



# July 2024

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## Pre Shorts

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Pre Shorts Monthly  
Magazine : For Quick  
Revision



# Polity & Governance

## New Criminal Laws

- ★ Comes into effect from July 1.
- ★ Bharatiya Nyaya Sanhita (BNS)
  - ↳ replacing Indian Penal Code (IPC), 1860.
- ★ Bharatiya Nagarik Suraksha Sanhita (BNSS)
  - ↳ replacing Criminal Procedure Code (CrPC)
- ★ Bharatiya Sakshya (BS)
  - ↳ replaces Indian Evidence Act, 1872.
- ★ IPC, CrPC will run concurrently → applicable only for old cases.

### Crime and punishment

The new Bharatiya Nyaya Sanhita has 358 Sections against the 511 in the Indian Penal Code that it replaces. The Bharatiya Nagarik Suraksha Sanhita replaces the Code of Criminal Procedure, and the Bharatiya Sakshya Adhinyam comes in place of the Indian Evidence Act.

	<b>What is new?</b> <ul style="list-style-type: none"> <li>Provision for Zero FIR allowing filing of a first information report at any police station, regardless of jurisdiction</li> <li>Online registration of police complaints and mandatory videography of crime</li> </ul>	<b>Access for all heinous crimes</b> <ul style="list-style-type: none"> <li>A person can now report incidents by electronic communication, without the need to visit a police station</li> <li>Judgment in criminal cases has to come within 45 days</li> </ul>	<b>of completion of the trial</b> <ul style="list-style-type: none"> <li>Provisions against false promise of marriage, gang rape of minors and mob lynching</li> <li>Statement of a woman rape victim will be recorded by a woman police officer</li> </ul>	<b>In the presence of other guardian or relative</b> <ul style="list-style-type: none"> <li>Death sentence or life imprisonment for gang rape of a minor</li> <li>Sedition has been replaced with 'secession' or 'act against the country's sovereignty, unity and integrity'</li> </ul>
	<b>STOCKPHOTO</b>			

## Education under state list?

### History:

- ★ Govt of India Act, 1935 → created a federal structure for the first time.
- ★ Education → Provincial list (after Independence under 'state list')
- ★ During emergency → 'Swaran Singh Committee'
  - ↳ Education - Concurrent list by the 42<sup>nd</sup> Constitutional amendment.

## The problem of special packages:

Special Packages } → purely discretionary → need based

Art 282 - Additional grants → result of bargaining power of states.

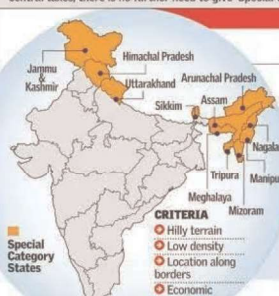
↓  
allocation has to be done through the Finance Commission

Art 275 - Disbursement of grants to states in need of assistance.

### NOT SO SPECIAL ANYMORE

The Centre claims that following the increase in tax devolution to States from 32% to 42% of divisible pool of central taxes, there is no further need to give 'Special Category' status to any State

BENEFITS AS PER GADGIL-MUKHERJEE FORMULA	
<p>On account of their location and backwardness, Special Category States have been allocated assistance as grants</p> <ul style="list-style-type: none"> <li>They are provided 30% of the total central assistance (90% of it as grants)</li> <li>Special plan assistance for projects (90% of it as grants)</li> <li>Untilled special central assistance (100% of it provided as grant)</li> </ul>	<ul style="list-style-type: none"> <li>Assistance for externally aided projects (90% grant)</li> <li>Accelerated Irrigation Benefit Programme (AIBP) assistance (90% as grant)</li> <li>Central incentives for the promotion of industry on account of economic backwardness</li> </ul>
DILUTION FOLLOWING UNION BUDGET 2015-16	
<ul style="list-style-type: none"> <li>Discontinued are central assistance, special central assistance and special plan assistance</li> <li>Very few externally aided projects</li> </ul>	<ul style="list-style-type: none"> <li>Allocations under AIBP reduced from Rs.5,992 crore in 2014-15 to just Rs.1,000 crore; scheme to be run with a higher matching contribution by States</li> </ul>



**CRITERIA**

- Hilly terrain
- Low density
- Location along borders
- Economic backwardness

Graphics: L.Balamurugan



## Special category status (SCS)

→ introduced in 1969 - based on the recommendation of 5<sup>th</sup> Finance Comm.

→ Criteria: Hilly terrain, sizable tribal pop.

→ more funds from the centre, various tax related concessions

currently → 11/28 States under SCS:

→ Assam, Nagaland, Himachal Pr., Manipur, Sikkim, Meghalaya, Tripura, Arunachal Pr., Mizoram, Uttarakhand & Telangana.

'SPECIAL' STATUS		WEIGHTAGE	
SPECIAL CATEGORY STATUS FIRST GIVEN TO ASSAM, NAGALAND AND J&K DURING STATES FOURTH FIVE-YEAR PLAN (1968)		60 p.c. to population of State (1971 census)	
HIMACHAL PRADESH, NORTH EASTERN STATES AND SIKKIM BROUGHT UNDER THE CATEGORY DURING THE FIFTH FIVE-YEAR PLAN		25 p.c. to per capita income	75 p.c. to fiscal management
BENEFITS		75 p.c. to special problems	
30 p.c. of total plan funds allocated to special category States		WHAT GENERAL CATEGORY STATES GET?	
Remaining 70 p.c. of funds allocated to other States		70% as loan component	30% as Central grant
GADGIL FORMULA			
Allocations calculated according to Gadgil formula			

## On Expunction powers in Parliament:

Art 105 - privileges & freedom of speech in Parliament on MPs.

Expunction powers:

→ orders of chairman of upper house & speaker of lower house - "defamatory, indecent, unparliamentary or undignified" - are deleted or expunged from records.

→ under Rule 261, and Rule 380 & 381 of Rules of Procedure of Rajya Sabha & Lok Sabha.

→ Expunged portions are marked by asterisks with an explanatory note.

Lok Sabha secretariat - maintains a comprehensive list of "unparliamentary" words & expressions.

## Governor:

→ highest office of the state.

→ appointed by the President.

→ acts as 'an agent of the centre'.

→ 7<sup>th</sup> Const. Amendment Act of 1956 - Same person can be appointed as Governor for 2 or more states.

→ Qualifications: Citizen + completed 35 years.

→ Emoluments, allowances & privileges - determined by Parliament.

Art 361 - governor enjoys immunity from proceedings

Art 167 - governor is authorised to seek information from the State govt.

## Discretionary powers

### CONSTITUTIONAL DISCRETION OF GOVERNORS INCLUDES

- When they have to reserve the Bill for the consideration of the President
- When he has to recommend for President's rule in the State
- When given additional charge as administrator of union Territory

### SITUATIONAL DISCRETION OF GOVERNORS

- For appointing Chief Minister after no party get clear majority or when the incumbent dies in the office
- When he dismisses Council of Ministers on an inability to prove confidence in the legislative Assembly
- When he dissolves the Assembly when it loses its majority

Execution of discretion beyond the constitutional permissibility is considered an attack on the elected government of the State and people's mandate

## On the Jurisdiction of CBI:

→ Context: West Bengal with 'general consent' of CBI in 2018.

→ But still centre employs CBI to register & investigate cases in the State.

### General consent:

→ Sec 6 of the Delhi Special Police Establishment (DSPE) Act.

Not for UTs & railway areas

→ consent from the concerned state government - to investigate cases in its jurisdiction.

→ Since 'Police' & 'Public order' are subjects that fall within the state list - 7<sup>th</sup> schedule

→ Revoked by Chattisgarh, Tharkhand, Kerala, Mizoram, Punjab, Rajasthan, Telangana, Meghalaya & W-Bengal

\* Original suit filed by W-Bengal under Art 131.

Art 131 - Original & Exclusive Jurisdiction of SC for federal disputes.

## How & when can a bill be defined as a Money Bill:

### Money Bill & Financial Bill:

↳ Article 110 (i) (a) to (f) - money bill - contains 'only' provisions dealing with one or more of six specific matters.

↳ Art 110 (i) (g) - any matter - incidental to the above six - also a money bill.

↳ Art 117 - two categories of financial bills:

(i) category I - includes six provisions from Art 110 (a) to (f) & any other matter.

(ii) category II - expenditure from consolidated fund.

### Procedures for the Money Bill:

↳ Art 109 - introduced only in Lok Sabha.

↳ After passing → sent to Rajya Sabha - has 14 days

↳ Speaker of Lok Sabha certifies a money bill.

↳ came under judicial review during the scrutiny of the Aadhaar Act, 2016.

## Is Immunity for the President & Governors absolute?

↳ blanket immunity granted under Art 361 to the President & Governors.

↳ absolute immunity - "King can do no wrong".

Art 361 (1) → President & Governors are not answerable to any court for acts done in exercise & performance of their powers & duties.

↳ The immunity cannot stop a person from suing the centre & the state concerned.

Art 361 (3) → no criminal proceedings whatsoever shall be instituted against the President, or the Governor of a state, in any court during his term of office.

Arguments on Art 361 (3): → affects Fundamental rights of common people.  
↳ 'cannot impair the Police' power to investigate. (Art 21)

## 'Right to shelter':

↳ Fundamental right - SC.

↳ Haldwani - 50,000 people → accused of illegally living on railway land

### Gaula River:



## GNLJ issues 'ultimatum' to form separate Gorkhaland

↳ Gorkha National Liberation Front (GNLF)

Separate statehood for Gorkhaland?

since 1907  
↳ Nepali-speaking people of Darjeeling, Kalimpong, Kurseong  
↳ Gorkhaland movement - Darjeeling hills of W-Bengal - Duars & Terai region  
↳ differences in ethnicity, culture & language from Bengali culture.



Statehood demands emerging from North Bengal (shaded differently from the rest of West Bengal) have sometimes sought to include parts from outside the state.



## Defending The disability reservations:

→ Quantifying disabilities by percentage → outdated & not supported by UN Rights of Persons with disabilities.

- ↳ lack of specialists - to evaluate disabilities
- ↳ lack of infrastructure & resources at local levels.
- ↳ Psychosocial disabilities - subjective assessment required.

## Indian Disability Evaluation & Assessment Scale

(IDEAS):

- ↳ assess & certify disability in patients with mental disorders.

## On reservations & the OBC creamy layer:

↳ Art 15 and 16 - equality to all citizens - in any policy of the govt & the public employment respectively.

↳ special provisions for SEBC/OBCs, SCs & STs.

↳ 1990 - 27% reservation for OBC - Based on Mandal Commission (1980) recommendations.

↳ 2005 - reservations was enabled for OBC, SC & ST in educational institutions including private institutions.

↳ 2019 → 10% reservation for EWS - Economically weaker sections.

Creamy Layer? → Based on the recommendations of the Justice Ram Nandan Prasad Committee (1993).

**65% Quota in Bihar:** → quashed by Patna H.C.

↳ increased from 50% to 65% in Govt. jobs & educational institutions.

↳ Bihar passed law - after Bihar census 2023.  
for EBC, OBC, SC & ST

↳ ultra vires the constitution.

↳ violates Article 14, 15 & 16.

↳ violates the 50% limit set by Supreme Court in Indira Sawhney case, 1992.

## Bihar Increases Reservation Quota



Category	Existing Reservation (%)	Revised Reservation (%)
Extremely Backward Class (EBC)	18	25
Backward Class (BC)	12	18
Scheduled Caste (SC)	16	20
Scheduled Tribe (ST)	1	2
Backward Class (BC) Women	3	0
<b>Total</b>	<b>50</b>	<b>65</b>

## Governor's power to refer Bills to President:

↳ over state Bills:

- \* When state legislature passes a bill & sends it to the Governor for his/her assent:
  - (i) Governor can give his assent - The bill becomes an act.
  - (ii) Governor sends the bill back to the assembly - to reconsider → if again passed with/without amendments → Governor should assent.
  - (iii) Reserve the bill for consideration of President - for issues like - The bill endangers the position of High court, unconstitutional, oppose DPSP etc.,

→ Governor cannot withhold his assent to a bill indefinitely:

↳ unconstitutional.

↳ should follow Art 200 - send the bill back.

→ They do not have veto over Bills & expected to act on bills asap.

## The case for a Legal Advisory Council:

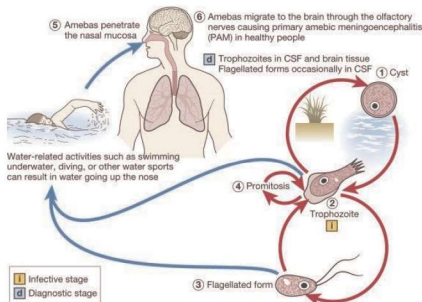
### Legal issues: (recent)

- ↳ Electoral Bond scheme - held unconstitutional - as it violated Right to Information (RTI)
  - ↳ Aadhaar Act, 2016 - would have made Right to Privacy redundant.
  - ↳ Transporters strike - hit run provisions under sec 106(2) of Bharatiya Nyaya Samhita, 2023
- ↳ Lack of research & impact assessment
- Need for a dynamic body → 'Legal Advisory Council (LAC) like EAC' to work under PMO

# Social Issues

## Meningoencephalitis

- \* Cause - Naegleria fowleri, also called 'brain-eating amoeba'.
- \* Factors → unhygienic, stagnant water & high temperature.



## National Testing Agency (NTA)

registered under Societies Reg. Act, 1860. → 2017  
↳ autonomous - Mo. Edu.

- \* Run CUET- Common University Entrance Test for both UG and PG.
- \* Entrusted with PhD entrance exam for JNU, Delhi University & Jamia Millia Islamia.
- \* other universities - could admit students for PhD courses → UGC Regulations, 2022.



**Hathras stampede:**

→ 'Bhale Baba'  
 → management of large crowds  
 → Religious mass gathering  
 causes of stampede } overcrowding, lack of exits, slippery mud.  
 according to experts

**Other major religious stampedes due to religious events: (in India)**

- 2005: Mandhadevi Temple, MH - 265 people.
- 2008: Naina Devi Temple, HP → 1145 pilgrims.
- 2008 → Chamundagar temple - Rajasthan - 250.
- 2013 - Ratangadh temple MP - Navaratri celebs - 115 people.

**Wild-type Poliovirus type 1 (WPV1):**

→ endemic only in Pakistan + Afghanistan.

**Polio:**

→ caused by a virus.  
 → 3 types → WPV1 - still prevalent  
 → WPV2 & WPV3 - both eradicated  
 → children aged 5 years or younger.

India - Polio-free certification - 2014 by WHO. (3 years of zero cases).

**INDIA IS POLIO FREE**

**THE JOURNEY:**  
 March 2014: World Health Organisation certified India and South East Asia Region Polio-Free  
 February 2014: Indian completed three full years without reporting any case of polio  
 January 2014: Last case of polio in India was reported in Howrah, West Bengal

**IN ACTION:**  
 ■ 1995: First national polio immunisation campaign held  
 ■ Since then 2 national and multiple sub-national campaigns are rolled out every year  
 ■ National polio campaign numbers:  
 ♦ 2.3 million lakh vaccinators  
 ♦ 155,000 supervisors  
 ♦ Visit to 200 million households  
 ♦ Immunisation of 170 million children up to the age of 5 years

**FROM 2,00,000 TO ZERO**

**1970s:** Polio crippled an estimated 200,000 children in India each year  
**2009:** India accounted for 741 out of the 1604 cases worldwide  
**1970s:** Polio is still a risk: Polio virus transmission in neighbouring countries like Pakistan and Afghanistan

Source: Unicef India

→ aims to promote R+D.

**Anusandhan National Research Foundation (ANRF):**

→ lack of adequate industry representation & industry.

**R+D underfunding in India:**

→ low funds & Red Tapism  
 → steady drop in fund allocation to ICAR, CSIR, Dept. of S&T, Dept. of Biotechnology, M, Earth sciences & ICMR.

**Health Expenditure:**

→ Target → 2.5% of GDP.  
 → Budget allocations - around 1.12% to 1.35% since 2010.  
 → need to rationalise GST levies on health products @ 18% GST on Health Insurance Premium & 5% GST on Insulin & Hepatitis diagnostics.

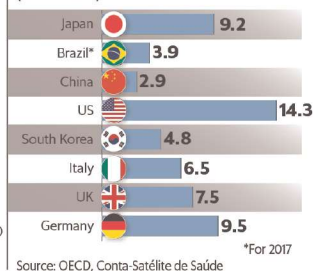
**Health a low priority**

India's public health expenditure was just 1.29% of GDP in 2019-20. In 2018 too, the country lagged behind BRICS peers as well as developed nations.

**India's (centre plus states) public expenditure on health (as % of GDP)**



**Public expenditure on health in 2018 (as % of GDP)**



Though R&D spending rose 3.5 times in a decade...  
 ...it's been falling as % of GDP...  
 ...and is the lowest even among BRICS countries

Country	% of GDP
South Korea	4.29
Israel	4.10
Japan	3.58
USA	2.73
China	2.05
Brazil	1.24
Russia	1.19
South Africa	0.73
India	0.69
Pakistan	0.29
Sri Lanka	0.10

Figures in ₹ cr

► Most of the developed countries spent more than 2% of their GDP on research & devpt  
 ► India spent least among five BRICS nations (Brazil, Russia, India, China and South Africa)

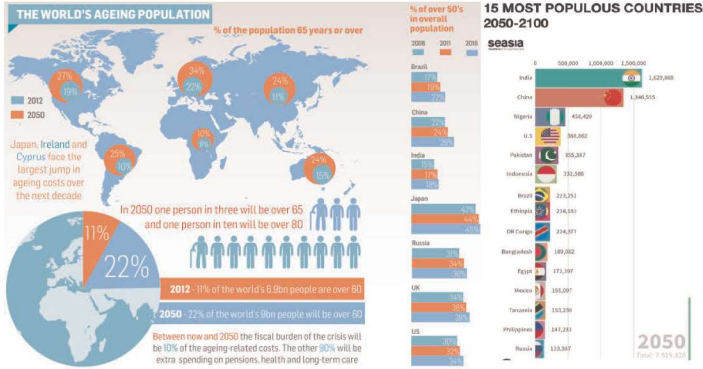
## World Population + Issues

World Population Day 2024 - July 11.

→ expected to touch 8.5 billion by the end of decade  
 → Asia - overpopulated; Europe - underpopulated.

## Women's health + rights:

→ World Population Day, 2024 - Theme → 'Women's sexual + reproductive health & reproductive rights'  
 → 30<sup>th</sup> anniversary of the Intl. conference on Population & Development (ICPD).

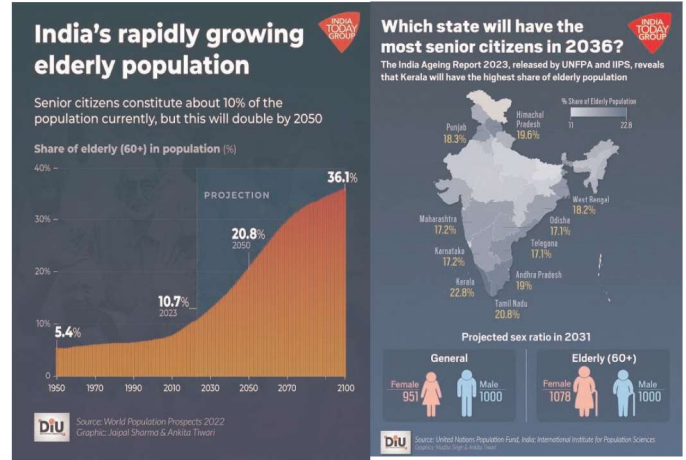


\* ↑ in access to modern contraceptives & maternal deaths have decreased since 2000.

\* Decline in fertility levels - delayed childbearing among women

## India's situation:

→ most populous country with the median age of 28 years  
 → soon-uneven distribution of children & elderly within households.

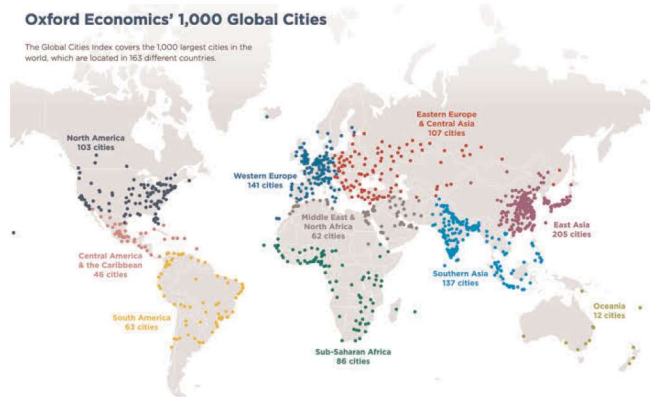


## Migration Trends:

→ 60 crore Indians migrate within the country annually; 2 crore migrate abroad.

Global Cities Index - by Oxford Economics → not a single Indian city appears in the top 50 cities.

↓  
 Delhi - 350<sup>th</sup> position due to poor environment + quality of life



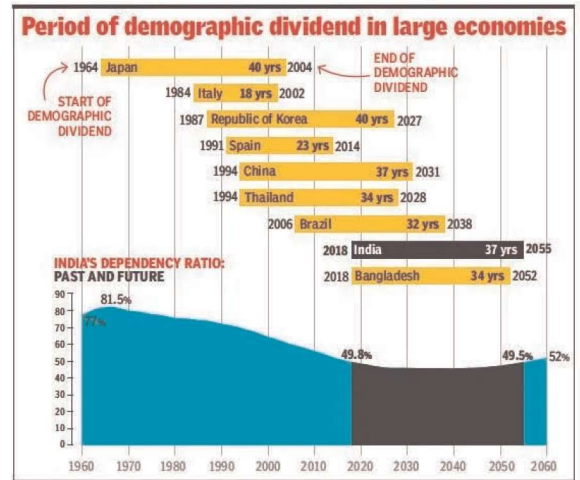
## India's demographic Journey:

World Population day - July 11 → est. in 1989.

## India's Population Growth:

→ Demographic shift - from young (Demographic Dividend) to Old population.

→ National Family Health Survey (NFHS-5) - India's Total Fertility Rate (TFR) dec. from 3.4 to 2.



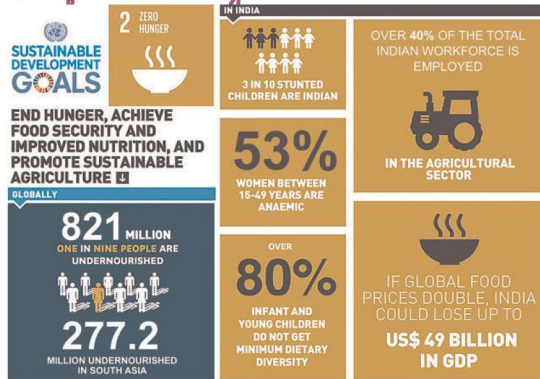


## SDG Journey :

- BPL population - reduced from 48% to 10% bet. 1990 and 2019.
- MGNREGA, 2006 - addressed rural poverty.
- Janani Suraksha Yojana, 2005 - cash benefits to pregnant women

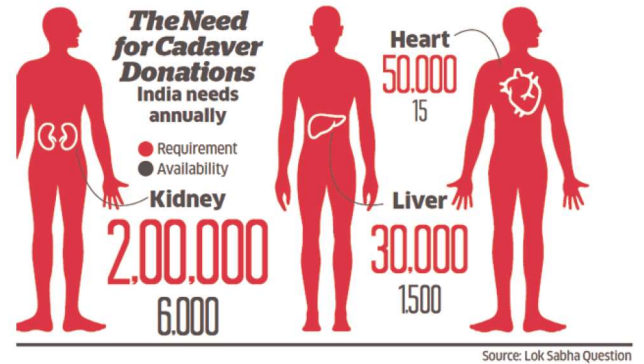
## Hunger Eradication & Healthcare:

- POSHAN Abhiyaan - 2018 → to fulfil the target of 'Zero Hunger' by 2030.
- Maternal Mortality Rate (MMR) decreased.
- Infant Mortality Rate also dec.



