



VAJIRAM & RAVI
Institute for IAS Examination

The Analyst

CURRENT AFFAIRS Handout

25th August 2025



India and World in Dairy



CONTEXT: A write-up has appeared discussing the competitiveness and efficiency of India's dairy sector, especially amid pressure from the US administration on India to open its market to American dairy products.

Region	Price (₹/litre)	Milk Composition
US	₹36.7	3.5% fat, 8.5% SNF
India	₹34	3.5% fat, 8.5% SNF
EU	₹55.6	3.5% fat (avg)
New Zealand	₹ ₹35	4.2% fat, 9% SNF

Region	No. of Dairy Farms	No. of Dairy Animals
US	24,470	9.3 million cows
India	50 million+	110 million cows & buffaloes

Region	Annual Yield per Cow (tonnes)
India	1.64
New Zealand	4.60
EU	7.33
US	10.97

25% to world's total milk output is from India (Ranks 1st in the production of milk globally)

5% of the country's GDP comes from Dairy sector.

~8 crore families are provided livelihood by dairy industry

More than 70% participation in the Dairying sector is by women.

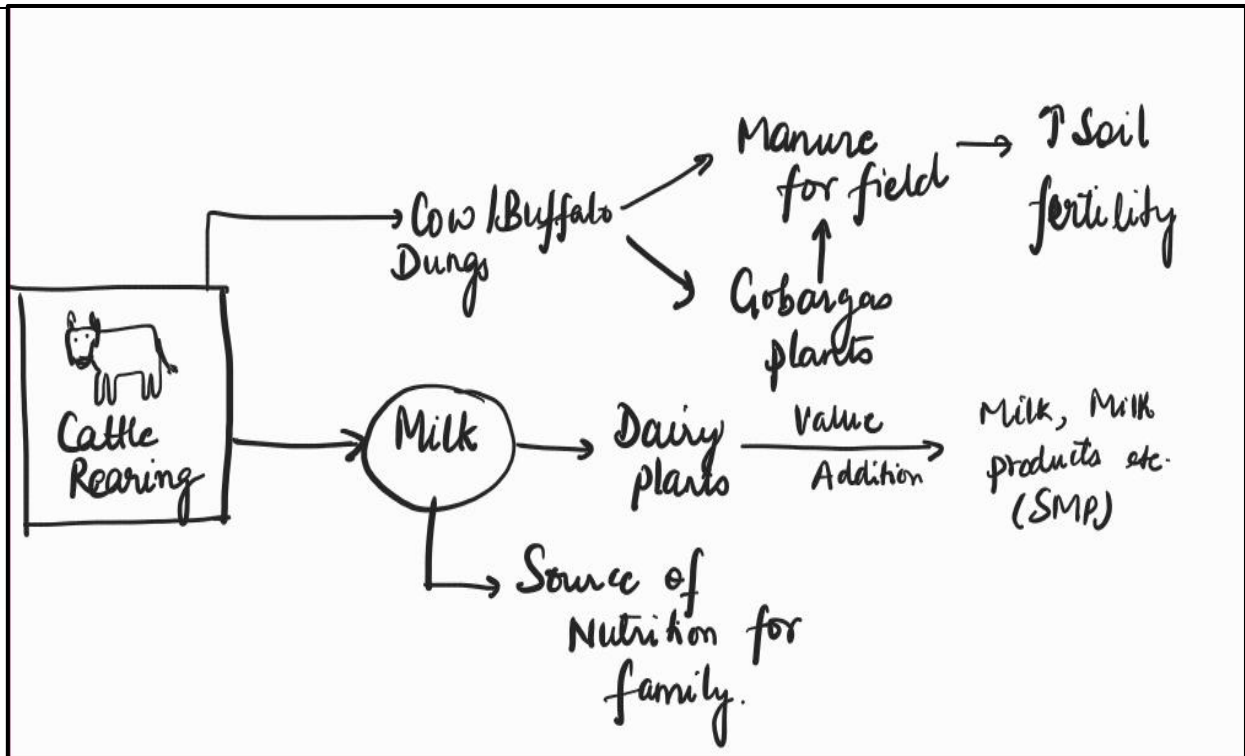
CORN PRICE COMPARISONS

Region	Farmgate Price (₹/kg)	Yield (tonnes/hectare)
US	₹15.4	11+
India	₹22-23	3.5



India and World in Dairy

CONTEXT: A write-up has appeared discussing the competitiveness and efficiency of India's dairy sector, especially amid pressure from the US administration on India to open its market to American dairy products.



