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MK Yadav Sir

Table of Contents

1. NIPUN Bharat Mission
2. Natural Farming in India
3. Asian Disaster Preparedness Centre
4. Right to be Forgotten
5. South Africa's Climate Change Bill
6. Integrated Disease Surveillance Prog
7. Gaganyaan Mission
8. Tell Umm Amer Heritage Site
9. PKVY & MOVCDNER
10. Caller ID Spoofing

INDIAN EXPRESS

Page 11

NIPUN BHARAT MISSION

(Syllabus: GS Paper 2 – Education)

How educated mothers of young kids can be asset for NIPUN



EXPERTS EXPLAIN

SANJAY KUMAR & RUKMINI BANERJI

THE NEW National Education Policy (NEP 2020) was launched on July 29, four years ago. One of NEP 2020's key recommendations was to ensure that by the time children reach Grade 3, they have acquired foundational literacy and numeracy skills.

To this end, the Centre launched the NIPUN (National Initiative for Proficiency in Reading with Understanding and Numeracy) Bharat Mission on July 5, 2021. The mission has seen energetic implementation in many states, with a new framework for the foundational stage of education developed and released well before frameworks for other stages.

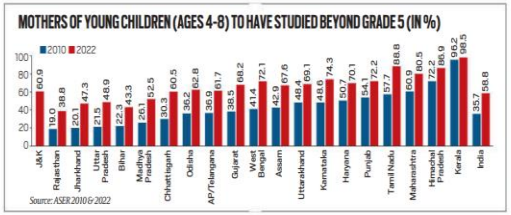
This framework includes teacher training oriented towards the new goals, specially designed teaching-learning materials for use by children and teachers in early grade classrooms, etc. But in addition to these in-school efforts, there are a set of interlinked social and demographic trends which, if leveraged, could provide a boost to the NIPUN efforts.

Here we focus on parents, specifically the mothers of young children (between ages 4 and 8), to see how their contribution can help in strengthening children's learning journey.

Two demographic trends

School enrollment levels (between ages 6-14) have shown a remarkable rise in the last few decades. With the launch of the Sarva Shiksha Abhiyan in 2001, school enrollment levels reached well above 90% in rural India by the early 2000s. The push for universal elementary education has meant that not only are more children getting enrolled into schools, but increasingly, a higher proportion of each cohort is completing elementary education.

The data on education levels of mothers with children between ages 4 and 8 – the target age of the NIPUN mission – show a steep rise over the last decade. According to the Annual Status of Education Report (ASER) surveys, between 2010 and 2022, the number of such mothers to have studied beyond Grade 5 jumped from 35% to nearly 60%. In fact, in 2010, less than 10% of young rural mothers had completed more than 10 years of schooling. By 2022, this number was well over 20%.



Source: ASER 2010 & 2022

In states like Uttarakhand, Maharashtra, Punjab, and Haryana, 30-40% of mothers of young children have had schooling beyond Grade 10. In Tamil Nadu, this figure is close to 43%, while in Himachal, it is higher than 54%. Kerala tops this list with almost 72% of these mothers receiving high school education.

However, young women in India are not joining the labour force at a rate comparable to the rest of the educated world. According to latest data from the Periodic Labour Force Survey (PLFS) 2022-23, the over-all female labour force participation rate – LFPR shows the percentage of the population which is looking for a job – in India is only 37% (41.5% in rural, 25.4% in urban India). For women in the 15-29 age-group, the LFPR is even lower at 24.5% (25.8% in rural, 20.8% in urban India).

Leveraging educated mothers

The economic implications of India's low LFPR are debated in India's public policy circles. There is undoubtedly scope for much improvement in this area.

But educated mothers provide a uniquely positioned resource for supporting young children's learning. Although father's education matters as well, 65.5% of young men (ages 15-29) in rural India are a part of the workforce, and thus, not as available to be with children.

The data outlined above suggests that due to the push towards universal elementary education, India today is in a unique position to leverage young mothers' schooling levels as a resource in their children's journey to acquire foundational literacy and numeracy.

The pandemic, which was a difficult and disruptive, has already laid the ground for this higher engagement. With schools closed for more than a year, parents – regardless of their own education levels – had to get involved in their children's education. Before the pandemic, parents largely left the business of learning to schools.

The active participation of families, especially mothers, should be further encouraged to meet the goals of the NIPUN Bharat Mission. For young children to grow and thrive, nothing can be more powerful than teachers and mothers joining hands.

Sanjay Kumar is Secretary, Department of School Education and Literacy, Ministry of Education, Government of India. Rukmini Banerji is CEO, Pratham Education Foundation

Context: Educated mothers of young children can be valuable assets for the NIPUN initiative, contributing to its goal of improving foundational literacy and numeracy. Their involvement can significantly enhance early childhood education outcomes.

NIPUN Bharat Mission

- **About:** The mission has seen energetic implementation in many states, with a new framework for the foundational stage of education developed and released well before frameworks for other stages.
- **Full Form:** (National Initiative for Proficiency in Reading with Understanding and Numeracy.
- **Launched**: July 5, 2021
- **Framework for Early Education**: This framework includes teacher training oriented towards the new goals, specially designed teaching-learning materials for use by children and teachers in early grade classrooms.
- **Importance of In-School Efforts**: In addition to these in-school efforts, there are a set of interlinked social and demographic trends which, if leveraged, could provide a boost to the NIPUN efforts.
- **Focus**: A focus on parents, specifically the mothers of young children (between ages 4 and 8), is essential to see how their contribution can help in strengthening children's learning journey.

Key Points

- **Overall Improvement**: According to the Annual Status of Education Report (ASER) surveys, between 2010 and 2022, the number of mothers who have studied beyond Grade 5 increased from 35% to nearly 60%.
- **Young Rural Mothers:** In 2010, less than 10% of young rural mothers had completed more than 10 years of schooling. By 2022, this number had risen to well over 20%.
- **Northern States:** In states like Uttarakhand, Maharashtra, Punjab, and Haryana, 30-40% of mothers of young children have received schooling beyond Grade 10.
- **Higher Educational Achievement**
  - In Tamil Nadu, the percentage of mothers of young children who studied beyond Grade 10 is close to 43%.
  - In Himachal Pradesh, this figure is higher than 54%.
  - Kerala tops the list with almost 72% of these mothers receiving high school education.