## Cadaver Donation :

- to encourage donation of bodies
- shortage of cadavers for academic & research purposes at medical colleges
- organ donation - feasible only from patients certified as brain stem dead.



## Dengue :

→ mosquito-borne tropical disease - Dengue Virus.

→ through infected *Aedes Aegypti*

↳ headache, retro-orbital pain  
muscle + joint pain, rash etc.

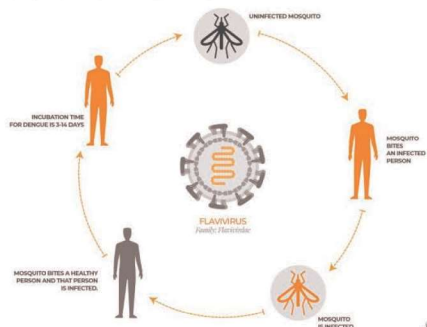
→ A person can be infected with Dengue multiple times in their life.

→ cyclical outbreaks → eg: once in 5 years in Tamil Nadu

→ Endemic in more than 100 countries across WHO regions - Africa, Americas, E. Mediterranean etc.,

### Dengue virus transmission

The dengue virus is spread through the bite of an infected female mosquito. Dengue cannot be spread directly from one person to another.

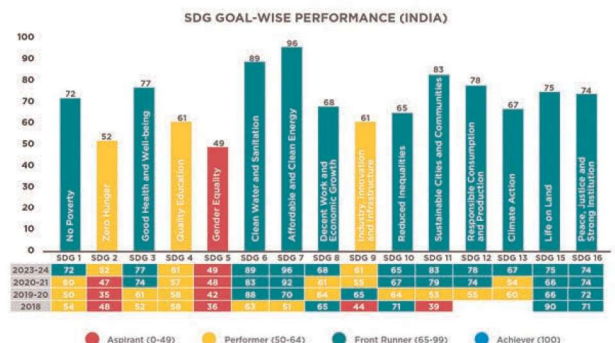


Source: World Health Organization | November 9, 2020

## India shows good progress on SDG's :

4<sup>th</sup> Evaluation Report → NITI Aayog

- To track India's progress on SDG's
- India - score of 71/100 (51/100 in 2013)
- Due to Public Health + Insurance coverage
- ↳ Health conditions have improved.
- ↳ Education ↑ - High teacher-student ratio.



2015.  
 SDGs: → 17 interconnected goals → est. by UN  
 as a part of 2030 Agenda  
 → implemented by NITI Aayog in India.  
 → born in UN conference on sustainable Dev in  
 Rio de Janeiro, 2012.



### Portrayal of disability in films:

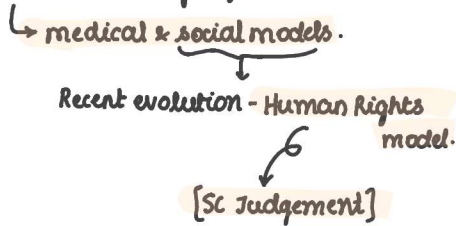
→ sc in recent landmark judgement - laid down comprehensive guidelines to prevent stereotyping & discrimination of persons with disabilities (PWDs).

in visual media  
 (Films & documentaries)

### Rights of Persons with Disability Act (RPWD) Act, 2017.

→ replaced the act of 1995.  
 → incorporates rights under UN Conv. on Rights of Persons with Disability (UNCRPD).  
 → Types of Disability → increased from 7 to 21  
 → central govt. has the power to add.  
 → 'Benchmark disabilities' → at least 40% of the disabilities specified.

### Two models under which disability rights are looked at.



### Provisions in constitution concerning Disability:

- ★ Article 41 - Directive Principles of State Policy (DPSP)  
 → secure work, education, public assistance - in case of unemployment, old age, sickness & disablement.
- ★ 7th schedule - state list - 'relief of the disabled & unemployable.'

### Centralized examination have not aced the test:

2017 - National Testing Agency (NTA) - est. by govt.  
 → to conduct entrance examinations for professional courses.  
 → conducts more than 15 entrance exams for higher edu. institutes.  
 → as autonomous, self-sustained organisation.  
 → NTA - registered as a 'Society' under the Indian Societies Registration Act, 1860.  
 → comes under the purview of Right to Info (RTI) Act.

### NEET-UG this year:

→ created dismay & a complete loss of Trust.  
 → flawed implementation, leakage of papers, grace marks, re-exams.

Schooling system: → academic competency, hard work, good values.

→ value of schools should be restored.  
 → need to safeguard merit.



## Sub-caste reservation:

↳ Dr. B.R. Ambedkar - 3 sets of policy measures namely - legal safeguards, reservation & economic/education empowerment complement to each other; not as substitutes.

→ Reasons (might be) - low education & lack of income earning capital assets.

Policy must be focussed on this.

↳ improving their capital assets & education & skill levels.

### Important cases:

- ★ E.V. Chinnaiiah vs. State of Andhra Pra. case (2006) - SC struck down Andhra Pra. des h SC h duk d caste (Rationalisation of Reservation) Act, 2000 - for violation of right to Equality → "SC list - single & homogeneous" & "only parliament has the power to classify SC & ST".
- ★ 2020-5: Judge Berch - "states could decide without tinkering the list".

## 106<sup>th</sup> constitutional amendment, 2023:

↳ provided for 1/3<sup>rd</sup> reservation of seats for women in Lok Sabha & state leg. assemblies

↓  
ensure fair representation of women in legislature

↳ gender sensitivity in parliamentary process & legislation.

→ after it becomes effective - reservation to be provided for 15 years

## Political Representation of Women:

- ↳ Recent general elections in UK - record 263 women MPs (40%) - elected to the House of Commons.
- ↳ S. African National Assembly - 45% women rep, U.S House of Representatives - 29%.
- ↳ New Zealand - first to grant universal women suffrage in 1893.

### Women Representatives in Independent India:

- ↳ Right to vote to all women - from the 1<sup>st</sup> general election in 1952.
- ↳ till 2004 - percent of women MPs in Lok Sabha - very low between 5% to 10%.
- ↳ state legislative assemblies - 9%.
- ↳ 73<sup>rd</sup> & 74<sup>th</sup> C.A.A → 1/3<sup>rd</sup> reservation for women in Panchayats & municipalities.

Now → 2024 → India ranks 113 in 'Monthly ranking of women in national Parliaments' by Inter-parliamentary Union

## What are the rules for TAs probationers:

Context: Ms. Pujja Khedkar - 2022 UPSC CSE exam

↳ daughter of a retired bureaucrat - also contested the 2024 general elections.

↳ fake disability & OBC certificates

↳ skipped six medical exams to prove her disability.

### UPSC norms:

- ↳ General category - 6 attempts till 32 years of age.
- ↳ OBC & PwBD reservation - 9 attempts - till 35 & 42 years respectively.
- ↳ SC & ST candidates - unlimited attempts till 37 years of age.

### How are documents scrutinised:

- ↳ UPSC - conducts exams & interviews
- ↳ candidates - submit documents supporting their claims for reservations - SC, ST, OBC, EWS & PwBD.
- ↳ first UPSC & then sent for medical checkup
- ↳ then to DoPT.

## DoPT denies service allocation to scientist with 'Muscular Dystrophy' who could clear UPSC exam:

↳ stark contrast of Ms. Pooja Khedkar case.

↳ 28-year old ISRO scientist → 'muscular Dystrophy'  
↳ cleared UPSC CSE - moved to CAT-central Administrative Tribunal.

↳ Reason by DoPT - candidate doesn't fulfil the physical standards required for the service.

For Ms. Pooja - Medical Board at AIIMS → declared her disability to be 41% - crossing the 40% criteria.

## 11.9 lakh excess deaths during pandemic?

↳ dismissed by Govt.

↳ excess deaths - means an increase in deaths due to all causes.

### NHFS survey:

↳ NHFS-5 survey used in calculation.

↳ But only 23% of households included in this analysis.

Increase is also due to → increasing trend of death registration in CRS (Civil Registration System).

### Covid's toll

The CRS report doesn't help yet as death registration levels aren't clear. WHO data due today will be the best way to estimate covid's true toll for now.

Registered deaths in million (% deaths registered\*)



States where deaths were least likely to be registered in 2019



\* This is the share of all estimated deaths that were registered with the local authorities. This estimate for 2020 has not yet been released by the government.

Source: Civil Registration System

## What is the Gender gap in Education:

WEF - Global Gender Gap Report, 2024 - ranks India 129/146.

↳ decline in education sector

↳ enrollment levels, adult literacy rate.

### Indian statistics data:

↳ school & college enrollment data → Unified District Information System for Education (UDISE+) & All India Survey on Higher Education (AISHE).

↳ Enrollment of girls in schools & colleges have inc.

### Incentive for education:

- ↳ building more schools.
- ↳ presence of women teachers.
- ↳ free bus passes, free cycles may help.
- ↳ proper sanitation measures.

## Will local job quotas pass the legal test?

↳ Karnataka State Employment of Local Candidates in Industries, Factories & other Establishments Bill, 2024.

↳ reservation for Kannadigas → 50% - managerial & 70% - non-managerial  
'local candidate' - Born in Karnataka, domiciled for atleast 15 years in the state, read, write & speak in Kannada.

### Similar laws in other states:

- (i) Andhra Pradesh Employment of Local Candidates in Industries/Factories Act, 2019 - 75% reservation for locals.  
↳ not implemented so far.
- (ii) Haryana State Employment of Local Candidates Act, 2020 - struck down by Punjab & Haryana court.
- (iii) Jharkhand - Consequential social, cultural & other benefits to such local persons Bill, 2022  
↳ 100% reservation for locals in class III & class IV employment.



## Constitutional issues:

Art 16 - Eq. of opportunity in public Employment.

Art 16(3) - allows Parliament - make laws prescribing residence as a requirement.

Art 35(a) - Parliament alone - has the power to enact a law as to a residential requirement.

## Reasonable accommodation & Disability rights:

Rights of Persons with Disabilities (RPWD) Act, 2016:

↳ Principle of Reasonable Accommodation (RA).

↳ equal rights to PwDs. → eg: Building ramps, prov. assistive techs etc.,

↳ to give effect to the United Nations Convention on Rights of Persons with Disabilities (UNCRPD).

↳ ratified by India in 2007.

In workplaces,

↳ reluctant to implement RAs.

Have to: sensitizing institutions, incentive & cost-sharing model by Govt.

Sec 86 of the RPWD Act, 2016 - National Fund for PwDs.

## 3 cancer drugs exempted from customs duty

Health sector - Key Takeaways: → ₹ 89,287 cr.

↳ Ayush ministry allocation ↑. ↳ 1.85% of Budget set to operationalise the Anusandhan National Research Fund. ↳ up from 1.76% in 2023-24. ↳ provisions for enhanced private-sector driven-research.

Unaddressed demands:

↳ demand to increase the GDP spend on healthcare to 2.5%. ↳ promotes medical value travel in India. ↳ Full input tax credit eligibility. ↳ rationalising GST with a uniform rate.

## Focus on uplift of tribal villages:

↳ announcement of PM Janjattya Unnat Gram Abhiyaan ↳ full saturation of basic facilities for STs. ↳ designed after PM-JANMAN - PVTG's.

Allocations:

↳ ₹13,000 Cr - Mo Tribal Affairs. ↳ an increase of 4.31%. ↳ More than half of the allocation - Eklavya model Residential schools. ↳ Mo Social Justice & Empowerment - ₹14,225.47 Cr - increase of 1.08%. ↳ National Fellowship of OBC students reduced. ↳ allocation under Interest subsidy on overseas studies for OBC & EBC students ↓.

Figure 2: Ministry of Health budget over the years (in nominal INR Cr.)

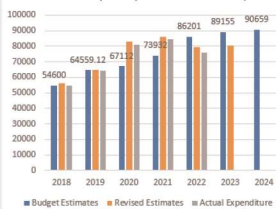
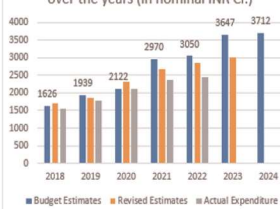


Figure 3: Ministry of AYUSH budget over the years (in nominal INR Cr.)



## Women-friendly schemes get a push:

↳ 3 lakh crore

### Announcements:

- ↳ Pension scheme - 'Vatsalya' - contributions from parents & Guardians.
- ↳ when child-attaining age of majority this will be converted to NPS account.
- ↳ Special working Women's hostels & cèches
- ↳ in collab with Industries - to boost women in workforce

### Marginal Dip:

- ↳ M. Women & Child Development - 0.03% ↓
- ↳ Significant allocation - centrally sponsored schemes.
- ↳ 'Samarthyaa' - women's hostels, 'Swadhaar Greh', PM Matri Vandana Yojana - inc↑.
- ↳ Saksham Anganwadi, POSHAN 2.0, Mission Vatsalya & Mission Shakti - ↑.

## MUDRA loans:

- ↳ upper limit doubled to ₹20 lakh - to promote entrepreneurship - 60% of whom in MSME sector are women.
- ↳ credit guarantee scheme for MSME - beneficial.

## For the social sector:

### Allocations:

- ↳ school Education & Higher education ↑.
- ↳ for MGNREGA - same.
- ↳ hardly an increase in food subsidy - despite expanding coverage in PDS & anticipated increase in the economic cost of food grains.
- ↳ National Social Assistance Programme (NSAP) - no change.
- ↳ ₹200/person since 2009.

### Employment challenge:

- ↳ PM's package for Employment & Skilling
- ↳ allocation not very impressive.
- ↳ private sector needs to spend money from CSR Funds.

## ILO - India Employment Report:

- ↳ India to move ILO for it's report.
- ↳ 'model' used wasn't suitable to assess India's situation.

### India Employment Report, 2024:

- ↳ By Inst. for Human Development (IHD) & ILO.
- ↳ 83% of unemployed workforce - youth of India.
- ↳ share of youth with higher education - doubled
- ↳ stagnant or declining wages.
- ↳ lack of necessary skills.

Govt. of India - Periodic Labour Force Survey (PLFS) has better data on India's situation.

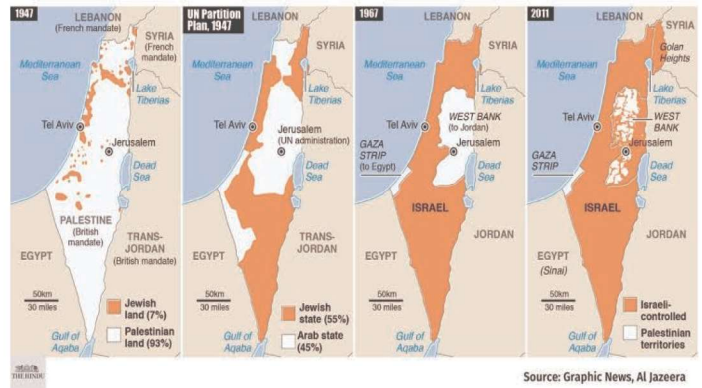


# International Relations

**ISRAEL-GAZA WAR:** → Oct 7, 2023.

**GAZA** → one of the most densely populated places  
 → a tiny Palestinian enclave (bet. Israel & Mediterranean sea.)  
 → under Israeli blockade since 2007.  
 → short southern border with Egypt (Rafah crossing).

How Israel expanded into Palestine



**Hezbollah** → Lebanon's powerful Iran-backed Shia militia.  
 → designated terrorist organisation by the U.S., the U.K., Israel, Germany, Australia etc.

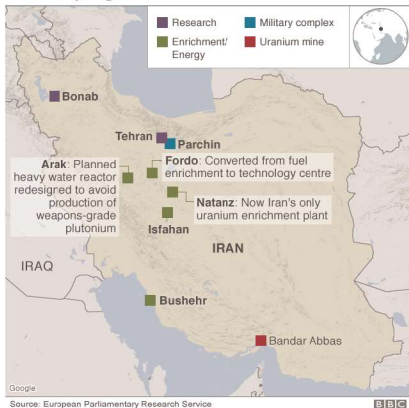
**Iran's Nuclear Programme:**

→ Enriching Uranium to weapons grade

**Iran Nuclear Deal, 2015:**

↳ also known as Joint Comprehensive Plan of Action (JCPOA)

Changes agreed under Iran deal to limit nuclear programme



**Before Oct 7, 2023 ;**

Abraham Accords, 2020 → U.S mediated-agreement between the UAE, Bahrain & Israel.

↓  
 later joined by Morocco + Sudan.

Beijing Accords, 2023 → china brokered peace move between Iran + S-Arabia.

↙ ↘  
 Shia-majority Sunni-majority

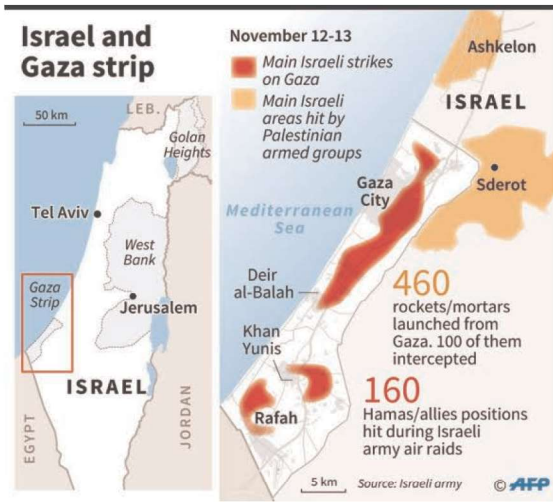
**Global Pressure on Israel:**

★ UNSC Resolutions → UNSC Res. 2728 - demands ceasefire

↳ UNSC Res. 2735 - immediate, full + complete ceasefire.

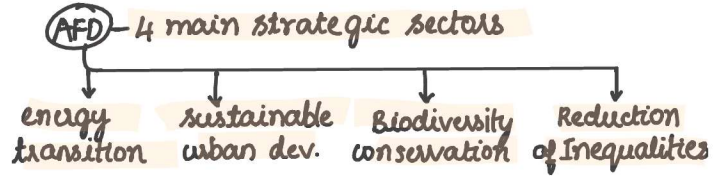
★ Genocide case on Israel by South Africa in International Court of Justice (ICJ).

★ Student protests in the west.



**India-France Relationship:**

Recent → Pune Metro - French Development Agency (AFD) operational arm of France's international partnership strategy



**Boost for bilateral ties**

The two nations agreed on a road map for defence industrial cooperation which will include jointly designing, developing and producing military hardware. Highlights of the agreement:

<p><b>HELICOPTERS</b></p> <p>The two countries will jointly produce a multi-mission helicopter, and Tata and Airbus Helicopters will partner to produce the H125 helicopters in India</p>	<p><b>SATELLITES</b></p> <p>The Indian gov't's public sector undertaking NewSpace India Limited, and French company ArianeSpace will cooperate on satellite launches</p>	<p><b>OTHER KEY AGREEMENTS</b></p> <ul style="list-style-type: none"> <li>Activation of five-year validity of Schengen visas for Indian students pursuing their master's degree in France</li> <li>Defence space partnership</li> <li>Joint research in clean energy</li> <li>Health care cooperation</li> <li>Collaboration in public administration</li> </ul>
<p><b>FIGHTER JETS</b></p> <p>French engine maker Safran to transfer 100% technology to build fighter jet engines in the country</p>		

Indo-French Horizon 2047: → 50 years of partnership.

↳ strategic roadmap to further strengthen bilateral ties in the next 25 years.

<p><b>Defence</b></p> <ul style="list-style-type: none"> <li>★ major arms supplier for India.</li> <li>★ collaboration in military aviation eg: IMRH (multi-role Helicopters) programme</li> <li>★ SAQAR, IONS, ReCAAP.</li> </ul>	<p><b>Space co-operation</b></p> <ul style="list-style-type: none"> <li>★ TRISHNA</li> <li>★ Gaganyaan</li> </ul>
	<p><b>climate change</b></p> <ul style="list-style-type: none"> <li>★ ISA - Int'l solar Alliance</li> <li>★ Indo-Pacific Parks Partnership.</li> </ul>

**Myanmar - Military Junta:**

conflict in Myanmar - Military Junta Vs Ethnic Armed organisations (EAO).

**India - Myanmar Relations:**

→ India's Neighborhood First Policy & Act East Policy.

→ Border: 1643 Kms - Arunachal Pr., Nagaland, Manipur & Mizoram.

5<sup>th</sup> longest

RECENT: Free Movement Regime (FMR) - upto 16km without visa - now scrapped.





↳ Provides Bay of Bengal connectivity & acts as a land bridge to the South-east Asian countries.

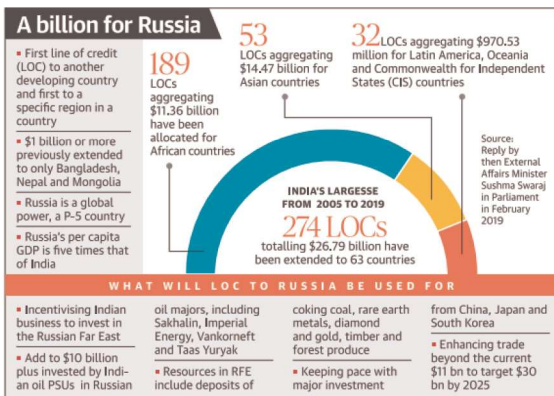
Issues India is facing now:

↳ Large Influx of Refugees  
 ↳ EAO's are supported by china.  
 ↓  
 trying to take control of the trading posts.



Also, India's line of credit 18n dollars to Russia.

↳ to develop the far-east region of Russia - Resource rich.  
 ↓  
 Chennai - Vladivostok sea route - proposed



Modi's visit to Russia: - July 9

↳ 22<sup>nd</sup> annual summit - one of the main focus - cooperation on nuclear power reactors in India.  
 ↓  
 Rosatom (cooperation) - built the reactors at Kudankulam, TamilNadu.

Russia → only foreign country operating nuclear power plants in India.

★ Russian imports >> Indian exports.

INDIA AND RUSSIA'S GROWING TRADE RELATIONSHIP



U.K General Election:

↳ Keir Starmer - Labour Party, has won.  
 ↓  
 His agenda - wealth creation for working class, taxing higher incomes, banning fossil fuel car sales by 2030, new border control strategy.

How different is UK's elections from India?

- ★ Parliament is supreme in UK, whereas constitution is supreme in India.
- ★ EVMs (Electronic voting machines) are used in India but in India, voting can be done through postal ballots.
- ★ PM in India can be from either house of the parliament; but in UK, PM can be selected only from the Lower House (House of Commons).

India - UK Roadmap 2030:

- ↳ signed in 2021.
- ↳ Elevated the relationship to 'comprehensive Strategic Partnership'

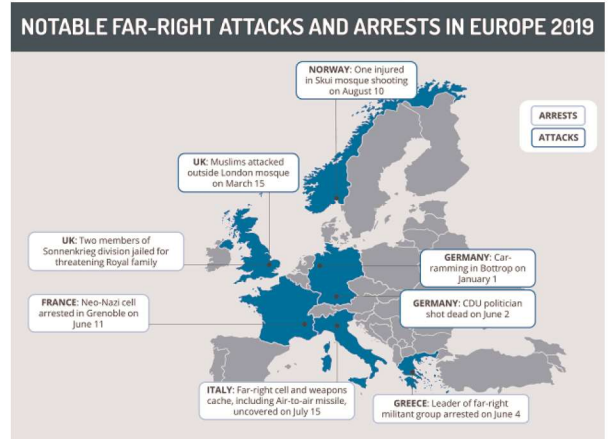


Neo-fascism haunting Europe:

What is neo-fascism ?