Issue in Dairy Sector

Low Milk Productivity

15-18 liters per cow per day, - developed countries it can exceed 30 liters.

Feed Quality and Availability

Impact the prices of Milk- Competition with food security

High Input Costs

Feed, veterinary care, and other inputs- squeezing profit margins

Lack of Modernization

traditional practices, low-cost family labour, minimal mechanisation, and small farm holdings

Climate Change

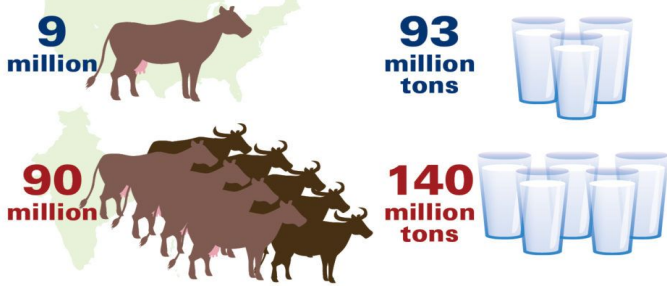
Extreme weather, heat stress, changing rainfall- livestock health and productivity



CONTEXT: A write-up has appeared discussing the competitiveness and efficiency of India's dairy sector, especially amid pressure from the US administration on India to open its market to American dairy products.

Issue in Dairy Sector

MEETING INDIA'S MILK DEMAND



India has 10 times as many dairy-producing bovines as the U.S., but produces only 50 percent more milk. FAOSTAT (2014).

@2018 Global Agricultural Productivity Report



CONTROL OPTIONS: VACCINE & CULLING

- > Lumpy skin disease is a viral disease that affects cattle
- > Is transmitted by blood-feeding insects like certain species of mosquitoes and flies, or ticks
- > It causes fever, nodules on the skin and can also lead to death
- > Control options include vaccination and culling of the infected animals



Lumpy Skin Disease in India

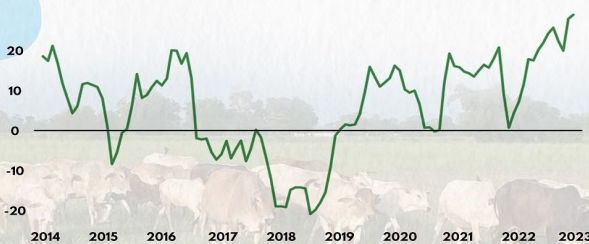
- > First case reported from Gujarat on April 23. Disease has spread to at least 23 states
- > 67,000+ cattle have succumbed since July

20cr
India's total cattle population

- > In Maha, it has led to deaths of 25 cattle and buffaloes in 17 districts till Sept 7
- > 1.5cr vaccine doses have been administered in India

FODDER PRICE INFLATION COINCIDES WITH RISING MILK PRICES

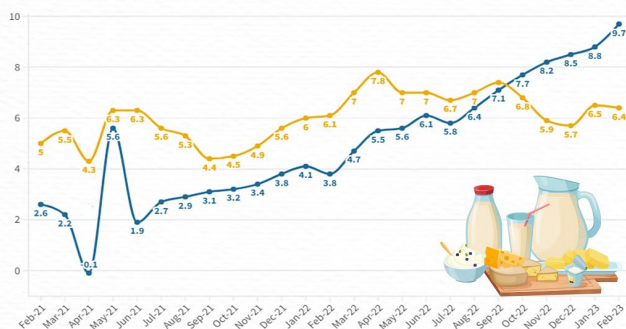
Year-on-year % change in Wholesale Price Index for fodder



Note: A number below zero shows declining price trend
Source: Economic Advisor to the Government of India

RIISING INFLATION IN MILK & MILK PRODUCTS

■ Inflation in milk & milk products ■ Overall CPI inflation (%)



Source: Ministry of Statistics and Programme Implementation



CONTEXT: A write-up has appeared discussing the competitiveness and efficiency of India's dairy sector, especially amid pressure from the US administration on India to open its market to American dairy products.