THE HINDU

Pg 13
Jul 28

NATURAL FARMING IN INDIA

(Syllabus GS Paper 3 – Agriculture)

Should India focus on natural farming?

What are the concerns on yields? What have been the findings on the ground? How did two studies on the yield potential of natural farming differ? What happened when Sri Lanka decided to ban chemical fertilizers, substituting it with natural ones?

Vikas Vasudeva

The story so far:

In her Budget proposals for 2024-25, Union Finance Minister Nirmala Sitharaman announced that in the next two years, one crore farmers across the country will be initiated into natural farming supported by certification and branding. Implementation will be through scientific institutions and gram panchayats, adding that 10,000 need-based bio-input resource centres will be established.

What is the mission?

As part of the National Mission on Natural Farming (NMNF), the government intends to motivate farmers to adopt chemical-free farming and draw them towards adopting natural farming willingly on the system's merit. The government believes that the success of the NMNF will require a behavioural change in farmers to shift from chemical-based inputs to cow-based, locally-produced inputs. The natural farming scheme under the 'Bharatiya Prakritik Krishi Paddhati' has a total outlay of ₹4,645.69 crore for six years (2019-20 to 2024-25).

What is natural farming?

In natural farming, no chemical fertilizers and pesticides are used. It promotes traditional indigenous practices which are largely based on on-farm biomass recycling with a stress on biomass mulching, use of on-farm cow dung-urine formulation; managing pests through diversity, on-farm botanical concoctions and exclusion of all synthetic chemical inputs directly or indirectly. The emphasis is on improving natural nutrient cycling and increasing organic matter in the soil. Grounded in agro-ecology, it is a diversified farming system that integrates crops, trees and livestock, allowing the optimum use of functional biodiversity. Those advocating natural farming believe that it holds the potential to enhance farmers' income while delivering many other benefits, such as restoration of soil fertility and environmental health, and mitigating and/or reducing greenhouse gas emissions.

'If we adopt natural farming for wheat and rice, which are India's staples, we shall be able to feed only around one-third of our population'



Hard at work: Workers transplanting paddy seedlings at a field in Palakkad, Kerala on July 13. K. K. MUSTAFAH

What are the challenges and concerns?

Agriculture and food experts have their reservations surrounding a large-scale transition from chemical farming to natural farming in a country like India, which has a huge population. Catering to its food-growing needs isn't an easy task, they point out. Recently, an academic paper titled, 'Zero Budget Natural Farming (ZBNF): Implications for Sustainability, Profitability, and Food Security', published by the National Bank for Agriculture and Rural Development and the Indian Council for Research on International Economic Relations, pointed out the "sheer disparity" in the outcomes of the two different experiments surrounding ZBNF (now renamed as Bhartiya Prakritik Krishi Paddhati), one conducted by the Centre for Economic and Social Studies (CESS) and Institute for Development Studies Andhra Pradesh, and the other by the Indian Council of Agricultural Research (ICAR) and the Indian Institute of Farming Systems Research (IIFSR). Sandip Das, Mahima Khurana and Ashok Gulati write in the paper the importance of long-term experimentation before declaring natural farming as a nationwide agriculture practice. The paper, which delves into the promising yet contentious realm of natural farming, navigates through contrasting findings from the two studies, revealing divergent perspectives on ZBNF. While Andhra Pradesh emerges as a forerunner in adopting ZBNF with encouraging results, the IIFSR study raises concerns about the sustainability and yield (productivity) potential of this farming method.

For instance, the paper notes the CESS study has found that in the case of a variety of crops, lower cost of biological inputs suggested under ZBNF has led to improved yields of crops and farmers' incomes, thus increasing the food and nutritional security of farmers practising ZBNF. However, findings of agro-scientists of the ICAR-IIFSR, a government institute, show a 59% decline in wheat yields and a 32% decline in basmati rice yield compared to integrated crop management, adversely impacting food supply.

What are the lessons from Sri Lanka?

It's vital that before launching a large-scale transition from chemical to natural cultivation, extensive studies and assessments are conducted. A couple of years ago, neighbouring Sri Lanka went through economic and political turmoil after it decided to turn completely organic, and banned the import of chemical fertilizers. The government's policy shift had several consequences with farmers struggling to get natural fertilizers; they faced a reduction in yields of key crops including rice, the staple, putting the country's food security at risk. A sharp price escalation was witnessed in the country, resulting in huge protests and unrest.

What is the way forward?

Noted economist and former professor at the Ludhiana-based Punjab Agricultural University, M.S. Sidhu, asserts that natural farming could be beneficial at a localised level, but in a populous country like India, adopting natural farming at a large scale may not be a successful model. "Food security is a major concern. If we adopt natural farming for cereals, which are mostly staples, we shall be able to feed only around one-third of our population. Wheat and rice are our staple foods, growing these crops through natural farming could result in lower yields, and hence it's not advisable unless scientific studies are conducted on yields". Supplementary foodstuffs may be grown through natural farming, he points out. "Rigorous scientific tests of natural farming, especially surrounding the crop yields should be held before its nationwide implementation to fend off the fear of potential risk to national food security," says Prof. Sidhu.

Organic Farming	Natural Farming
Organic fertilizers and manures like compost, vermin-compost and cow dung manure are used and added to farmlands from external sources.	In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external nutrient sources added to soil.
Organic farming is still expensive due to the requirement of bulk manures, and it has an ecological impact.	It is an extremely low-cost farming method, completely moulding with local on biodiversity surrounding environments.
In organic farming the manures and composts are to be incorporated into the soil for their proper decomposition and this requires more effort and cost.	In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil, over the years.
Organic farming has a slight adverse effect on the surrounding environment as it involves intervening with the natural processes.	Natural farming practice does not have any effect on the surrounding environment and it confirms with local processes of biodiversity.
Guidelines & regulations to be followed for certification purpose.	Less regulated.