- ↳ arose in Europe - following WWII.
- ↳ advocated extreme nationalism

current far-right common motives → anti-immigration & Euroscepticism.

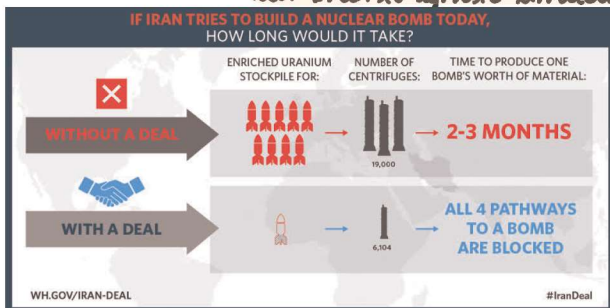


Election results in Iran:

- ↳ New President - Masoud Pezeshkian
- ↳ signals to revive 2015 nuclear deal.

Iran Nuclear Deal - Joint Comprehensive Plan of Action (JCPOA):

- ↳ signed in 2015
- ↳ placed significant restrictions on Iran's nuclear program
- ↳ US withdrew in 2018.
- ↳ led Iran to ignore limitations



Silver imports from UAE through GIFT city:

- ↳ disrupting traditional import practises.
- ↳ India levies a 15% import duty on silver.
- ↳ only allows institutions nominated by the RBI & DGFT to import silver.
- ↳ But, GIFT city Exchange - no limitations.

Source: Department of Commerce

Overall			From UAE		
	Value (\$mn)	% chg Y-o-Y		Value (\$mn)	% chg Y-o-Y
Jan'24	483.0	323.5	Jan'24	215.6	56,686.0
Feb'24	1,725.5	13,236.8	Feb'24	719.6	63,114.0
Mar'24	816.6	1,058.8	Mar'24	474.8	167,603.0
Apr'24	134.1	18.8	Apr'24	33.7	7,689.8
Total	3,159.2	918.0	Total	1,443.7	64,520.0



**Philippines - china :**

President of Philippines - Marcos Jr → Pro U.S  
 ↳ criticised china for it's coercive actions in South China Sea.

U.S in Philippines → Mutual Defense Treaty, 1951  
 ↳ The only U.S veterans Administration regional office outside U.S.  
 ↳ Important stakeholder of Indo-pacific strategy.  
 ↳ military activities in Subic Bay.



**Quad support to Philippines :**

- ↳ QUAD → India, Australia, Japan, U.S.)
- ↳ India - delivered 1<sup>st</sup> set of Brahmas launchers & missiles to Philippines. ↳ also gave full support to 2016 tribunal Ruling.
- ↳ Japan - help Philippines Coast Guard.
- ↳ Australia - 2<sup>nd</sup> largest bilateral grant aid donor.

**What Is The Quad?**

The Quad, officially the Quadrilateral Security Dialogue (QSD), is not a formal alliance. It is an informal strategic forum comprising four maritime democracies:  
**India, Japan, Australia and the United States**

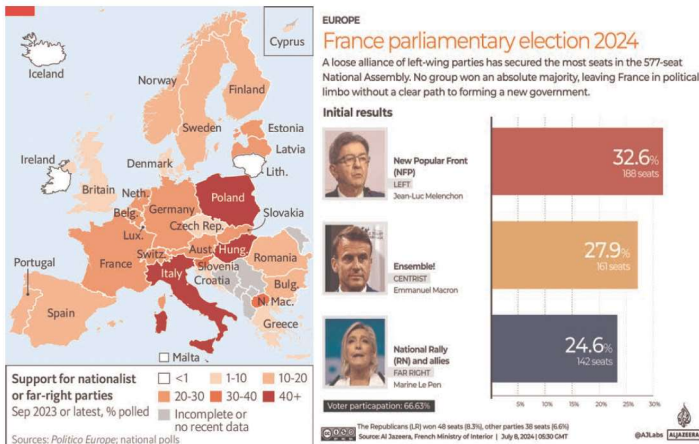
**PRIMARY OBJECTIVES**

Maritime security, addressing climate change, combating Covid-19 pandemic, among others.  
 The Quad is also seen as an attempt to counter the growing might of China

**Resurgent left in France:**

Political uncertainty in France.

↳ New Popular Front (NPF) - coalition of left parties (socialists, communists, ecologists, hard-left France unbowed).  
 ↳ Recent snap Election - No absolute majority (289 seats).



**Japan - Philippines defence pact :**

- ↳ allowing deployment of Japanese forces for joint drills.
- ↳ "Reciprocal Access Agreement" - also allows Filipino forces to enter Japan for drills.
- ↳ concerns over 'second Thomas Shoal' - South China Sea

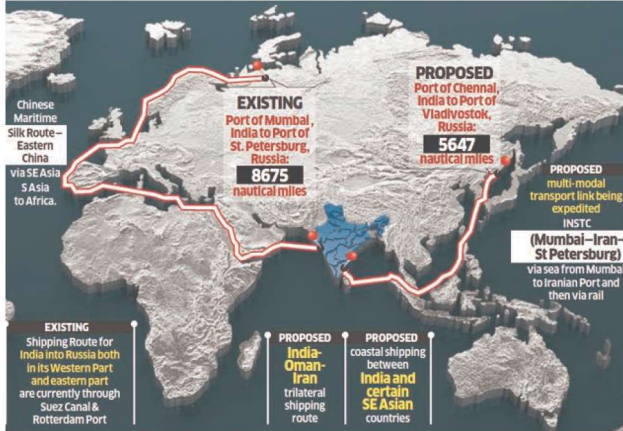
**Disputed claims in the South China Sea**



**Putin - Modi visit :** → 22<sup>nd</sup> annual summit.

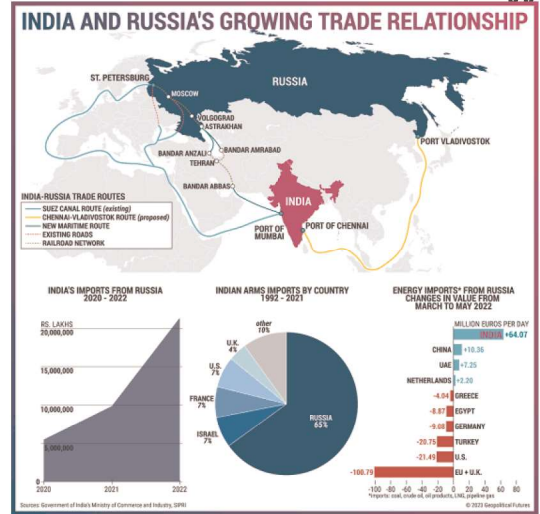
**Trade-related agreements :**

- agreed to increase bilateral trade to \$100 bn by 2030.
- New connectivity routes → Chennai - Vladivostok maritime route, Northern Sea Route (NSR) & International North-South Transport Corridor (INSTC)



Other mentions → request to open consulates in Kazan + Yekaterinburg.

- Also, PM accepted Russia's highest civilian honour → "Order of St. Andrew the Apostle".
- PM requested for early discharge of Indians hired as security helpers & forced to fight.
- 'Zero tolerance' towards terrorism → stressed for 'UN Global Counter-Terrorism Strategy'.

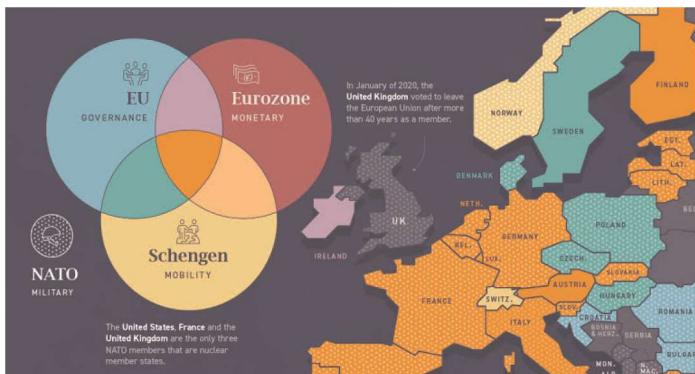


**Russia - Ukraine war :**

↳ Russia's recent missile attack.

- NATO → 1949-12 founding members - now 32 members.
- celebrates 75<sup>th</sup> anniversary in 2024.
- 'Collective Defense' - Art 5 of Washington treaty.
- Last member - Sweden 2024.

Recent NATO summit → Washington D.C. → extensively discussed Ukraine's potential membership.



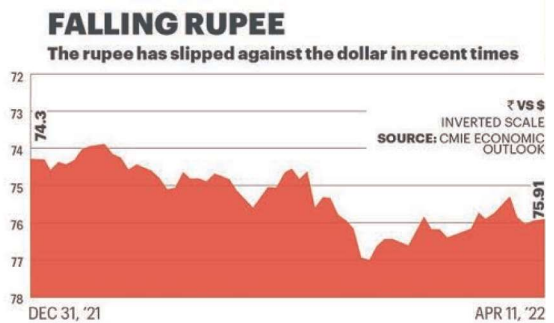
**Trade in National Currency :**

↳ India + Russia - decided to establish a system for national currency settlement.

**Rupee - Rouble Trade Arrangement :** → idea conceived in 1953 → Indo-Soviet Trade Agreement.

↳ an alternate payment mechanism - rupees instead of Dollars or Euros.

1953 Agreement - Art VI - All payments bet. India & the then Soviet Union may be made in Indian Rupees.





## India's visit to Russia: → "Strategic autonomy"

↳ coincided with NATO summit & deadly Russian missile strikes in Ukraine.

### 22nd India-Russia Annual Summit:

↳ PM conferred with Russia's highest civilian honour - "Order of Saint Andrew the Apostle"

↳ New Bilateral trade target - USD 100 Bn by 2030.

↳ Program 2030 - by India-Russia Intergovernmental Commission on Trade, Economic, Scientific, Technical & Cultural Cooperation (IRIAC-TEC)

### It still accounts for a majority of India's arms imports

(share in India's arms imports, %)

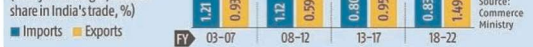
	1991-95	1996-2000	2001-05	2006-10	2011-15	2016-20	Total
France	4.7	3.9	3.2	0.8	1.5	18.4	5.6
Germany	9.2	4.3	0.9	1.5	0.8	1.7	2.2
Israel	0.0	2.9	8.2	5.2	4.9	13.4	6.5
Russia	62.1	71.4	74.2	75.7	69.6	49.4	66.5
South Korea	2.3	0.0	0.0	0.0	0.0	3.3	0.9
Ukraine	0.6	2.2	2.0	0.0	1.3	0.5	1.0
United Kingdom	9.1	4.1	2.6	6.0	3.7	1.7	4.0
United States	0.2	0.1	0.1	2.2	13.7	11.0	6.9

For 1991-95, Russia also includes share of Soviet Union

Source: SIPRI Arms Transfers Database

### India is shielded from trade impact

(five-year averages, Russia's share in India's trade, %)



FY22 data till December 2021  
Source: Commerce Ministry

## India hosts BIMSTEC foreign Ministers:

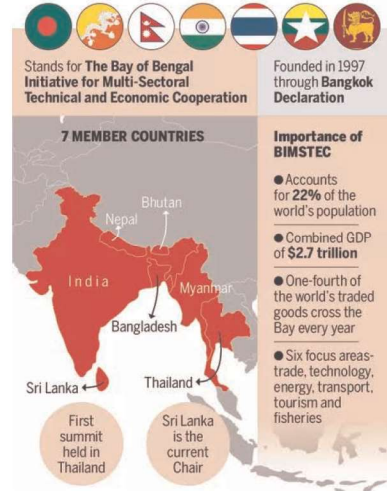
↳ formed in 1997 - Bangkok Declaration.

BIMSTEC: → regional organisation - 7 member states - Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka & Thailand.

BIMSTEC Charter: → May 20.

↳ BIMSTEC stands as a legal entity.

↳ BIMSTEC objectives.



## Bangladesh team explores Kolkata Port - Transshipment:

↳ visited the Syama Prasad Mookerjee Port & Haldia Dock complex.

↳ discussed at India-Bangladesh shipping Secretaries-level talks in Dhaka, 2023.

Syama Prasad Mookerjee port - strategic proximity to Bangladesh & the advantages of the Indo-Bangladesh Protocol (IBP) route.

'Oldest operating port in India.'

'Kolkata Port' - formerly known as 'Kolkata Port Trust.'

↳ Built by the British East India company in 1870.



## India-Russia → doubled Rupee-Rouble payments:

↳ 2024 - (despite sanctions by U.S. & EU).

↳ Rupee deposits by Indian corporates - inc. multifold in 2024.

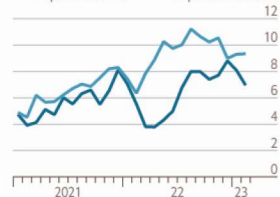
\* \$100 bn trade target by 2030 - set by PM Modi + Putin

↳ China-Russia Bilateral trade - \$240 Bn - also more evenly balanced.

### China has emerged as an important market for Russian goods

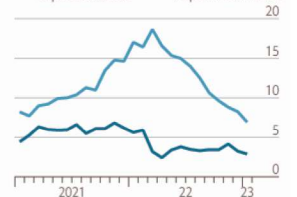
China's goods trade with Russia (US\$ bn)

Exports to Russia Imports from Russia



EU goods trade with Russia (€ bn)

Exports to Russia Imports from Russia



Sources: Chinese General Administration of Customs; Eurostat; Haver Analytics.

## India & a case for strategic autonomy:

India & U.S:  
 ↳ India's refusal to side with U.S w.r.t Russia on Ukraine War.  
 ↳ maintained its strategic partnership with Moscow.  
 'Neutral Position'

## Strategic autonomy:

↳ 'Sovereign in making their own decisions' that best serve their national interests.  
 ↳ Then PM Jawaharlal Nehru - Non alignment & Asian Solidarity.  
 stayed equidistant from both capitalist & communist blocs.

## Now → 'Global order is changing'

↳ China - 2<sup>nd</sup> largest economy in the world - strong competitor to America's primacy.  
 ↳ Russia - militarily challenging Europe.  
 ↳ West Asia - Israel (American Ally) & Iran (Strategic partner of Russia).

## Israeli occupation in Palestine 'illegal': ICJ

↳ Israel has not complied with ICJ Ruling - resisted calls to route the barrier along The Green line - The 1949 Armistice Line

## International Court of Justice: (ICJ) → 'World court'

↳ Principal Judicial organ of the United Nations.  
 ↳ est. in 1945 - charter of UN.  
 ↳ at The Peace Palace, in the Hague.  
 ↳ It is the only one out of the six principal organs of the United Nations - not located in New York.

### Israel-Palestine escalation

### Mapping Israeli occupation

According to Human Rights Watch, Israel - which calls itself a Jewish state - is committing 'crimes against humanity of apartheid and persecution' against Palestinians.

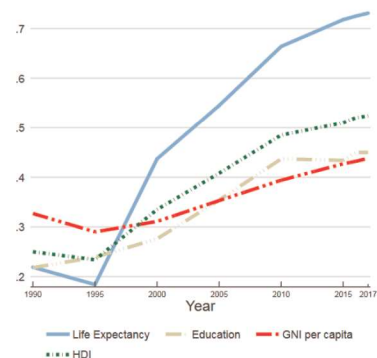


## Presidential election - Rwanda:

↳ Paul Kagame - 4<sup>th</sup> term  
 ↳ widely recognized for ending Rwanda genocide . 1994.  
 de-facto leader since 1994.

## Economic Development:

↳ healthcare sector & standards of medical sector.  
 ↳ Rwandan Education Quality Improvement programme.  
 ↳ Digital literacy for all by 2035.  
 ↳ To become a high-income country by 2050 } Goals



## Structure of ICJ:

↳ 15 Judges → term of office 9 years → 1/3<sup>rd</sup> of the court is elected every 3 years.  
 ↳ elected by UNGA & UNSC.  
 ↳ Judges are eligible for re-election.

## Functioning of ICJ: French & English - official language.

↳ Two types of cases: i) legal dispute bet. two member states - 'contentious cases'.  
 ↳ (ii) advisory opinions.  
 ↳ Judgement is final & binding (without appeal).  
 ↳ Not Binding.

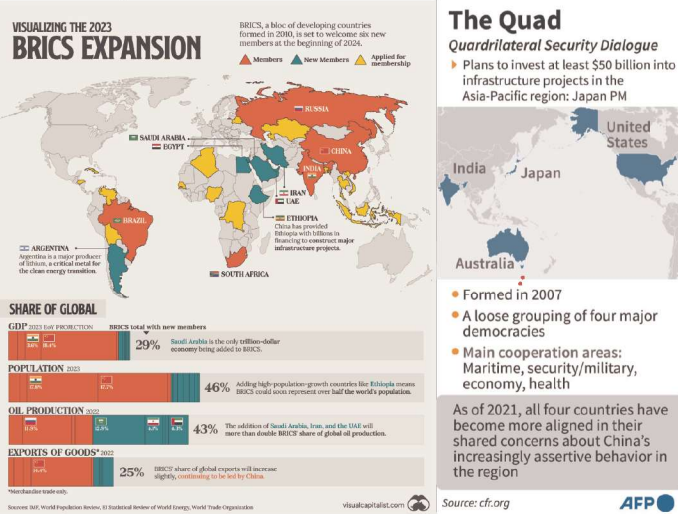


**The importance of both QUAD & BRICS:**

India and QUAD: → Quadrilateral Security Dialogue

‘Free, open prosperous Indo-Pacific.’

- United States, Japan, India & Australia formed in 2017.
- To counter presence of China in the region.



↳ India's vision - goes beyond - to broader architecture.  
↳ enhanced bilateral relations with QUAD partners.

BRICS & India: - [Brazil, Russia, India, China & S. Africa]  
↳ Expansion in 2023 - Johannesburg Declaration, 2023

Invited Argentina, Egypt, Ethiopia, Iran, S. Arabia, UAE  
↳ Argentina pulled out & S. Arabia - still not a member.

★ India - only common country to both QUAD & BRICS.

**On the student protests in Bangladesh:**

↳ against quotas for govt. jobs in Bangladesh.

↳ 73% - merits; 5% - freedom fighters & their descendants existed since the early 1970's.

↳ Quota for descendants of the liberation war triggered the clashes.

↳ a promise made by Sheikh Mujibur Rahman after the Bangladesh liberation war, 1971.

↳ also for women who were tortured by Pakistani soldiers.

↳ possibility of abuse of quota.

**Nepal, Sri Lanka, Seychelles - secure more fund:**

Allocations - M<sub>0</sub>EA:

- ↳ India funded projects in neighborhood - bulk of allocation.
- ↳ Nepal ↑ - ₹100 crore.
- ↳ Bhutan - dip in funding.
- ↳ Myanmar, Mauritius, Bangladesh & Mongolia - decrease in funding.
- ↳ Afghanistan & Maldives - same allocation.

## The 'geo-calculus' of the Moscow visit:

↳ PM Modi's visit to Moscow.

## Geo-economic context of the visits:

- ↳ Supply of discounted Russian oil to India
- ↳ Joint vision statement on trade by 2030 - circumventing western sanctions.
- ↳ Russia's Far-east - focuses on increasing energy supplies from Russia
  - ↳ Chennai-Vladivostok maritime corridor.
- ↳ India's new connectivity possibility to its east & Russia's North-sea trade route around the Arctic Region.

## Urgency in resolving stand-off at LAC:

- ↳ regarding the four-year old military stand-off.
- ↳ necessity to stabilize the relations - two most populous nations & two key economies.

## LAC [Line of Actual Control].

- ↳ only a concept; not agreed upon by two countries, neither delineated on a map or demarcated on ground.
- ↳ 3 sectors: Eastern, Middle & Western sectors.

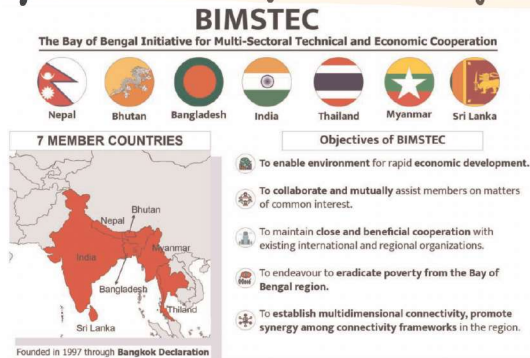


## A new push in the Bay of Bengal:

↳ India hosted 2nd BIMSTEC.

**BIMSTEC:** (Bay of Bengal Initiative for Multi-Sectoral Technical & Economic Cooperation).

- ↳ regional organisation - Bay of Bengal.
- ↳ 5 South-Asian; 2-South-east Asian countries
- ↳ Good ties with Bangladesh & Myanmar - advantage in N-Eastern region [landlocked]
- ↳ Good ties Myanmar & Thailand - profound presence in Indo-Pacific
- ↳ Neighbourhood First Policy + Act-East Policy + SAAR



## India - Australia Trade pact: → yielding great results.

- ↳ Economic Co-operation & Trade Agreement (ECTA).
- ↳ 2022.
- ↳ \$50 Bn bilateral trade in next 5 years.
- ↳ Indian exporters are being benefitted.
  - ↳ Iron & steel products, linens, agri-products & electrical conductors.
- ↳ Australia - exploring possibilities in building AmaraVati as its capital city.
- ↳ Australia exports - clean coal, critical minerals for green hydrogen, green battery manufacture, green steel, iron ore & solar panels.



## The problem with India's blocking of Chinese:

- ↳ After 2020 - visas to Chinese nationals fell.
- ↳ accusations by India - violating visa norms & laundering money to evade India's tax laws
- ↳ hectic screening procedures & conditions

## International Practices:

- ↳ East Asian Economic history - foreign knowledge is important - but adequate education for domestic workers - also important.

↳ CHINA CASE STUDY: Growth began in 1980's.

↳ 2018 - China's students - World's best in Programme for Intl. Student Assessment (PISA) → by OECD.

- ↳ weaker education base than Korea, but, good quality primary education led to rapid development.
- ↳ Interaction of domestic & foreign knowledge → led China to become 'Global manufacturing hub'.

## QUAD-end violence in Ukraine, Gaza & Myanmar:

- ↳ QUAD: India, US, Australia & Japan.
- ↳ intends to extend Indo-Pacific Partnership for Maritime Domain Awareness (IMPDA) to Indian Ocean region.
- ↳ regional maritime domain awareness in Pacific

IMPDA: → introduced at The Tokyo summit, 2022.

- ↳ monitor 'dark shipping' & promotes regional security.
- ↳ integrates 3 critical regions in Indo-Pacific - Pacific Islands, Southeast Asia & The IOR.



The Economist

## Venezuela election:

- ↳ Nicolas Maduro - won presidential election.
- ↳ But the opposition coalition rejects it.
- ↳ rejected the electoral council's votes count.
- ↳ Allies: China, Russia, Cuba, Nicaragua, Honduras & Bolivia.

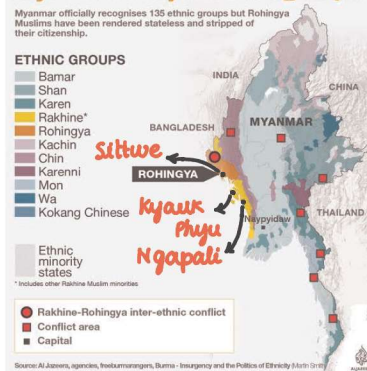


PYQ 2024

## The different armed groups of Myanmar:

- ↳ Myanmar's military coup, 2021.
- ↳ led to considerable gains by Ethnic Armed Orgs (EAO) & resistance groups like People's Defense Forces (PDF).