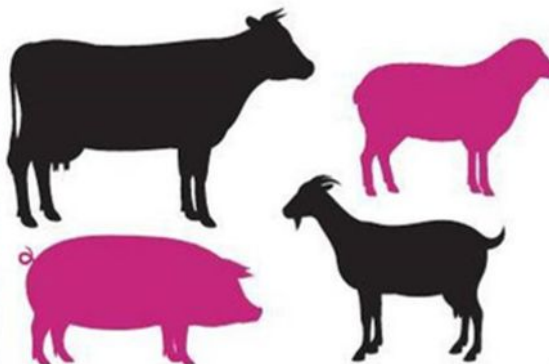
WHAT IS IT?

- A highly contagious disease affecting cloven-hoofed animals
- Animals suffer fever and blisters in the mouth and on the feet, affecting their ability to eat and walk

Can humans get FMD?

Human infection is rare and does not cause serious illness; FMD is NOT transmitted to humans in meat

FMD is NOT the same disease as human hand, foot and mouth disease, which is common in children



Scheme/Initiatives for Dairy Sector

Rashtriya Gokul Mission with the aim to develop and conserve indigenous breeds and enhancing their production and productivity-Central assistance.



Dairy Entrepreneurship Development Scheme is being implemented with the objective of generation of self-employment opportunities in the dairy sector, covering activities such as enhancement of milk production, procurement, preservation, transportation, processing and marketing of milk-Central assistance.

National Programme for Dairy Development is being implemented with objective to create infrastructure for milk procurement, processing and marketing-Central assistance.



E Pashu Haat Portal: Under the scheme National Mission on Bovine Productivity, E-Pashudhan Haat portal was developed for connecting breeders and farmers regarding availability of quality bovine germplasm.

Ministry of
Electronics &
Information Technology
Government of India

Digital India
Power To Empower

Ministry of
Animal Husbandry,
Dairying and Fisheries
Government of India

Major Technological Initiatives by Hon'ble Prime Minister Narendra Modi to take Dairy Sector in India to New Levels



- ✓ **Launch of e-GOPALA App :** Generation of wealth through Productive Livestock
- ✓ **Largest Semen Station** in Government Sector established at Purnia, Bihar to be inaugurated
- ✓ **Inauguration of In Vitro Fertilization Lab** at Patna Animal Sciences University
- ✓ **Artificial Insemination through Sex Sorted Semen** for production of female calves with 90% accuracy to be launched
- ✓ **Use of IVF Technology** at farmers' doorstep



India and World in Dairy



CONTEXT: A write-up has appeared discussing the competitiveness and efficiency of India's dairy sector, especially amid pressure from the US administration on India to open its market to American dairy products.

What should be done?

Improved Breeding:
Better breeding & genetic tech.

Scientific Feed Management:
Balanced nutrition,
Cultivating protein-rich fodder

Technology Adoption:
Modern equipment,
data-driven decisions,
mechanisations

Strengthened Infrastructure:
Cold chain,
processing facilities.

Climate-Smart Practices:
Resilient breeds,
adaptation strategies.

Mains Practise Question

Question : Discuss the key challenges hindering the growth of India's Dairy sector and suggest a roadmap for sustainable growth.(10 Marks, 150 words)

VAJIRAM & RAVI



CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.



India Fertilizer Market

India's fertilizer industry, among the world's largest, meets robust agricultural demand. Supported by government initiatives like PMKSY, it integrates tech innovations and eco-friendly solutions, fostering growth through domestic production, imports, and global partnerships.

India Fertilizer Market Share (%), By Type- 2023



- Organic Fertilizer
- Chemical Fertilizer
- Mixed Fertilizers

Market Size in 2023: INR 1046.85 Bn.

Market Size in 2030: INR 1543.15 Bn.