Context: In Budget proposals for 2024-25, Union Finance Minister of India announced that in the next two years, one crore farmers across the country will be initiated into natural farming supported by certification and branding.

Natural Farming In India

- **About**: It is a chemical-free, traditional farming method. It is viewed as an agroecology-based diversified farming system that integrates crops, trees, and livestock, promoting functional biodiversity.
- **First popularised by**: The Japanese scientist and philosopher Masanobu Fukuoka.
- **In India**: Agriculturalist Subhash Palekar has helped popularised the practice across the country.
- **First practice**: Karnataka
- **Focus**: Restoring soil health, maintaining biodiversity, ensuring animal welfare, efficiently using natural and local resources, and promoting ecological fairness
- **Four Pillars of Natural Farming:** Jivamrita/jeevamrutha, Bijamrita/beejamrutha. Acchadana/mulching and Whapasa/moisture.
- **Major States**: Andhra Pradesh, Gujarat, Himachal Pradesh, Odisha, Madhya Pradesh, Rajasthan, Uttar Pradesh and Tamil Nadu are among the leading states.
- **Area in India is under Natural Farming**: 6.5 lakh ha. Area.
- **National Mission on Natural Farming (NMNF):** The government aims to encourage farmers to transition to chemical-free farming methods.
- initiative seeks to attract farmers to natural farming practices by highlighting their benefits.
- **Objective**: To instill a shift in farmers' mindset from relying on chemical-based inputs to using cow-based, locally-produced inputs.

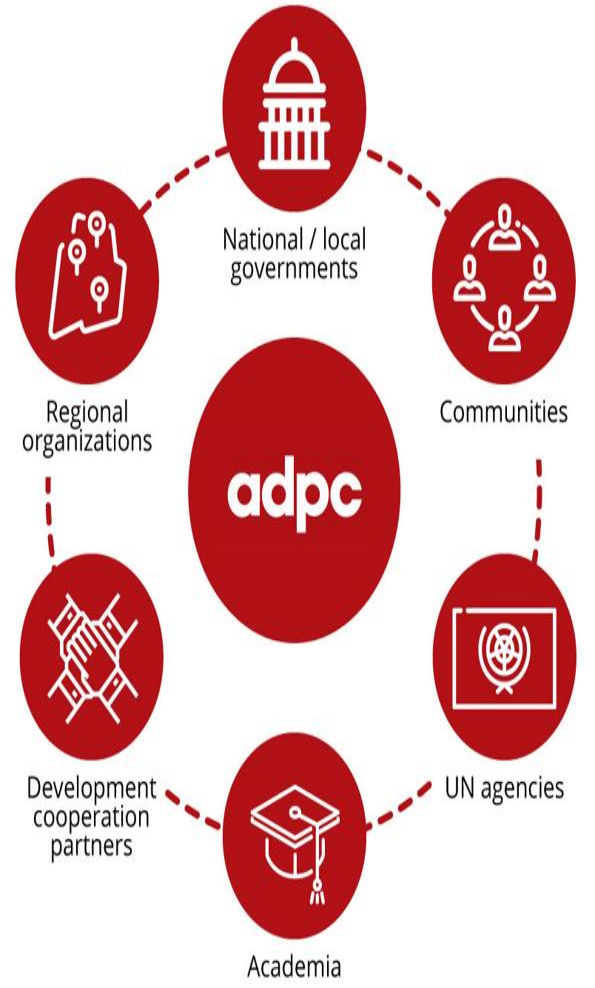
ASIAN DISASTER PREPAREDNESS CENTRE
(Syllabus: GS Paper 3 – Disaster Management)

India assumes the Chair of Asian Disaster Preparedness Centre (ADPC)

Context: Recently, India has taken over as the Chair of Asian Disaster Preparedness Centre (ADPC) for 2024-25.

Asian Disaster Preparedness Centre

- **Established in**: 1986.
- **Mission and Focus**: ADPC works on cooperation and implementation of disaster risk reduction and building climate resilience in Asia and the Pacific.
- **Safer Communities and Sustainable Development**: The vision is to achieve safer communities and sustainable development through disaster risk reduction in Asia and the Pacific.
- **Founding Members**: India, Bangladesh, Cambodia, China, Nepal, Pakistan, Philippines, Sri Lanka, and Thailand.
- **Governing Bodies:** The governing and advisory bodies of ADPC are the Board of Trustees, Executive Committee, Advisory Council, and Regional Consultative Committee (RCC).
- **International Charter**: The ADPC Charter was signed by nine founding member countries and became effective in 2018 after ratification by all founding members.
- **Autonomous Operation**: As of January 2020, ADPC operates as an autonomous international organization governed by the Board of Trustees.
- **Headquarters**: Bangkok, Thailand, with sub-centers in various countries of operations.



RIGHT TO BE FORGOTTEN

(Syllabus: GS Paper 2 – Polity)

Right to be forgotten

India does not have a statutory framework that prescribes the right to be forgotten. The SC has now agreed to hear a case that will likely shape the contours of this right

EXPRESS NEWS SERVICE
NEW DELHI, JULY 28

LAST WEEK, the Supreme Court agreed to hear a case whose outcome will likely shape the contours of the "right to be forgotten", known in European information privacy regulation as the "right to erasure", in India. The top court now has to decide whether the right to be forgotten is a fundamental right and, if so, how it relates to other fundamental rights guaranteed by the Constitution of India.

A three-judge Bench headed by Chief Justice of India (CJI) D Y Chandrachud will hear a challenge against a Madras High Court ruling that on February 27 directed legal search portal Indian Kanoon to take down a judgment in a 2014 rape and cheating case. The acquitted man had moved the Madras HC in 2021, saying that he had been denied the citizenship of Australia because his name appears in the judgment that is publicly available on the legal portal.