## Myanmar: Major ethnic groups



- ↳ Large parts of Rakhine province - Arakan Army.
- ↳ Rakhine Buddhist Ethnic group
- ↳ also seized port cities like Kyauk Phyu, Sittwe & Ngapali.
- ↳ oil & gas pipeline - run from Kyauk Phyu to Yunnan, China.

## Role of China & India:

- ↳ economic interests
- ↳ supports military & EAOs.
- ↳ Neighbour - peace & security
- ↳ Infrastructure projects - connects S-E Asia.

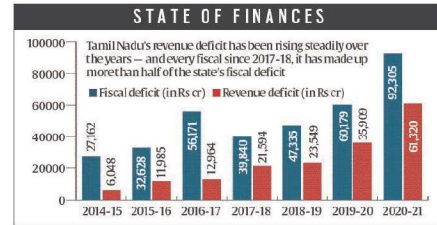
# Economy

x

# Agri

## TamilNadu - Finance

- \* Chennai Metro rail Phase 2 → 3 corridors, 119 km  
↳ approved by Public Investment board (PIB) as a Central sector Project, 2021.
- \* awaiting approval of Union Cabinet Committee on Economic Affairs (CCEA).
- \* Phase I - 50:50 centre-state equity sharing basis.
- \* Tamil Nadu → asked centre to merge cesses & surcharges with the basic rates of taxation.



## Public Investment Board: (PIB)

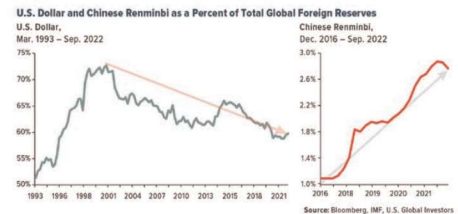
- ↳ Headed by Secretary (Expenditure)
- ↳ Dept. of Expenditure, Mo Finance.
- ↳ examines proposals for projects exceeding ₹500 Crore.

## Cabinet Committee on Economic Affairs (CCEA):

- ↳ Headed by PM.
- ↳ Discusses & evaluates economic affairs of the Govt.

## PetroDollar

- \* Fall in influence of US Dollar as world's Reserve currency.
- But,
- \* Increase in interest rate by Federal reserve - investments rush to U.S.
- \* China factor - winning alliances on global scale - eg. BRI, debt trap..
- \* But, china → Heavily restricted markets, low-quality exports etc.,





## 16<sup>th</sup> FINANCE COMMISSION:

→ chairman - Arvind Panagariya

→ established under Art 280 of the const, every 5 years.

## Finance Commission:

→ Chairman + 4 other members - all appointed by President

→ members are eligible for reappointment.  
Qualification of members - Parliament is to decide

★ 73<sup>rd</sup> & 74<sup>th</sup> Constitutional Amendment Act:

↳ has mandated FC to recommend measures to secure funds to Panchayats + Municipalities.

## Member of Parliament Local Area Development (MPLAD) Scheme:

↳ central sector scheme 1993

↳ Elected members of Rajya Sabha - may select works in one/more district(s) - in the state where they are elected.

↳ Nominated members of L.S & R.S - one/more district any one state in the country.

## AIRPORT IN HOSUR ?

→ 40km away from Bengaluru

→ ranked '13' - fastest population growth

## Hosur - An Industrial Hub:

→ many prominent companies  
flosiculture & Horticulture.

→ 2 phases established by SIPCOT.

## Civil Aviation Ministry's Guidelines

↳ Directorate General of Civil Aviation.

↳ For a Greenfield Airport - none should be allowed within 150 kms from an existing avilian airport.

↳ this application - first considered by steering committee - headed by Secretary of Civil Aviation

↳ atleast 15% of MPLADS fund - areas of SC population  
&  
atleast 7.5% → ST population

## How state's share was decided in the previous FC's?

### HOW THE BOOTY IS DIVIDED

#### FORMULA THAT DECIDES A STATE'S SHARE

##### Weight in 15th FC

2.5

12.5

15

10

45

Population

Area

Forest & ecology

Income distance

Demographic performance

Tax effort

##### Weight in 14th FC

27.5

15

7.5

50

\*17.5% according to 1971 population, 10% by 2011 population

#### STATES' SHARE IN DIVISIBLE POOL (%)

50

42

41\*

32

30.5

29.5

11th FC

12th FC

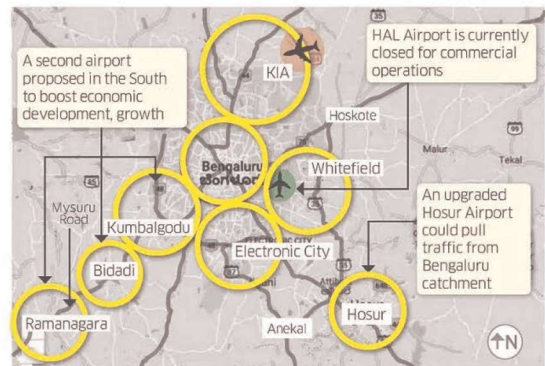
13th FC

14th FC

15th FC

\*Effective share does not change due to change in J&K status

Huddles → Kempegowda International Airport, Bengaluru.  
situated within 150 Km from Hosur



## Rural mobile connectivity:

### Cellular network

#### Access Network (AN)

- Base stations
- ↓
- wireless connectivity to devices in a limited geographical area
- 'coverage area'
- limited mobility

#### Core Network (CN)

- ↓
- provides connectivity to other networks such as Internet
- central location
- linked to a base station by an optical fibre link called 'backhaul'

### IEEE 2061 - 2024 standards:

- heterogeneous - Base stations of large coverage + smaller area WiFi networks.
- dev. by IIT Bombay.
- Focus: Affordable broadband access in rural areas

## Board of National Research Foundation:

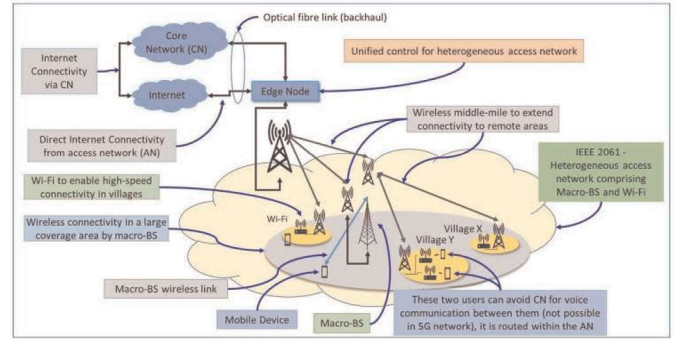
### Anusandhan National Research Foundation (ANRF):

- ↳ established by ANRF Act, 2023
- ↓
- to provide high-level strategic direction for research, innovation etc.,

### Governing Body: → 15-member body

- ↳ Headed by PM.
- ↳ PM can nominate upto 5 members from business orgs/industries, 1 from field of social sciences & humanity, upto 6 experts from science, eng & Tech.
- also may appoint a CEO-rank of Addl. Secretary or above.

IEEE-2061 Network (Frugal 5G Network)



### Middle-mile network:

- ↳ multi-hop wireless
- ↓
- to provide connectivity to areas where optical fibres aren't available.

## Semiconductor Ecosystem:

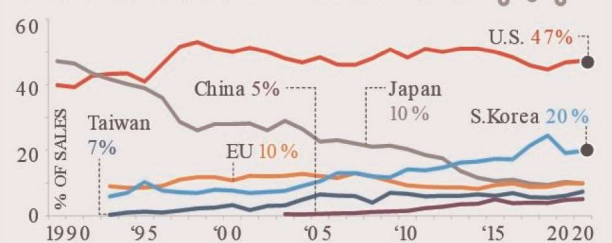
- ↳ Govt. initiatives - 75% of the cost is subsidised.

### Indian Semiconductor Mission: → 2021

- ↳ total outlay of Rs. 76,000 crore.
- ↳ under Mo Electronics & IT (MeitY).
- ↳ semiconductor wafer fabrication facilities

## Leading chip makers

U.S. firms form 47% of the global semiconductor sales in 2020. Japan's dominance has waned while South Korea's share has increased

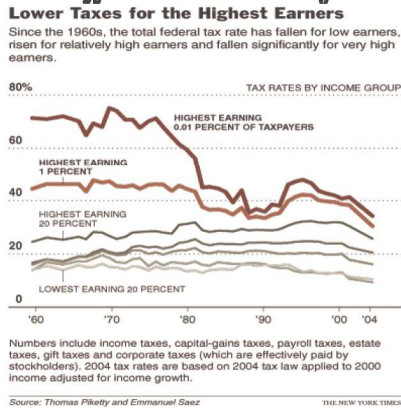


SOURCE: SEMICONDUCTOR INDUSTRY ASSOCIATION

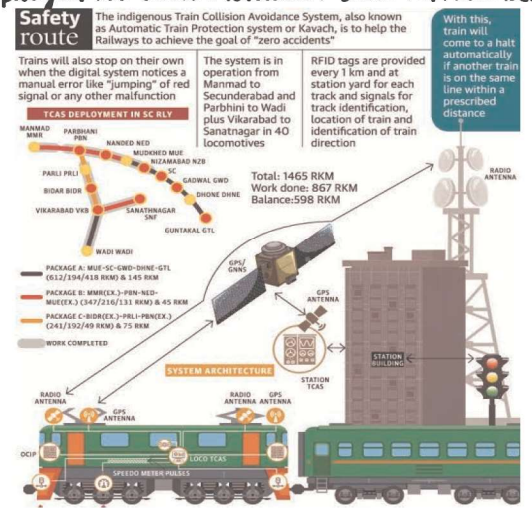


**Taxing wealth:** → Global Minimum Tax (GMT)  
 ↳ Internationally coordinated minimum tax standard.  
 ↳ to safeguard global tax revenue → proposed by Gabriel Zucman

**Global Tax Evasion Report, 2024:**  
 ↳ EU Tax Observatory  
 ↳ very low effective tax rates - for billionaires.



**Kavach System:** → dev by Research Design + Standards Organisation (RDSO)  
 ↳ indigenously developed Train Collision Avoidance System (TCAS).  
 ↳ Recommendation of Anil Kakodkar Committee 2012.  
 ↳ Highest Safety Integrity level (SIL) -4.  
 ↳ Kavach version -4 → currently under testing & to be deployed in Delhi-Mumbai + Delhi-Kolkata sections.



**PLI scheme for white goods:** → 2021 - DPIIT  
 ↳ to boost domestic manufacturing & to attract large investments  
 ↳ 4-6% Incentive on incremental turnover over base year 2019-20 of goods sold in India & abroad.  
 ↳ to eligible companies for a period of 5 years.

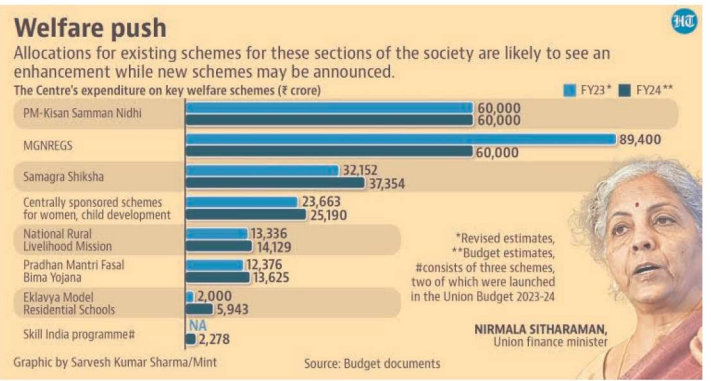
**What are white Goods?**  
 ↳ Large Home appliances - eg: Fridge, washing mach, etc.,

**DOMESTIC BOOST**  
**₹6,238 crore:** Incentives to be provided over five years for manufacturing of air conditioners and LED Lights  
**₹1.68 trillion:** Worth of production estimated in five years  
**₹4,500 crore:** Outlay approved for PLI scheme aimed at boosting solar equipment manufacturing  
**₹17,200 crore:** Direct investment expected in solar PV manufacturing projects over five years, besides direct employment of about 30,000



**Budget:** - July 23 - Final Budget for 2024-25.  
 ↳ Article 112 - 'Annual Financial Statement' (The word 'Budget' isn't mentioned in the Indian constitution)  
 ↳ Budget Division under Dept. of Economic Affairs (DEA), Mo Finance.

**FRBM targets:**  
 ↳ FRBM Act - 2003 → to reduce the govt. debt to 60% of GDP by 2024-25  
 ↳ 40% for central govt  
 ↳ 20% for state govt.



**Modi 3.0:**

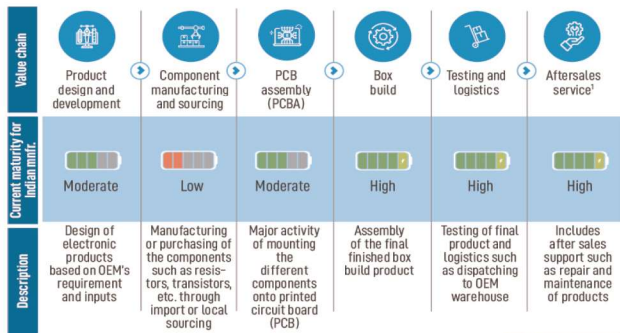
↳ 2014 → manufacturing as a % of GDP from 15% upto 25% by 2025.

→ World Bank data → manufacturing making up only 13% of GDP in 2022

**Domestic compulsions:**

- ↳ massive employment-creation requirement.
- ↳ Goods trade Deficit - increased imports.
- ↳ Service sector - substantial economic output, but employs fewer workers

**Electronics production value chain in India**

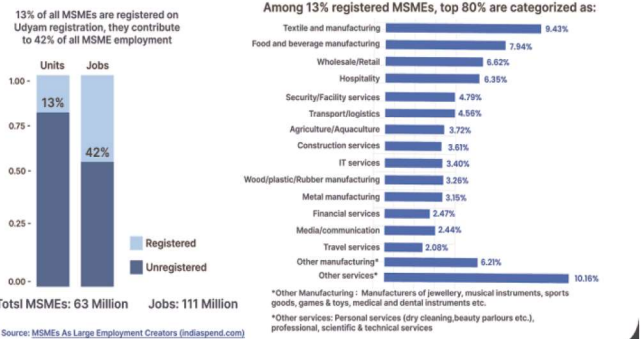


**MSMEs - Tech Upgradation - to aid Green transition:**

**Raising Employment:**

- ↳ exports - clocked a CAGR of 8.5% in last 6 years.
- ↳ demand from MSME sector - to extend the NPA timeline from 90 to 180.
- ↳ Credit Guarantee Scheme for micro & small Enterprises → should be revamped.
- ↳ Interest Equalisation scheme - should be extended for a period of 5 years.

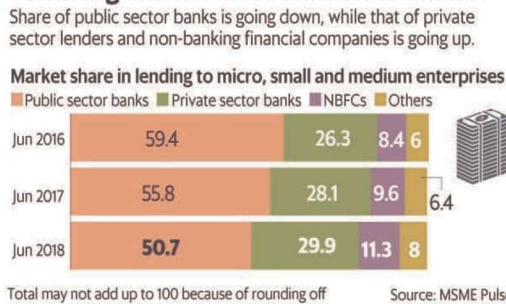
**MSMEs As Large Employment Creators**



**Green transition, R&D:**

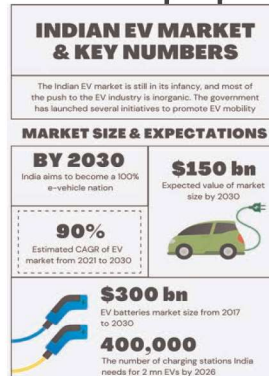
- ↳ increase soft funds - to aid green growth.
- ↳ R&D → International best practise - lower taxes or higher deductions on R&D expenditure.

**The rising share of NBFCs in MSME finance**



**India's EV Space:**

- ↳ 3<sup>rd</sup> largest automotive market.
- ↳ Import duty on Completely Built Units (CBU) - min. cost.
- March 2024 - new EV Policy:
  - ↳ A cap of 8000 imported EV's/year
  - ↳ 25% domestic value addition within 3 years.
- NITI Aayog Report:
  - ↳ Sharp decline in costs - prepone the EV adoption timeline
  - ↳ Certain cell components - require ↑ investment eg: Separators, copper foils etc.,



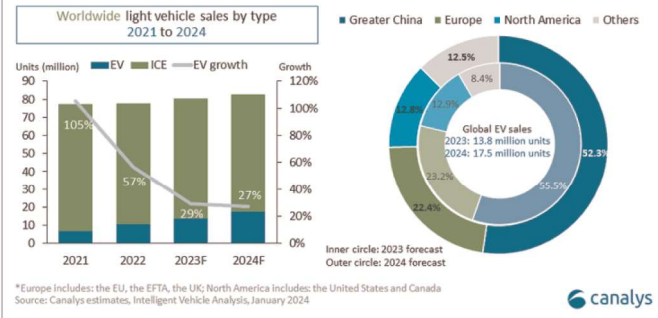


## Global EV Outlook, 2024 - International Energy Agency (IEA)

↳ Electric cars → 10% to 50% more expensive in Europe + U.S.

↓  
meets 20% + 30% of their EV battery demands through imports

### Global EV sales are expected to grow 27% in 2024



## Running on vegetable Protein:

Makhana (fox nuts) - comes from the bright purple flowers of the prickly water lily.

↳ Bihar produces 90% of India's Makhana



↳ mainly processed by the 'Mallah community' in Mithila region  
↳ good source of vegetarian protein - 10%

↳ contains 5/9 amino acids  
↳ Quercetin + Kaempferol flavonoids  
↳ protects against diabetes & obesity.



↳ 2022 - GI Tag - Mithila Makhana  
↳ Bihar Govt. - Makhana development scheme

↳ included in - One District One Product (ODOP) scheme.

↳ Other global producers - China, Pak, S. Korea, Japan.

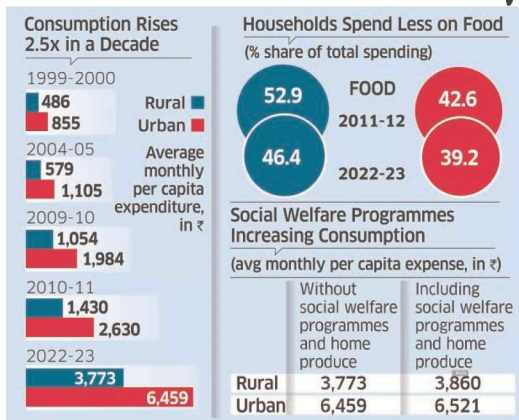
## PDS Impact on household Expenditure:

PDS (Public Distribution System) - crucial social security program.  
↳ 'food security'

National food security Act, NFSA, 2013: → covers upto 75% of rural & 50% of urban population

Household consumption Expenditure Survey (HCES): 2022-23

↳ data on household consumption.  
↳ includes food & non-food items received free



NSSO → detailed data → out-of-pocket Expenditure + free services in health + education.

↳ Imputation - free items (not subsidised); excluding PDS (regulated) in the HCES.

↓  
aiding in calculation of Monthly Per capita Consumption Expenditure (MPCE).

## Food spending

Share of cereals and food in average monthly per capita consumption expenditure decreased in both rural and urban areas



Period	RURAL		URBAN	
	% share of cereals	% share of food	% share of cereals	% share of food
1999-00	22.23	59.4	12.39	48.06
2004-05	17.45	53.11	9.63	40.51
2009-10	13.77	56.98	8.16	44.39
2011-12	10.75	52.9	6.66	42.62
2022-23	4.91	46.38	3.64	39.17

### India's net Direct Tax Collection:

- Slowed slightly from June to July. (but has increased overall in 2023-24).
- Surge in Personal Income tax (PIT), Corporate taxes, Securities Transaction Tax (STT).

Direct Tax: → paid directly to who imposed it (govt).

- "Progressive" in nature.
- Central Board of Direct Taxes (CBDT).
- eg: Property tax, Income tax, Gift Tax etc..



### NABARD's Agri-fund to promote Innovation:

- Rs. 150 crore.
- Agri-SURE → Agri-fund for Startups & Rural Enterprises
- to support 85 startups (25 crore each)
- Statutory Body, 1982 - by NABARD Act 1981.
- NABARD: → development bank → Rural sector.
- Hq: Mumbai.
- small Industries, cottage Industries, etc.
- supervises Co-operative Banks & Regional Rural Banks (RRB's).

### Agri-SURE - 'Agri Fund for Start Ups & Rural Enterprises'

Agriculture depends upon unpredictable elements like weather, market prices, and topography. New tech like AI and robots are changing farming for the better, just like they've changed other industries. To help these "Agritech" businesses, a new fund called **Agri-SURE** is launching soon. This **750 crore fund** will invest in innovative tech-driven ideas to improve agriculture and related fields. The government and NABARD will contribute 500 crore, and the rest will come from private investors. NABVENTURES, a subsidiary of NABARD, will manage the fund.

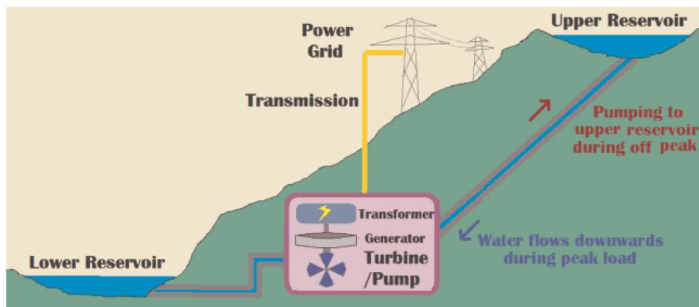
### Boosting Finance for Green Projects:

India's commitments → COP26 - 500GW of fossil-fuel free capacity by 2030 & net zero emissions by 2070.

Renewable Energy: → from natural sources (that are replenished at higher rate)

- requires capacity increase in India.
- needs storage → Intermittent nature of RE.

eg: River + off-River hydro-pump



Govt. Initiatives → like Green Bonds

- debt instruments to raise funds - clean energy projects.
- Recent: RBI allowed FII's to invest in Green Bonds.





## India's hunt for critical minerals :

Critical minerals - like copper, lithium, nickel, cobalt etc.,

- essential for the switch to green & clean energy.
- essential for economic development + natural security.
- M. Mines - 30 critical minerals in India.
- International Energy Agency (IEA) - lithium demand rose by 30% by 2023.
- Global critical minerals outlook 2024 Report - IEA.

## CRITICAL MINERALS

OUR GROWING DEPENDENCE ON CRITICAL MINERALS

WHAT ARE CRITICAL MINERALS? Minerals deemed critical vary by country. The United States classifies 35 minerals as critical because they are:

- essential to economic and national security,
- from vulnerable supply chains, or
- a key part of the manufacturing of a product.

TOP INDUSTRIES THAT RELY ON CRITICAL MINERALS

- 1 Telecommunications and electronics
- 2 Energy
- 3 Defence
- 4 Aerospace
- 5 Transportation

CRITICAL MINERALS ARE EVERYWHERE

  
Lithium is used to create batteries.

  
Potash is used in fertilizer.

  
Helium is used in MRIs.

  
Indium is used to make LCD screens.

  
Uranium is used in radiation therapy.

  
Strontium is used in fireworks.

## Critical mineral Production in India ?

PYQ 2023

- India - 11% of world's Ilmenite deposits.
- main source of Titanium Dioxide.
- lithium reserves - Jammu & Kashmir (JK).
- amended the Mines + Minerals (Development & Regulation) Act, 1957 - to grant mining concessions for critical + strategic minerals.

## Domestic Production ?

- not likely in the near future.
- Centre is looking to acquire overseas assets.
- ↓
- Lithium Brene - acquired in Argentina.
- ↳ by KABIL.
- India has also joined the U.S-led mineral security Partnership.

## Advances in technology & AI tools :

Thumbs-up emoji : (Canadian court).