CAGR % (2024-2030): 5.7 %

Dominated Segment by Type: Chemical Fertilizers

Emerging Segment by Product Type: Retailers

India Fertilizer Market Size (Value), By Distribution Channel From 2023 To 2030



Fertilizer subsidy

(Amount in ₹ crore)

	Urea	Nutrient-based subsidy
2022-23		
Actual	1,65,217	86,123
2023-24		
Budget Estimates	1,31,100	44,000
Revised Estimates	1,28,594	60,300
Tentative final	1,30,221	65,200
2024-25		
Budget Estimates	1,19,000	45,000

Source: Budget Document, Fertilizer Ministry

TOI The Times of India

Fertiliser shortage sparks uproar in Chhattisgarh assembly house; 23 Congress MLAs suspended; later reins

The Chhattisgarh Assembly faces turmoil as Congress MLAs protest fertilizer and seed shortages affecting paddy farmers.

1 month ago

SF The South First

Fertiliser crisis hits Telangana's Kharif season: Amid farmers' protests, BJP and BRS blame state as Centre promises support

Fertiliser shortages, driven by inadequate local production and lower imports, have severely impacted farmers in Telangana as this year's Kharif season gets...

1 month ago



CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.

CONSUMPTION/SALE OF MAJOR FERTILISER PRODUCTS

	UREA	DAP	20:20:0:13@	SSP	MOP	NPKS*
2013-14	306	73.57	33.37	38.79	22.8	72.64
2014-15	306.1	76.26	38.02	39.89	28.53	82.78
2015-16	306.35	91.07	37.82	42.53	24.67	88.21
2016-17	296.14	89.64	37.14	37.57	28.63	84.14
2017-18	298.94	92.94	35.47	34.39	31.58	85.96
2018-19	314.18	92.11	36.9	35.79	29.57	90.28
2019-20	336.95	101	42.25	44.03	27.87	98.57
2020-21	350.43	119.11	51.63	44.89	34.25	118.11
2021-22	341.8	92.72	50.7	56.81	24.56	114.79
2022-23	357.25	104.18	50.42	50.17	16.32	100.74
2023-24	357.8	108.12	53.94	45.44	16.45	110.73
Apr-Jan '23-24	317.5	101.47	49.1	42.37	13.96	100.12
Apr-Jan '24-25	345.73	87.13	65	45.12	18.76	128.38

fig. in (lakh tonnes) *Includes 20:20:0:13; @Includes 20:20:0:0
Source: The Fertiliser Association of India.

- **Urea –sold at a government–mandated MRP.**
- **Current MRP – ₹242 per 45 kg bag (excluding neem coating charges and taxes).**
- **Subsidy Provided– urea manufacturer/importer.**
- **Covers the difference–delivered cost of urea – net market realization**

- **Nutrient Based Subsidy Scheme – 2010** by the **Department of Fertilisers, Ministry of Chemicals and Fertilisers.**
- Provided at subsidized rates based–nutrient content, including **Nitrogen (N), Phosphate (P), Potash (K), and Sulphur (S).**
- Receive additional subsidies.– enriched with **secondary nutrients and micronutrients** (such as **sulphur, zinc, boron, iron, manganese, and copper**)
- Fixed subsidy rate (in ₹ per kg) for each nutrient (N, P, K & S) annually.

Objectives of the NBS Scheme:

1. Ensure **food security** for the nation.
2. Improve **agricultural productivity.**
3. Promote **balanced fertiliser application.**

The Indian Express

DAP shortage dampens rabi crop prospects

A shortage of di-ammonium phosphate (DAP), a key fertiliser required at the time of sowing, is undermining crop production prospects for the current rabi...

23 Oct 2024



CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.

Issues related to Fertilizer Sector

1. **Overuse of Fertilisers:** soil degradation and environmental concerns, water pollution.
2. **Financial Burden on Government**
3. **Lack of Targeting:**
4. **Lack of Proper Supply**
5. **Highly skewed towards Urea**

CONSUMPTION OF UREA IN INDIA

Ideal NPK ratio for soil | **4:2:1**

Prevailing usage | **8.3:2.4:1**

Nitrogen content in chemical fertilizers | **Urea (46%), DAP (19%), NPK (10-28%)**

Chemical fertilizer sold in 2014-15 | **Urea (30.9 million tonne), DAP (7.5 million tonne) & NPK (8.6 million tonne)**

Share of fertilizer in agriculture input | **9%**



➤ Urea is the most common nitrogenous fertilizer

➤ Soil analysis reveal widespread deficiency of at least six nutrients in the soil in different parts of the country | **Nitrogen (N), Phosphorus (P), Potash (K), Sulphur (S), Zinc (Zn) and Boron (B)**