A restaurant in Pescara, Italy, where a man stabbed his brother in 2008. In 2019, the 'right to be forgotten' privacy law was used to force a former editor of an Italian news website to delete a story about the incident. *The New York Times*; (left) In 2014, the EU's top court ruled in favour of Spaniard Mario Costeja González who asked for Google to remove information about him dating back to 1998. Reuters

What is the right to be forgotten?

The right to be forgotten can be loosely described as the right to remove one's digital footprint (from Internet searches, etc.) where it violates the right to privacy. In May 2014, the Luxembourg-based Court of Justice of the European Union (CJEU), the highest court in matters concerning the application and interpretation of EU law, affirmed that there exists a right to be forgotten.

In what is commonly referred to as the "Google Spain case", the court ruled on the plea of Spanish lawyer Mario Costeja González to have Google remove information from 1998 regarding the forced sale of his property due to social security debt.

Citing Articles 7 (respect for private and family life) and 8 (protection of personal data) of the EU Charter on Fundamental Rights, the CJEU ruled that search engines must cater to individual requests to remove data that "appear to be inadequate, irrelevant or no longer relevant or excessive in the light of the time that had elapsed".

Informational self-determination – an individual's right to control and limit her personal information – is now widely recognised in EU law. Article 17 of the EU's General Data Protection Regulation (GDPR) describes the right to erasure. From victims of so-called "revenge porn" to individuals whose personal cases are on the Internet, the right to be forgotten is a crucial remedy.

How is the right interpreted in India?

In India, there is no statutory framework that prescribes the right to be forgotten. However, not all constitutional rights need to be written in black and white. Until the 2017 judgment in *Justice K S Puttaswamy v Union of India* – in which the apex court explicitly recognised the right to privacy as a fundamental right, placing it as a facet of the right to life, right to equality, and the right to freedom of speech and expression – there were also questions on the right to privacy.

A concurring opinion in the Puttaswamy ruling by Justice S K Kaul mentions the right to be forgotten. Justice Kaul said that this right "does not mean that all aspects of earlier existence are to be obliterated... It would only mean that an individual who is no longer desirous of his personal data to be processed or stored, should be able to remove it from the system where the personal data/information is no longer necessary, relevant, or is incorrect and serves no legitimate interest".

Justice Kaul also gave a list of valid justifications for the right to be forgotten to be violated. These included "exercising the right of freedom of expression and information, for compliance with legal obligations, for the performance of a task carried out in public interest, on the grounds [of]... public health, for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes, or for the establishment, exercise or defence of legal claims".

How have courts ruled on the issue?

In several isolated pleas, mostly asking the court's permission to take down information in court rulings, courts have passed orders with regard to this right.

In the landmark 1994 ruling in *R Rajagopal vs. State of Tamil Nadu*, the SC had talked about a "right to be let alone".

"A citizen has a right to safeguard the privacy of his own, his family, marriage, procreation, motherhood, child-bearing and education among other matters. None can publish anything concerning the above matters without his consent whether truthful or otherwise..." the SC had said. But the ruling drew a distinction between the right to be let alone and the publication of public records, such as court decisions. "This is for the reason that once a matter becomes a matter of public record, the right to privacy no longer subsists and it becomes a legitimate subject for comment by press and media among others," the two-judge Bench had held.

More recently, several High Courts have passed rulings that often conflict with one another.

In *Dharamraj Bhanushankar Dave vs State Of Gujarat* (2017), the petitioner had asked the Gujarat HC to remove details of his acquittal in a murder and kidnapping case, saying that it had come up during background checks while he was applying for an Australian visa. The court refused to grant him relief, holding that court orders are allowed to be in public domain.

However, in *[Name Redacted] vs The Registrar General*, the Karnataka HC in 2017 ensured that the name of the petitioner would be protected in an annulment case. Although the court did not substantially engage with jurisprudence on the right to be forgotten, it said that the ruling is in keeping "with the trend in the Western countries where they follow this as a matter of rule... in sensitive cases involving women in general...".

In 2021, the Delhi HC extended the right to be forgotten to even a criminal case by allowing a ruling involving Jorawar Singh Mundy, an American law student, to be taken down from search results. Mundy was acquitted in a customs case involving narcotics. The HC cited "the irreparable prejudice which may be caused to the Petitioner, his social life and his career prospects" as reason for taking down the details of the case.

The Orissa HC in 2020, while hearing a criminal case which involved "revenge porn", said that the legal possibilities of being forgotten "online or offline cries for a widespread debate".

"It is also an undeniable fact that the implementation of the right to be forgotten is a thorny issue in terms of practicality and technological nuances... It cries for a clear cut demarcation of institutional boundaries and redressal of many delicate issues which hitherto remain unaddressed in Indian jurisdiction," the HC said.

Context: The Supreme Court of India has agreed to hear a case that will likely define the "right to be forgotten," akin to the "right to erasure" in European privacy laws. This ruling could shape information privacy regulation in the country.

Right to be Forgotten

- **Definition**: The right to be forgotten refers to the ability to remove one's digital footprint from Internet searches and other online content when it infringes upon privacy rights.
- **CJEU Ruling**: In May 2014, the Court of Justice of the European Union (CJEU) confirmed the existence of the right to be forgotten, affirming its importance in privacy law.
- **Google Spain Case**: The right was notably applied in the "Google Spain case," where Spanish lawyer Mario Costeja González successfully petitioned to remove outdated information related to a property sale from Google's search results.