- usage of thumbs up emoji - understood of acceptance of a contract.

Deals via messaging : → increasing in India.

- ↳ till now - only e-mails had evidentiary value.
- ↳ no knowledge body for governance of technology.

Impersonation of a person through AI :

- ↳ technological advances - voice replication using AI - Identity Theft
- ↳ can emerge as a major threat for corporates.

need investment in training & safeguard measures & liability insulation.

## Assam-Pineapple :

- humid tropical plant
- essential minerals & vitamins.

- widely grown in North-eastern states
- right amount of sunshine & tropical rain

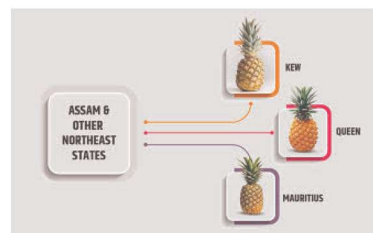
Most popular variety of Pineapples : (in Assam)

- ↳ Kew & Queen (widely grown).

Major Importers of Indian Pineapple :

- ↳ Nepal, Qatar, S. Arabia, UAE, Maldives.

Meghalaya → Fruit wine scheme.



### Financial transfers to different states:

14<sup>th</sup> FC - 42% of Union tax revenues to states

15<sup>th</sup> FC - retained the devolution, except JK, Ladakh

Tax revenue → diff. between the gross & net tax revenue

↳ collection costs, assignment to UTs & cess & surcharges.

↳ Grant-in-aid + statutory grant - recomm. by FC

### Public Expenditure:

↳ Two other routes of direct transfer to states:

non-statutory transfers

- ↳ Centrally Sponsored Schemes (CSS) & Central Sector Schemes (CSSS).
- ↳ accentuate inter-state inequality.

↳ 12.6% of gross tax revenue.

↳ tied grants.

Finance Commission: → Art 280 - every five years.

↳ recommends

- ↳ vertical devolution
- ↳ Horizontal dev. (PYQ 2023)
- ↳ Grants-in-aid.

### Trade Deficit widens - 9.4%:

↳ Imports outpace exports - even though total merchandise + services exports have hit a record high of \$200.3bn.

Imports: → gold imports fell but silver import has increased.

↳ electronic goods & pulses imports ↑.

Balance of Payment (BOP): - [economic status of a country]

current account (PYQ 2014)

[export + import of visibles (goods) & invisibles (services)]

capital account

[capital expenditure & receipt]

eg: Foreign loans, FDI, FPI, ECB (PYQ 2013)

Current Acc. Deficit: → Imports >> Exports.

↳ to reduce CAD

- i) Devaluing Domestic currency
- ii) Promote Foreign Investment
- iii) Productivity & competitiveness.

### ICAR release 323 new varieties of 56 crops:

↳ Indian Council of Agricultural Research (ICAR) - "one scientist, one product" programme.

↳ to improve research in field of agri & animal husbandry.

↳ includes climate-resilient varieties & bio-fortified varieties.

### 5-year Plan:

↳ scheme will work for 5-years.

↳ This year - seed hubs for high-yielding oilseeds & pulse varieties are prioritised.

### GTRI - rise in precious metals under UAE FTA:

↳ Global Trade Research Initiative (GTRI) - inc. in import of precious metal from UAE under FTA

↳ impacting domestic Jewellery ind.

### India-UAE Comprehensive economic partnership agreement (CEPA):

↳ covers trade in goods, services, investment etc.

↳ first deep & full-fledged FTA signed by Ind.

↳ major imports from UAE - crude oil, gold, pearls & precious stones etc.

↳ CEPA allows unlimited import of gold, silver, Platinum, Diamonds - with 0% tariff in coming years.

↳ major imports coming from GIFT city - has transparency issues.



### Karnataka hosts jobs Bill :

- ↳ mandating reservation for locals - temporarily withheld.
- ↳ Karnataka State Employment of local Candidates in The Industries, Factories & other Establishments Bill, 2024.
- ↳ locals in 50% - management positions.
- ↳ 70% - non-management posts.

### Constitutional provisions concerned:

- ★ Art 14 - Equality before law.
- ★ Art 15 - Prohibition of Discrimination based on religion, race, caste, sex or place of birth.
- ★ Art 16 - Equality of opportunity in Public Employment.

SC - Indira Sawhney case, 1992 - "total reservations should not surpass 50% of available seats or posts."

### Technology - easing burden & efficiency:

- ↳ Annual survey of unincorporated sector enterprises (ASUSE) - just 21% used Internet for entrepreneurial activities.
- ↳ ILO's India Employment Report - warned that the share of manufacturing employment was stagnant.

### Solutions?

- ↳ To stop job losses & create more work.
- ↳ more public & cooperative investment to industrialise agricultural production.
- ↳ Redesigning growth model with job creation at its centre.

★ Technological unemployment - loss of jobs due to changes in technology.

### Choosing the right track to cut post-harvest losses:

- ↳ India - ranks 2<sup>nd</sup> in global agricultural production.
- ↳ but only 3<sup>rd</sup> in global agri exports.
- ↳ low productivity, inability to meet desired quality standards, supply chain, & post-harvest losses.

### India's post-harvest loss: → time-shortage.

- ↳ Perishables - includes egg, fish & meat, fruits & veg.
- ↳ Committee on Doubling Farmer's Income - strengthening of agro-logistics as priority.
- ↳ small production & lack of assured market connectivity
- ↳ 97% fruits & veg - transported by road, 90% of food grains - by Railways (FCI).

### Initiatives by the Railways:

- ↳ During covid-19 - 'Parcel Special trains' - to transport perishables & seeds.
- ↳ Kisan rails - perishables production regions - consumers

### Indian Railways relaxes rules of 'Make-in-India':

- ↳ to procure Very High Frequency (VHF) communication system
- ↳ due to acute shortage of walkie-talkie sets.
- ↳ caused the tragic Kanchanjunga train crash - Darjeeling Dt - Jun 17.
- ↳ without proper walkie-talkies → loco pilots & train managers - communicate through mobile phones - against the rules.



## Elevating India's capital goods:

### Electronics market:

- Global market - \$6.1 trillion by 2030.
- India's electronic production - grew 4 times in past decade.
- machinery, tools, & equipments that drive production.
- focus: unique, cutting-edge solutions
  - significant investment in R&D.
  - encourage innovation & protect IPR.
  - need a dedicated centre focused on innovation of capital goods.

### Fostering R&D:

- India's robust IPR protection.
- Indigenous technologies - International standards.
- dedicated funds.
- strong collaboration bet academia & industry.
- Govt policies - support the growth.

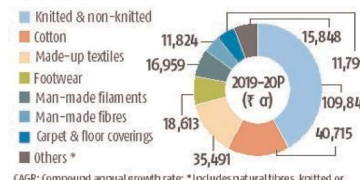
## India's garment export: → Reduced comparing 2013-2024

### What are the reasons?

- High duties & barriers on Raw materials imports.
- difficult customs & trade procedures
- Failure of Production Linked Incentive (PLI) scheme for textiles.
- Recent Quality Control orders (QCOs) - issued for fabric imports
- Procedures by Directorate General of Foreign Trade & customs - old



### STITCHING UP



CAGR: Compound annual growth rate; \*Includes natural fibres, knitted or crocheted fabrics, woven fabrics, non-woven yarns, textile fabrics & articles for industrial use, woollen yarn & fabric, and silk. Source: DGFT

### INDIA EXPORTS

Textiles & allied products (figures in \$ billion)

FY10	23.27
FY11	28.66
FY12	34.13
FY13	32.88
FY14	36.96
FY15	37.14
FY16	35.95
FY17	35.76
FY18	36.04
FY19	36.88
FY20 (P)	33.71

P: projected Source: Commerce ministry

## Gig-based work:

Karnataka govt - intent to introduce a legislation for the welfare of gig workers.

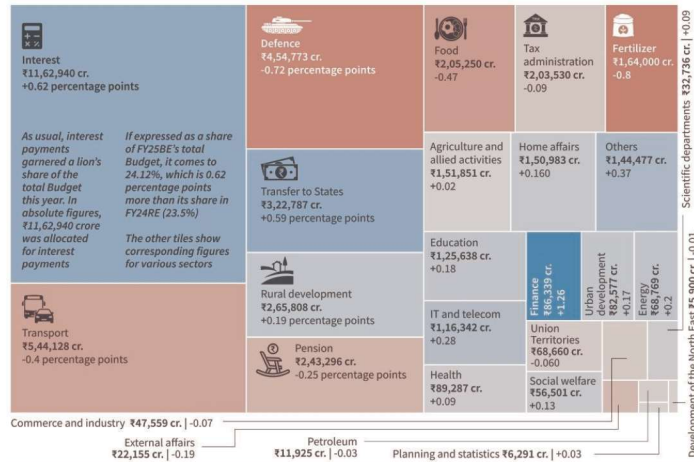
- Algorithm & managers: The Bill recognises the pervasive role played by algorithms
- No flexible work arrangements - Bill introduces fair contracts, income security, right to refuse work
- No social security - The Bill has made mandatory social security requirement that can assist workers.

### India's stand:

- added gig workers - 'code on Social Security'.
- Rajasthan - 1<sup>st</sup> state to pass a legislation on gig workers.

## Budget breakdown

The outlay for the transport sector (apart from interest payments) formed the bulk of the expenditure in FY25BE. However, transport's share in total Budget came down by 0.4% points from last year (11.69% in FY24RE to 11.29% in FY25BE). The graphic depicts budgeted expenditure (₹ crore) and the change from FY24RE in percentage points



SOURCE: THE FIGURES ARE SOURCED FROM 'THE EXPENDITURE OF MAJOR ITEMS' PAGE WHICH FEATURES IN THE 'BUDGET AT A GLANCE' DOCUMENT



## Cenise slashes customs duty - textile & leather:

for some items in the textile & leather sector.

to enhance the competitiveness of exports -  
Basic Customs Duty (BCD) ↓  
duty on wet white, crust, & finished leather  
for export - brought down to nil from 10%.

Costlier	Cheaper	
 Ammonium Nitrate	 Cancer drugs	 Fish and shrimp feed
 PVC Flex banner	 Medical X-ray machines	 Leather goods
 Imported telecom equipment	 Mobile phones, chargers	 Gold, silver, platinum making charges
	 Equipment using solar cells, panels	 Textile
		 Footwear

THE HINDU

## An outlining of urban transformation strategies:

### Issue of housing:

↳ cities - 36% of India's population → urban pop. ↑  
↳ PM Awas Yojana (urban) - 2015 - 85 lakh housing units for EWS - Middle Income Groups (MIG)  
↳ further push - construction of another 1 crore such units.

### New Plan in The Budget:

↳ new rental housing - dormitory-type accommodation for industrial workers.  
↳ as PPP mode - with upfront financial support under the viability gap funding (VGF).  
↳ cities - Atal Mission for Rejuvenation & Urban Transformation (AMRUT) - VGF window.  
↳ Smart Cities Mission - 2015 → scaled down.  
↳ National Urban Digital Mission (NUDM) - new window - digitisation of property & tax records & their management - GIS mapping.

## Development of cities:

↳ focus: planned development of cities.  
↳ economic & transit planning.  
↳ encouraging electric bus systems for cities.

## Solid Waste Management: (SWM)

↳ special thrust - bankable project for SWM

### Other:

↳ Street Vendors Act, 2014 → street-vending plans & street-vending zones.  
↳ Budget - proposed to develop 100 weekly 'haats' or street food hubs.

## Simplification & rationalisation of tax structure:

↳ withdrawn equalisation levy of 2% on e-comm transactions - in the interest of OECD BEPS.  
↳ initiative to create an international framework to combat tax avoidance.  
↳ Angel tax has been abolished.

### Other:

↳ Raising the standard deduction, inc. the tax slabs, increasing the deduction for family pension & NPS - positive steps.  
↳ Digitisation of major taxpayer services.

### Customs duty rates:

↳ rationalisation, simplification.  
↳ focus on promoting domestic manufac.

## States have unlimited right to tax mineral-rich lands:

- ↳ Supreme court - 'Parliament cannot limit the power of state legislatures to tax bearing lands & Quarries.'
- ↳ 'Federalist principles of governance' through the Mines & Minerals (Development & Regulation) Act of 1957.

## States power:

- ↳ power to tax mines & quarries under Art 246 read with Entry 49 [tax on land & buildings] 7<sup>th</sup> schedule - state list.
- ↳ Entry 50 - allows Parliament to impose restrictions
- ↳ But, SC - Entry 49 & 50 - different subject matters.
- ↳ Power to tax mineral rights in list II.
- ↳ Parliament cannot use its residuary powers w.r.t. This subject power.

## India's illegal coal mining problem:

### Coal in India - nationalised in 2 phases:

- (i) Coking coal - 1971-72 → used in steel industry
- (ii) Non-coking coal mines - 1973.
- ↳ The coal mines (Nationalisation) Act, 1973 - central legislation - determines eligibility for coal mining in India.
- ↳ state list subject.

## Illegal mining:

- ↳ abandoned mines, shallow coal seams
- ↳ high demand for power & high demand for coal.
- ↳ rudimentary techniques → surface mining, rat-hole mining.

## Revamped Model skill loan scheme:

- ↳ hiking the eligible size of loans for high-skill courses.

### Previous scheme:

- ↳ Credit Guarantee scheme for skill Development
- ↳ 2015 - low fund uptake & not inflation indexed.
- ↳ low ticket size of loans - upto ₹1.5 lakh.

### New scheme:

- ↳ lending network broadened - from IBA only to NBFC & SFBs
- ↳ more skill courses.
- ↳ maximum loan limit increased to ₹1.5 lakh from previous ₹1.5 lakh.

## Should India focus on Natural Farming?

### National Mission on Natural Farming: (NMNF)

- ↳ motivating farmers to adopt chemical-free & natural farming
- ↳ will require a behavioural change from chemical to cow-based & locally produced inputs.
- ↳ under 'Bharatiya Prakritik Krishi Paddhati'



### COMPONENTS OF NATURAL FARMING



#### Beejamrit

The process involves treatment of seed using cow dung, urine and lime based formulations.

#### Jivamrit

The process enhances the fertility of soil using cow urine, dung, flour of pulses and jaggery concoction.

#### Whapasa

The process involves activating earthworms in the soil in order to create water vapor condensation.

#### Mulching

The process involves creating micro climate using different mulches with trees, crop biomass to conserve soil moisture.



#### Plant Protection

The process involves spraying of biological concoctions which prevents pest, disease and weed problems and protects the plant and improves their soil fertility.



## Natural Farming: → 'agro-ecology'

- ↳ no chemical fertilisers / pesticides used.
- ↳ traditional methods → on-farm biomass recycling → Biomass Mulching.
- ↳ Improves natural-nutrient cycling & increase organic matter in the soil.
- ↳ restore soil fertility & environmental health.

## Zero Budget Natural Farming (ZBNF): → 'Subash Palekar'

- ↳ Andhra Pradesh - forerunner.
- ↳ introduced in Budget 2019-20.
- ↳ seeks to reduce input costs to 'zero' - rely on natural products available locally.
- ↳ Soil aeration, minimal watering, Intercropping, Bunds & Topsoil Mulching.
- ↳ promotes: Jivamrita, Bijamrita, Acchadana & Whapasa.

## What's the Budget push for infrastructure?

↳ 3-4% of GDP - 2024-25 Budget.

### Sectors on the Radar:

- ↳ Bulk of expenditure - Transport sector
- ↳ Signalling & Telecom work (eg: KAVACH) & power sector allocations have increased.
- ↳ civil aviation - decline; shipping - stagnant.

### Progress on Roads:

- ↳ Economic survey 2024 - national Highways grew 1.6% time - 2014-24.
- ↳ 'Bharatmala Pariyojana' - expanded road network - high-speed corridors & 4-lanes
- ↳ 11 Industrial corridor projects - phased manner.

Railways: → capital expenditure inc. by 71% in past 5 years.

- ↳ long-haul freight transportation through roads - costlier - than Railways.

## Are enough formal jobs being created:

### Current state of Employment:

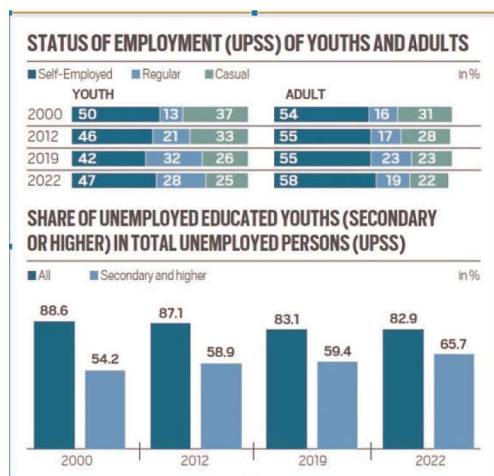
- ↳ India's workforce - 45% employed in agriculture, 11.4% manufacturing, 23.9% in services, 13% in construction.
- ↳ 1 in 5 people in workforce - unpaid labour - household enterprises.
- ↳ urban unemployment rate - 6.7%, youth unemp. 10% in 2022-23.

### Schemes:

- ↳ 3 schemes - employment-linked incentives
- ↳ 1st scheme - support hiring of 1st time emp. with a wage subsidy of upto ₹15,000
- ↳ 2nd scheme - 1st time employees - manufacturing sector - paid for 4 years. with a max incentive - 24% of a ₹25,000.
- ↳ 3rd scheme - not necessarily 1st times - 12mb. ₹3000 of their monthly EPFO contri.

→ 4th scheme - aims to upgrade Industrial Training Institutes & boost skilling

→ 5th scheme → on-the-job skilling & 1 crore youth to be given internships in top companies.



## CITES eases norms for agarwood export:

prevented from the inclusion to - Review of Significant Trade (RST) of CITES.



→ cultivated especially in the northeastern states.



→ listed in Appendix II of CITES in 1995.

→ highly valued for its distinct aroma & oil.

Non-detriment findings (NDF) of Botanical Survey of India (BSI) & MoEFCC:

harvest of plants - allowed from home, community gardens, plantations etc.,

↳ but not from wild populations.

CITES - notified a new export quota for agarwood wood & oil.

## Can states tax mining activities?

↳ Recent landmark Ruling: states have the legislative authority to impose taxes on minerals - in addition to royalty by centre. This right is not constrained by Mine & Minerals (Development & Regulation) Act, 1957.

Case: 'Taxes & Royalties'

↳ Sec 9 of 1957 act - royalty to be paid by leaseholder to who leased them, for any mineral removed.

↳ 'India Cement Ltd & Tamil Nadu Govt.'

↳ paying royalty      ↳ additional tax.

↳ 1989 - 'India Cement Ltd Vs. State of TN' - said, states only have power to collect royalties & not impose taxes on mining activities.

Entry 50 of state list - states - taxes on mineral rights.

Entry 54 of Union List - Centre - regulate mines & minerals. States have the power to impose taxes on mines & quarries - Art 246 read with Entry 49

## New Discoveries in 2023

★ Total of 641 species - added to Indian fauna in 2023.

★ Among them are -



i) Cusuma kakchingense (Turmeric plant)

ii) Manipur, India.

iii) Robust, eight feet tall &

has large terminal inflorescence.

★ Himalayan Ibex: → in the trans-Himalayan ranges of Jammu & Kashmir, Ladakh & Himachal Pradesh. distinct from Sibirian Ibex.



# Environment

## &

# DM



★ *Miniopterus srinii* - Kodagu, Karnataka

**INDIA'S 5TH BENT-WINGED SPECIES**



- New species, a bent-winged bat, named *Miniopterus srinii* Srinii Srinii
- Species named after C. Srinivasulu, renowned bat biologist at OU
- Species discovered by OU's Dr Bhargavi Srinivasulu & her son Aditya from University of Reading, UK
- New species morphologically resembles known species but differs from it genetically
- Earlier, 4 species of bent-winged bats were known to be in India
- With this discovery, number has increased to 5

★ *Animal Discoveries 2023* - annual publication by the Zoological Survey of India.

★ MoEFCC → 'Fauna of India checklist Portal'  
 ↓  
 Endemic, threatened & scheduled species.

**India's climate Agenda:**

India → International Solar Alliance (ISA) & Coalition for Disaster Resilience Infrastructure.  
 → G20 presidency - Global Biofuels Alliance etc.,.

**International Solar Alliance (ISA):** → 2015.  
 ↓  
 RECENT  
 ↓  
 Paraguay  
 ↓  
 100<sup>th</sup> member

→ Jointly launched by India + France.  
 @ COP 21 of UNFCCC, 2016 (for signatures).  
 → 1<sup>st</sup> International Inter-govt org to be headquartered in India.

**PM Modi's 10-point action plan to promote solar power**

Prime Minister Narendra Modi on Sunday listed out 10 action points at the founding conference of the International Solar Alliance, to bring about a solar revolution worldwide. They include:



- ▶ Ensuring that cheap and improved solar technology is easily available
- ▶ Increasing the percentage of solar energy in countries' national energy mix
- ▶ Encouraging innovation for development of solutions to problems/challenges
- ▶ Ensuring concessional and risk-free funding for solar projects
- ▶ Developing regulatory aspects and norms to speed up adoption of solar technologies, solutions
- ▶ Consultancy support for bankable solar projects in developing nations
- ▶ Ensuring efforts to propagate solar revolution stress on partnerships and assimilation
- ▶ Ensuring creation of a network of centres of excellence that takes into account local circumstances and factors
- ▶ Ensuring solar energy policies are seen in the context of development that will help in achieving Sustainable Development Goals.
- ▶ Making the ISA secretariat a strong and professional body

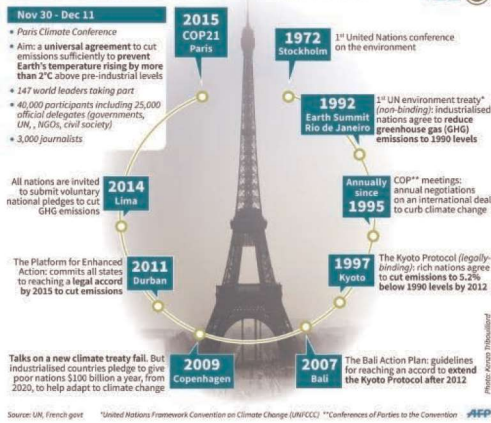
**India - next 5 years:**

- "Go Higher" - Global leadership
- "Go wider" - sectoral emission reduction targets.
- "Go Deeper" - Sub-national climate action.

**Gharials:** - Repopulating Bishmaputra.

- one of the largest crocodilian
- uniquely long + thin snout.
- India → Gharials - Critically endangered
- Mugger crocodile - Vulnerable.
- Saltwater crocodile - least concern.