Figures are approximate

SOILS UNDER THREAT

LAND OUTLOOK

INDIA

India's total geographical area
328.7 million hectares (Mha)



Land under degradation
96.4 million hectares (Mha)
It's **29.3%** of India's total geographical area

GLOBAL

➤ Up to **40%** of the planet's land is degraded
➤ **50%** of humanity affected by land degradation



➤ Degradation threatens roughly half of global GDP (**US\$44 trillion**)

➤ Nations' current pledge to restore 1 billion degraded hectares by 2030 requires **SUS 1.6 trillion** this decade

➤ Agriculture is responsible for **80%** of global deforestation

Source: FAO and the UNCCD's Global Land Outlook report

DRIVERS OF SOIL DEGRADATION

- Deforestation
- Population growth
- Urban expansion
- Pollution and waste disposal
- Climate Change
- Unsustainable soil management practices

TYPES OF SOIL DEGRADATION

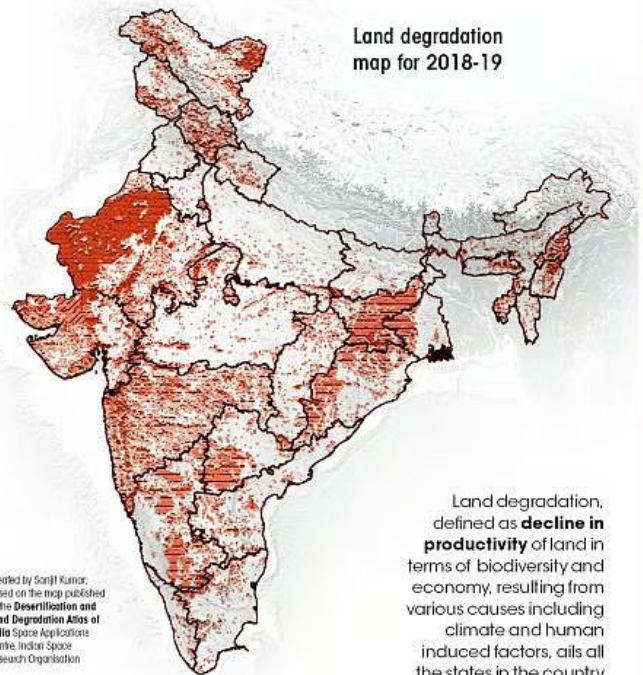
- Loss of organic carbon
- Erosion
- Acidification
- Pollution
- Nutrient imbalance
- Salinisation
- Biodiversity loss

CONSEQUENCES OF SOIL DEGRADATION

- Food and nutrition insecurity
- Water scarcity
- Rapid climate change
- Poverty and social insecurity
- Migration
- Reduction of ecosystem services

Losing land

Almost **30% of India** land area is under desertification



Recent Government Initiatives

UREA GOLD

(SULPHUR COATED UREA)



Enriches the soil with sulfur

More economical and efficient than neem-coated urea

Reduces input costs for farmers

Extension of urea subsidy until 2025



A Time to Decontrol

CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.

Urea Gold

A Game-Changer for Indian Farmers!



Urea Gold: 37% nitrogen, 17% sulfur blend

Aims: Boost crop yields, improve quality

Promises: Better harvests, lower costs, brighter future

Convenient packaging: 40 kg bags

Fixed price: ₹266.50 per bag

**ONE NATION,
ONE FERTILIZER**



Single Brand 'Bharat' Will Be Used
For All Type of Major Fertilizers
to be Sold in Country

**Objective- assess soil health every
two years**

Launched - 2015

**Ministry of Agriculture &
Farmers Welfare
Centrally Sponsored
Scheme**

Soil Health Card

**Details of soil parameters like pH,
organic carbon, nitrogen,
phosphorus, and potassium levels.**

**Site-specific nutrient management,
reducing excessive fertilizer use**

**Implemented through state
governments, covering all
agricultural land.**

**Encourages precision farming for
improved productivity and
cost-effectiveness.**

**Uses a digital database for easy
farmer access to soil health reports.**

IFFCO NANO UREA FERTILIZER



ECO FRIENDLY LIQUID FERTILIZER



CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.

