained prior permission under this Act; and
- (b) receives any foreign contribution,

shall transfer such foreign contribution to any other person unless such other person is also registered and had been granted the certificate or obtained the prior permission under this Act:

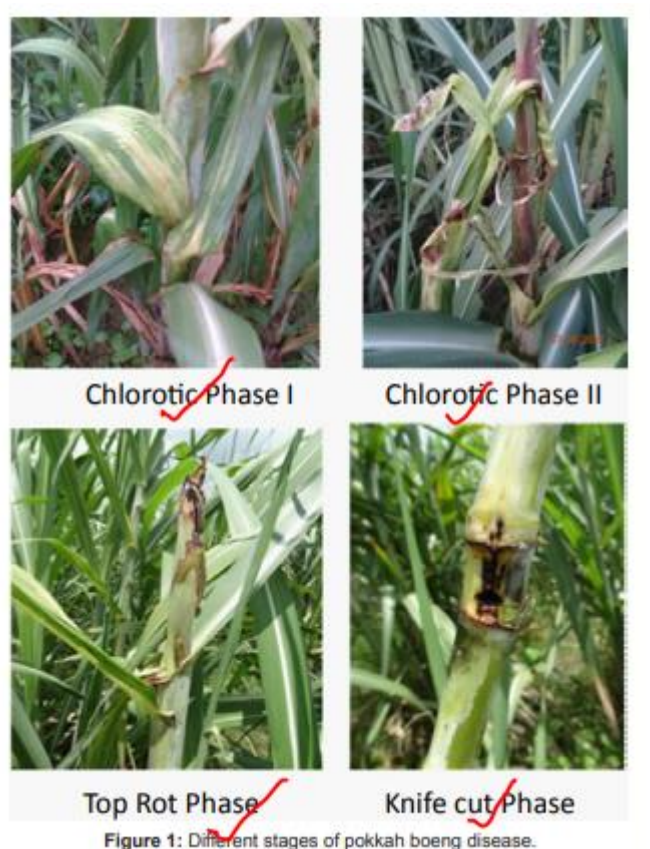
Provided that such person may transfer, with the prior approval of the Central Government, a part of such foreign contribution to any other person who has not been granted a certificate or obtained permission under this Act in accordance with the rules made by the Central Government.

Power of Central Government:

Power of Central Government - Section 9	<ul style="list-style-type: none"> ◆ Central Government is empowered to: <ul style="list-style-type: none"> ■ <u>Prohibit any person or organisation</u> specified in Section 3, from accepting any foreign contribution. ■ Require any person to obtain <u>prior permission</u> before accepting any foreign contribution. ■ Require any person not specified in Section 11, to furnish intimation within such time and manner as prescribed as to amount of foreign contribution and source. ◆ No prohibition is made unless Central Government is satisfied that acceptance of foreign contribution or foreign hospitality likely to affect prejudicially sovereignty and integrity of India or public interest or friendly relation with any foreign state.
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CA34. Pokkah Beong: A new major threat for the Sugarcane Farmers

Link: <https://krishijagran.com/commodity-news/pokkah-beong-a-new-major-threat-for-the-sugarcane-farmers/>



As the Kharif Season is ongoing and the farmers are working hard despite the threats of coronavirus and the losses sustained during the lockdown. The conditions have been far from good for the farmers but estimates of a record production provide hope.

Due to this chaos, an issue that has gone under the radar is the **Pokkah Beong**. Pokkah Beong is an airborne fungal disease that is primarily caused by two fungus, *Fusarium moniliforme*, and *Fusarium subglutinans*.

The disease targets the base of the plants and turns the base of the crops into a yellowish tinge (chlorosis) which ultimately damages the crops. The symptoms also include distortion of the stalk and the rotting of the apical part of the stalk.

Pookah Beong can be a serious concern for the farmer as Sugarcane is a crop that provides huge revenues to the farmers and provides good yield. The research titled "Pokkah Beong: An Emerging Disease of Sugarcane" found that the sugarcane production of farmers was affected between 1-90%. It also said that incidents of Pokkah Beong were not only reported in Uttar Pradesh but also Maharashtra, Punjab, Haryana, Assam, Tamil Nadu, and Bihar.

CA35. Guidelines for Evaluation of Nano-based Agri-input and food products in India


Link: <http://newsonair.com/Main-News-Details.aspx?id=393203>


Government has recently released the 'Guidelines for Evaluation of Nano-based Agri-input and food products in India'.

You can use introduction paragraph:

 MESSAGE



 Agriculture holds the key to the overall development of a country's economy. Science & Technology are the drivers of change and Nanotechnology is an alternative solution to address sustainable agriculture concerns across the globe. India has been ranked number three in the nanotechnology field and has been making significant strides in developing nanofertilizers, nanopesticides, nanofood, nanocarriers and nanoformulations for agriculture and food. Nanobiotechnology has the potential to improve agricultural output through increase in plant productivity and better crop protection, thereby meeting not only the changing needs due to climate change but also the necessity of providing food to the growing population and thus impacting social development, economies and businesses in India.

 The guidelines will ensure the quality, safety and efficacy as well as encourage the commercialisation of nanotechnology based innovations, translational research and industries in the field of agri-nanotechnology and food technology with high benefit and low-risk ratio. Since the nanotechnology and nano-products are currently dealt by different ministries and departments, these guidelines will further lead to inter-departmental and inter-ministerial cooperation.

The Guidelines have been prepared jointly by **Department of Biotechnology (DBT), Ministry of Science and Technology, Ministry of Agriculture and Farmers' Welfare (M/o A&FW) and Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare** through concerted Inter-Ministerial efforts coordinated by DBT.

The formulation of these 'Guidelines' is one of the most important steps for *delineating quality, safety and efficacy assessment of the novel nano-formulations* which can be commercialized.

These guidelines apply to the following two categories of products:

- a. Agri-input products in the nano form of finished formulation as well as active ingredient(s) (AI) of a new material (inorganic/organic/composite) dimension that is intended to be used in agriculture and allied sectors.
- b. Agri-products in the nano form of finished food formulations, finished feed formulations, finished dairy formulations, food/feed formulations from marine resources, nano carriers for nutraceuticals delivery, nano processing aids, nanocomposites for food packaging and nano sensors for food/feed packaging, food/feed safety applications and for dairy products safety applications.

Significance of the guidelines:

- a. These guidelines are aimed at assisting in making policy decisions by providing information on the existing regulations for nano-based products in agriculture and food and also to ensure quality, safety and efficacy of the targeted products.
- b. These guidelines would help policy makers and regulators to frame effective provisions for future novel nano-based products in the Agri-input and food sectors of India.
- c. Compared to bulk form of chemical inputs in crops, use of nano-nutrients can reduce nutrient run-off into ground and surface water and thus can reduce environmental pollution.
- d. Encourage the Indian innovators and industries to develop and commercialize new nano-based formulations and products in these sectors.

✓ 4.1 Definition of NMs, NAIPs and NAPs

- 4.1.1 Nanomaterial (NM) is defined as a material that ranges in size from 1 to 100 nm at least in one dimension or any materials that possess improved properties or phenomena because of the effect of dimension(s), even if these dimension(s) fall outside the nanoscale range, up to 1000 nm. The variations in definition of NMs with respect to size in different countries and respective regulatory bodies are presented in Annexure 3.
- 4.1.2 Nano-agri-input product (NAIP) is defined as an agricultural input preparation containing NMs (as defined in section 4.1.1) intended for applications (through soil, seed, foliar and drip in crops as well as by other means) on crop for the purpose of farming. NAIPs consist of materials with any of the three dimensions i.e. zero, one or two, on the nanoscale or with an internal or surface structure in the nanoscale.
- 4.1.3 Nano-agri product (NAP) is defined as an agricultural preparation containing NMs (as defined in section 4.1.1) intended for consumption or application in food/feed and their supplements as well as nutraceutical delivery. NAPs consist of materials with any of the three dimensions i.e. zero, one or two, on the nanoscale or with an internal or surface structure in the nanoscale.

CA36. Equalisation levy on foreign e-com firms

Link: <https://www.thehindu.com/business/Industry/centre-wont-extend-deadline-for-levy-on-foreign-e-com-firms/article32015712.ece>

News: *The government has said that it is not considering extending the deadline for payment of Equalisation Levy by non-resident e-commerce players.*

Equalisation Levy was **introduced in India in 2016**, with the intention of **taxing the digital transactions** i.e. the income accruing to foreign e-commerce companies from India. It is aimed at taxing business to business transactions.

Equalisation Levy **is a direct tax**, which is **withheld at the time of payment by the service recipient**. The two conditions to be met to be liable to Equalisation levy:

- a. The payment should be made to a non-resident service provider.
- b. The annual payment made to one service provider exceeds Rs. 1,00,000 in one financial year.

Currently the applicable rate of tax is 6% of the gross consideration to be paid. **For example,"**:

Facebook will bill Rohan for an amount of Rs. 2,12,765. Rohan will deduct TDS at the rate of 6% of Rs. 2,12,765.9 = Rs. 12,765.9 and pay the balance of Rs. 2,00,000 (Rs. 2,12,765.9 – Rs. 12,765.9) to Facebook.

The levy is seen aimed at taxing foreign companies which have a significant local client base in India but were billing them through their offshore units, effectively escaping the country's tax system. ***Nothing more than this is required now.***

CA37. Solar Projects in India.

Link: <https://timesofindia.indiatimes.com/business/india-business/pm-modi-inaugurates-750-mw-rewa-solar-project-key-points/articleshow/76886600.cms>

Recently, the Prime Minister has inaugurated the 750 MW (Mega Watt) solar project set up in Rewa, Madhya Pradesh. Our concern here is something else.

1. Details of the Rewa Project.
2. Current Solar Status of India

Details about the Project.

1. The Rewa Ultra Mega Solar Limited (RUMSL) project is **Asia's largest single-site solar power plant** with a total solar installed capacity of 750 megawatts.
2. It has three solar generating units of 250 MW each spread over 500-hectare land, in a 1590-hectare solar park.
3. The mega solar plant has been designed in a joint venture of Madhya Pradesh Urja Vikas Nigam Limited (MPUVN) and **Solar Energy Corporation of India (SECI)**.

4. It will cater to the needs of different type of power off-takers, including Power Management Company, Madhya Pradesh, as well as Delhi Metro Rail Corporation.
5. By catering 24 per cent of the energy to Delhi Metro **it will become the first renewable energy solar plant to conduct an inter-state sale of solar electricity.**
6. The Rewa solar plant exemplifies India's commitment to attain the target of 175 gigawatt (GW) of installed renewable energy capacity by 2022.

Solar Status in India:

Whenever any news comes about solar energy, first and most important thing that should come up in your mind is **India's Intended Nationally Determined**

Contribution (INDCs), i.e. To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel-based energy and Solar energy is part of non-fossil fuel-based energy.

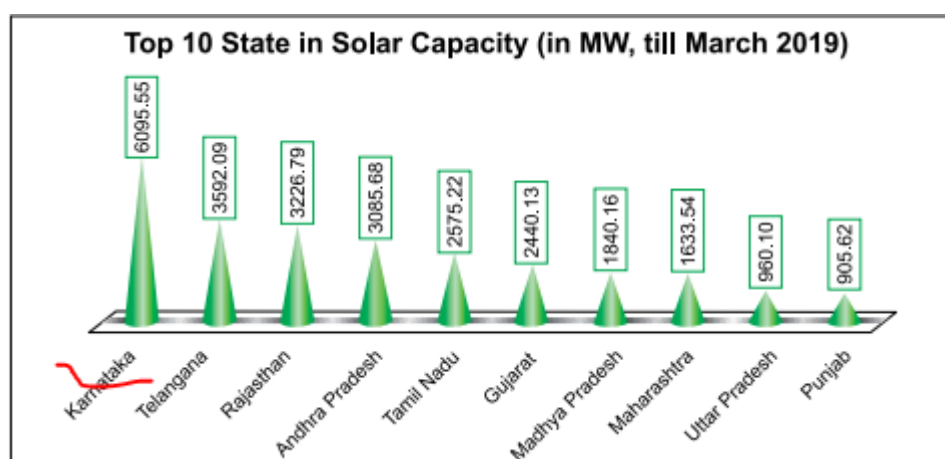
Keeping this in mind, A target of installing **175 GW of renewable energy capacity by the year 2022** has been set which includes:

100 GW from solar (40GW rooftop solar electricity generation and 60GW large and medium-scale grid-connected solar projects (60 GW), 60 GW from wind, 10 GW from bio-power and 5 GW from small hydropower.