**Climate change: the long road to a global deal**



**CROCODILIANS OF INDIA**

<p><b>SALTWATER CROCODILE</b> (<i>CROCODYLUS POROSUS</i>)</p> <p><b>AKA:</b> Salties</p> <p><b>LIFESPAN:</b> 40-70 years</p> <p><b>SIZE:</b> Male: 4.3-5.2 m; Female: 2.5-3.1 m</p> <p><b>HABITAT TYPE:</b> Brackish mangrove swamps, river deltas, coastal lagoons, and estuaries.</p> <p><b>RANGE IN INDIA:</b> Odisha, West Bengal, Andhra Pradesh, Tamil Nadu, Andaman and Nicobar islands.</p> <p><b>THREATS:</b> Illegal hunting, habitat loss, predatory killing, eggs stolen and eaten.</p> <p><b>LICN STATUS:</b> Least Concern</p> <p><b>FUN FACTS:</b> Largest crocodilian species. Have salt glands which allow them to live in saltwater ecosystems.</p> <p><b>INTRASPECIES INTERACTION:</b> Territorial</p> <p><b>INTRASPECIES INTERACTION:</b> Not territorial, except in the breeding season</p>	<p><b>GHARIAL</b> (<i>GHARIALS GANGETICUS</i>)</p> <p><b>AKA:</b> Gavails</p> <p><b>LIFESPAN:</b> 40-60 years</p> <p><b>SIZE:</b> Male: 3-4 m; Female: 2-4.5 m</p> <p><b>HABITAT TYPE:</b> Freshwater lakes and rivers.</p> <p><b>RANGE IN INDIA:</b> Uttar Pradesh, Madhya Pradesh, Uttarakhand, Bihar, Rajasthan, Orissa</p> <p><b>THREATS:</b> Habitat degradation, eggs used for medicinal purposes, snouts of adult males believed to have aphrodisiac qualities, poaching, overfishing.</p> <p><b>LICN STATUS:</b> Critically Endangered</p> <p><b>FUN FACTS:</b> Their name is derived from the Hindi word "ghara" or earthen pot, which refers to the bulbous growth on the adult male's snout.</p>
<p><b>MUGGER CROCODILE</b> (<i>CROCODYLUS PALUSTRIS</i>)</p> <p><b>AKA:</b> Marsh crocodiles</p> <p><b>LIFESPAN:</b> 20-40 years</p> <p><b>SIZE:</b> Male: 3-5.5 m; Female: 2-2.5 m</p> <p><b>HABITAT TYPE:</b> Freshwater lakes, rivers, marshes; also man-made reservoirs and irrigation canals.</p> <p><b>RANGE IN INDIA:</b> Rajasthan, Madhya Pradesh, Uttarakhand, Uttar Pradesh, Odisha, Telangana, Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu</p> <p><b>THREATS:</b> Habitat loss, caught in fisheries, predatory killing, sacrificed in superstitious practices, body parts used in indigenous medicine.</p> <p><b>LICN STATUS:</b> Vulnerable</p> <p><b>FUN FACTS:</b> Balance sticks on their head to lure birds. Dig burrows to escape harsh climatic conditions.</p>	<p><b>roundglass</b></p>

**Mangroves:**

→ Replanted mangroves - captures 75% of carbon stocks.  
 ↓  
 could help nations - "blue economy".

**Blue Economy:** → shipping, tourism, fisheries etc.

→ sustainable use & conservation of ocean + marine resources.  
 → SDG 14 - 'Life Below water'.



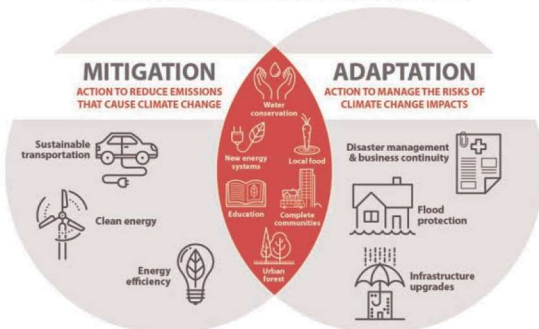
**Right against adverse effects of climate change:**

↳ protected under Art 14 and Art 21.

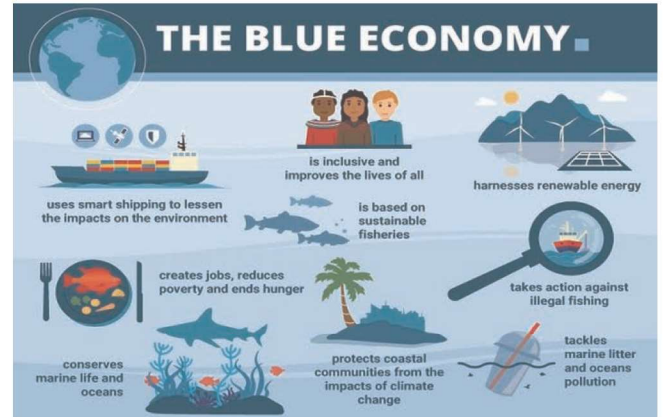
climate change in India: → what is needed?

- \* re-orientation to low-carbon, climate-resilient future.
- \* Institutional structure - a knowledge body.
- \* Effective climate Governance - local climate resilience.
- \* Co-ordination bet. the centre + the states.

**Building Climate Resilience**



Interim Budget  
**Blue economy 2.0** → focus on restoration, adaptation & expansion of mariculture + coastal aquaculture.  
 ↳ Multi-sectoral approach



**Factory accidents:**

↳ materials for the construction of Boilers

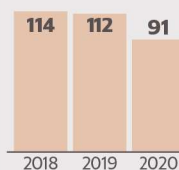
**Indian Boiler Regulations, 1950:**

↳ safety of person inside the Boiler  
 ↳ Registration + inspection of Boilers + pipelines

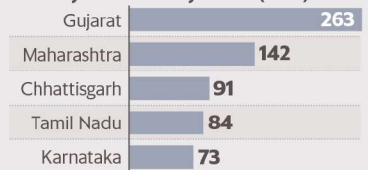
**Occupational hazard**

Out of the total industrial casualties, 5,629 were reported in factory settings, while 549 deaths were reported from mines.

**Fatalities at mines**



**Factory deaths in key states (2018)**



**Factory deaths rose after declining in 2017**



Source: Labour ministry



**ILO's Labour Inspection convention (O81), 1947:**

↳ there must be sufficient qualified + well-provided inspectors  
↓  
could enter freely without any prior notice.

**FATAL INJURIES IN REGISTERED FACTORIES IN INDIA**



Note: Data not available/not reported for Arunachal Pradesh, Manipur, Mizoram, Nagaland from 2017 to 2020; Tripura, West Bengal for 2019 and 2020; Chandigarh for 2020. No registered factories in Lakshadweep & Sikkim. Sources: RTI replies 1 and 2, Directorate General Factory Advice Service & Labour Institutes, Ministry of Labour & Employment.

**New Species:**

Deep-water dogfish shark:



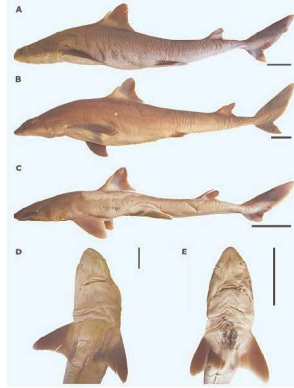
↳ 'Squalus hima'  
↳ discovered from Sakthikulangara fishing harbour, Kuala.

↳ Squalus - genus of dogfish sharks - 'spudogs'.

↓  
smooth dorsal fin spines

↳ Squalus + Centrophorus  
↳ highly exploited for 'liver oil'.

↓  
high demand in Pharma industry.



**6-lakh fake pollution-trading certificates:**

↳ unearthed by central Pollution Control Board (CPCB) in 2023.

↓  
plastic-recycling companies in Gujarat, Maharashtra + Karnataka.

**Rules + Regulations:** → Plastic Waste Management Rules

↓  
all companies - that use plastic packaging to register with CPCB

prescribed percentage of the plastic used annually → collected & recycled  
Extended Producer Responsibility (EPR)-certificates.

↓  
For Every tonne of Plastic Recycled

↓  
recycled plastics should have been sold & companies must have the 'Proof of Sales'.

**Southern Silk Route:**

contributions of British botanist J.D Hooker.

↳ Recent study by Botanical Survey of India (BSI).  
↳ Silk Route → Through Kalimpong + Sikkim, in E. Himalayas & Lhasa in Tibet.

**Species found:**

↳ Windamere Palm (Trachycarpus latisectus)  
↳ wild palm - only a few trees left.



↳ Rhododendron niveum  
↳ state tree of sikkim

↳ Threatened balsam species  
↳ Impatiens sikkimensis & Daphne sudlowii.



↳ used to make paper for Buddhist manuscripts.

## Building violation in forest land - Odisha:

↳ M. EFCC - Forest Advisory Committee (FAC) -  
reprimanded Odisha - built walls without approval.

↳ in forest land - that belongs to  
Shree Jagannath Intl. airport, Puri  
(proposed)

↳ detected state wildlife warden - to evaluate  
airport project's impacts on breeding of  
olive ridley turtles.

## Forest Advisory Committee (FAC):

- ↳ statutory body - Forest Conservation Act (FCA), 1980.
- ↳ deals with diversion of forest land for non-forest uses.
- ↳ approves or rejects forest clearances - then forward it to state govt. → has to ensure the provisions of FRA, 2006.

## Heatwaves & 'right to play':

- ★ Art 31 of UN Convention on the Rights of the child.
- ★ June 11, 2024 - declared as International Day of Play - by UN.

## India's ranking, South Asia's Problem:

- ↳ UNICEF's (children's climate Risk Index (CCRI) Report 2021 - ranks India 26/163 - among the countries children most at climate risk.
- ↳ India - more frequent & severe heatwaves.
  - ↳ school closures & restricted outdoor activities.
- ↳ UNICEF - South Asia - children exposed to extreme temp.

Measures? → greenspace, cooling corridors.

- ↳ bioclimatic design principles in playground infrastructure.
- ↳ integrating urban planning strategy.
- ↳ vernacular architectural techniques.

## The issue with tree planting schemes:

↳ World Bank Estimates - "world has lost about 10 million square kilometers of forests."

↳ main purpose of declaring the 'Decade of 2021-30 as - Decade of Ecosystem Restoration by UN'.

## Recent:

- ↳ 'One Trillion Trees Project' - WEF - restore & conserve 1 trillion trees around the world.
- ↳ 'Great Green Wall of China' - to combat desertification & to check the expansion of Gobi desert.
- ↳ '10 Billion Tree Tsunami' - Pak - to improve natural capital
- ↳ 'Bonn Challenge' - restore 150 mn hectares of degraded & deforested landscapes by 2020 & 350 mn hectares by 2030.

Problems: → limited community participation.

- ↳ lack of adequate post-planting measures & proper monitoring.
- ↳ evaluate the ecosystem properly.

## India's challenges:

- ↳ only 620 countries to fulfil 'Paris Agreement' commitments.
- ↳ But, nearly 10 mn hectares of forests is under encroachment.
  - ↳ 5.7 mn hectares - lost / used for non-forestry purposes.
- Need - public awareness campaigns, social media & incentivised community participation.



### CPCB - Plastic waste trading Regime:

↳ begun a national audit - 800 plastic waste recyclers.

### EPR (Extended Producer Responsibility) scheme:

- ↳ mandates all companies that use plastic packaging material to recycle a certain % of plastic used in previous 2 years.
- ↳ Introduced by E-waste (management & Handling) Rules, 2011. **PYQ 2019**
- ↳ 'Polluter-Pays Principle'.



### Heat stress is more than a Degree of concern:

#### Heat Stress & its effects:

- ↳ heat stroke, heat cramps, cardiovascular disease, acute kidney injury & physical injury.
- ↳ anticipated to affect - labour efficiency & productivity.
- ↳ Acc. to IPCC - to retain normal physiological activities - body temperature  $37^{\circ}\text{C}$  (with a circled 'X').
- ↳  $>38^{\circ}\text{C}$  → affects cognitive & physical capabilities.

#### No study findings:

- ↳ ILO study (2019) - Heat stress - projected to reduce total working hours worldwide.
- ↳ Agricultural workers - higher risk.
- ↳ Asia & Pacific regions - highest GDP losses due to heat stress.

#### Impact in India:

- ↳ 34 million people - will experience job losses.
- ↳ agriculture & construction sectors.

- ↳ expected to affect food security.
- ↳ impact achievements of SDGs.

#### Governance:

- ↳ National Disaster Management Authority (NDMA) - 'Preparation of Action Plan - Prevention & management of Heatwaves'.
- ↳ create heatwave action plans.
- ↳ tackling the effects on mental & physical well-being.
- ↳ Implementation of International labour standards ↳ occupational safety & health.

#### What are Green Jobs:

- ↳ employment opportunities - help protect or restore the environment.
- ↳ supporting economic & social well-being.

### 'Carbon Border Adjustment Tax?' - EU.

- ↳ Carbon Border Adjustment mechanism (CBAM) - tariffs - energy-intensive goods imported into EU.
- ↳ to protect local manufacturers of Iron, steel, Aluminium.
- ↳ developing countries - permissive fossil fuel norms.

India → will be adversely affected by CBAM.

EU Carbon Border Adjustment Mechanism simplified illustration



\* Including goods originating from Iceland, Liechtenstein, Norway, and Switzerland  
Source: The Conference Board, 2022

### Fresh impetus to clean energy schemes:

- ↳ no new schemes.
- ↳ PM-Surya Ghar Muft Bijli Yojana - rooftop solar installation scheme - one crore houses
  - ↳ been allocated 10,000 Cr.
  - ↳ 300 units of free electricity.
- ↳ only houses with suitable roof & an existing connection to the grid.

### Nuclear Energy Boost:

- ↳ investment in construction of small Modular nuclear Reactors (SMRs)
  - ↳ provide upto 300 MW power.
- ↳ partner with private sector in - Bharat small reactors etc.,

### Grasslands in Kutch:

- ↳ likely to host cheetahs from Africa.
- ↳ next phase of Project cheetah - Banni Grasslands - Rann of Kutch.
- ↳ Potential habitat.

### 1st Batch of Project cheetah:

- ↳ 20 adult cheetahs - Kuno National Park, 2022.
- ↳ from S. Africa & Namibia
  - ↳ 13 survive.

### Banni Grasslands:

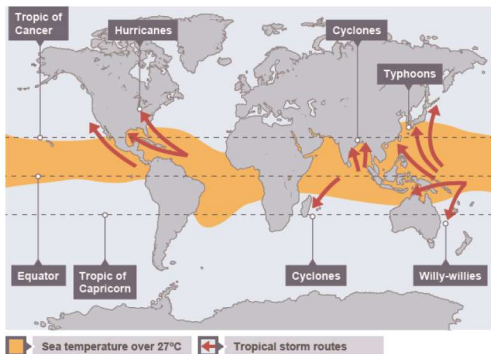
- ↳ one of the largest grasslands in Indian subcontinent - 2500 sq. km
- ↳ 22 ethnic groups.
- ↳ Breeding ground for Banni Buffalo & the Kankrej cow.

### Typhoon Geami - Philippines:

- ↳ triggered floods in Manila.
- ↳ enhanced the Southwest monsoon.

### Naming Tropical cyclones:

- ↳ WMO & ESCAP → est. The Panel on Tropical cyclones, 1972.
- ↳ improve tropical cyclone warning sys. in Bay of Bengal & Arabian sea.



### Exotic snowfall effects - Himalachal regions:

- ↳ Himachal Pradesh - reducing snow cover & a gradual shift in snowfall occurrence pattern.
  - ↳ from winter to early summer months
- ↳ A recent study - all major River basins - Satluj, Ravi, Chenab, Beas in HP
  - ↳ decrease of 12.72% in area under snow.
- ↳ Advanced wide-field sensor (AMiFS) satellite data - 2023-24 → dec. in snow cover area.

- ↳ peak winter months (Dec-Jan) → negative trend
- ↳ Early summer months (Feb-Mar) → inc. in snow.
- ↳ April - increased snow cover area.



## Plastic-mess India:

↳ CPCB Report 2020-2021 → 4 mn tonnes of plastic generated annually.  
only 1/4-recycled/treated

→ The Plastic waste management rules, 2016 → users of plastics - responsible for collecting & recycling the waste.

## Regulations:

↳ e-waste rules, 2011 → EPR for first time

### Extended Producer Responsibility (EPR)

↳ initially voluntary; now enforced through online portal - EPR certificates

for each tonne of plastic recycled.

## What is South Africa's new law on climate change?

that will impose mandatory curbs on emissions of fossil fuel-heavy industries & climate adaptation from towns & villages.

South Africa → coal as primary fuel for electricity  
↳ one of the world's top 15 GHG emitters.  
↳ submitted its first Nationally Determined Contributions (NDC) in 2016 & its updated NDC in 2021.

↳ 31% reduction; fixed target for GHG levels of 398-510 MtCO<sub>2</sub>e by 2025 & 350-420 MtCO<sub>2</sub>e by 2030.

Net-zero by 2050.

## 'Project Tiger will displace 5.5 lakh tribals':

↳ average no. of people displaced from 6 tiger reserves since 2021 - 7677. increase.

most from - Kumbalgarh W.S, Rajasthan, Nainadehi W.S, Madhya P. & Ranipet T.R, UP.

Project Tiger: → 1973. - centrally sponsored scheme

↳ conservation through Tiger Reserves.

↳ admin. by National Tiger Conservation Authority (NTCA).

WLPA, 1972 - created 'critical tiger habitats' (CTH) → FYQ 2018

### The Tiger Count

Tiger numbers in India:

2018: 2,967  
2022: 3,682

States with highest tiger numbers

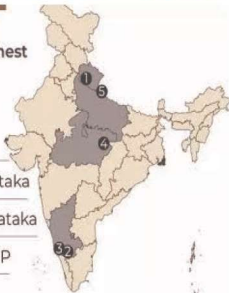
2018 2022

Madhya Pradesh	526	785
Karnataka	524	563
Uttarakhand	442	560
Maharashtra	312	444
Tamil Nadu	264	306



Reserves with highest tiger population

- 1 Jim Corbett, Uttarakhand
- 2 Bandipur, Karnataka
- 3 Nagarhole, Karnataka
- 4 Bandhavgarh, MP
- 5 Dudhwa, UP



## 'Kuala ignored recommendations' - Gadgil

Disaster zone  
The villages in Wayanad that were hit by multiple landslides on Tuesday



↳ Mundakkai, Chooralmala & Attamala - under debris.

Reason for landslide:

↳ a waterlogged hillock, 6 km from the villages - abutted the Iruvanipucha river - origin of slides.

↳ major tributary of Chaliyar R.



Western Ghats Ecology expert Panel: (WGEEP) → FYQ 2016

↳ chairman - Madhav Gadgil.  
classified the region into 3 levels of ecological sensitivity.

↳ turned this incident as a 'man-made tragedy'.

Panel's Report - had marked currently affected area as **highly sensitive**.  
 ↳ Indicated presence of quarries as disastrous.

WQEEP: → submitted its report in 2011.  
 ↳ favourable to environment & not development.  
 ↳ designated W-Qhats - Ecologically Sensitive Area (ESA)  
 [Further classified as Ecologically Sensitive Zones (ESZ) 1, 2 and 3.]  
 ↳ ESZ-1 - all developmental activities are restricted.  
 ↳ top priority.  
 ↳ Environmental Governance system should change  
 ↳ 'bottom to top approach'.  
 ↳ suggested constitution of W-Qhats Ecology Authority (WQEA) - as statutory authority under MoEFCC, under EPA 1986 (sec 3).

# Science & Tech

## Activated carbon from coconut husks

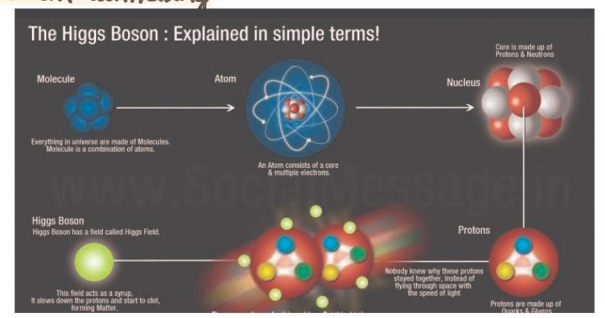
- \* suitable for supercapacitor fabrication
- \* widely available, low cost & eco-friendly
- \* could address the search for an ideal supercapacitor electrode.



## QUARKS & HIGGS BOSON:

The top Quark: → more massive the particle - more energy it has, mass-energy equivalence.  
 ↳ 10 times heavier than water molecule.  
 ↳ unstable - it could break up into lighter, more stable particles in  $< 10^{-25}$  secs.

↳ important source for all elementary particles  
Higgs Field: → 'sea of energy'  
 ↳ excitation - called 'HIGGS BOSON'.  
 ↳ 'Quantum Tunnelling':

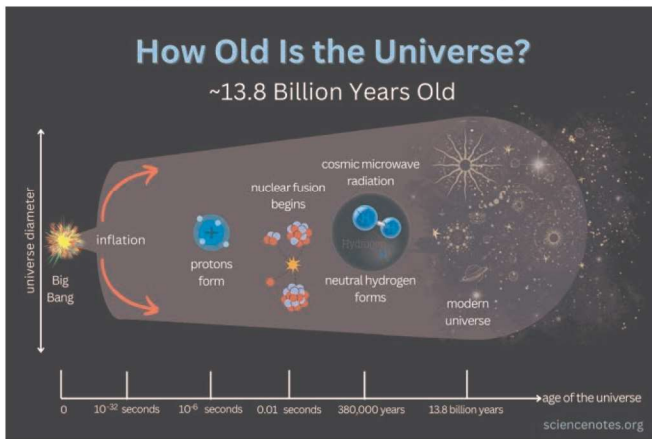




## Spiral Galaxies:

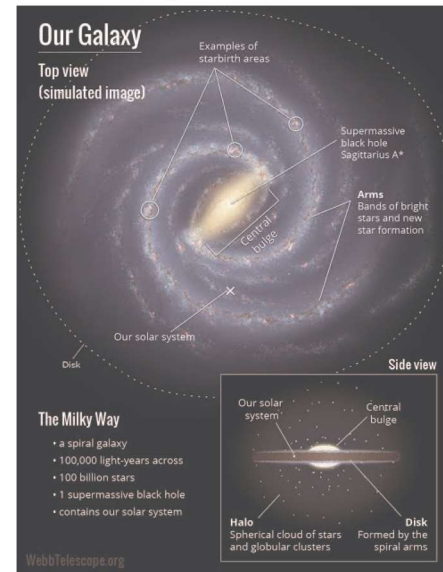
The Universe: → 13.8 bn years old - 'Big Bang'  
↓  
from a single point called - 'SINGULARITY'  
↳ younger galaxies → spiral  
older galaxies → various shapes

Hot Dense plasma → galaxies (through cooling)



→ 2021

New findings: - through James Webb Space Telescope  
↳ bet. 3 and 7 billion years after Big Bang  
→ spiral galaxies increased (8% - 48%)

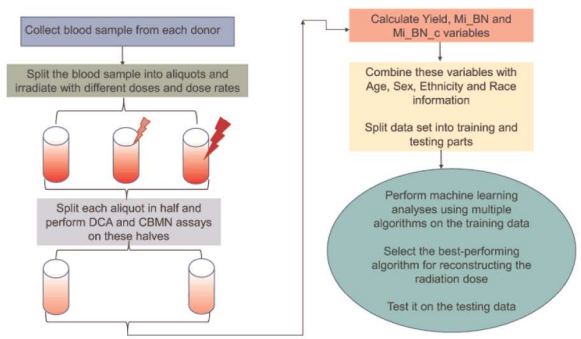


## Radiation Biodosimetry:

Biodosimetry - determines the amount of radiation  
↳ Gold standard Biodosimetry Assay  
↓  
measurement of chromosome aberrations in WBC's.

Dicentric chromosome → incorrect pair - 2 centromeres.  
↳ caused by radiation.

Cytokinesis block Micronuclear Assay (CBMN) - much easier

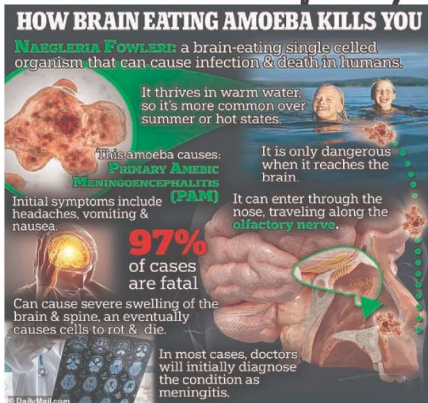


\* Inherent component of chromosome  
↳ 'gamma-H2AX' assay  
\* High Throughput automated Biodosimetry  
↳ dose assessment on large number of people.