PM-PRANAM

PM Programme for **Restoration, Awareness Generation, Nourishment and Amelioration** of Mother-Earth



Objective

To protect the health of "Mother Earth" by Incentivising the States/UTs with **reduced use of chemical fertilizers and promoting organic/ natural farming** and use of alternate fertilizers.

Methodology

Incentives to the states for **promoting alternate fertilizers and balanced chemical fertilizer** use to promote natural farming.

No separate financial support required



PRELIMS PYQ 2020. With reference to chemical fertilizers in India, consider the following statements:

- At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
- Ammonia, which is an input of urea, is produced from natural gas.
- Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

Which of the statements given above is/are correct?

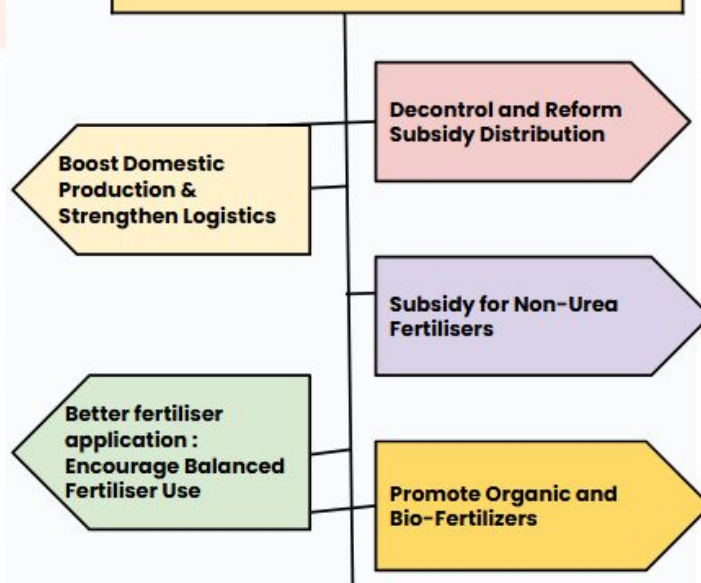
- (a) 1 only
(b) 2 and 3 only
(c) 2 only
(d) 1, 2 and 3

#7YearsOfSeva **Revolutionising Indian Agriculture** **my GOV** मेरी सरकार

Promoting Organic Farming with Paramparagat Krishi Vikas Yojana

- A total of ₹1,576.65 crore released under PKVY Scheme during 2015-16 to 2020-21
- 30,934 clusters (20 ha each) formed since 2015-16
- 6.19 lakh ha area covered and 15.47 lakh farmers have been benefited
- A dedicated online web portal www.jaivikkheti.in has been created to encourage farmers to directly sell their organic products to consumers
- 4.32 lakh farmers, 14,598 local groups, 75 input suppliers, 7,569 buyers & 1,31,385 products are already registered

What Should be done?