According to 2019 MNRE annual report, A total of around **84.40 GW of renewable energy** capacity has been installed in the country Renewable Energy capacity is rising rapidly and the status of projects as on 17.12.19 is given below:

Sector ✓	Installed capacity (GW)
Solar Power	32.53 2
Wind Power	37.28 — 1
Bio Energy	9.94
Small Hydro	4.65
Wind Solar Hybrid	0
Round the Clock (RTC) Power	0
Total	84.40



Extra Information:

ALLOCATION OF BUSINESS RULES

Under the Allocation of Business Rules, the MNRE has been assigned the following specific items:

- Research and development of biogas and programmes relating to biogas units;
- Commission for Additional Sources of Energy (CASE);
- Solar energy including solar photovoltaic (SPV) devices and their development, production and applications;
- All matters relating to small/mini/micro hydel projects of, and below, 25 MW capacity;
- Programmes relating to improved chulhas and research and development thereof;
- Indian Renewable Energy Development Agency Limited;
- Research and development of other nonconventional/renewable sources of energy and programmes relating thereto;
- Tidal energy;
- Integrated Rural Energy Programme (IREP);
- Geothermal energy

Also see, **SARAL – ‘State Rooftop Solar Attractiveness Index**

SARAL is the **first of its kind** index to provide a comprehensive overview of **state-level measures adopted to facilitate rooftop solar deployment**. SARAL has been **designed collaboratively by the Ministry of New and Renewable Energy (MNRE), Shakti Sustainable Energy Foundation (SSEF), Associated Chambers of Commerce and Industry of India (ASSOCHAM)** and Ernst & Young (EY). It was launched during the Review Planning and Monitoring (RPM) Meeting with States and State Power Utilities. SARAL currently captures five key aspects –

- a. robustness of policy framework
- b. implementation environment
- c. investment climate
- d. consumer experience
- e. business ecosystem

The State of Karnataka has been placed at the first rank in the Index that evaluates Indian states based on their attractiveness for rooftop development.

CA38. Mongolian Kanjur Being Reprinted

Link: <https://www.newindianexpress.com/cities/delhi/2020/jul/10/108-volumes-of-mongolian-kanjur-manuscripts-to-be-reprinted-2167754.html>



The Ministry of Culture has taken up the project of reprinting 108 volumes of Mongolian Kanjur under the National Mission for Manuscripts (NMM).

Mongolian Kanjur:

- The Buddhist canonical text in 108 volumes is considered to be the most important religious text in Mongolia.
- In the Mongolian language '**Kanjur**' means '**Concise Orders**'- the words of Lord Buddha in particular.
- It is held in high esteem by the Mongolian Buddhists and they worship the Kanjur at temples and recite the lines of Kanjur in daily life as a sacred ritual.
- The Kanjur are kept in almost every monastery in Mongolia.
- Mongolian Kanjur has been translated from Tibetan. The language of the Kanjur is Classical Mongolian.
- The Mongolian Kanjur is a source of providing a cultural identity to Mongolia.

National Mission for Manuscripts



The National Mission for Manuscripts (NMM) was launched in February **2003** by the Government of India with the mandate of **documenting, conserving and disseminating the knowledge preserved in the manuscripts.**

A manuscript is a handwritten composition on paper, bark, cloth, metal, palm leaf or any other material dating back at least seventy-five years that has significant scientific, historical or aesthetic value. Lithographs and printed volumes are not manuscripts.

Manuscripts are distinct from historical records such as epigraphs on rocks, revenue records which provide direct information on events or processes in history.

One of the objectives of the mission is to *publish rare and unpublished manuscripts so that the knowledge enshrined in them is spread* to researchers, scholars and the general public at large. **It is under the Ministry of Culture.**

CA39. Black-Necked Crane

Link: <https://science.thewire.in/environment/black-necked-crane-iucn-red-list-reassessment-vulnerable-least-concern/>

News is:

Birdlife International, the official IUCN Red List authority for birds, has proposed down-listing Black-Necked Crane (BNC) from 'vulnerable' to 'least concern', and the proposal was uploaded to its website for public comments in June. Easing the Red List status of the BNC without discussing all these aspects could lead us into a false sense of security and increase the birds' risk of extinction.

So, our concern here is to learn about Blue-Necked Crane (MNC).

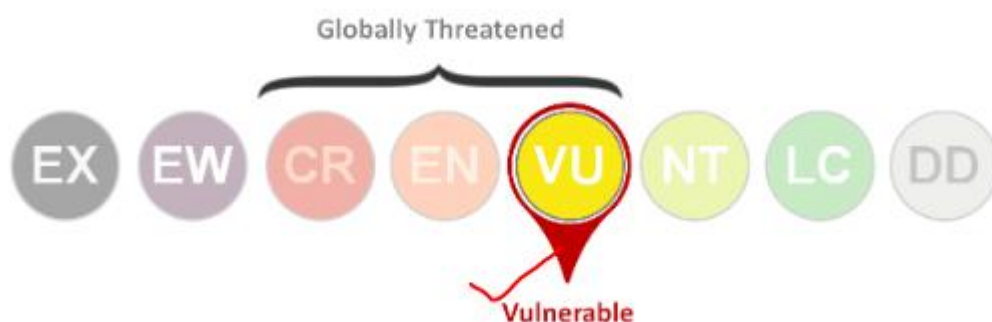
Black-necked cranes are iconic birds of the **Tibetan Plateau** and are of great spiritual and cultural significance to Tibetan Buddhism as well as are integral to the landscape's biophysical ecosystem.



Description:

- These medium-sized alpine cranes, weighing about 5 kg each and standing about 115 cm tall, have a patch of red on their crowns, grey bodies and a characteristic black-neck.
- Meadows are their favoured habitat, where they can feed on roots, insects, snails, fish, frogs, small birds and rodents.
- They breed exclusively in alpine meadows, at altitudes of 2,600 to 4,900 m, and as a protection from predators' nest in marshes where the water is about 30 cm deep.
- In winter, they migrate to river valleys at lower altitudes, preferably to areas near crop fields.

The Birds are threatened by *human- and climate-change-induced habitat loss, and of late also by free-ranging dogs in their breeding areas and food shortage in wintering areas*. As a result, they are currently listed as '**vulnerable**' in the IUCN Red List.

**Also learn BirdLife International**

BirdLife International is a **global partnership of conservation organizations (NGOs)** that strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources.

The International Council for Bird Preservation (ICBP) was formed in 1922 becoming the first truly international conservation organisation. In 1992, **ICBP becomes BirdLife International** and the BirdLife Partnership is born. It started with 20 Partners and now comprises 120 and continues to grow.

CA40. Rare Neurological Disorder, Guillain-Barré Syndrome, Linked to COVID-19

Link: <https://science.thewire.in/the-sciences/rare-neurological-disorder-guillain-barre-syndrome-linked-to-covid-19/>



What is Guillain-Barré syndrome?

Guillain-Barré syndrome occurs when the **body's own immune system attacks and injures the nerves outside of the spinal cord or brain – the peripheral nervous system**. Most commonly, the injury involves the protective sheath, or myelin, that wraps nerves and is essential to nerve function. Without the myelin sheath, signals that go through a nerve are slowed or lost, which causes the nerve to malfunction.

Syndrome relation with COVID-19

As the COVID-19 pandemic sweeps across the globe, many neurologic specialists have been on the lookout for potentially serious nervous system complications such as Guillain-Barré syndrome. Though Guillain-Barre Syndrome is rare, it is well known to emerge following bacterial infections, such as *Campylobacter jejuni*, a common cause of food poisoning, and a multitude of viral infections including the flu virus, Zika virus and other coronaviruses.

Studies showed an increase in Guillain-Barré syndrome cases following the 2009 H1N1 flu pandemic, suggesting a **possible connection**. The presumed cause for this link is that the body's own immune response to fight the infection turns on itself and attacks the peripheral nerves. This is called an "autoimmune" condition. When a pandemic affects as many people as our current COVID-19 crisis, even a rare complication can become a significant public health problem. That is especially true for one that causes neurological dysfunction where the recovery takes a long time and may be incomplete.

While large research studies are underway, overall, **it appears that Guillain-Barré syndrome is a rare but serious phenomenon possibly linked to COVID-19.** Given that more than 10.7 million cases have been reported for COVID-19, **there have been 10 reported cases of COVID-19 patients with Guillain-Barré syndrome** so far – only two reported cases in the US, five in Italy, two cases in Iran and one from Wuhan, China.

CA41. ICMR Plans National “Sero-Survey” to Determine Population’s Exposure

Link: <https://science.thewire.in/health/icmr-nationwide-seroprevalence-survey-follow-up/>

*Just to make you know about the term **Sero-Survey**. Very small news, this term is important.*

The **ICMR** said a nationwide **Sero-Survey** to determine the **exposure of the novel coronavirus among the population** will be carried out as a follow-up to a similar study conducted in May, the results of which are yet to be released.

The Indian Council of Medical Research (ICMR) will conduct a ‘Sero-survey’ which involves testing of blood serum of people to check for the prevalence of antibodies against coronavirus infection.

The Sero-survey conducted in May had two parts – estimating the fraction of the general population that has been infected with SARS-CoV-2 and estimating the number of people who have been infected with coronavirus in containment zones of hotspot cities.

CA42. The Lawlessness of Encounter Killings

Link: <https://thewire.in/law/hyderabad-police-encounter>

The **Hyderabad ‘encounter’** killing by the police of the four alleged rapists of the veterinary doctor or **Vikas Dubey encounter in Uttar Pradesh** again raises questions about the validity of the tool of extrajudicial killings devised.

Some judgements and constitutional Provisions regarding encounter. You can quote such judgements and as an aspirant, you should think as per the law, not in biased form. So, we will see few now,

- a. As per the news article, **the truth is that such ‘encounters’ are, in fact, not encounters at all but cold-blooded murders by the police.**
- b. **Article 21 of the constitution** states: “No person will be deprived of his life or personal liberty except in accordance with the procedure established by law “. This means that before depriving a person of his life, **the state is required to put the person on trial in accordance with the provisions of the Criminal Procedure Code (CrPc).** In the trial, the accused must be informed of the charges against him and then given an opportunity to defend himself (through counsel) and only then, if found guilty, can he be convicted and executed.
- c. Fake ‘encounters’, on the other hand, completely sidestep and circumvent legal procedures, as it essentially means bumping someone off without a trial. **Hence it is completely unconstitutional.**
- d. In **Prakash Kadam vs Ramprasad Vishwanath Gupta, the Supreme Court observed** that fake ‘encounters’ by the police are nothing but cold-blooded murders, and those committing them must be given death sentences, placing

them in the category of 'rarest of rare cases. In paragraph 26 of the judgment, it was observed: *"Trigger happy policemen who think they can kill people in the name of 'encounter' and get away with it should know that the gallows await them"*.

- e. In the Hyderabad incident, it seems evident that the 'encounter' was fake. The four accused were in police custody and were unarmed. So how could there have been a genuine encounter? The author concludes by quoting a judgment from **Justice A.N. Mulla of the Allahabad high court:**

"I say this with all sense of responsibility: there is not a single lawless group in the country whose record of crime comes anywhere near that of the single organised unit called the Indian Police Force. Policemen in general, barring a few, seem to have come to the conclusion that crime cannot be investigated, and security cannot be preserved by following the law, and it can only be achieved by breaking or circumventing the law".

CA43. Aerosols Are a Bigger Coronavirus threat than WHO Guidelines Suggest

Link: <https://science.thewire.in/health/who-new-coronavirus-transmission-aerosols-droplets-airborne/>

When someone coughs, talks or even breathes, they send tiny respiratory droplets into the surrounding air. The smallest of these droplets can float for hours, and there is strong evidence that they can carry live coronavirus if the person is infected.

What was an issue?