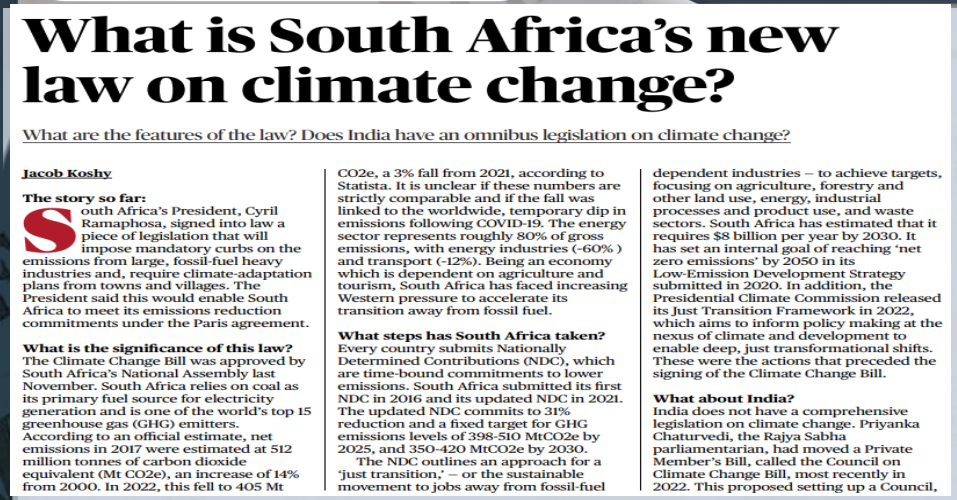
How is the Right Interpreted in India?

- **Lack of Statutory Framework:** India does not have a specific statutory framework for the right to be forgotten, but the concept is recognized through broader privacy rights.
- **Recognition of Privacy Rights**: The 2017 Supreme Court judgment in Justice K S Puttaswamy v Union of India established the right to privacy as a fundamental right, linking it to the right to life, equality, and freedom of expression.
- **Historical Context**: In the 1994 case of Rajagopal vs. State of Tamil Nadu, the Supreme Court discussed the "right to be let alone," which aligns with the principles underlying the right to be forgotten.

THE HINDU Page 8

SOUTH AFRICA'S CLIMATE CHANGE BILL

(Syllabus: GS Paper 3 – Env & Ecology)



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

What are the features of the law? Does India have an omnibus legislation on climate change?

Jacob Koshy

The story so far:

South Africa's President, Cyril Ramaphosa, signed into law a piece of legislation that will impose mandatory curbs on the emissions from large, fossil-fuel heavy industries and, require climate-adaptation plans from towns and villages. The President said this would enable South Africa to meet its emissions reduction commitments under the Paris agreement.

What is the significance of this law?

The Climate Change Bill was approved by South Africa's National Assembly last November. South Africa relies on coal as its primary fuel source for electricity generation and is one of the world's top 15 greenhouse gas (GHG) emitters. According to an official estimate, net emissions in 2017 were estimated at 512 million tonnes of carbon dioxide equivalent (Mt CO2e), an increase of 14% from 2000. In 2022, this fell to 405 Mt CO2e, a 3% fall from 2021, according to Statista. It is unclear if these numbers are strictly comparable and if the fall was linked to the worldwide, temporary dip in emissions following COVID-19. The energy sector represents roughly 80% of gross emissions, with energy industries (~60%) and transport (~12%). Being an economy which is dependent on agriculture and tourism, South Africa has faced increasing Western pressure to accelerate its transition away from fossil fuel.

What steps has South Africa taken?

Every country submits Nationally Determined Contributions (NDC), which are time-bound commitments to lower emissions. South Africa submitted its first NDC in 2016 and its updated NDC in 2021. The updated NDC commits to 31% reduction and a fixed target for GHG emissions levels of 398-510 MtCO2e by 2025, and 350-420 MtCO2e by 2030.

The NDC outlines an approach for a 'just transition,' – or the sustainable movement to jobs away from fossil-fuel dependent industries – to achieve targets, focusing on agriculture, forestry and other land use, energy, industrial processes and product use, and waste sectors. South Africa has estimated that it requires $8 billion per year by 2030. It has set an internal goal of reaching 'net zero emissions' by 2050 in its Low-Emission Development Strategy submitted in 2020. In addition, the Presidential Climate Commission released its Just Transition Framework in 2022, which aims to inform policy making at the nexus of climate and development to enable deep, just transformational shifts. These were the actions that preceded the signing of the Climate Change Bill.

What about India?

India does not have a comprehensive legislation on climate change. Priyanka Chaturvedi, the Rajya Sabha parliamentarian, had moved a Private Member's Bill, called the Council on Climate Change Bill, most recently in 2022. This proposed setting up a Council,

Context: South Africa has enacted a law mandating emissions curbs for large fossil-fuel industries and requiring climate-adaptation plans from towns and villages.

South Africa's Climate Change Bill

- **Approval:** The Climate Change Bill was approved by South Africa's National Assembly in November.
- **Energy Dependence**: South Africa primarily uses coal for electricity and is among the top 15 GHG emitters globally.
- **Emission Statistics:** In 2017, net emissions were 512 million tonnes of CO_2 equivalent, marking a 14% increase from 2000.
- **2022 Emissions**: By 2022, emissions had decreased to 405 million tonnes of CO_2 equivalent, a 3% reduction from 2021.
- **Uncertainty and Factors**
  - **Data Comparison**: It's uncertain if the 2022 decrease is directly comparable or linked to the temporary drop in emissions due to COVID-19.
  - **Energy Sector Contribution**: The energy sector contributes approximately 80% of gross emissions, with energy industries responsible for about 60% and transport for roughly 12%.
  - **Agriculture and Tourism**: South Africa's economy heavily relies on agriculture and tourism, facing increasing Western pressure to move away from fossil fuels.

India's Legislative Landscape on Climate Change

- **Absence of Comprehensive Legislation**: India lacks a unified, comprehensive law specifically dedicated to climate change.
- **Proposed Council on Climate Change Bill**: In 2022, Priyanka Chaturvedi introduced the Council on Climate Change Bill, which aimed to establish a Council chaired by the Prime Minister to advise on climate-related issues, but progress has been slow.
- **Existing Relevant Acts:** Climate change considerations are embedded within various existing laws, including the Environmental Protection Act, Forest Conservation Act, Energy Conservation Act, and Water (Prevention and Control of Pollution) Act.

ECONOMIC TIMES July 28

INTEGRATED DISEASE SURVEILLANCE PROGRAM

(Syllabus: GS Paper 2 - Health)

Over 1800 disease outbreaks reported across country last year: Govt

Context: The Lok Sabha was recently informed that 1,862 disease outbreaks were reported to the Integrated Disease Surveillance Programme last year, with Kerala recording the highest number.