## 'Brain-eating amoeba':

### Primary Amoebic Meningoencephalitis (PAM):

- caused by *Naegleria fowleri*  
↓  
can infect the brain + destroy the tissues.
- fatal - 97% of the patients don't survive.
- doesn't spread through people to people contact or by swallowing (only through nose).



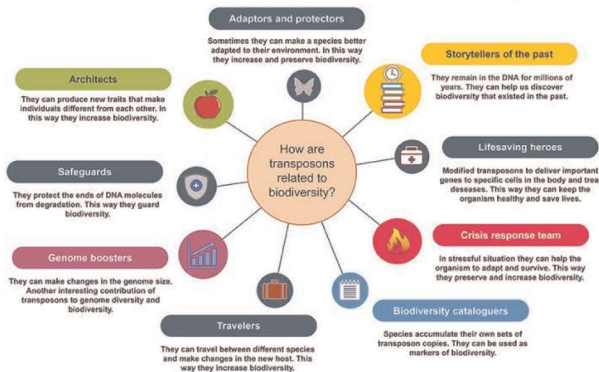
- PAM** → headache, fever, nausea & vomiting are it's early symptoms.
- amoeba - more active in warm, stagnant, unhygienic water.
- diagnosed through PCR tests of cerebrospinal fluid.
- 'Miltexamine' - broad spectrum anti-microbial drug.

## Jumping genes and RNA Bridges:

- 1948.
- called 'mobile elements or transposons'
- ability to reversibly alter gene expression

### Transposons: → influence the effect of genes

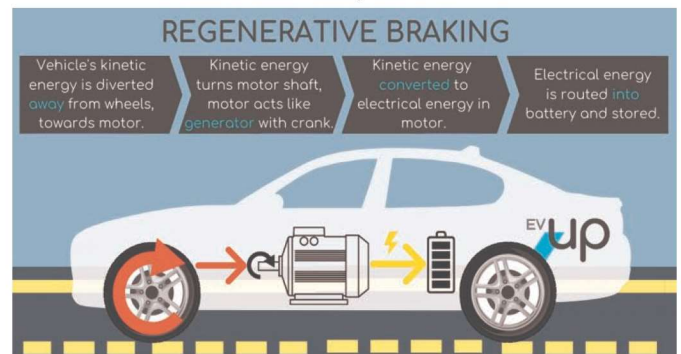
- called - 'tools of evolution'
- "Jumping genes".
- could possibly be a safer alternative to CRISPR-Cas9 process.



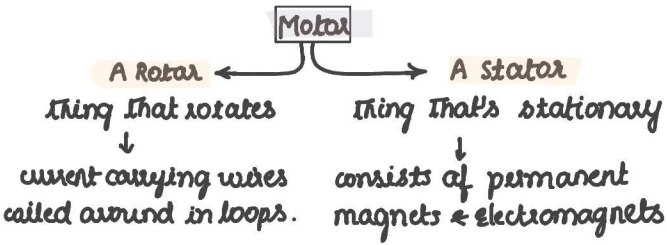
- Regenerative braking**: → in electric vehicles - to increase their energy-use efficiency.
- designed to convert kinetic energy to a form - used for other purposes later.

### Traction motor:

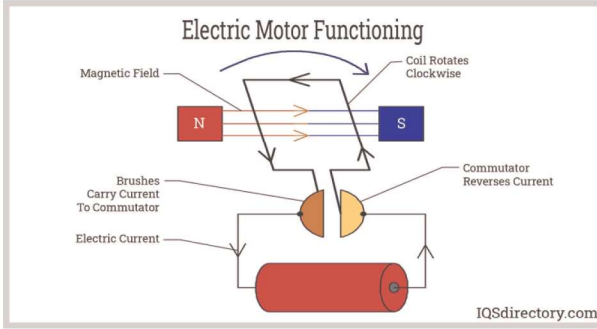
- propels the vehicle - converts electrical to mechanical energy
- ↓
- During Regenerative braking, motor operates as a generator
- ↓
- turns mechanical energy back to electrical energy.







$e^-$  → moves inside a magnetic field - it exerts a force on the particle → Lorentz force.



**Imposing Diamonds** → affecting National Quantum Mission (NQM).

**National Quantum Mission (NQM):** → 2023 → MoS&T.

- Studying Quantum mechanical properties of atom.
- India - 7<sup>th</sup> country to have a dedicated Quantum mission
- Intricate experiments - including on Diamonds.

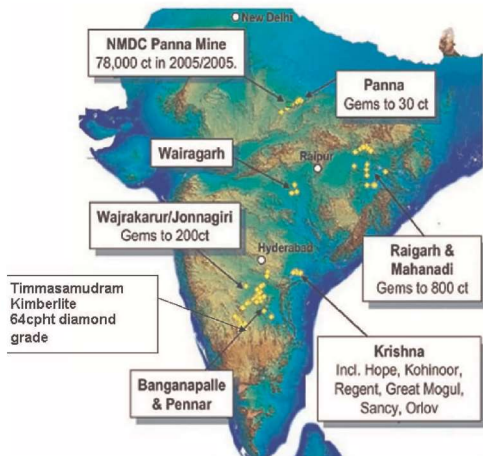
**National Quantum Mission (NQM) to scale up R&D & leverage India into a leading nation in the area**

- NQM to seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT)
- It targets developing intermediate-scale quantum computers with 50-1000 qubits in 8 years, quantum communication with complete quantum key distribution
- Mission can provide a great fillip to invention of new products and services as well as create world class Start-ups, HRD and International Collaborations

#IndiaDST | www.dst.gov.in | @IndiaDST

**What are Diamonds?**

- hardest naturally occurring substance on Earth.
- formed in Mantle - brought up by volcanoes.
- hardness, electrical conductivity & manipulation of light.
- sensitive to slight changes in Magnetic field.



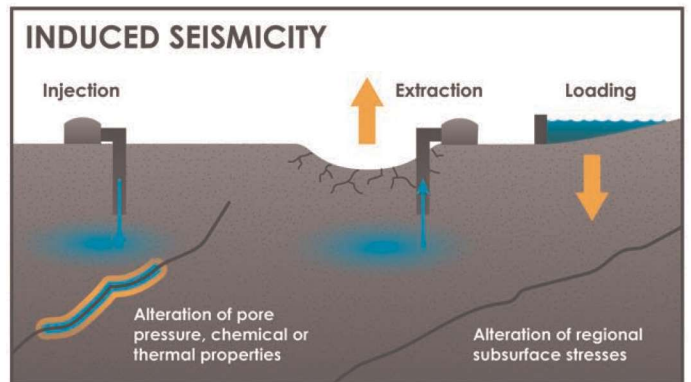
**6-km deep hole in Maharashtra** → understanding reservoir-triggered earthquakes → Koyana-warna region.

→ why is it necessary? → to study minor earthquakes that occur in tectonic plate interior

**Scientific deep-drilling:** → strategically digging boreholes to analyse deeper parts of Earth's crust

→ Borehole Geophysics Research Laboratory (BGRL)

→ in MH → under MoE Earth Sciences

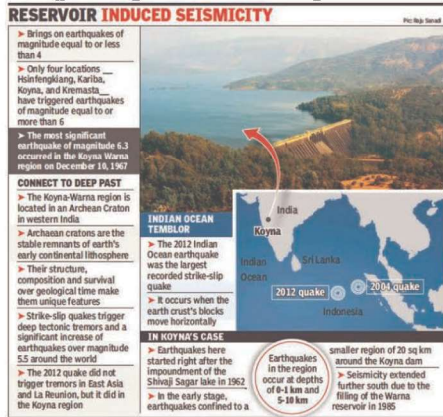


## Benefits:

- ↳ in-situ experiments & observations.
- ↳ to monitor a region's fault lines & seismic behaviour.
- ↳ Study geo-hazards & geo-resources.

Findings so far → 1.2km thick 65mm year old Deccan trap lavaflow.

- ↳ 2500-2700 mm year old -granitic basement rocks.
- ↳ Koyna region is critically stressed.



## India's pursuit for a neutrino lab:

Neutrinos: → 2nd most abundant particles in the universe after Photons

- ↳ produced in cores of stars
- ↳ might possibly explain origin of matter in universe

## Japanese experiments:

- ↳ Kamioka Observatory, Mt. Ikeno.
- ↳ Kamiokande-II Detector — Supernova 1987A led to the discovery of cosmic neutrinos.
- ↳ Dedicated neutrino observatory — Super Kamiokande first evidence of 'neutrino oscillation' 1996.

India: → Initial experiments - ended in 1992 - with closure of Kolar mines.

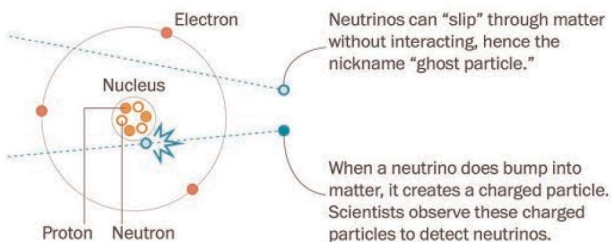
- ↳ A proposal in 2011 → India-based Neutrino Observatory, in Tamil Nadu.
- ↳ Uncertain.

## Reasons for opposition:

- ↳ adverse environment impacts & the fear of radioactivity.
- ↳ But, it will neither produce radioactivity nor can work well in radioactive environment.

## What are neutrinos and how do we detect them?

Neutrinos are almost massless particles with a neutral charge that rarely interact with other matter.



## New Galaxies:

- ★ Two galaxies interacting → Taken by James Webb Space Telescope (JWST) using Mid-Infrared Instrument (MIRI)
- ★ At left - elliptical galaxy - looks like a tiny teal oval & is nicknamed 'The Egg'. (NGC 2937)
- ★ At right - distorted spiral galaxy - nicknamed 'The Penguin', which is larger. (NGC 2936).

James Webb Space Telescope: (JWST) → launched in 2021.

- ↳ largest & most powerful space telescope.
- ↳ NASA and ESA, CSA contributions.



**Topics That Indian Researchers publish papers on:**

- Worldwide → 'Coronavirus' → most published research topic → last 5 years & in last 2 decades.
- In India - 'Coronavirus' was the most researched topic in last two decades.
- was absent in China's top searches

Other topics searched worldwide : → deep learning, & topics on clean + green energy.

Topic of AI - Chinese researchers → produced more than twice as many papers - of world's research output in this subject features among top 5 in India, but is low.

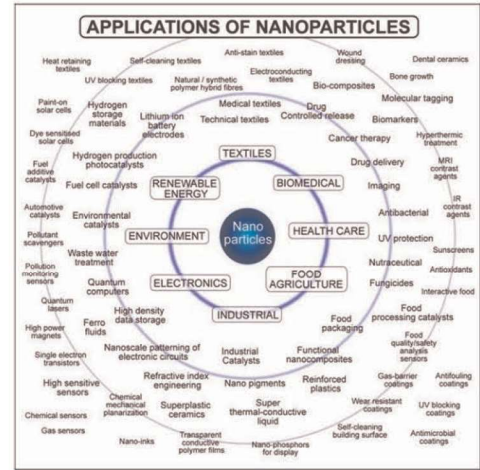
Comparing U.S & China:

- China's focus - high impact technological fields & on the development of new materials.
- U.S' focus - more diverse approach - health & social well-being
- eg: Programmed cell death (p53)

India's nano-focus:

PYQ 2015

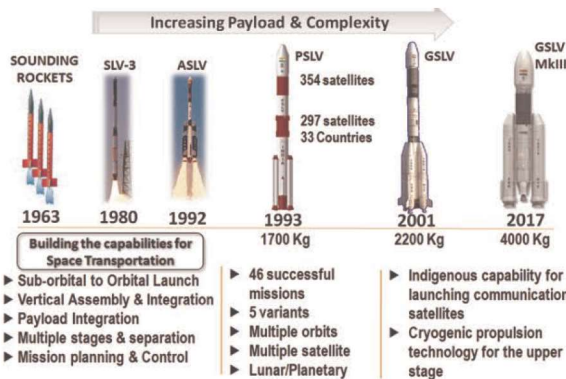
- nanotechnology
- nanofluid - heat transfer, silver particles - applications in antimicrobial & anticancer therapy.
- zinc oxide nanoparticles - essential semiconductor materials.



ISRO - many rockets, but too few satellites to launch:

Launch vehicles in India:

- 4 currently
  - small satellite launch veh. (SSLV)
  - Polar satellite launch veh. (PSLV)
  - Geosynchronous sat. launch veh. (GSLV)
  - Launch vehicle Mark-III (LVM-3)



→ current rockets → can launch satellites weighing upto 4 tonnes to the geosynchronous orbit.

→ India - even relies on foreign launch vehicles - Europe's Ariane V & SpaceX's Falcon 9. (for >4 tonnes)

Supply & Demand - driven models:

- previously followed by Indian space program.
- Now, after space sector reforms 2019-20, a demand-driven model is followed.

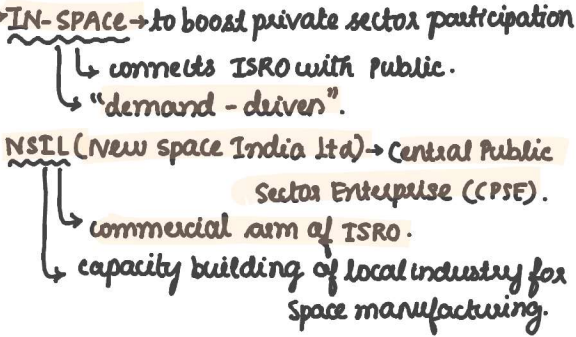
→ satellites are built & launched only based on demand.  
→ requires education ↑ & inc. in space Tourism.

Launch vehicle economics:

- needs satellites to launch.
- heavier vehicles - national goals like lunar exploration + space station.
- smaller satellites - technology + capability demonstration.
- \* satellites - mission life → when older gets replaced by newer ones.

- \* PSLV → can deliver multiple satellites in multiple orbits.
- \* ISRO - building launch vehicle & Vertical Landing Technologies.

Private Sector Vs. Govt:



100 years of EEG: (Electroencephalography).

EEG invention:

- ↳ 1875 - Richard Caton - evidence of electrical activity in brains of monkeys & rabbits.
- ↳ 1912 - Vladimir Pravdich - first EEG - dog's brain
- ↳ First Human EEG - 1924 - Berger - invented EEG & named it.

EEG and its uses:

- ↳ Electroencephalography.
- ↳ Electrically charged particles [ions] - moved by Neurons in the brain.
  - ↳ gives rise to electrical activity.
- ↳ EEG - can reveal the effects of anaesthesia, sleeping patterns, neurological activity during coma & availability of oxygen.
- ↳ can also confirm brain death - legally recognised.

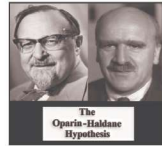
Working: → electrodes on your scalp.

↳ charged particles will move through all layers of brain - reflected, refracted etc.,.

Glimpses of LUCA: last universal common Ancestor (LUCA).

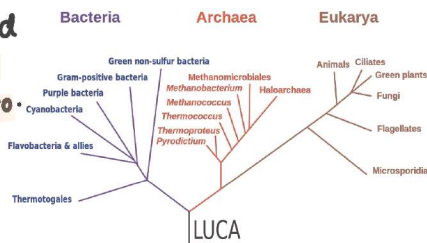
Oparin-Haldane Hypothesis:

- ↳ 'primordial soup theory'.
- ↳ life on earth originated from simple organic compounds.
- ↳ series of chemical reactions - first living cells.



LUCA: → acc. to researchers, LUCA gave rise to - bacteria, archaea, eukarya.

originated around 4.2 bn years ago.



\* Theory of Molecular clock - 'the rate at which mutations added or removed' & rate of acquiring new mutations.

The ABO classification system:

Blood groups - Differentiation:

↳ Human Blood - Red Blood corpuscles.

on their surface: one or both of two types of Antigens A & B.

In The Plasma: two Antibodies A & B.

Blood groups: (A, B, AB, O)

	Group A	Group B	Group AB	Group O
Red blood cell type				
Antibodies in plasma			None	
Antigens in red blood cell	A antigen	B antigen	A & B antigens	None

Compatibility: A → only A & O ; B → only B & O.

↳ AB → anyone (Universal recipient)  
only O ; can donate blood to any group (Univ. Donor)



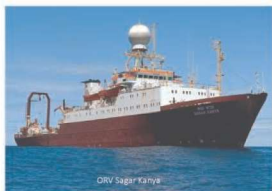
## QRFSE Bags ₹840 Cr. deal to build ocean research ship:

- ↳ Garden Research shipbuilders & Engineers (GRSE) - deal with National Centre for Polar & Ocean Research (NCPOR)
  - ↳ autonomous research & dev institution of Mo. Earth Sciences, 1998.
- ↳ construction & delivery of an Ocean Research vessel (ORV)
  - ↳ This ship - will be capable of conducting underway swath multibeam & geophysical seismic surveys in coastal seas & deep water.

### Exclusive Economic Zone Mapping (EEZ)

With India having the 12<sup>th</sup> largest Exclusive Economic Zone in the world, the Govt of India has entrusted NCPOR as a nodal agency for the comprehensive mapping of the EEZ of India that will help in optimum utilisation of the resource available in these waters.

Under EEZ programme, NCPOR has undertaken >31 cruise exclusively for Multibeam bathymetric survey in the deep waters blocks and has acquired data covering an area of ~15,26,570 km<sup>2</sup> of deep-water (DW) blocks which comprises ~81.2% of the allocated blocks of Indian EEZ



## Vasco da Gama's toxic legacy - pandemic that kills 8 mn:

- ↳ Tobacco: → range of health issues - cancers, respiratory diseases, cardiovascular problems & others - diabetes, infertility, etc.,
  - ↳ leads to severe addiction - presence of nicotine.

### History of Tobacco in India:

- ↳ originally cultivated by Native Americans.
- ↳ introduced to South Asia by European traders. Portuguese, followed by Dutch & The British.
- ↳ no native or original word for 'Tobacco' in India.

### Ethical & revenue considerations:

- ↳ Tobacco - drought tolerant - economically significant to the underprivileged.
- ↳ currently - Tobacco accounts for 2% of India's agri-exports & employs more than 45 mn people.
- ↳ major source of revenue - taxation & exports.
- ↳ But, tremendous human & financial cost - total economic cost of smoking in India 1.2 trillion annually.

## Indian Council of Medical Research (ICMR) - elimination of tobacco to mitigate its public health impact.

## Indian Council of Agricultural Research (ICAR) - focuses on increasing tobacco crop yields & to ensure productivity

### Scientific solutions:

- ↳ CRISPR - genetically modified tobacco plants that are less harmful or harmless.
  - ↳ alter nicotine content.

### Surrogate advertising:

- ↳ Framework convention on Tobacco control (FCTC)
  - ↳ advertising bans.
- ↳ but still - surrogate advertising - promoting tobacco-related imagery in media & entertainment.

## Rising antimalarial resistance in Africa:

### Malaria: → Mosquito-borne blood disease

- ↳ Cause: Plasmodium Parasites.
- ↳ 2 out of 5 plasmodium parasite - High Risk.
  - ↳ P. falciparum & P. vivax.
- ↳ tropical & sub-tropical areas of Africa, S. America & Asia.
- ↳ WHO's Global Malaria program (GMP) & E-2025 initiative.
- ↳ parasites - easily evade the immune system.

EPYQ 2010

### Artemisinin-based combination Therapies (ACTs):

- ↳ cornerstone of malaria treatment & control.
- ↳ But, in E. Africa - currently - spread of artemisinin - resistance (ART-R)

### Researchers:

To counter ART-R - Triple ACT.

**Dyson Sphere:** → an energy devourer.

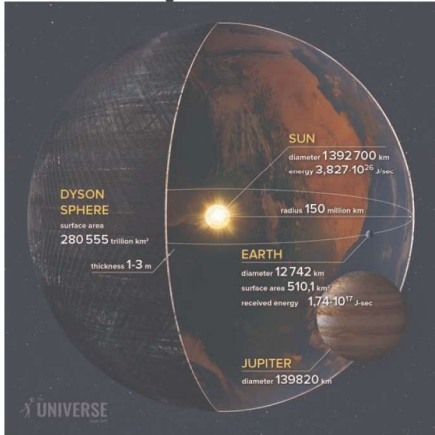
↳ named after theoretical physicist Freeman Dyson.

↳ hypothesised its existence. (1923-2020)

↳ to harness the entire radiative power of a star.

↳ using solar energy collectors arranged in a sphere around the orb.

This would emit excess heat from star as infrared radiation (theory)



**Neutrinos:** → produced when leptons interact with matter.

Founding of Neutrinos:

↳ extraterrestrial - supernova in 1987, when a star exploded - 1,50,000 light years away.

↳ underground detectors in Japan, Russia & U.S.

↳ Theory of relativity - massive particles can't travel at speed of light

New data from NOVA:

↳ 'NUMI off-axis Appearance'

↳ managed by Fermi National Accelerator Laboratory.

↳ designed to determine role of neutrinos in the evolution of cosmos.

**ICMR ready to transfer tech - 'TB detection system'.**

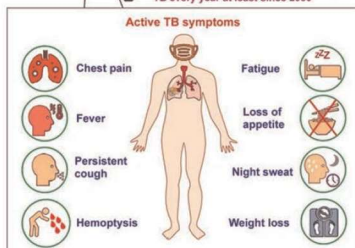
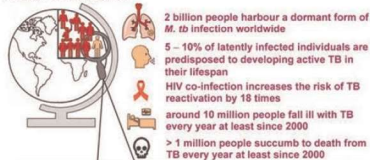
affordable, faster, easy-to-use testing technology.

↳ CRISPR Cas-based.

↳ developed by ICMR - world's cheapest TB testing system.

↳ can detect TB Bacterium - from saliva.

Global TB statistics



**'Dark oxygen' discovery - deep-sea mining:**

↳ unknown process is producing oxygen deep in the world's oceans.

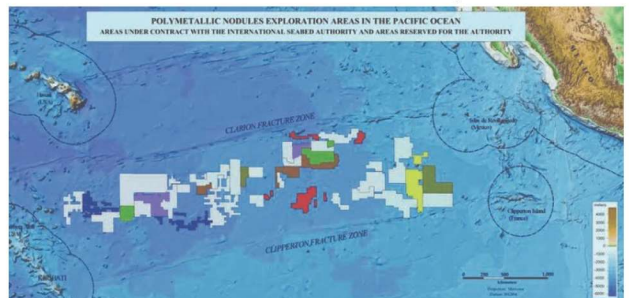
↳ where it's too dark for photosynthesis.

Where was the study conducted?

↳ Clayton-Clipperton zone - a part of the ocean floor off Mexico's west coast.

↳ have the world's largest concentration of polymetallic nodules.