Until this week, however, the risk from these aerosols **wasn't incorporated into the World Health Organization's formal guidance** for nations. The WHO instead suggested that the coronavirus was primarily transmitted by coughing or sneezing large droplets into someone's face, rather than being a longer-term threat that can float in the air.

More than 200 scientists published an open letter to the WHO on July 6 warning about airborne transmission of COVID-19 via aerosols and urging the organization to recognize the risks. The WHO responded with an update in which it acknowledged the growing evidence of airborne spread of the disease, but it did so with hesitation.

What is an aerosol and how does it spread?

Aerosols are particles that are suspended in the air. When humans breathe, talk, sing, cough or sneeze, **the emitted respiratory droplets mix in the surrounding air and form an aerosol.** Because larger droplets quickly fall to the ground, respiratory aerosols are often described as being made up of smaller droplets that are less than 5 microns, or about one tenth the width of a human hair.

Droplets that are smaller than 5 microns can remain suspended in the air for many minutes to hours because the effect of air drag relative to gravity is large. In addition, the water content of virus-carrying droplets evaporates while they are airborne,

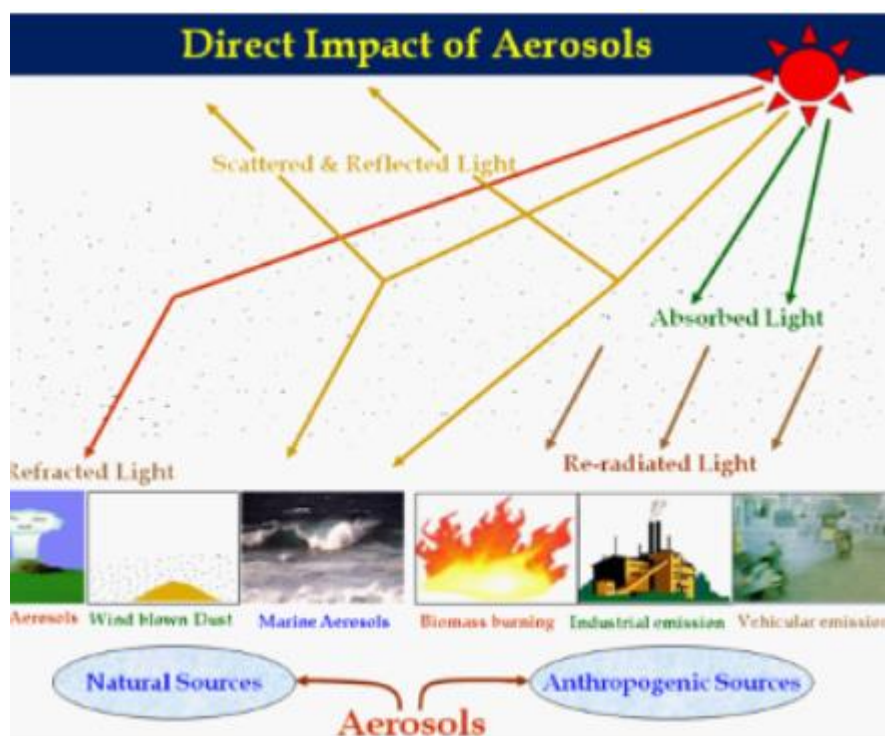
decreasing their size. Even if most of the fluid evaporates from a virus-laden droplet, the droplet does not disappear; it just becomes smaller, and the smaller the droplet, **the longer it will stay suspended in the air**. Because smaller diameter droplets are more efficient at penetrating deep into the pulmonary system, they also pose a much greater infection risk.

Do masks protect from aerosol transmission? Just for your information and safety.

Face coverings and masks are absolutely necessary for protection against aerosol transmission. They serve a twofold purpose.

- First, they filter the air expelled by an individual, capturing respiratory droplets and thereby reducing the exposure risk for others.
- This is particularly important as they are most effective at capturing larger droplets that are more likely to have larger quantities of viruses encapsulated within them. This prevents the larger droplets from directly affecting someone or evaporating down to a smaller size and circulating in the air.
- They also reduce the speed of the puff of air that is produced when sneezing, coughing or talking. Decreasing the velocity of the expelled air reduces the distance that droplets are initially transported into the person's surroundings.

We will learn bit more on Aerosols,



Aerosols and Incoming Sunlight (Direct Effects)

The Sun provides the energy that drives Earth's climate, but not all of the energy that reaches the top of the atmosphere finds its way to the surface. That's because aerosols—and clouds seeded by them—**reflect about a quarter of the Sun's energy**

back to space. Although most aerosols reflect sunlight, some also absorb it. An aerosol's effect on light depends primarily on the composition and color of the particles. Broadly speaking, bright-colored or translucent particles tend to reflect radiation in all directions and back towards space. Darker aerosols can absorb significant amounts of light. *See how different Aerosols reflect to light:*

Pure sulfates and nitrates reflect nearly all radiation they encounter, cooling the atmosphere. **Black carbon**, in contrast, absorbs radiation readily, warming the atmosphere but also shading the surface. **Organic carbon**, sometimes called brown carbon or organic matter, has a warming influence on the atmosphere depending on the brightness of the underlying ground. **Dust** impacts radiation to varying degrees, depending on the composition of the minerals that comprise the dust grains, and whether they are coated with black or brown carbon. **Salt particles** tend to reflect all the sunlight they encounter. *Windblown dust, sea salts, volcanic ash, smoke from wildfires, and pollution from factories are all examples of aerosols.*

Aerosols can have a major impact on climate

Aerosols influence climate in two primary ways: **by changing the amount of heat that gets in or out of the atmosphere, or by affecting the way clouds form.**

When the sun's rays beam down on them, they bounce the rays back out of the atmosphere, preventing that heat from ever reaching Earth's surface. For example,

Aerosols can have a major impact on climate when they scatter light. In 1991, the eruption of Mount Pinatubo in the Philippines ejected more than 20 million tons of sulfur dioxide—a gas that reacts with other substances to produce sulfate aerosol—as high as 60 kilometers (37 miles) above the surface, creating particles in the stratosphere. Those bright particles remained above the clouds and didn't get washed from the sky by rain; they settled only after several years.

Climatologists predicted global temperatures would drop as a result of that global sulfate infusion. They were right: Following the eruption, global temperatures abruptly dipped by about a half-degree (0.6°C) for about two years. And Pinatubo isn't a unique event. Large, temperature-altering eruptions occur about once per decade.

Aerosols also influence how clouds form and grow. Water droplets coalesce readily around particles, so a particle-rich atmosphere promotes cloud formation. White clouds reflect incoming sun, preventing it from getting to the surface and warming land or water—but they also absorb the heat that the planet is constantly emitting back outward, trapping it in the lower atmosphere. Depending on the cloud type and location, they can either warm their surroundings or cool them.

Aerosols increase drought severity over the Indian subcontinent

A team of atmospheric scientists from India, USA and Canada have found that aerosols in the atmosphere can increase the severity of droughts over the Indian subcontinent by as much as 17 per cent during El Niño years. The El Niño phenomenon, which occurs when there is abnormal warming over the Pacific Ocean, is already considered as a

deterrent for the Indian monsoon on the grounds that it blocks the flow of moisture bearing winds from the oceans to the Indian landmass.

The new study has found that it further weakens the monsoon by transporting aerosols from the lower altitudes in East Asian region up and into the higher altitudes (12-18 km) forming an aerosol layer called Asian Tropopause Aerosol Layer (ATAL) over South Asian region.

It remains hanging over there during monsoon. The **thickening of this aerosol layer results in reduction in the amount of solar energy reaching the earth thus weakening the monsoon circulation and increasing the severity of drought conditions.**

Aerosols affect albedo

In addition to scattering or absorbing radiation, **aerosols can alter the reflectivity, or albedo, of the planet.** Bright surfaces reflect radiation and cool the climate, whereas darker surfaces absorb radiation and produce a warming effect. *White sheets of sea ice, for example, reflect a great deal of radiation, whereas darker surfaces, such as the ocean, tend to absorb solar radiation and have a net warming effect.*

Aerosols, particularly black carbon, can alter reflectivity by depositing a layer of dark residue on ice and other bright surfaces. In the Arctic especially, aerosols from wildfires and industrial pollution are likely hastening the melting of ice.

Now you have got the fair idea about Aerosols, you can attempt now Prelims as well as Mains question.

Now, if they ask in Prelims:

- a. Does Aerosols affect albedo?***
- b. Does Aerosols bring drought to regions on earth?***
- c. Does Aerosols influence clouds?***
- d. Does Aerosols influence climate?***

Everything can be answered.

CA44. How Different Vaccines Work?

Lot of vaccines in process of development for COVID-19. You should have a basic idea how it works.

What makes designing a potential vaccine for COVID-19 challenging? To answer this question, it is important to understand how a vaccine elicits an appropriate immune response in the body.

Active and passive immunisation

The **immune response towards any infection can be passive or active.** Passive immunisation is when antibodies are directly transferred from one individual to another. Such passively transferred antibodies accord immediate protection – but it

wanes gradually, and the individual eventually becomes susceptible to the disease again. It could be natural or artificial. **Few examples of Passive immunity:**

Placental transfer of antibodies from the mother to the foetus gives natural passive immunity. Convalescent plasma therapy, involving the transfer of plasma containing specific antibodies from recovered individuals to susceptible individuals, provides passive immunity as well.

Vaccines provide active immunisation: they deliberately introduce a foreign substance, called an antigen, into the body to induce the body to mount an immune response. Though the protection is not conferred immediately, the immunity lasts for a considerably longer period once established. Repeated doses of the same antigen could boost immunity further.

How does a vaccine work?

- A vaccine works like a virus and initiates an immune response – but without causing major illness.
- The immune response is brought on by different types of cells. However, a specialized group of **white blood cells, called the B and T lymphocytes**, are important to sustain the immune response in the long run.
- When an antigen enters the body, **cells called dendritic cells get attracted to it**, and then **carry the antigen to T lymphocytes**. The T lymphocytes identify these antigens and bind to them.
- Meanwhile, B lymphocytes also pick up the antigens, process them and present them to the T lymphocytes.
- After this interaction, **T lymphocytes release signaling molecules called cytokines, which stimulate the B lymphocytes**. In response, the B lymphocytes *rapidly turn into plasma and 'memory' B cells*. One B lymphocyte can produce thousands of such daughter cells in a few days.
- The plasma cells are responsible for secreting antibodies that will tackle the antigen** and eliminate the infection. And once the infection has been removed from the body, the plasma cells die while 'memory' B cells rest in the bone marrow and keep secreting low levels of antibodies.

When the body is exposed to the same antigen again, the circulating antibodies bind to the antigen. This is what they mean when they say the immune system becomes familiar with the antigen, and the immune response the second time is even more effective. This memory is known as immunological memory, and it forms the basis of vaccination.

Also, learn Live attenuated and inactivated killed vaccines

Ideally, a vaccine should trigger an adequate immune response without harming the body. There are different types of vaccines to achieve this outcome. Conventional vaccines fall into two broad categories: **live attenuated vaccines and inactivated killed vaccines**.

- Live attenuated vaccines contain whole virus particles. Inducing the virus to replicate under unnatural conditions reduces its virulence. For example,

researchers could have injected the virus into an ‘unnatural’ host, causing the virus to eventually lose its adaptation towards the actual host, and transform to a less virulent form. That is, it can no longer cause disease as well as it could before. This process is called attenuation.

- b. The level of attenuation is critical to a vaccine’s success. Over-attenuation could render the vaccine ineffective, while under-attenuation could cause the vaccine itself to produce disease. The chickenpox, measles, mumps and rubella vaccines are all live vaccines.
- c. **Inactivated vaccines contain a part of the virus instead of the whole.** During preparation, researchers remove those parts of the virus required for viral replication, making these vaccines safer than the live attenuated type.
- d. On the flip side, inactivated vaccines in general don’t accord long-lasting protection, like live vaccines. Sometimes, a substance called an adjuvant is added to inactivated vaccines to boost the immune response and make them last considerably longer. However, including an adjuvant increases their overall cost.

The COVAXIN vaccine against COVID-19, developed by Hyderabad-based Bharat Biotech, is an inactivated vaccine with alum as adjuvant.