Integrated Disease Surveillance Programme (IDSP)

- **About**: IDSP operates as a state-based, decentralized surveillance program in India.
- **Launch and Support**: Initiated with World Bank assistance in November 2004 by the Ministry of Health and Family Welfare, Government of India.
- **Objectives:** To maintain a decentralized, laboratory-based IT-enabled system to monitor disease trends, detect, and respond to outbreaks early through trained Rapid Response Teams (RRTs).
    - The IDSP, under Integrated Health Information Platform (IHIP), has also been strengthened to use advanced data modelling and data analytical tools, contains real-time data reporting, accessible at all levels.
- **Designed**: To capture case-based data of more than 33 plus health conditions along with special surveillance of ILI/SARI, COVID-19 and Monkey Pox.
    - It provides a single operating platform of public health surveillance of the individuals at district, state and national levels. At present, all the 36 states and UTs have completely migrated to IHIP portal.
- **Programme Components**
    - **Surveillance Integration**: Establishes surveillance units at the Centre, State, and District levels for integrated and decentralized activities.
    - **Human Resource Development**: Provides training for State Surveillance Officers, District Surveillance Officers, RRTs, and other medical and paramedical staff on disease surveillance principles.
    - **Information Communication Technology:** Utilizes ICT for the collection, collation, analysis, and dissemination of data.
    - **Strengthening Public Health Laboratories:** Focuses on enhancing the capacity of public health laboratories.
    - **Zoonotic Disease Coordination**: Ensures inter-sectoral coordination for handling zoonotic diseases.

THE HINDU Pg 8/ Jul 28

GAGANYAAN MISSION

(Syllabus: GS Paper 3 – Sci and Tech)



Gaganyaan astronaut to travel to ISS in mission with NASA

Press Trust of India
NEW DELHI

One of the four astronauts undergoing training for the Gaganyaan mission will travel to the International Space Station as part of a collaborative effort with NASA, Union Minister Jitendra Singh has informed the Lok Sabha.

In a written reply, Mr. Singh said NASA has identified Axiom Space, a private entity, while the ISRO had signed a space flight agreement with the U.S. firm for the joint mission to the International Space Station (ISS).

During Prime Minister Narendra Modi's visit to the U.S. last year, President Joe Biden announced that India and the U.S. were collaborating to send an Indian astronaut to the ISS in 2024.

India's Astronaut Selection Board had picked four astronauts from the group of test pilots from the Indian Air Force for the Gaganyaan mission, India's first manned space mission planned to take place next year. "All four astronauts have undergone training on a spaceflight basic module in Russia. Currently, astronauts are undergoing training at the ISRO's Astronauts Training Facility (ATF) in Bengaluru for the Gaganyaan Mission," Mr. Singh said.

ISRO has signed a space flight agreement with the U.S. firm for the joint mission

The Minister said two out of three semesters of the Gaganyatri training programme have been completed while independent training simulators and static mock-up simulators have been realised.

Mission update

Sharing an update on the Gaganyaan mission, Mr. Singh said ground testing of propulsion systems stages, including solid, liquid and cryogenic, towards human rating of the launch vehicle has been completed. Design and realisation of five types of crew escape system solid motors has been completed, he said.

The Union Minister said static testing of all five types of solid motors too has been completed. Also, the first Test Vehicle mission (TV-D1) for performance validation of crew escape system and parachute deployment has been successfully accomplished, he added.

He said characteridsation of the Thermal Protection System was also complete.

Context: One of the four astronauts undergoing training for the **Gaganyaan mission** will travel to the **International Space Station** as part of a collaborative effort with National Aeronautics and Space Administration (NASA).

Gaganyaan Mission

- **About:** Gaganyaan project envisages demonstration of human spaceflight capability by launching crew of 3 members.
- **Duration:** 3 days.
- **Orbit**: Low Earth orbit, approximately 400 km above the Earth's surface.
- **Launching vehicle**: LVM3(Geosynchronous Satellite Launch Vehicle Mk III), Comprising solid, liquid and a cryogenic stage.
- **Fourth**: India will be the fourth nation to do so after the United States, Russia and China.
- **Module**:
  - **Crew Module:** A spacecraft designed for transporting human beings.
  - **Service Module:** Powered by two liquid propellant engines.
- **Objective**: To send Indian astronauts, known as Gagannauts, into space, making India the fourth nation in the world to independently conduct manned space missions.
- **Astronaut training:** Human Space Flight Centre of ISRO and Russian government-owned Glavkosmos signed a contract for astronaut training.

International Space Station (ISS)

- **About:** It is the largest modular space station in low Earth orbit. The project involves five space agencies:
  - The US' NASA, Russia's Roscosmos, Japan's JAXA, Europe's ESA, and Canada's CSA. It orbits Earth approximately every 90 minutes, at an altitude of around 400 kilometers.
- **Designed:** Between 1984 and 1993.
- **Objective:** To enable long-term exploration of space and provide benefits to people on Earth.
- **Orbit:** It orbits earth at an average altitude of 400 km and circles the globe every 90-93 minutes at a speed of 28,000 km/h.

INDIAN EXPRESS Page 11

GAZA'S TELL UMM AMER NOW A WORLD HERITAGE SITE: WHY THIS MATTERS

THE WORLD Heritage Committee (WHC) on Friday decided to include the Palestinian site of Tell Umm Amer in both the UNESCO World Heritage Site List and the List of World Heritage in Danger during its 46th session in New Delhi.

Also known as the 'Monastery of Saint Hilarion', the site lies in the Gaza Strip which continues to reel under Israel's relentless assault.



Ruins of the Monastery of Saint Hilarion. *UNICEF*

Fourth century monastery

Situated on the coastal dunes of the Nuseirat Municipality, just 10 km south of Gaza city, the ancient Christian monastery was founded in the fourth century by Hilarion the Great (291-371 CE), considered by some to be the father of Palestinian monasticism.