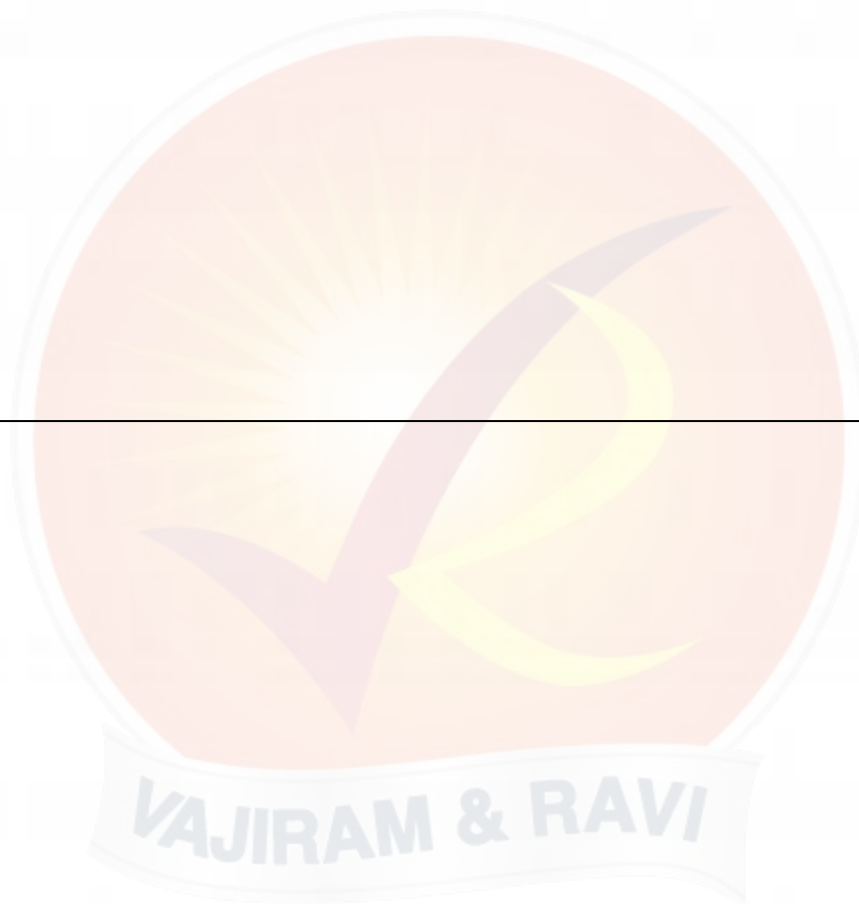
A Time to Decontrol



CONTEXT: A write-up has appeared advocating the deregulation of the fertilizer sector.

Mains Practise Question

Q. What are the key challenges facing India's fertiliser sector? Briefly discuss the government initiatives aimed at addressing these challenges. (10 marks, 150 words).



Nourish to flourish, nutrition and cognition link



SYLLABUS: GS Paper 2: Issues Related to Children, Health, Government Policies & Interventions; Newspaper: The Hindu; Page Number: 06

Imagine that you have a flight to catch at 2 p.m. Given the factors such as the distance to travel, the traffic conditions, and airport check-in time, you are likely to miss the flight unless you leave your house at 12 p.m. The hour between 12 p.m. and 1 p.m. is your critical window to make sure that you catch the flight. Similarly, for a child, the first 1,000 days of his life are that critical window – a once-in-a-lifetime opportunity to lay the foundation for future success. Brain development and maturation as well as adequate growth through nutrition must happen in this period, failing which the child will never reach their full potential.

What the science says

The science is undeniable. By the age of two years, the brain reaches almost 80% of its adult weight. Synapse development peaks during this time, with synaptic density reaching adult levels by preschool age. The development of the frontal lobes, which are believed to control higher cognitive functions (including planning, sequencing and self-regulation), happens in growth spurts during the first two years of life. If the foundational development of the brain and skills is flawed in these earliest days, later developments that build on earlier circuits and skills will be inherently limited.

It is not just cognitive development that is defined in the first 1,000 days. Nutritional deficiencies before the age of three are, in some cases, impossible to reverse. Although India has made strides in overcoming nutritional deficiencies in the decades between 1993 and 2021, at the current rate of decline, stunting prevalence (low height for age) will reach 10% only by 2075. Can we double the pace to hit this target by 2047? To succeed, we must seize the critical window of early childhood by combining efforts on nutrition and cognition, giving children the best chance at a bright future.

Nutrition and cognitive development have to go hand in hand. They are, for all intents and purposes, cut from the same cloth. Adequate nutrition is essential for brain function, and without meeting nutritional demands, there can be permanent cognitive damage or disabilities. A birth-cohort study in Vellore, Tamil Nadu, found that early childhood iron deficiency negatively impacts verbal performance and cognitive processing speed at age five and affects expressive language development before the age of two. Research has also indicated that the impact of stand-alone nutrition programmes was low to moderate when compared to combined nutrition and stimulation programmes. Learning is fast and permanent in the first few years. A three-year-old starts speaking in a regional language and never forgets it. Most of us still remember nursery rhymes, thanks to neuroplasticity.

Childcare programmes in India

The Integrated Child Development Services (ICDS) programme, one of the biggest childcare programmes in the world, has the unique ability to prioritise both nutrition and education as pillars of early childhood development. The Ministry of Women and Child Development has launched programmes such as "Poshan Bhi Padhai Bhi", which seek to ensure that nutrition and cognitive development go hand in hand.