DNA vaccines

Apart from conventional vaccines, in the last few years, researchers have tried a new generation of vaccines. One of them is a **DNA vaccine**. **The ZyCoV-D vaccine being developed by Zydus Cadila is of this type.**

- a. Cells have DNA in their chromosomes – and also outside the chromosomes in a form **called plasmids**. *First, researchers obtain plasmids from a bacterium. Then, they separate some genetic material from the virus and insert it into the plasmid and inject this plasmid into the body.*
- b. The viral genes then integrate themselves into cells in the body and begin to express foreign proteins. **This triggers an immune response.**

Questions can be asked in any form. So, read it properly. After March, most of the Current Affairs is full of vaccines only. So, please be careful. Too much reading today, no problem. Look at the image given below.



CA45. Assam's Dehing Patkai Wildlife Sanctuary to get national park status

The Assam government has decided to upgrade the Dehing Patkai Wildlife Sanctuary to national park status. The decision was taken at a meeting chaired by Chief Minister on July 6. **Who gave right to State Government to declare National Park?**

National Park and Wildlife Sanctuaries are declared under Wildlife Protection Act, 1972.

✓ 35. Declaration of National Parks.—(1) Whenever it appears to the State Government that an area, whether within a sanctuary or not, is, by reason of its ecological, faunal, floral, geomorphological or zoological association or importance, needed to be constituted as a National Park for the purpose of protecting, propagating or developing wild life therein or its environment, it may, by notification, declare its intention to constitute such area as a National Park.

Other Important Provisions:

²[(5) No alteration of the boundaries of a National Park by the State Government shall be made except on a recommendation of the National Board.

(6) No person shall destroy, exploit or remove any Wild Life including forest produce from a National Park or destroy or damage or divert the habitat of any wild animal by any act whatsoever or divert, stop or enhance the flow of water into or outside the National Park, except under and in accordance with a permit granted by the Chief Wild Life Warden, and no such permit shall be granted unless the State Government being satisfied in consultation with the National Board that such removal of wild life from the National Park or the change in the flow of water into or outside the National Park is necessary for the improvement and better management of wild life therein, authorises the issue of such permit:

Provided that where the forest produce is removed from a National Park, the same may be used for meeting the personal *bona fide* needs of the people living in and around the National Park and shall not be used for any commercial purpose.]

(7) No grazing of any ³[live-stock] shall be permitted in a National Park and no ³[live-stock] shall be allowed to enter therein except where such ³[live-stock] is used as a vehicle by a person authorised to enter such National Park.

About Dehing Patkai Wildlife Sanctuary:

The Dehing Patkai Wildlife Sanctuary, also known as the Jeypore Rainforest is a part of Dehing Patkai Elephant Reserve. It is located in the districts of Dibrugarh and Tinsukia. Dehing Patkai is a deciduous rainforest interspersed with semi-evergreen and lush green flora, the only patch of virgin rainforest in Assam.

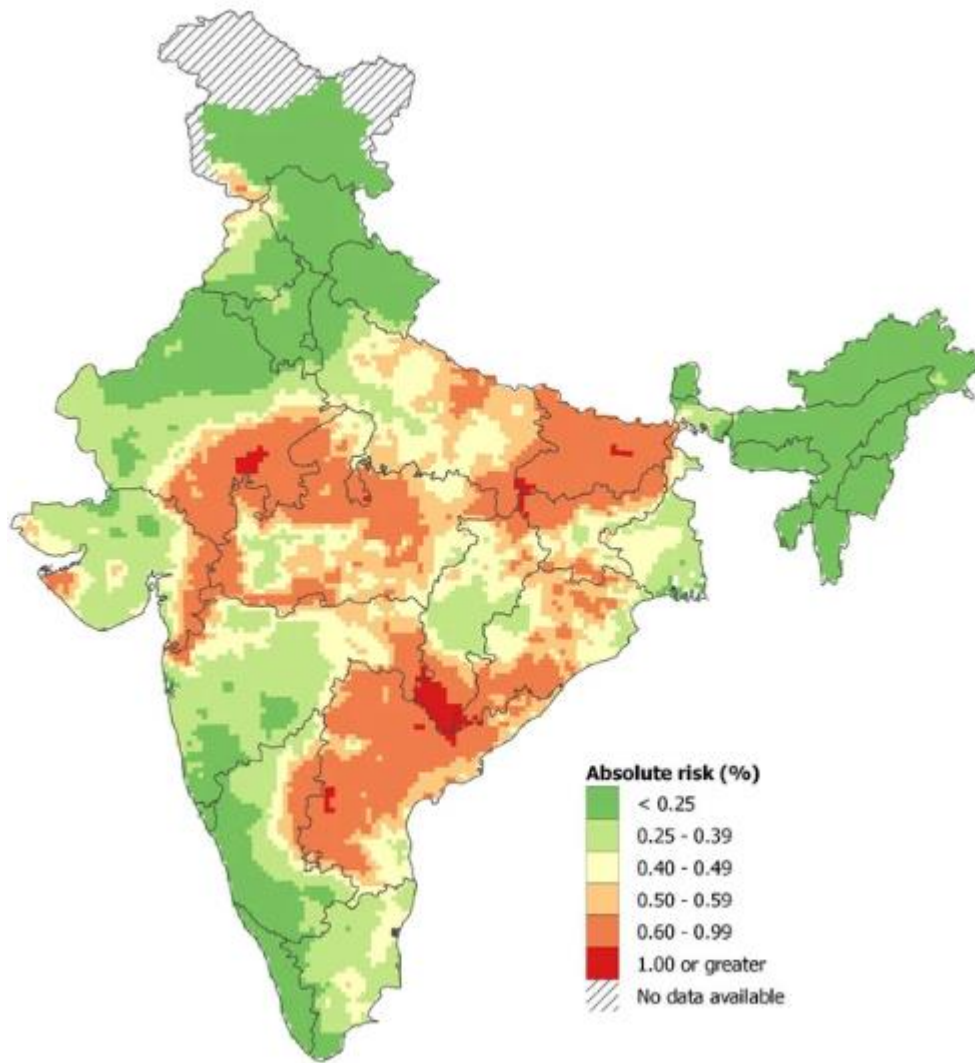
CA46. 1.2 million Indians died of snake bites in last 20 years

Link: <https://www.bbc.com/news/world-asia-india-53331803>

Just have a look at statistics. Not to learn anything.

An estimated 1.2 million people have died from snake bites in India in the past 20 years, a new study has found. **The study, published** in the open access journal eLife, was conducted by leading Indian and international experts. It's based on data collected from **India's ambitious Million Death Study**.

The study also found that between **2001 and 2014**, some 70% of the snake bite deaths occurred in eight states - Bihar, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh, Andhra Pradesh (including Telangana, a new state) Rajasthan and Gujarat. **Spatial distribution of snakebite mortality risk in India for 2004-13:**



State	Study deaths in MDS	Annual average standardized death rate /100,000				Trend	Estimated deaths for 2001-14 (000)
		2001-2004	2005-2009	2010-2014			
Higher burden states	1726	5.9	6.1	6.2			557.4
Andhra Pradesh	271	8.5	7.3	5.6			82.9
Bihar	321	5.6	7.6	8.9			101.9
Odisha	191	7.5	7.2	5.9			40.3
Madhya Pradesh	195	6.7	7.7	6.0			67.8
Uttar Pradesh	322	5.2	5.9	6.0			153.6
Rajasthan	192	4.9	6.7	5.0			52.1
Gujarat	176	4.1	4.8	5.1			38.8
Jharkhand	58	4.9	2.0	7.1			20.1

Half of the victims were between 30 and 69 years of age while a quarter were children. Half of the deaths happened in the summer monsoon between June and September and most of the victims were bit on the legs. The snake species most responsible were Russell's vipers, kraits and cobras.

Estimated snakebite deaths in thousands by age and sex from 2000 to 2019 in India.

Age range	Male (LL, UL)	Female (LL, UL)	Both (LL, UL)
0-14 years	149 (134, 154)	176 (160, 180)	325 (294, 334)
15-29 years	109 (102, 111)	88 (82, 89)	197 (184, 199)
30-69 years	290 (269, 303)	253 (232, 260)	543 (501, 564)
70 years or above	54 (45, 60)	48 (44, 50)	102 (89, 110)
All Ages	602 (551, 626)	565 (518, 578)	1,167 (1068, 1204)

In 2018, WHO passed a resolution in which it declared Snake bites are now a "global health priority."

Snake bites are now a global health priority, says WHO

26 May 2018



CA47. *Ophiocordyceps sinensis* (yarchagumba)

Link: <https://timesofindia.indiatimes.com/videos/news/himalayan-viagra-which-sells-for-rs-20-lakh-a-kg-now-a-vulnerable-species/videoshow/76935840.cms>



DEHRADUN: The world's costliest fungus — *Ophiocordyceps sinensis* — also known as Himalayan Viagra, which sells in international markets for upwards of Rs 20 lakh per kg, has entered the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species, the world's most comprehensive

information source on the global conservation status of animal, fungi and plant species. The list which was released on July 9, has placed the fungus, known for its aphrodisiac and rejuvenation properties, in the 'vulnerable' category.

Also known as Himalayan Viagra, it is the **world's costliest fungus**. It has entered the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species.

IUCN has placed the fungus, known for its aphrodisiac and rejuvenation properties, in the 'vulnerable' category. The fungus, also known as *keeda jadi* in Uttarakhand because of its caterpillar-like appearance, is endemic to the Himalayan and Tibetan plateau and is found in China, Bhutan, Nepal and India.

CA48. Itolizumab: Emergency Covid-19 Drug

Link: <https://theprint.in/health/all-about-biocons-itolizumab-psoriasis-drug-approved-for-emergency-use-in-covid-patients/459242/>

The Drug Controller General of India (DGCI) has given "restricted emergency use" approval to Itolizumab, a drug used to cure skin ailment psoriasis, for treating Covid-19 patients with moderate-to-severe acute respiratory distress.

- Itolizumab is a '**humanised monoclonal antibody**' developed by the Bangalore-based biopharmaceutical company, Biocon, in collaboration with the Centre for Molecular Immunology (CIM) in Cuba.
- Monoclonal antibodies are antibodies produced by immune cells that are cloned from one parent immune cell. These antibodies are designed to bind to a specific type of proteins.

- c. In the case of Itolizumab, it selectively targets CD6, a protein found in the outer membrane of T-cell. T-cell is a type of white blood cell that plays a central role in the body's immune response.
- d. Protein CD6 is important for the continued activity of T-Cells when the body encounters a foreign pathogen.
- e. However, in case of the Covid-19 infection, sometimes the immune system goes into an overdrive — a process known as cytokines storm — causing inflammation and organ damage.
- f. Itolizumab, by binding to CD6, down regulates T-cell activation, and causes reduction in synthesis of pro-inflammatory cytokines.

The drug has previously been shown to be effective for treating psoriasis, an autoimmune disease in which skin cells build up and form scales and itchy, dry patches.

CA49. India submitted Voluntary National Review (VNR) document

Recently, India has represented the second voluntary national review of Sustainable Development Goals (SDGs) report titled as '*Decade of Action: Taking SDGs from Global to Local*' to the United Nations High-level Political Forum.



What exactly is this Voluntary National Review (VNR)?

Voluntary National Review (VNR) is a process through which **countries assess and present progress made in achieving the global goals and the pledge to leave no one behind**. The purpose of VNRs is to present a snapshot of where the country stands in SDG implementation, with a view to help accelerate progress through experience sharing, peer-learning, identifying gaps and good practices, and mobilizing partnerships.

What CEO of NITI Aayog has to say about India's VNR? It will give you more clarity.

✓ India is proud to present to the United Nations High Level Political Forum, its Voluntary National Review on the progress made towards achieving the SDGs for the second time, having presented the first in 2017. For India, the presentation of the second Review is an opportunity not only to highlight the country's progress but also to identify the main challenges, and build on feedback and synergetic partnerships with subnational and local governments, civil society and markets. India's second VNR marks a conscious paradigm shift to the 'whole of the society' approach by being one of the most democratic, participatory and inclusive processes in the genre of the SDG agenda. The VNR preparation, steered by NITI Aayog, Government of India, was a long-drawn process, which saw the coming together of all key stakeholders - state and local governments, civil society organisations, communities at the grassroots, academia and the business sector. This VNR report thus stands true testament to this 'whole of society' paradigm for it reflects insights from over a thousand civil society organisations working with groups in situations of vulnerability, business sector representatives and subnational governments. ✓

The preparation for the VNR was set in motion in October 2019 **with NITI Aayog - the nodal agency for overall coordination on SDGs in the Union Government**, preparing the VNR action plan.