Born in Tabatha, close to where his monastery would eventually come up, Hilarion became a monk at the age of 15. As his fame grew, his small hermitage turned into a thriving monastery, which attracted followers from all over, many of whom would choose Hilarion's mendicant lifestyle.

The present-day archaeological remains of the site span more than four centuries, from the time of Hilarion to the Umayyad period. The ruins comprise "five successive churches, bath and sanctuary complexes, geometric mosaics, and an expansive crypt" making the monastery "one of the largest in the Middle East", according to The World Monuments Fund, an independent organisation which facilitates the preservation of "the world's most treasured places".

The monastery was likely abandoned after a seventh century earthquake, only to be uncovered by local archaeologists in 1999.

Much-needed protection

With Israel's ongoing onslaught reducing much of the Gaza strip to rubble, monuments and sites of cultural significance have not been spared either.

According to Mahmoud Hawari of the Institute of Palestinian Studies, as of February this year, "207 archaeological sites and buildings of cultural and historical significance…have been reduced to rubble or severely damaged". The site of Tell Umm Amer was also "damaged", Hawari wrote in "Israel Destroys Palestinian Cultural Heritage Sites in Gaza" (February 28, 2024).

This is why Tell Umm Amer's inclusion in the aforementioned UNESCO lists matters. The World Heritage Convention of 1972, of which Israel is a party to, sets out duties for identifying, protecting, and preserving World Heritage sites. States cannot take any deliberate measures which are likely to cause direct or indirect damage to this site.

The inclusion on the list of World Heritage in Danger automatically opens the door to enhanced international technical and financial assistance mechanisms to guarantee the protection of the property and, if necessary, to help facilitate its rehabilitation, the UNESCO statement on Friday said.

EXPRESS NEWS SERVICE

TELL UMM AMER HERITAGE SITE

(Syllabus: GS Paper 1 – Art and Culture)

Context: The World Heritage Committee (WHC) decided to include the Palestinian site of **Tell Umm Amer in both the UNESCO World Heritage Site List and the Lost of World Heritage** in Danger during its 46th session in New Delhi.

Tell Umm Amer Heritage Site

- **About**: Also known as the 'Monastery of Saint Hilarion,' is an ancient Christian monastery founded in the fourth century by Hilarion the Great, a key figure in Palestinian monasticism.
- **Location**: Situated on the coastal dunes of the Nuseirat Municipality, 10 km south of Gaza City.
- **Established by:** Hilarion, who became a monk at age 15 and attracted followers due to his reputed miracles.
- **UNICEF Listing**: The site is recognized by UNICEF as "the first monastic community in the Holy Land" and a significant center of religious, cultural, and economic activity.
- **Abandonment and Rediscovery**: The monastery likely fell into disuse after a seventh-century earthquake and was rediscovered by local archaeologists in 1999.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

- **Formation**: 1945, is a specialized agency of the United Nations (UN) based in Paris.
- **Objective:** It works to achieve peace and security by promoting international collaboration through educational, scientific, and cultural reforms.

PIB July 28

PKVY & MOVCDNER

(Syllabus: GS Paper 3 – Agriculture)

Government is implementing dedicated schemes for promotion of organic farming in the country viz. Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development in North East Region (MOVCDNER) since 2015-16

Context: Minister of State for Chemicals and Fertilizers recently released a report on Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development in the Northeast Region.

Paramparagat Krishi Vikas Yojana (PKVY)

- **About**: Launched in 2015, PKVY is part of Soil Health Management under the Centrally Sponsored Scheme, National Mission on Sustainable Agriculture.
- **Objective**: The scheme aims to promote organic farming to improve soil health and produce chemical-free agricultural products.
- **Certification System**: Promotes Participatory Guarantee System (PGS) For India (PGS-India), focusing on mutual trust and local relevance, without third-party certification.
- **Funding Pattern**: Central and State Governments contribute in a 60:40 ratio; for North Eastern and Himalayan States, it's 90:10, and 100% for Union Territories.
- **Target**: Aim to form 10,000 clusters of 20 hectares each and convert nearly two lakh hectares to organic farming by 2017-18.
- **Benefits**: Supports and promotes organic farming, leading to improved soil health and the production of chemical-free agricultural products.

Mission Organic Value Chain Development for North East Region (MOVCD-NER)

- **About:** It is a Central Sector Scheme, a sub-mission under National Mission for Sustainable Agriculture (NMSA).
- **Launched by**: Ministry of Agriculture and Farmers Welfare
- **Implementation:** Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, during the 12th plan period.
- **Objective:** To development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing, marketing and brand building initiative.

THE HINDU Page 9

CALLER ID SPOOFING

(Syllabus: GS Paper 3 – Cyber Security)

What are the various efforts being taken to mitigate caller ID spoofing?

Caller ID spoofing is a technique with which the phone number that a call appears to originate from can be falsified. Spoofing techniques have been honed by enthusiasts, telemarketers, and fraudsters alike, over the years

Karan Saini

Several friends and family members of mine received a call from a North American (+1) phone number which played a pre-recorded message informing them of a supposed court summons. I happened to receive a call from a +1 number too. I had also missed a domestic call shortly before the international one. While these automated calls are part of a well-known scam, looking at the phone numbers, I noticed that the Indian and North American phone numbers were identical to each other, save for their country codes. The Indian number was +91 98199 69857, and the American number was +1 (981) 996-9857.

What is caller ID spoofing?

Caller ID spoofing is a technique with which the phone number that a call appears to originate from can be falsified. On a technical level, caller ID spoofing is not difficult to perform. Spoofing techniques have been honed by enthusiasts, telemarketers, and fraudsters alike, over the years. Malicious individuals use caller ID spoofing primarily to shield their identity when engaging in illicit activity. At times, caller ID spoofing is used by these individuals to carry out social engineering attacks, where the spoofed caller ID is abused for the implicit trust that the receiving party associates with it. Caller ID spoofing can also be used to circumvent standard call blocking systems, and even for exploiting vulnerabilities in insecure Interactive Voice Response (IVR) systems.