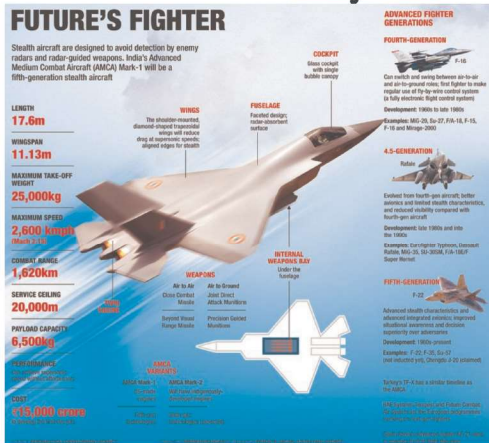
(Mg, Cu, Ni)



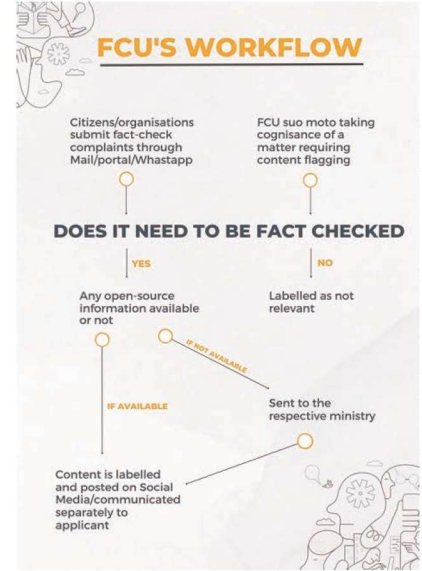




**CAMCA**  
**Advanced Medium Combat Aircraft (Project)**  
 expected to roll out by 2028-29  
 production to start from 2032-33.  
 dev. of Fifth generation fighter aircraft (FAFA) & AMCA.  
only planned FAFA in India (indigenous)

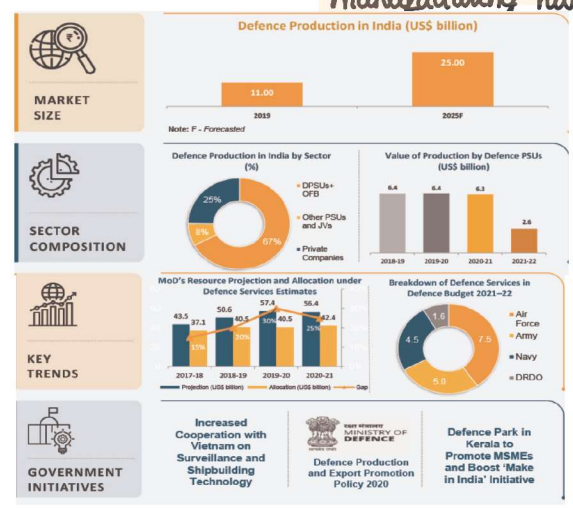
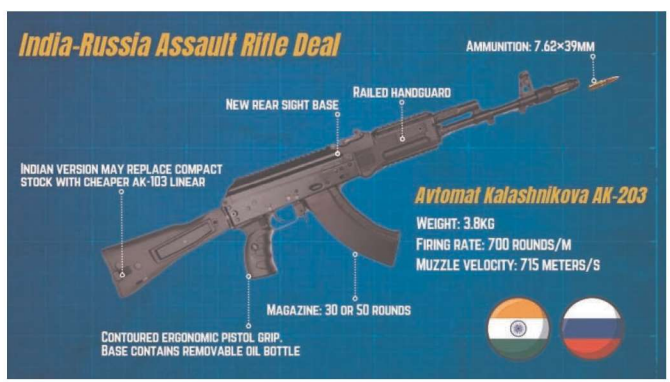


**2019** under PIB-Press Information Bureau  
**Fact check unit (FCU):**  
 Rule 3(i)(b)(v) of IT Rules 2021.  
 Right to Know & the Right to not be misled.  
 to identify fake, false + misleading information.



deal signed in 2021.  
**35,000 assault rifles to MoD defense:**  
 Indo-Russian Rifles Private Limited (IRAPL)  
 35,000 Kalashnikov AK-203 Assault rifles  
 Acc to deal, over 6.1 lakh AK rifles are to be manufactured in India - technology transfer from Russia.

**Defence production in 2023-24:**  
 Highest in FY 2023-24  
 "Indigenous Defence Production"  
 Defence Production → increasing steadily  
 has grown over 60%.  
 'Make in India' - India as a global manufacturing hub.





from 2023.

**Indigenous light tank zorawar** → Prototype by DRDO.

light tank  
↓  
weighing max 25 tonnes.

→ being jointly developed by DRDO + Larsen & Toubro (L&T).

→ made in a record time of 2 years

→ named after: 19<sup>th</sup> century Dogra general Zorawar Singh.



**Internet Archive (IA):**

→ non-profit organisation

→ aims to digitise, preserve, lend & share multi-media content.

→ by scanning physical copies & digital files.

→ traditional publishers accusing it of copyright violations

↓  
**"Controlled Digital Lending"**

↳ library must maintain 'owned to loaned' ratio

**National Emergency Library (NEL) Initiative:**

↳ temporary collection of books.  
↳ by IA.

**New provisions for Police officers:**

→ new criminal laws

**Registering FIR's:**

→ officer-in-charge legally bound to register FIR.

↓  
section 173

→ 'Zero FIR'

→ even if it is not under their jurisdiction

→ non-registration may attract penal provisions.

**HELPING COMPLAINANTS SAVE TIME**



→ Compared to Telangana, Andhra Pradesh filed 64% fewer Zero FIRs

46% of the Zero FIRs pertains to missing persons cases, followed by sexual offences at 32% and the remaining being other cognizable offences

**WHAT IS A ZERO FIR**

→ Zero FIR is a concept of lodging a First Information Report (FIR) for any cognizable offence at any police station irrespective of the jurisdiction of the offence committed

→ This was brought forth to ensure that no cop refuses to file an FIR in a cognizable offence irrespective of whether the place of an offence falls within their jurisdiction

→ The Zero FIR is then transferred to the concerned police station who will be responsible to take it up to its logical conclusion

**Videography:**

→ mandated during a search conducted by the Police - section 185.

→ Investigating officers (IO) - must be provided with electronic devices & training.

**esakshya**

→ cloud-based mobile app - by National Informatics Centre (NIC).

→ allowing capture of multiple photos & videos

→ under Inter-operable Criminal Justice System (ICJS).

**Arrest:**

→ Handcuffing - allowed (but with caution).

**TWO WEEKS TO GO FOR NEW CODES**

**HIGHLIGHTS**

- Delhi Police will roll out new laws from July 1
- A committee constituted for training and implementation
- Training of personnel carried out in batches, over 15,000 trained till now

**HOW IT WILL BE IMPLEMENTED**

**Practice Makes it Perfect**

- For next two weeks, cops to practise dummy scenarios
- Around 20 scenarios selected, preparedness to be checked
- Each IO will be given a particular case in which they will have to visit a 'crime scene', videograph it and record statements
- They will register dummy FIR as per the new sections, make arrests as per proforma of new arrest memo, etc
- Those who pass this test will then help others get the hang of new laws

**Implementation**

- In the beginning, cops may use both sections for clarification
- Courts and forensics will be taken onboard for coordination
- New proformas of arrest memo, bail bonds, etc, to be circulated
- Recording of evidence will be done as per the new evidence Act



For POCSO cases:

- required to be completed within 2 months of recording the information
- sec 193 (3)(h) → sequence of custody to be maintained by the IO on an electronic device.

Why is militancy on rise in Jammu?

Jammu region + Kashmir valley.

↳ follows a pattern - attempts to revive militancy in Jammu.

Reasons for the surge:

- ↳ After 2020 Galwan clash - large size of Army pulled out of Jammu & placed along the China border.
- ↳ attacks could disturb the ongoing development & cause social unrest.

Infiltration:

- ↳ 192-km International border (IB) along Jammu
- ↳ 740 km LOC - Army.
- ↳ forest areas → vulnerable patches.
- ↳ secured by BSF

\* Operation Saub Viraash - to identify terrorists who entrenched themselves in bunkers & trenches.

Two stealth frigates - being built in Russia:

↳ for Indian Navy - set to be delivered by Sept.

Agreements for frigates:

- ↳ 2016 - India-Russia → int govt. agreement for 4 stealth frigates.
- ↳ 2 directly imported & 2 manufactured in India.
- ↳ 2018 - Goa shipyard Ltd (GSL) - signed a \$500 mn deal - for material, design & assistance.
- ↳ 2019 - MoDefense & GSL - Engines from Ukraine.

**Guarding the seas**

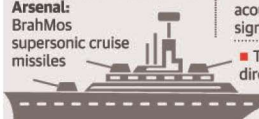
A look at some features of the new frigates

Speed: **30** knots

Displacement: **4,000** tonnes

■ Due to the use of stealth technologies and a special hull design, the ships have reduced radar cross section as well as electromagnetic, acoustic and infrared signatures

Arsenal: BrahMos supersonic cruise missiles



■ Two ships will be procured directly from Russia, and two will be built by Goa Shipyard Ltd.

Maharashtra's Public Security Bill:

↳ Maharashtra Special Public Security (MSPS) Act, 2024.

↳ to curb the menace of naxalism in urban areas.

propagate their ideology of armed rebellion against constitutional mandate

↳ empowers the state to designate any suspected organisation as 'unlawful organisation'.

↳ 4 offenses → sentence - 2 to 7 year  
↳ fine - 2 to 5 lakh.

'Draconian law'

Activists claim the Maharashtra Special Public Security Bill loosely defines 'unlawful activity', and will be prone to 'malicious misuse' by the police

Section	Offence
Section 8 (1)	Up to three-year jail term, ₹3 lakh fine for members of 'unlawful organisations'
Section 8 (2)	Up to two-year jail term, ₹2 lakh fine for contributing to or harbouring any member of 'unlawful organisations'
Section 8 (3)	Up to three-year jail term, ₹3 lakh fine for managing or assisting the management of 'unlawful organisations'
Section 8 (4)	Up to seven-year jail term, ₹5 lakh fine for committing or attempting to commit unlawful activity of 'unlawful organisations'
Section 9 (2)	If declared unlawful, officials may take possession of the notified place and evict any person found within
Section 10 (1)	If declared unlawful, officials may take possession of all money, securities or assets found in the notified place
Section 16 (1)	All offences are cognisable and non-bailable



## Assam's Foreigners Tribunals:

Foreigners Tribunals (FT): → currently exclusive to Assam

- ↳ Quasi-Judicial bodies - formed through the Foreigners (Tribunals) order of 1964.
- ↳ under sec 3 of the Foreigners Act of 1946.
- ↳ let local authorities in a state refer a person suspected to be a foreigner to tribunals.
- ↳ has the powers of a civil court in certain matters.
- ↳ 'proof of citizenship' - has to be provided by the foreigners

## Role of Border Police:

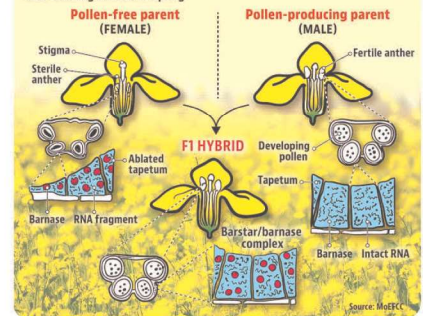
- ↳ Assam Police Border Organisation - est. as State Police's special branch in 1962 under prevention of Infiltration of Pakistani (PIP) scheme.
- ↳ after 1971 - prevention of infiltration of Foreigners (PIF) scheme
- ↳ made independent wing in 1974 - headed by Special Director General of Police (Border)
- ↳ maintains a second line of defense to check the entry of illegal foreigners.

## SC gives split verdict - centre's nod for GM Mustard:

- ↳ 2022 - centre granted conditional release for environmental release of GM mustard.
- ↳ by Genetic Engineering Appraisal Committee (GEAC).
- ↳ statutory body under MoEFCC.
- ↳ 2022 - release of transgenic mustard hybrid DMH-11 - variety of GM-mustard.

### The science behind DMH-11 <sup>4HG</sup>

To create Dhara Mustard Hybrid-11, the team improvised on a 1990s breeding innovation pioneered in Belgium called the barnase/barstar male sterility technique. It works on the principle of removing male fertility in one parent and restoring it in the offspring.



## CBI arrests 43 'cyber criminals' - call centre, huuugram:

### Operation CHAKRA-III:

- ↳ CBI, collaboration with FBI & INTERPOL.
- ↳ fighting transnational cybercrime.

cybercriminals: → 4-step scheme

Impersonation, Malware Distribution, Extortion, Money Laundering.

## Caller ID spoofing:

- ↳ phone numbers being falsified.
- ↳ circumvent the standard call-blocking & for exploiting vulnerabilities in insecure Interactive Voice Response (IVR).
- ↳ perfectly legal in many cases.

## International Telecommunication Union (ITU):

- ↳ specialised UN agency.
- ↳ focus: improving & standardising global information & communication tech.
- ↳ India - member since 1869.
- ↳ 2021-report on countering caller ID spoofing → suggests - using Public Key Infrastructure PKI based authentication.

## Recommendations:

- ↳ TRAI - telecom operators to integrate a system known as Calling Name Presentation (CNP)
- ↳ like how apps like Twocaller do.

The Telecommunications Act, 2023 - allows centre to take control over any telecom service or network - times of emergency.

→ Sec 20 - govt-temporary possession.  
 ↳ public emergency, disaster management or for public safety.

### SIGNALS CONTROL OF CALLING APPS

- OTT calling apps kept outside the definition of telecom services. However, the definition is so broad, the government can regulate them if it chooses to do so
- OTT services such as Amazon, Netflix or Paytm will not come under the bill
- Biometric identification
- mandatory to get SIM cards
- Spectrum for mobile calls using satellites will be given through the allocation route
- Centre can take over telecom services in national emergencies. Government can prohibit use of equipment from other countries



### Internet Governance in India:

↳ 'Intermediaries'.  
 ↳ Shreya Singhal Judgement  
 ↳ upheld section 79 of the IT Act - safe harbour protection

### Indian Copyright Act, 1957:

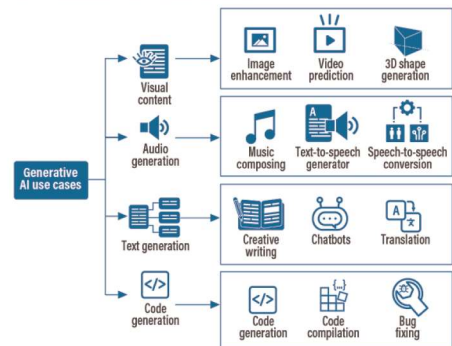
↳ sec 2: Definition of various works covered under 'copyright'.  
 ↳ sec 14 → exclusive rights of owner.  
 ↳ sec 38 → 'Performers rights' for artists, including singers + actors.  
 ↳ In conformity with WIPO copyright treaty (WCT).  
 ↳ WIPO Performances + Phonograms treaty (WPPT).

### Privacy in India:

↳ K.S Puttaswamy Judgement (2017)  
 ↳ 'Right to Privacy' - under Art 21.  
 ↳ lead to enactment of Digital Personal Data Protection Act (DPDP) Act, 2023.  
 ↳ has 'Right to erasure' & 'Right to be forgotten'.

### Generative AI:

#### HOW GENERATIVE AI CAN BE USED



Source: LeewayHertz



## ANI Vs. Wikipedia :

ANI - sued Wiki - demands Rs. 2 crore for defamatory allegations.

Wikipedia: → Wikimedia foundation (parent org).

content determined by 'Volunteer editors'  
↓  
'Wikimedia community'

against Indian Regulations like IT Rules 2021 → requires the 'Intermediaries' to regulate their content

Ministry of Electronics & Information Technology  
Government of India

Safeguarding Users' Rights,  
Ensuring Responsible Internet  
Freedom

### Govt Notifies IT Rules, 2021

(Intermediary Guidelines & Digital Media Ethics Code) (2/2)

#### Measures to be Ensured by Significant Social Media Intermediaries

Intermediary providing services primarily in the nature of messaging to enable identification of the first originator of the information required for prevention, detection, investigation, prosecution of an offence related to:

- ▶ Sovereignty & integrity of India, security of the State, relations with foreign States, or public order, incitement to an offence in relation with rape, sexually explicit material, etc. punishable with imprisonment for a term of 5 years
- ▶ Intermediary not required to disclose the contents of any message or any other information to the first originator
- ▶ Intermediary to have a physical contact address in India published on its website or app or both



## What is PC emulator:

context: Apple approved PC emulator for ios.

software that allows a computer device to emulate another software.  
used to run applications designed for diff. OS.

## Are they legal?

Yes, but copyrighted ROMs (Read only memory) online is illegal.  
Not banned in any countries

In India → laws do not specifically ban emulators

but their use - subjected to IPR laws.

## Global Microsoft - Cloudstrike outage:

Microsoft's Azure cloud service - facing outage  
↳ disrupting flight operations & air traffic,  
brokerages & stockages are also hit.

Indian Computer Emergency Response Team (CERT-In)

↳ severity rating - 'critical'

## What caused it?

Microsoft - 'virtual machines may encountered a bug check.'

a glitch in the software update of Falcon Sensor (endpoint protection program of Cloudstrike.)

causing Blue Screen of Death (BSOD)

## Using children's personal data legally & securely:

### Indian Education system:

one of the most expansive ecosystems in the world.  
↳ M<sub>0</sub> Education - UDISE+ in 2018.

real-time info on school infrastructure, teachers, students etc. → outcome-based policies.

NEP, 2020 → Automated Permanent Academic Account Registry Identification (APAAR)

Aadhaar Integration

↳ unique identifier of a student & their academic credentials.

### Digital Personal Data Protection (DPDP) Act, 2023:

emphasises the importance of collecting personal info - for legitimate purposes only.

↳ UDISE+ could violate this requirement

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# History & Culture

## 46<sup>th</sup> UNESCO World Heritage Committee:

21 state parties to the World Heritage convention, 1972

- Elected by the UNQA.

Term - 6 years

↳ meets once a year

↳ Hosted by India in Bharat Mandapam, N. Delhi.

↳ Organised by Archaeological Survey of India (ASI).

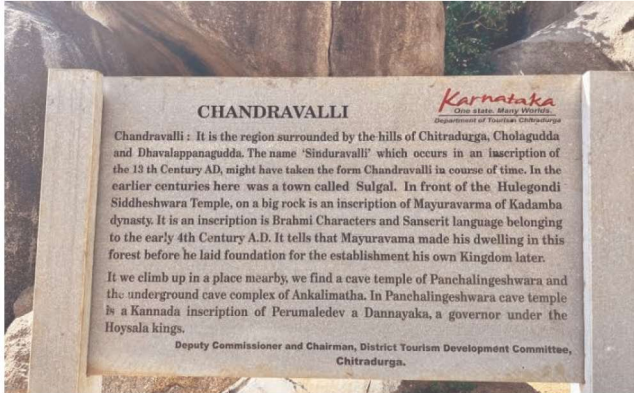
INDIA → currently has 42 UNESCO sites  
41 - Santiniketan + 42 - Hoysala complex.





**Chandravalli cave complex:** - Karnataka

also called 'Ankali Math' excavations - coins & pots of various dynasties.  
 Hoysala, Satavahara & Vijayanagara.  
 has rock inscription of Mayurasharma - founder of Kadamba dynasty AD 450.



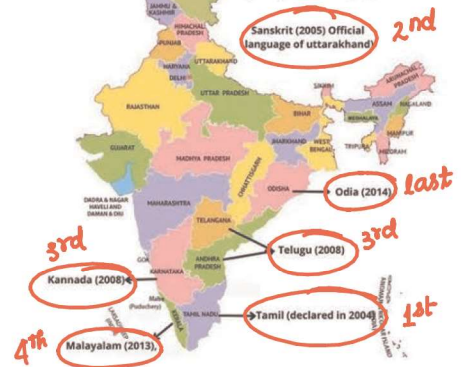
**Classical language status:** - Mo Edu provides certain benefits

- Criteria:**
- 2 major international awards for scholars.
  - High antiquity in its early texts or recorded history over a period of 1500-2000y.
  - body of ancient literature.
  - literary tradition - original, + not borrowed
  - distinct from its modern format.



**Classical Languages of India**

All the Classical Languages are listed in the Eighth Schedule of the Constitution. Ministry of Culture provides the guidelines regarding Classical languages.

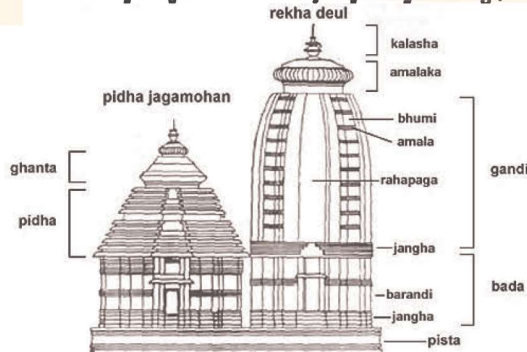


**Ratna Bhandar:**

- treasury of Shree Jagannath Temple, Puri.
- last inventory - 1978 ; temple regulations - inventoisation every 3 years.
- situated on the northern side of Jagannath hall

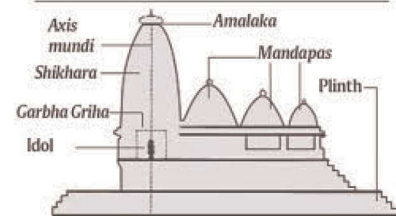
**Jagannath Temple:**

- Puri, Orissa.
- built by reign of King Anantavarman Chodaganga Deva - E.Ganga dynasty, 12th cent
- 'Yamanika Tirtha'



- first temple in Kalinga Architecture - subtype of Nagara style
- Pancharatha - Five chariots
- tall shikara with curvilinear form.
- also called "White Pagoda"

**BASICS OF THE NAGARA STYLE**



Based on sketches from E B Havell's *The Ancient and Medieval Architecture of India*, 1915. Not a visual representation of Ayodhya's Ram temple.

## Summit for entertainment sector:

→ 24<sup>th</sup> Nov.

- ↳ Just World Audiovisual & Entertainment Summit (WAVES)
- ↳ alongside the International film festival of India (IFFI), in Goa.
- ↳ strengthen ecosystem for protection of IP rights.
- ↳ fostering innovation & technological advancement.



## Thangka art of Majnu Ka Tila:



↳ Tibetan Buddhist painting on cotton, silk or canvas.

↳ usually small painting.

↳ meditation, worship & teaching.

↳ Paint - mineral & organic used.

↳ 'Avalokitesvara' - tenth-level Bodhisattva  
↳ Bodhisattva of compassion.

↳ depicts the life story of Buddha or other Buddhist deities & influential lamas.

↳ empower local communities - employment opportunities.

↳ 'Bhavachakra' - wheel of life - most prevalent subject.

→ In Nepal - 24 carat gold is applied to make pieces more sublime.

## Shivaji's iconic wagh nakh on display at Satara Museum

↳ the tiger claw-shaped weapon

↳ used by Maratha warrior King Chhatrapati Shivaji Maharaj to kill Bijapur Sultanate general Afzal Khan.

↳ brought to India from London's Victoria & Albert Museum for - 350<sup>th</sup> anniversary of The Maratha ruler's ascension to the throne.

## Chhatrapati Shivaji Maharaj:

- ↳ titles: Chhatrapati, Shakakarta, Kshatriya Kulavantas, Haindava Dharmodhharak.
- ↳ centralised admin - council of eight ministers (Ashtapradhan)
  - ↳ Peshwa - 'Mukhya Pradhan'.
- ↳ abolished Jagirdari System - replaced it with Ryotwari system.
- revenue system - 'Kathi System of Malik Ambar'
  - ↳ Chauth and Sardarmukhi.

## Royal burial mounds of The Ahom dynasty:

↳ makes it to UNESCO World Heritage list.



↳ 'charaideo Moidams'.

↳ 700-year old burial system of Ahom-dynasty, Assam.

↳ 4<sup>th</sup> property from India added to UNESCO list.

↳ Earthen-burial mounds of the members of Ahom Royalty.

↳ Ahoms - ruled much of Assam & North-east from 1228 to 1826 AD.

↳ Typical moidam - one or more chambers in vault.

↳ top - hemispherical earthen mound.

↳ Pavillion - known as Chow Chali.

→ Earlier funerary methods of Ahoms - from Tai people - burial & later turned to Hindu method of cremation.



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### The palliyodam festival:

↳ Mallapurhasseey palliyodam (snake boat) festival

↳ Pampa River

↳ one of the festivities at Sree Puthussathiy Temple at Kerala.

↳ attracts a large number of tourists.

↳ oldest riverboat race in Kerala.

↳ held during Onam.

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