In this document basically, what progress has been made is mentioned by the government. Just for idea, we will give you few images. *No need to know everything, government has mentioned in the report.*

Table 1. Trends in Social Service Sector Expenditure by Government (combined Centre and States)

ITEM	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019 RE	2019-2020 BE
INR Trillion						
Total Budgetary Expenditure	32.85	37.61	42.66	45.16	55.17	60.72
Expenditure on Social Services of which:	7.68	9.16	10.41	11.4	14.47	15.79
i) Education	3.54	3.92	4.35	4.83	5.81	6.43
ii) Health	1.49	1.75	2.13	2.43	2.92	3.24
iii) Others	2.65	3.48	3.93	4.13	5.74	6.12
As percentage to GDP						
Expenditure on Social Services of which:	6.2	6.6	6.8	6.7	7.6	7.7
i) Education ✓	2.8	2.8	2.8	2.8	3.1	3.1
ii) Health ✓	1.2	1.3	1.4	1.4	1.5	1.6
iii) Others ✓	2.1	2.5	2.6	2.4	3	3

MGNREGA

12% GROWTH

Person days of employment generated: 2.36 billion in 2016-17 to **2.64 billion in 2019-20**



85.3%

of people who demanded employment were **provided** employment in rural India



BANK ACCOUNTS

PMJDY: **381 million** bank accounts **opened** between 2014 and 2020, with **203 million** of them opened **BY WOMEN**



HOUSING FOR ALL

Houses completed in rural areas in a year **GREW FOUR TIMES**, 1.2 million in 2014-15 to **4.7 million houses completed** in 2018-19



HEALTH INSURANCE

PMJAY: **100 million families** provided health insurance of **INR 5,00,000** per year



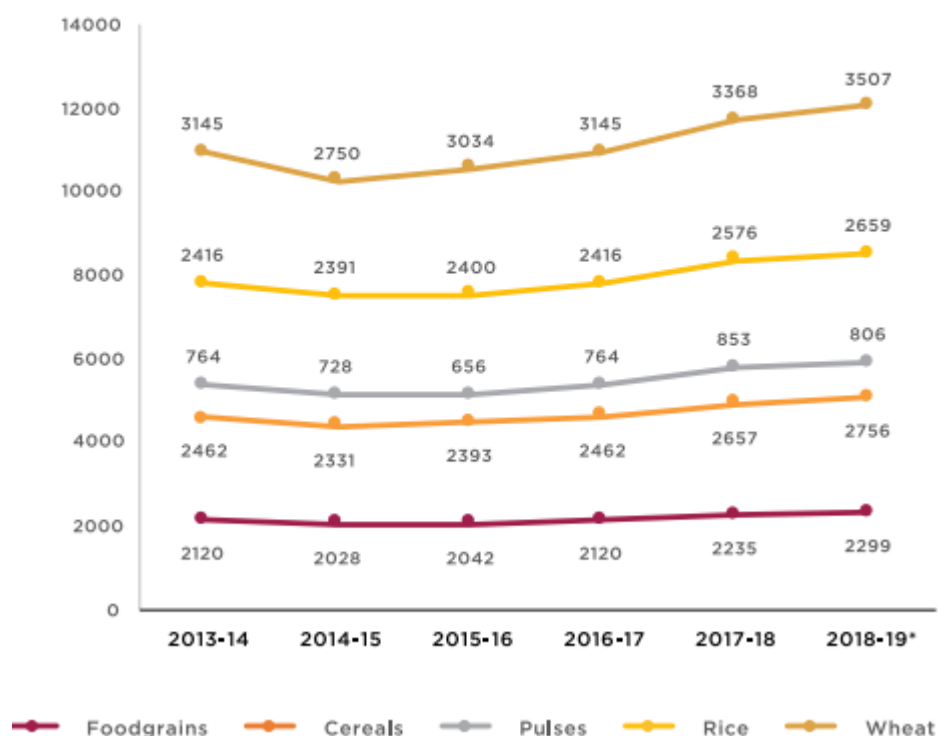
WOMEN'S PARTICIPATION

Increased from 13% in 2011-12 to **21% in 2017-18** in regular wage/salaried jobs



SHGs WITH BANK CREDIT LINKAGE

Increased from 18.3 lakh in 2015-16 to **27 lakh in 2018-19**

Graph 2. Yield Per Hectare of Major Crops (Kg/ Hectare)

FACILITIES	2018 (in number)	Percentage Increase from 2014
SC/PHC/CHC	1,89,784	3.87
Government Hospital (rural and urban areas, including CHC)	25,778	26.95
AYUSH Hospital and Dispensaries	31,986	7.58
Medical Colleges	539	35.43
Nursing Personnel	29,66,375	13.13
Pharmacists	11,25,222	69.42
Doctors (Modern System)*	9,23,749	23.64
AYUSH Doctors	7,99,879	8.60

Now, we will learn about the **United Nations High-level Political Forum on Sustainable Development (HLPF)**. We have already asked this in Daily Quiz, but here also we will learn.

- The **establishment of the United Nations High-level Political Forum on Sustainable Development (HLPF) was mandated in 2012** by the outcome document of the United Nations Conference on Sustainable Development (Rio+20), "**The Future We Want**".
- The Forum meets annually under the auspices of the Economic and Social Council.
- The Forum's first meeting was held on 24 September 2013.

- d. **It replaced the Commission on Sustainable Development**, which had met annually since 1993.
- e. The HLPF is the main United Nations platform on sustainable development and it has a central role in the follow-up and **review of the 2030 Agenda for Sustainable Development the Sustainable Development Goals (SDGs)** at the global level.

CA50. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

Link: <https://www.downtoearth.org.in/news/forests/states-reject-543-432-fra-claims-in-suo-motu-review-72237>

News was:

FORESTS

States reject 543,432 FRA claims in suo motu review

West Bengal has rejected around 92 per cent of all the reviewed claims



By Ishan Kukreti

Last Updated: Friday 10 July 2020

Now, we will learn most important FRA, 2006. It is a bit long explanation but

To address the adverse living conditions of many tribal families living in forests was on account of non-recognition and vesting of pre-existing rights, a landmark legislation viz. **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**, has been enacted. *See the objective of this Act given below.*

THE SCHEDULED TRIBES AND OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHTS) ACT, 2006

ACT NO. 2 OF 2007

[29th December, 2006.]

An Act to recognise and vest the forest rights and occupation in forest land in forest dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land.

The eligible forest-dwellers under this Act include individuals and communities of both Scheduled Tribes (STs) as well as non-tribals, known as **Other Traditional Forest Dwellers (OTFDs)**.

Other important Provisions of this Act:

- a. Section 2(i) of the said Act defines a Minor Forest Produce (MFP) as all non-timber forest produce of plant origin and includes **bamboo**, brushwood, stumps, canes,

Tusser, cocoon, honey, waxes, Lac, tendu/kendu leaves, medicinal plants and herbs, roots, tuber and the like.

(ii) "minor forest produce" includes all non-timber forest produce of plant origin including bamboo, brush wood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the like;

- b. **Section 3(1)(c) of the Forest Rights Act 2006** defines forest rights as inclusive of 'Right of ownership, access to collect, use and dispose of minor forest produce which have traditionally been collected within or outside village boundaries.

Individuals, communities and gram sabhas having rights under this particular section of the Act will not only have the rights to use but also rights of ownership over MFPs. **This goes beyond the Provisions of the Panchayats (Extension to The Scheduled Areas) Act, 1996 (PESA Act)** which had authorized states to entrust panchayats and gram sabhas as the owners of MFP.

- c. **Critical Wildlife Habitat** has been defined under this Act: Just see definition and remember that *it is defined in FRA Act, 2006, not any other Act. Very important.*

(b) "critical wildlife habitat" means such areas of National Parks and Sanctuaries where it has been specifically and clearly established, case by case, on the basis of scientific and objective criteria, that such areas are required to be kept as inviolate for the purposes of wildlife conservation as may be determined and notified by the Central Government in the Ministry of Environment and Forests after open process of consultation by an Expert Committee, which includes experts from the locality appointed by that Government wherein a representative of the Ministry of Tribal Affairs shall also be included, in determining such areas according to the procedural requirements arising from sub-sections (1) and (2) of section 4;

CWLHs are meant to be areas of national parks and wildlife sanctuaries that are required to be kept as inviolate for the purpose of wildlife conservation. *Inviolat*' is a general term used to indicate no human settlement and usage. The identification of CWLH is done based on scientific and objective criteria and **it mandatorily requires settlement of forest rights under FRA**. The Act lays out approach to be adopted which requires **forest rights to be first recognised and vested in all eligible claimants in all forests, including all categories of Protected Areas (PAs).**

Ok, here don't get confused with Critical 'tiger' habitats (CTHs).

Critical 'tiger' habitats	Critical 'wildlife' habitats
Identified under the Wild Life Protection Act (WLPA), 1972	Defined only in the Forest Rights Act, 2006
Notified by state government in consultation with expert committee	Notified with the consent of the Gram Sabhas and affected stakeholders

One of the contrasting features is: Critical Wildlife Habitat once established **cannot be subsequently diverted for any other use by any entity. Whereas state government shall de-notify a tiger reserve, except in public interest**, with the approval of the Tiger Conservation Authority and the National Board for Wildlife.

The notification of CWLHs can only be done with the consent of the Gram Sabhas. Remember these things, no one will teach you.

- d. **Definition of Other Traditional Dwellers:**

(o) "other traditional forest dweller" means any member or community who has for at least three generations prior to the 13th day of December, 2005 primarily resided in and who depend on the forest or forests land for *bona fide* livelihood needs.

- e. **Under Section 3(1)(h) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**, the rights of settlement and conversion of all forest villages, old habitations, un-surveyed villages and other villages in forest, whether recorded, notified, or not, into revenue villages **have been recognized as one of the forest rights of forest dwelling Scheduled Tribes (ST) and other traditional forest dwellers (OTFD) on all forest lands.**

3. Forest rights of Forest dwelling Scheduled Tribes and other traditional forest dwellers.—(1) For the purposes of this Act, the following rights, which secure individual or community tenure or both, shall be the forest rights of forest dwelling Scheduled Tribes and other traditional forest dwellers on all forest lands, namely:—

- (a) right to hold and live in the forest land under the individual or common occupation for habitation or for self-cultivation for livelihood by a member or members of a forest dwelling Scheduled Tribe or other traditional forest dwellers;
- (b) community rights such as nistar, by whatever name called, including those used in erstwhile Princely States, Zamindari or such intermediary regimes;
- (c) right of ownership, access to collect, use, and dispose of minor forest produce which has been traditionally collected within or outside village boundaries;
- (d) other community rights of uses or entitlements such as fish and other products of water bodies, grazing (both settled or transhumant) and traditional seasonal resource access of nomadic or pastoralist communities;
- (e) rights including community tenures of habitat and habitation for primitive tribal groups and pre-agricultural communities;
- (f) rights in or over disputed lands under any nomenclature in any State where claims are disputed;
- (g) rights for conversion of *Pattas* or leases or grants issued by any local authority or any State Government on forest lands to titles;
- (h) rights of settlement and conversion of all forest villages, old habitation, unsurveyed villages and other villages in forests, whether recorded, notified or not into revenue villages;

- f. The Act also provides for **diversion of forest land for public utility** facilities managed by the Government, such as schools, dispensaries, fair price shops, electricity and telecommunication lines, water tanks, etc. with the recommendation of Gram Sabhas.