Caller ID spoofing in itself is perfectly legal in many jurisdictions, and as a result of this several companies offering caller ID spoofing services to customers around the world have popped up over the years, with the first commercial caller ID spoofing service launching in 2004.

Tackling scam calls

Caller ID spoofing is a costly affair for everyone involved. Telecommunication service providers lose revenue, users that are defrauded due to a scam call abusing a spoofed caller ID lose money, and law enforcement has a harder time investigating crimes where spoofed caller IDs are used. Caller ID spoofing is not a new phenomenon, and there have been several earnest technical efforts made for fixing the problem.

The International Telecommunications Union (ITU) is a special UN agency focused on improving and standardising global information and communication technologies. The ITU was originally established as the International Telegraph Union in 1865, much before the UN existed, and of which India has been a member since 1869 onward. In 2021, the ITU published a technical report on countering caller ID spoofing. While this report does not have any mandatory provisions, it does provide a reference using Public Key Infrastructure (PKI) based authentication which could be implemented by Indian telecom operators to fix caller ID spoofing for good.

The Telecom Regulatory Authority of India (TRAI) had earlier recommended to telecom operators to integrate a system known as Calling Name Presentation (CNAP), with the idea of allowing consumers to know who is calling them in a way similar to how applications such as TrueCaller do it, except CNAP would be mandatory, and caller names would appear as per KYC documents. A 2022 consultation paper on the project makes only a few mentions of caller ID spoofing, and does not provide a plan or technical measures for tackling the issue. It merely acknowledges in one sentence that caller ID spoofing is a problem that exists. The Department of Telecommunications (DoT) is reportedly in the process of launching a pilot of the CNAP project. Though it is not known whether CNAP will (or should) be implemented, it can be said that introducing such a system without first implementing a technical fix for caller ID spoofing will be a mistake.

According to news reports from May 2024, the DoT has devised a system to "identify and block" international calls with a manipulated Calling Line Identity (CLI) and has issued directions to telecom operators to prevent such calls from reaching subscribers.

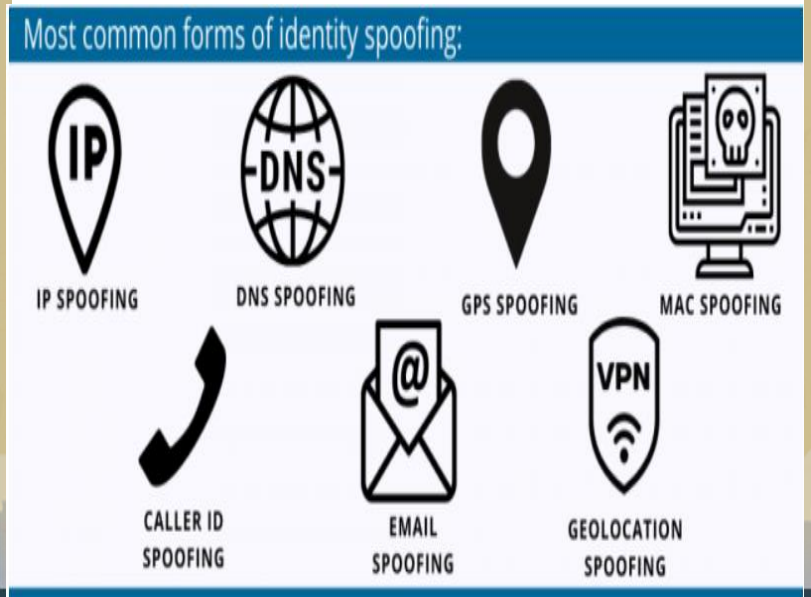
However, considering that the problem has still not been fixed, it is unclear whether the system (technical details of which have not been furnished) is effective, or if it has even been implemented.

Government inaction

The Telecommunications Act, 2023 which was partially notified on June 26 of this year allows the Union Government to take over control and operation of any telecommunication service or network during times of "emergency." Section 20 of the Act empowers the Government to take "temporary possession of any telecommunication service or telecommunication network from an authorised entity" for "any public emergency, including disaster management, or in the interest of public safety." The Act has received criticism for being invasive and potentially increasing surveillance powers. That aside, it can be said that fixing caller ID spoofing would be "in the interest of public safety"; why then has the Government not taken action?

Fixing the technical and implementation problem of caller ID spoofing will have an outweighed impact for all stakeholders. For consumers, fixing caller ID spoofing will reduce spam and fraud calls, and will completely eliminate fraud that relies on false representation of one's identity via phone number. For telecommunications providers, it will save revenue that would otherwise be lost, and for the Government and therefore the public, it would result in revenue that would contribute to the Indian economy.

Karan Saini is a security engineer and researcher based in New Delhi, India



Context: Recent reports reveal scammers are using caller ID spoofing to disguise their numbers, making it appear as though the call is from a trusted organization.

Caller ID Spoofing

- **About:** It is a technique that allows the phone number displayed on a call recipient's device to be falsified.
- **Spoofing Techniques:** It have been refined by enthusiasts, telemarketers, and fraudsters over the years.
- **Uses**: Malicious individuals use caller ID spoofing to conceal their identity during illicit activities.
- **Social Engineering Attacks**: Spoofed caller IDs are used in social engineering attacks, exploiting the trust associated with familiar phone numbers.
- **Call Blocking**: It can bypass standard call blocking systems and exploit vulnerabilities in Interactive Voice Response (IVR) systems.
- **Legal Status**: Caller ID spoofing is legal in many jurisdictions, leading to the emergence of commercial spoofing services since 2004.
- **Economic Impact**: Caller ID spoofing incurs significant costs for telecommunication service providers, defrauded users, and law enforcement agencies.
- **International Efforts**: The International Telecommunications Union (ITU), a UN agency, focuses on improving and standardizing global communication technologies.
- **TRAI's Recommendations:** The Telecom Regulatory Authority of India (TRAI) recommended the integration of a Calling Name Presentation (CNAP) system to display caller names based on KYC documents.
- A 2022 TRAI consultation paper briefly acknowledged caller ID spoofing but lacked a detailed plan to tackle the issue.

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