(2) Notwithstanding anything contained in the Forest (Conservation) Act, 1980 (69 of 1980), the Central Government shall provide for diversion of forest land for the following facilities managed by the Government which involve felling of trees not exceeding seventy-five trees per hectare, namely:—

- (a) schools;
- (b) dispensary or hospital;
- (c) *anganwadis*;

- (d) fair price shops;
- (e) ~~electric~~ and telecommunication lines;
- (f) tanks and other minor water bodies;
- (g) ~~drinking~~ water supply and water pipelines;
- (h) water or rain water harvesting structures;
- (i) ~~minor~~ irrigation canals;
- (j) non-conventional source of energy;
- (k) skill upgradation or vocational training centres;
- (l) roads; and
- (m) community centres:

- g. No member of a forest dwelling Scheduled Tribe or other traditional forest dweller shall be evicted or removed from forest land under his occupation **till the recognition and verification procedure is complete.**

~~(5)~~ Save as otherwise provided, no member of a forest dwelling Scheduled Tribe or other traditional forest dweller shall be evicted or removed from forest land under his occupation till the recognition and verification procedure is complete.

- h. Duties of Holders of Forest Rights:

~~5.~~ **Duties of holders of forest rights.**—The holders of any forest right, Gram Sabha and village level institutions in areas where there are holders of any forest right under this Act are empowered to—

- ~~(a)~~ protect the wild life, forest and biodiversity;
- ~~(b)~~ ensure that adjoining catchments area, water sources and other ecological sensitive areas are adequately protected;
- ~~(c)~~ ensure that the habitat of forest dwelling Scheduled Tribes and other traditional forest dwellers is preserved from any form of destructive practices affecting their cultural and natural heritage;
- ~~(d)~~ ensure that the decisions taken in the Gram Sabha to regulate access to community forest resources and stop any activity which adversely affects the wild animals, forest and the biodiversity are complied with.

- i. **Offences by members or officers of authorities** and Committees under this Act.

Authority or Committee contravenes any provision-shall be liable to be proceeded against and punished with fine which may extend to one thousand rupees:

the offence was committed without his knowledge -he should proves that the offence was committed without his knowledge

- j. **No court shall take cognizance** of any offence under section (h) (mentioned above).

~~8. Cognizance of offences.~~—No court shall take cognizance of any offence under section 7 unless any forest dwelling Scheduled Tribe in case of a dispute relating to a resolution of a Gram Sabha or the Gram Sabha through a resolution against any higher authority gives a notice of not less than sixty days to the State Level Monitoring Committee and the State Level Monitoring Committee has not proceeded against such authority.

Amendment Rules, 2012:

The government notified the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Amendment Rules, 2012** on September 6, 2012. These Rules amend the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Rules, 2008, notified under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

The amending Rules *introduce the process to be followed by the Gram Sabha and district level committee, the process for the recognition of rights and amends certain definitions. Some of the key amendments include:*

Gram Sabha

- a. The **Gram Sabha shall monitor the committee constituted for the protection of wildlife, forest and biodiversity.** It has to approve all decisions of the committee pertaining to the issue of transit permits to transport minor forest produce, use of income from sale of produce, or modification of management plans. The collection of minor forest produce is to be free of all fees. The committee has to prepare a conservation and management plan for community forest resources.
- b. The Forest Rights Committee (FRC) of the Gram Sabha shall not reexamine recognised forest rights or interfere in the verification of claims that are pending.
- c. The number of Scheduled Tribes represented on the FRC has increased from one-third to two-thirds.
- d. The **quorum of the Gram Sabha** meeting has been decreased from two thirds to one-half of the members. At least **one-third of the members present shall be women.** While passing a resolution regarding the claims of forest rights, **at least 50 per cent of the claimants to forest rights or their representatives should be present.**

District level committee

The committee should ensure that a certified copy of the record of the right to community forest resource is provided to the Gram Sabha.

State level monitoring committee

The committee should meet at least once in three months to monitor the recognition, verification and vesting of forest rights, and furnish a quarterly report to the central government.

Definitions added:

- a. **'Bonafide livelihood needs'** refers to the fulfillment of livelihood needs (earlier sustenance needs). These can be fulfilled through the sale of surplus produce.

- b. A **definition of 'community rights'** was added and includes rights such as (a) ownership, access to collect, use and dispose of minor forest produce, (b) fishing and grazing, and (c) conversion of all forest villages into revenue villages.
- c. **'Disposal of minor forest produce'** includes individual or collective processing and storage by the Scheduled Tribes. The produce can be transported through appropriate means of transport (earlier transportation was only permissible by headloads, bicycle and handcarts).

Process of recognition of rights

A process to identify unrecorded or un-surveyed settlements or forest villages by every Panchayat was introduced. A process of recognition of individual rights and community rights has been incorporated. The delineation of community forest resources may include existing legal boundaries such as reserve forests, protected forests and national parks.

We have covered almost all-important points. So, no need to worry about anything now.

CA51. Language of the Tangams

Link: <https://indianexpress.com/article/explained/the-language-of-the-tangams-with-just-253-speakers-6503165/>



A Tangam man in his community's traditional attire. (Photo Courtesy: Kaling Dabi)

Recently, the Chief Minister of Arunachal Pradesh has released a book titled *"Tangams: An Ethnolinguistic Study of The Critically Endangered Group of Arunachal Pradesh"*.

Who are the Tangams?

The Tangams are a little-known community within the larger Adi tribe of **Arunachal Pradesh** and reside in the hamlet of Kugging in Upper Siang district's Paindem circle.

Tangam is an oral language that belongs to the Tani group, under the greater Tibeto-Burman language family. It has been marked **'critically endangered'** by the **UNESCO World Atlas of Endangered Languages (2009)**.

Degree of Endangerment	Intergenerational Language Transmission
Safe	Language is spoken by all generations; intergenerational transmission is uninterrupted.
Vulnerable	Most children speak the language, but it may be restricted to certain domains.
Definitely endangered	Children no longer learn the language as mother tongue in the home.
Severely endangered	Language is spoken by grandparents and older generations; while the parent generation may understand it, they do not speak it to children or among themselves.
Critically endangered	The youngest speakers are grandparents and older, and they speak the language partially and infrequently.
Extinct	There are no speakers left.

No need to know more about Tangams.

CA52. First real-time digital platform to monitor rice fields

Link: <https://www.downtoearth.org.in/news/economy/first-real-time-digital-platform-to-monitor-rice-fields-can-bolster-food-security-72264>

The world may soon get its first real-time paddy-field monitoring platform, which will give information on the quantity of rice planted and the harvest achieved. The app, being built by researchers from the **University of Sydney**, can help meet the United Nations-mandated **sustainable development goal No.2 — of ‘Zero Hunger’**.

The project has been undertaken in collaboration with **Google Earth and the Group on Earth Observations**.

The mobile monitoring app Paddy Watch will allow farmers, scientists and agricultural economists to:

- determine the extent of arable land under rice cropping in near real-time
- estimate potential yields
- manage water use and water security;
- account for greenhouse gas emissions (paddy rice releases methane)
- develop policies for education, economic growth, gender equity, and reducing social inequality

How will it work?

The real-time land-use data will be generated using Google Earth and will be verified by field operators in **India, China, Malaysia, Indonesia, and Vietnam**. This will allow the agricultural scientists to monitor and ensure their accuracy worldwide.

These five countries hold the position of the largest rice-producing countries across the globe. Among these, India, China and Indonesia are the world's three largest producers of rice and together account for about 60 per cent of the total world production.

Few important Facts for Prelims:

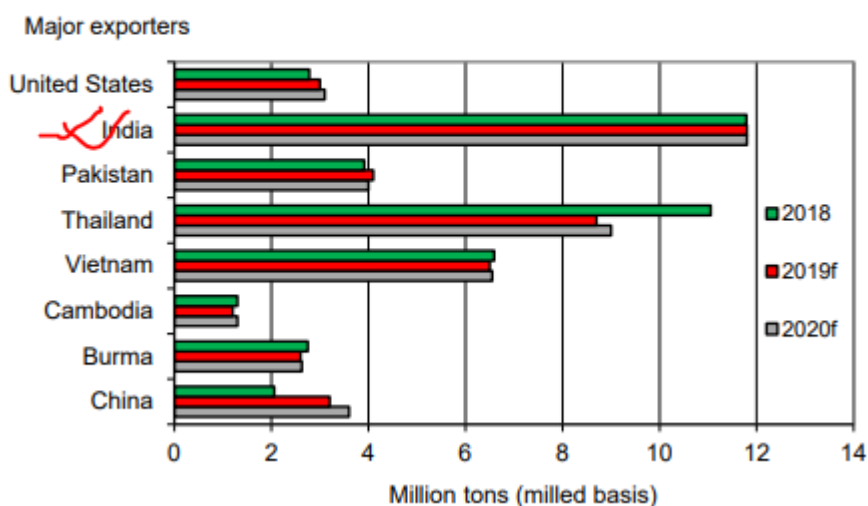
Table 1: Major Rice Producing Countries in the World (Milled Rice Production in Million Tonnes)

Country	2018-19	2019-20	Change over 2018-19
USA	7.12	6.29	-0.83
India ✓	115.63	115.00	-0.63
Pakistan	7.40	7.50	0.10
Thailand	20.72	20.90	0.18
Vietnam	27.71	28.00	0.29
Brazil	7.34	7.34	0.00
European Union	1.98	2.04	0.06
Indonesia	37.10	37.40	0.30
Nigeria	4.70	4.90	0.20
Philippines	11.80	12.20	0.40
Burma	13.18	13.30	0.12
China ✓	148.50	146.00	-2.50
Egypt	2.80	3.05	0.25
Japan	7.65	7.70	0.05
South Korea	3.87	3.88	0.01

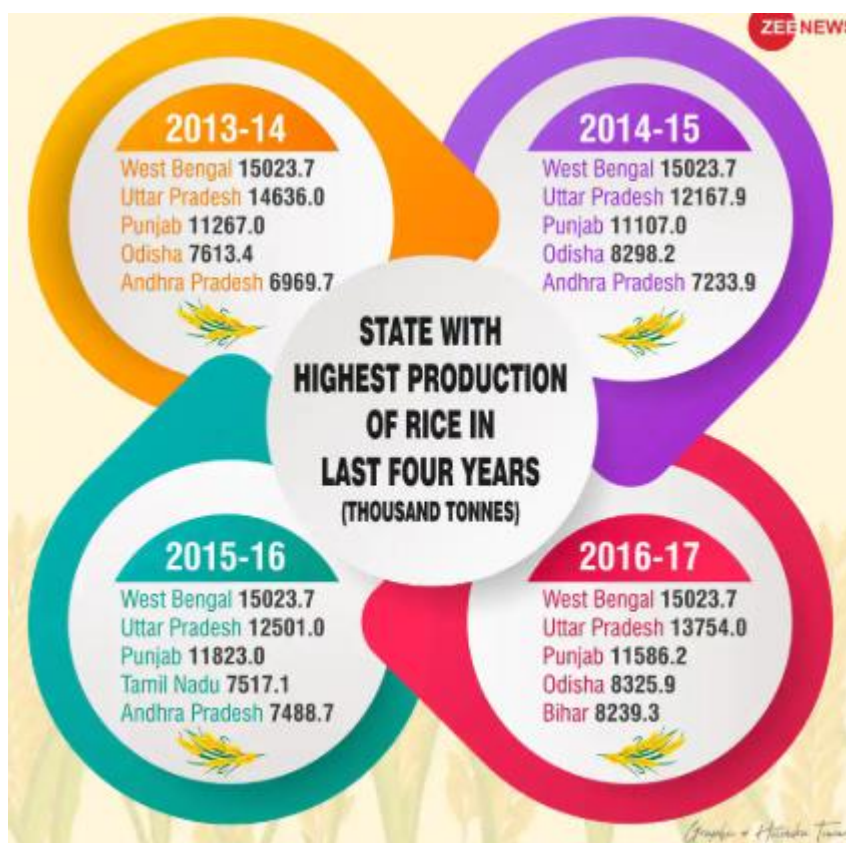
Source: www.usda.gov

India is the largest exporter of Rice in the World.

Figure 3
India is projected to remain the largest rice exporting country in 2020



West Bengal topped the chart for the highest production of Rice (Thousand Tonnes) from 2013-14 to 2017-18 while for the same period Sikkim stood at the bottom of the chart.



Indian Production of Rice

		2017-18
State		Production
West Bengal	✓	14,970.00
Punjab		13,380.00
Uttar Pradesh		13,270.00
Andhra Pradesh		8,180.00
Bihar		7,910.00
Tamil Nadu		7,280.00
Orissa		6,530.00
Telangana		6,250.00
Assam		5,160.00
Chattisgarh		4,730.00
Page Total		87,660.00

CA53. Disabled are entitled to same benefits of SC/ST quota: SC

Link: <https://www.thehindu.com/news/national/disabled-are-entitled-to-same-benefits-of-scst-quota-supreme-court/article32059867.ece#:~:text=The%20Supreme%20Court%2C%20in%20a,in%20public%20employment%20and%20education.>

The Supreme Court has observed that **people suffering from disabilities are also socially backward and are thus entitled to the same benefits as given to the Scheduled Castes/ Scheduled Tribes candidates.**

What was the petition?

The petitioner, who is intellectually challenged to the extent of 50%, had applied for a diploma course in Fine Art for physically/mentally challenged students. He filed a writ petition challenging certain provisions of the prospectus issued by a College contending that there must be a bifurcation of the total available seats between physically challenged students and mentally/intellectually challenged students. He also prayed that an intellectually/mentally challenged student should be exempted from taking Aptitude Test.

What SC upheld?

The Court has upheld a 2012 judgment of the Delhi High Court in *Anamol Bhandari (minor) through his father/Natural Guardian v. Delhi Technological University* in a significant decision. The court stated:

*"we follow the principle laid down in the Delhi High Court's judgment in Anamol Bhandari (Minor) through his father/Natural Guardian v. Delhi Technological University 2012 (131) DRJ 583 in which the High Court has correctly held that **people suffering from disabilities are also socially backward**, and are therefore, at the very least, entitled to the same benefits as given to the Scheduled Castes/ Scheduled Tribes candidates".*

Referring to the prospectus, the Court observed that as the Scheduled Castes/Scheduled Tribes candidates require 35 per cent to pass in the aptitude test, **the same shall apply so far as the disabled are concerned in future.**

We will also see what Delhi High Court observed in Anamol Bhandari Judgment.

The Court observed that reservation for disabled is called horizontal reservation which cuts across all vertical categories such as SC, ST, OBC & General. It had observed thus:

*"Therefore, what was recognized was that since PWDs belonging to SC/ST categories, i.e., vertical categories enjoyed the relaxation which is provided to SC/ST categories, **there is no reason not to give the same benefit/concession to those disabled who are in General Category or Other Backward Class Category** as that process only would bring parity among all persons" disparity irrespective of their vertical categories. It demonstrates that the people **suffering from disabilities are equally socially backward**, if not more, as those belonging to SC/ST categories and therefore, as per the Constitutional mandates, **they are entitled to at least the same benefit of relaxation as given to SC/ST candidates.**"*

CA54. Transgender Persons (Protection of Rights) Act, 2019.

Link: <https://www.theweek.in/columns/Meenakshi-Lekhi/2020/07/16/transgenders-in-uniform.html>

News:

In a major push for gender reform, the Union home ministry is set to allow transgender persons to join paramilitary forces like the CRPF, the BSF, the CISF and the ITBP. We have already received approvals from the BSF, the CISF and the ITBP. The decision is in line with the Transgender Persons (Protection of Rights) Act, notified by the Central

government in December 2019, under which no establishment can discriminate against transgender persons in matters relating to employment, recruitment and promotion.

Ok, we will go through Act in detail.

We should always take care of these Acts. The Acts based on gender equality, social issues, gender empowerment are very important. Any statement they can pick from Act and can ask you in Prelims. For example:

1. Does Certification of identity of Transgender can be provided only by competent court?
2. Does National Council of Transgender Person set up under this Act chaired by Secretary or Union Minister?
3. Does Act define Gender Identity, Transgender Persons, inter sex variations?

After reading this document everything can be answered.

- a. Section 2(k) defines a transgender person to include both individual identities & socio-cultural identities.

(k) "transgender person" means a person whose gender does not match with the gender assigned to that person at birth and includes trans-man or trans-woman (whether or not such person has undergone Sex Reassignment Surgery or hormone therapy or laser therapy or such other therapy), person with intersex variations, genderqueer and person having such socio-cultural identities as kinner, hijra, aravani and jogta.

- b. The Act also defines **intersex variations**.

(i) "person with intersex variations" means a person who at birth shows variation in his or her primary sexual characteristics, external genitalia, chromosomes or hormones from normative standard of male or female body;

Criticism: Does this give any substantial rights to intersex persons, apart from whatever is part of being recognized as transgender persons? This Act does not even ban the forced and unnecessary sex reassignment surgeries performed on intersex infants. The Parliament failed to discuss or ban the surgery, something which a Single-Judge Bench of the Madras High Court did when an intersex person approached the Court. Why do you call this Act 'Protection of Rights'? Whose rights and interests are it actually protecting? Debatable.

- c. **The Act has nowhere defined Gender Identity.** This makes me wonder, what is the objective of this? Why has the Parliament not discussed gender identity, gender non-conforming persons, expression or even sexual orientation? Debatable.
- d. The Bill prohibits the discrimination against a transgender person, including denial of service or unfair treatment in relation to: (i) education; (ii) employment; (iii) healthcare; (iv) access to, or enjoyment of goods, facilities, opportunities available to the public; (v) right to movement; (vi) right to reside, rent, or otherwise occupy property; (vii) opportunity to hold public or private office; and (viii) access to a

government or private establishment in whose care or custody a transgender

✓(a) the denial, or discontinuation of, or unfair treatment in, educational establishments and services thereof;

(b) the unfair treatment in, or in relation to, employment or occupation;

(c) the denial of, or termination from, employment or occupation;

(d) the denial or discontinuation of, or unfair treatment in, healthcare services;

(e) the denial or discontinuation of, or unfair treatment with regard to, access to, or provision or enjoyment or use of any goods, accommodation, service, facility, benefit, privilege or opportunity dedicated to the use of the general public or customarily available to the public;

(f) the denial or discontinuation of, or unfair treatment with regard to the right of movement;

(g) the denial or discontinuation of, or unfair treatment with regard to the right to reside, purchase, rent, or otherwise occupy any property;

(h) the denial or discontinuation of, or unfair treatment in, the opportunity to stand for or hold public or private office; and

(i) the denial of access to, removal from, or unfair treatment in, Government or private establishment in whose care or custody a transgender person may be.

person is

- e. Every transgender person shall have a **right to reside and be included in his household**. If the immediate family is **unable to care** for the transgender person, the person may be placed in a rehabilitation centre, on the orders of a **competent court**.

12. (1) No child shall be separated from parents or immediate family on the ground of being a transgender, except on an order of a competent court, in the interest of such child.

(2) Every transgender person shall have—

(a) a right to reside in the household where parent or immediate family members reside;

(b) a right not to be excluded from such household or any part thereof; and

(c) a right to enjoy and use the facilities of such household in a non-discriminatory manner.

- f. No government or private entity can discriminate against a transgender person in employment matters, including recruitment, and promotion. Every establishment is required to designate a person to be a complaint officer to deal with complaints in relation to the Act.

OBLIGATION OF ESTABLISHMENTS AND OTHER PERSONS

9. No establishment shall discriminate against any transgender person in any matter relating to employment including, but not limited to, recruitment, promotion and other related issues.

10. Every establishment shall ensure compliance with the provisions of this Act and provide such facilities to transgender persons as may be prescribed.

11. Every establishment shall designate a person to be a complaint officer to deal with the complaints relating to violation of the provisions of this Act.

- g. Educational institutions funded or recognised by the relevant government shall provide inclusive education, sports and recreational facilities for transgender persons, without discrimination.

EDUCATION, SOCIAL SECURITY AND HEALTH OF TRANSGENDER PERSONS

13. Every educational institution funded or recognised by the appropriate Government shall provide inclusive education and opportunities for sports, recreation and leisure activities to transgender persons without discrimination on an equal basis with others.

- h. The government must take steps to provide health facilities to transgender persons including separate HIV surveillance centres, and sex reassignment surgeries. The government shall review medical curriculum to address health issues of transgender persons and provide comprehensive medical insurance schemes for them.

15. The appropriate Government shall take the following measures in relation to transgender persons, namely:—

(a) to set up separate human immunodeficiency virus Sero-surveillance Centres to conduct sero-surveillance for such persons in accordance with the guidelines issued by the National AIDS Control Organisation in this behalf;

(b) to provide for medical care facility including sex reassignment surgery and hormonal therapy;

(c) before and after sex reassignment surgery and hormonal therapy counselling;

(d) bring out a Health Manual related to sex reassignment surgery in accordance with the World Professional Association for Transgender Health guidelines;

(e) review of medical curriculum and research for doctors to address their specific health issues;

(f) to facilitate access to transgender persons in hospitals and other healthcare institutions and centres;

(g) provision for coverage of medical expenses by a comprehensive insurance scheme for Sex Reassignment Surgery, hormonal therapy, laser therapy or any other health issues of transgender persons.

- i. A transgender person may make an application to the District Magistrate for a certificate of identity, indicating the gender as 'transgender'. A revised certificate may be obtained only if the individual undergoes surgery to change their gender either as a male or a female.

5. A transgender person may make an application to the District Magistrate for issuing a certificate of identity as a transgender person, in such form and manner, and accompanied with such documents, as may be prescribed:

Provided that in the case of a minor child, such application shall be made by a parent or guardian of such child.

j. National Council for Transgender persons (NCT):

NATIONAL COUNCIL FOR TRANSGENDER PERSONS

16. (1) The Central Government shall by notification constitute a National Council for Transgender Persons to exercise the powers conferred on, and to perform the functions assigned to it, under this Act.

(2) The National Council shall consist of—

(a) the Union Minister in-charge of the Ministry of Social Justice and Empowerment, Chairperson, ex officio;

Other members include representatives of the NITI Aayog, and the National Human Rights Commission. **State governments will also be represented.** The Council will also consist of **five members from the transgender community** and five experts from non-governmental organizations.

k. The Council will advise the central government as well as monitor the impact of policies, legislation and projects with respect to transgender persons. It will also redress the grievances of transgender persons.

17. The National Council shall perform the following functions, namely:—

(a) to advise the Central Government on the formulation of policies, programmes, legislation and projects with respect to transgender persons;

(b) to monitor and evaluate the impact of policies and programmes designed for achieving equality and full participation of transgender persons;

(c) to review and coordinate the activities of all the departments of Government and other Governmental and non-Governmental Organisations which are dealing with matters relating to transgender persons;

(d) to redress the grievances of transgender persons; and

(e) to perform such other functions as may be prescribed by the Central Government.

l. The Bill recognizes the following offences against transgender persons: (i) forced or bonded labour (excluding compulsory government service for public purposes), (ii) denial of use of public places, (iii) removal from household, and village, (iv) physical, sexual, verbal, emotional or economic abuse. **Penalties for these offences vary between six months and two years, and a fine.**

CA55. Active Pharmaceutical Ingredients

Link: <http://newsonair.com/Main-News-Details.aspx?id=393458>

The report titled 'Active Pharmaceutical Ingredients- Status, Issues, Technology Readiness, and Challenges' was brought out recently by Technology Information Forecasting and

Assessment Council (TIFAC), an autonomous organization under the Department of Science & Technology.

API is very important for your exam now. So, we covered this topic in bit detail. Read every paragraph.

Introduction is very important for any topic: It helps you to understand the basic and then you can proceed easily. Moreover, it also provides introduction part for Mains answer. So, read below introduction first.

✓ COVID 19 pandemic has firmly put the focus of our Nation on being "Atma Nirbhar". Earlier TIFAC White Paper "Focused Interventions for 'Make In India' post COVID -19" had brought out the strengths, market trends and opportunities in five Sectors including Healthcare, which are critical from country's perspective. The Paper had strongly brought out the import dependence for Active Pharmaceutical Ingredients (APIs) especially from China. In view of changing geo-political scenario and recalibrated trade alignments, it is imperative that India become self-reliant in production of APIs.

The global pharmaceutical market is ~ USD 1.2 trillion with API market of ~ USD 182.2 billion. 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. The Indian industry has a strong network of 3,000 drug companies and about 10,500 manufacturing units. Indian domestic turnover reached Rs 1.4 lakh crore (USD 20.03 billion) in 2019, with exports to more than 200 countries in the world.

Despite a very strong base, due to low-profit margins and non-lucrative industry, domestic pharmaceutical companies have gradually stopped manufacturing APIs, and started importing APIs, which was a cheaper option with increased profit margins on drugs. In 2019, India imported ~Rs. 249 billion worth of intermediates and APIs; of which around Rs.169 billion was from China. A total of 600 molecules of APIs and Drug Intermediates are imported to India, of which 58 molecules are exclusively imported from China. With availability of cheaper APIs from China the pharmaceutical industry relies heavily on imports and has moved on to more profitable formulation part from the APIs. The imports from China have been increasing steadily and now stand around 68%.

What is API?

Every medicine is made up of two main ingredients — the chemically active APIs and chemically inactive, excipients, which is a substance that delivers the effect of APIs to one's system. **API is a chemical compound that is the most important raw material to produce a finished medicine.**

API status of India:

✓ API Production in India: Scenario and Status ✓

4.1 Scenario

The API market in India was Rs 574 billion in 2016 and thereafter has grown at a CAGR of 8.6% to reach Rs 735 billion in 2019. The value of Indian API market is expected to be about Rs 1109 billion by 2024. Currently, API contributes about one-fourth to the Indian pharmaceutical market and the rest is contributed by formulations. The API industry in India is highly fragmented with about 1,500 units. A list of major Indian API manufacturing companies is provided at Annexure-1.

During 2018-19, top 14-16 companies (which also include larger formulation companies) consisted only 16-17% of the total markets share. As per KPMG report, the Indian share of bulk drugs and intermediate in the total pharmaceutical export has reduced from 42 % in 2008 to 20 % in 2018. India is expected to export APIs worth Rs 303 billion in 2020-2021. The revenue earned from export of bulk drugs is around one fourth of what is generated through export of formulations. ✓

✓ The major groups of products (either as active ingredient, or intermediate chemicals) that are imported are:

- i. Antibiotics ✓
- ii. Steroids & Hormones – Key Starting Materials (KSM) ✓
- iii. Vitamins ✓
- iv. Statins ✓
- v. Enzymes ✓
- vi. Other fermentation-based intermediates and APIs ✓

Before 1991, the Indian pharmaceutical industry depended China for only 0.3% of its API requirements. However, globalisation of Indian pharmaceutical companies and emergence of mega manufacturing facilities in China have prompted India to increase its imports of API from China. The principal driver, for this increasing import of APIs, is the lower production cost.

Table 4: Indian overall Import of Bulk Drug/Drug Intermediates
(2016-17 to 2018-19)

Year	Import of Bulk drug/drug intermediates (In Rs. Crore)	Chinese Share (In Rs. Crore)	Percentage Share (%)
2016-17	19,653.25	13,107	66.69
2017-18	21,481	14,755	68.36
2018-19	25,552	17,263	67.56

Major Impediments and Concerns:

Despite several initiatives, over a period of time the pharma industry has become more dependent on imports for supply of KSM/ DI/ API. Some of the major issues hindering domestic production of APIs are as follows:

1. Raw material/starting building blocks - KSMs is the building block for intermediate and finally the intermediate leads to the synthesis of API. Raw materials for most of the API intermediates are currently not produced in India.
2. Solvents- Most of the API synthesis involves use of solvents. Presently India has huge dependence on China for the solvents. India imports about USD 2 billion worth solvents, of which more than 60% comes from China. India is importing most common solvents such as methanol, IPA etc. from China.
3. Chemicals used for reaction - API synthesis requires chemicals other than KSM and solvents. These can be acid, base, reaction promoter, catalyst, surfactant etc. India currently depends on China for these chemicals also.
4. Scale of manufacturing - Currently, if the APIs are manufactured in India, the cost will be 20% more than that of China. Augmenting production of APIs to match the scale generated by Chinese companies is possible, but it would result in increased production cost and thus could hamper the profitability of pharmaceutical exports.

Initiatives of Government of India:

✓ From time to time Govt. of India has taken various policy initiatives to support and boost the pharmaceutical industries. Recently, Govt. of India is keen to develop indigenous competency to reduce the import dependence. Some of the key initiatives undertaken by Govt. in the past are as follows:

Year of API

The Government had declared 2015 as the "Year of API" to make India self-sufficient in bulk drugs and turn the country into a major manufacturer of bulk drugs.

Draft Pharmaceutical Policy 2017

The Draft Pharmaceutical Policy 2017 prepared by Dept. of Pharmaceuticals aims to provide a comprehensive policy to 'guide and nurture pharmaceutical industry of India to enable it to maintain and enhance its global competitive edge in quality and prices'. The Policy envisages making essential medicines affordable to common people, making the industry self-reliance by promoting indigenous production of drugs, encourage research and development and ensure quality of medicines which are exported as well as consumed domestically. Strategies for realising these goals consist of a variety of mechanisms such as pricing mechanism, compulsory license and FDI.

✓ Inter-Ministerial Task Force

An inter-ministerial task force, under the Chairmanship of Minister of State (Chemicals and Fertilizers), was constituted in April 2018 to formulate/ suggest a road map for enhanced production of APIs in the country.

✓ Expert Committee

The Department of Pharmaceuticals, Govt. of India formed an expert committee, during February 2020, to monitor the potential impact of the novel corona virus outbreak in China on its supply of APIs to India. The committee, chaired by CDSCO Joint Drug Controller had recommended the formation of a technical committee to suggest ways to revive India's API segment. The Committee reviewed 54 drugs and found that out of these, 34 have no alternative. Out of the 54 drugs, it classified 32 drugs as critical and essential, 15 drugs as non-critical and essential and 7 drugs as essential category.

Technical Committee

The government has decided to set up a 10-member technical committee, during March 2020, to revive India's lost capacity to make certain crucial drug ingredients. The committee is expected to suggest ways to revive India's API segment, especially fermentation-based APIs. The committee is to look into the cost of setting up fresh API manufacturing capacities to wean India off its dependency on imports of these products.

Scheme on Promotion of Bulk Drug Parks

The Government, during March 2020, approved a scheme on Promotion of Bulk Drug Parks for financing Common Infrastructure Facilities in 3 mega Bulk Drug Parks, in partnership with States, with financial implication of Rs. 3,000 crore for next five years.

Production Linked Incentive (PLI) Scheme

The Government, during March 2020, has approved an another Production Linked Incentive (PLI) Scheme for promotion of domestic manufacturing of critical KSMs/Drug Intermediates and APIs in the country with financial implications of Rs.6940 crore for next eight years. The financial incentive will be given to eligible manufacturers of identified 53 critical bulk drugs on their incremental sales over the base year (2019-20) for a period of 6 years. Out of 53 identified bulk drugs, 26 are fermentation based bulk drugs and 27 are

Champion Sector

The Government, during May 2020, has identified "champion sectors" including leather, gems and jewellery, renewable energy, pharmaceuticals and textiles, to provide hand-holding for investors with a focus on improving India's manufacturing capabilities.

Major recommendations given in the report:

- Focus on engineering and scale aspect of technology development.
- Need for Mission mode Chemical Engineering with defined targets for uninterrupted synthesis of molecules.
- Create mega drug manufacturing clusters with common infrastructure in India.
- Technology platform to be developed for biocatalysis towards reducing process steps for cost optimization.
- Scale supporting techno-economic feasibility.
- Attention to technologies like hazardous reactions, flow chemistry, cryogenic reactions, and membrane technology.

Also see TIFAC:

About TIFAC

Technology Information, Forecasting and Assessment Council (TIFAC), an autonomous organization under the Department of Science and Technology (DST), Government of India was established in 1988. TIFAC is a think tank within government setup which looks up to technologies on the horizon, assesses the technology trajectories and supports technology innovation in select areas of national importance.

CA56. India Energy Modeling Forum

Link: <https://pib.gov.in/PressReleasePage.aspx?PRID=1638779>

In the recent joint working group meeting of the Sustainable Growth Pillar, **an India Energy Modeling Forum was launched. NITI Aayog will initially coordinate the activities of the forum and finalizing its governing structure.**

What is Energy Modelling?

Energy modeling or energy system modeling is the process of building computer models of energy systems in order to analyze them. Such models often employ scenario analysis to investigate different assumptions about the technical and economic conditions at play.

The India Energy Modelling Forum will accelerate this effort and aim to:

- a. Provide a platform to examine important energy and environmental related issues;
- b. Inform decision-making process to the Indian government;
- c. Improve cooperation between modelling teams, government, and knowledge partners, funders;
- d. Facilitate exchange of ideas, ensure production of high-quality studies;
- e. Identify knowledge gaps at different levels and across different areas;
- f. Build capacity of Indian institutions.

Do we have Energy Modelling Forum elsewhere in world?

There exist energy modelling forums in different parts of the World. **The Energy Modelling Forum (EMF) in USA was established in 1976 at Stanford University** to connect leading modelling experts and decision makers from government, industry, universities, and other research organizations. The forum provides an unbiased platform to discuss the contemporary issues revolving around energy and environment.

CA57. Vallarpadam Terminal

Link: <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1638709>

Recently, the Ministry of Shipping reviewed the development of the country's first trans-shipment hub - Kochi International Container Trans-shipment Terminal (ICTT). ICTT is locally known as the Vallarpadam Terminal.

It is a part of the Cochin Port in Kochi, Kerala. It is located on Vallarpadam Island.

Expected Benefits:

- a. It will cut India's dependence on neighboring hub ports such as Colombo in Sri Lanka, Jebel Ali in Dubai and Port Klang in Malaysia to send and receive container cargo, thus saving time and cost for exporters and importers.

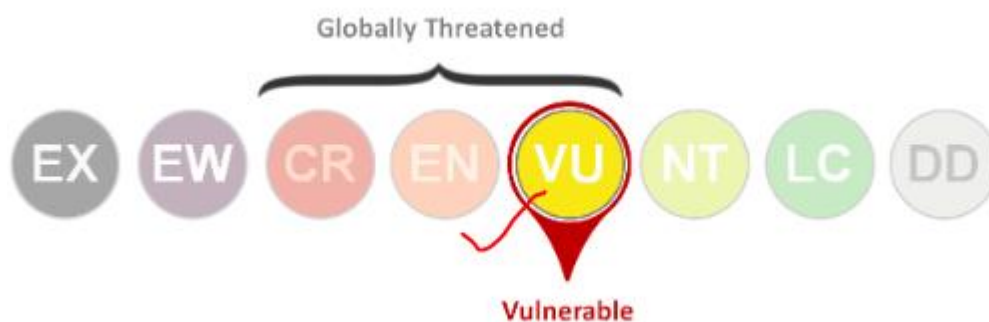
- b. It is in line with the Prime Minister's vision of **Atmanirbhar Bharat**. It will ensure that Indian cargo trans-ship through an Indian Port.
- c. Further, the Indian ocean is one of the most critical maritime transportation links in the world.
- d. It will facilitate the setting up of port-based industries and their allied facilities such as Container Freight Station, Island Container Depots, etc. in Kerala which will generate additional employment opportunities.

CA58. Woolly-Necked Storks Are Bouncing Back

Link: <https://science.thewire.in/environment/woolly-necked-stork-conservation-status-iucn-red-list/>

A multi-year programme for monitoring large water birds in the farmlands of Gujarat, Haryana, Rajasthan and Uttar Pradesh is throwing up pleasant surprises. These landscapes have been found to support previously unknown populations of one of the least studied stork species in the world: **the woolly-necked storks** (*Ciconia episcopus*).

Older population estimates had suggested that fewer than 35,000 of these birds exist in South and Southeast Asia. But new data suggests their number could be **120,000-310,00 birds in South Asia alone**.



✓ This story of the woolly-necked storks is important for two reasons.

First, it shows the need to expand our collective conservation vision to outside protected forested reserves. Doing so will likely allow us to find more examples of species that can live alongside farmers when large-scale hunting is absent.

Second, these storks have shown that global processes that designate threat levels to species using the Red List process effectively incorporate new information to update status assessments.

In India, species-rich forests, large protected wetlands and ungrazed seasonal grasslands should remain the backbone of the conservation movement. Farmlands and farmers, it appears, need to be added to our conservation arsenal. And species like the woolly-necked storks indicate that our assumptions on wild species' needs are not always accurate.

The woolly-necked stork itself is a large waterbird about 4 feet tall, with black and white plumage. It remains very poorly studied.