Additionally, the National Framework for Early Childhood Stimulation for Children from Birth to Three Years - Navchetana provides structured guidance in the form of simple activities for social and cognitive stimulation based on the age of the child. The framework offers 140 activities tailored to the child's age, presented in a 36-month stimulation activity calendar. It is designed to be used by parents, caregivers and Anganwadi or crèche workers, particularly during home visits. These provide an opportunity to learn through play-based activities supported by caregivers,

rather than being 'taught' in a formal sense.

Well-conducted home visits using the stimulation calendar will help children under the age of three receive adequate, timely, and nutrient-rich food to support their holistic development and reduce the risk of developmental delays due to nutritional deficits.

Areas that need improvement

Though an army of almost 14 lakh Anganwadi centres and workers is at the frontlines of the battle to ensure that children get adequate nutrition and stimulation, especially in the first 1,000 days, more needs to be done. The ICDS programme needs to enhance its coverage and achieve saturation of its target populations with high-quality services in health, nutrition and early learning. It needs to leverage advancements in technology, expand and enhance services in urban areas, and improve the access, capacity and delivery of pre-primary education, including evaluation and measurement of the health, learning and psychosocial well-being of children under six years.

Finally, to empower women to join the productive workforce, we need to expand the crèche provision by exploring multiple models including publicly-run, community-run and public-private partnerships.

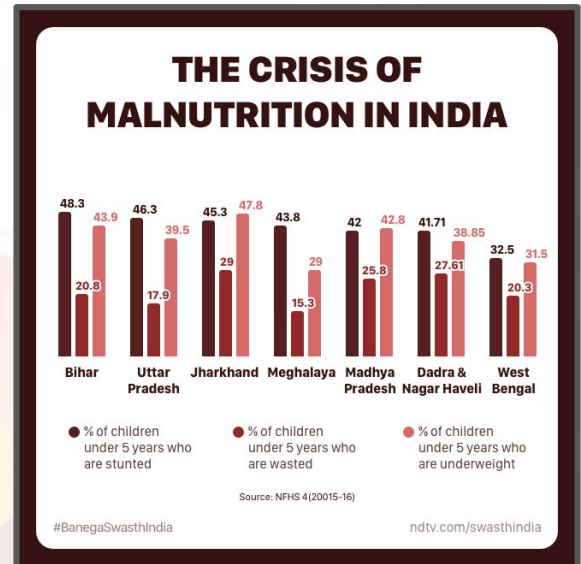
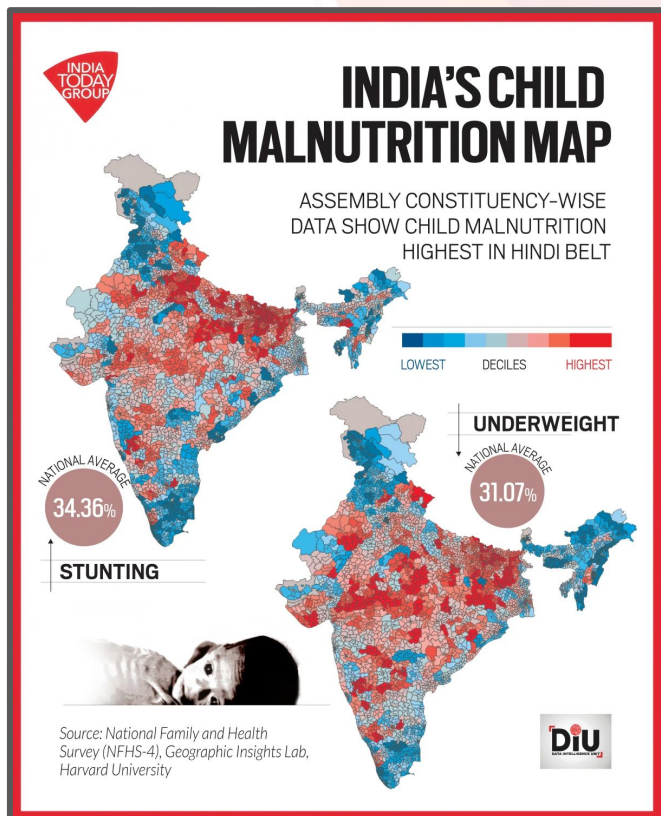
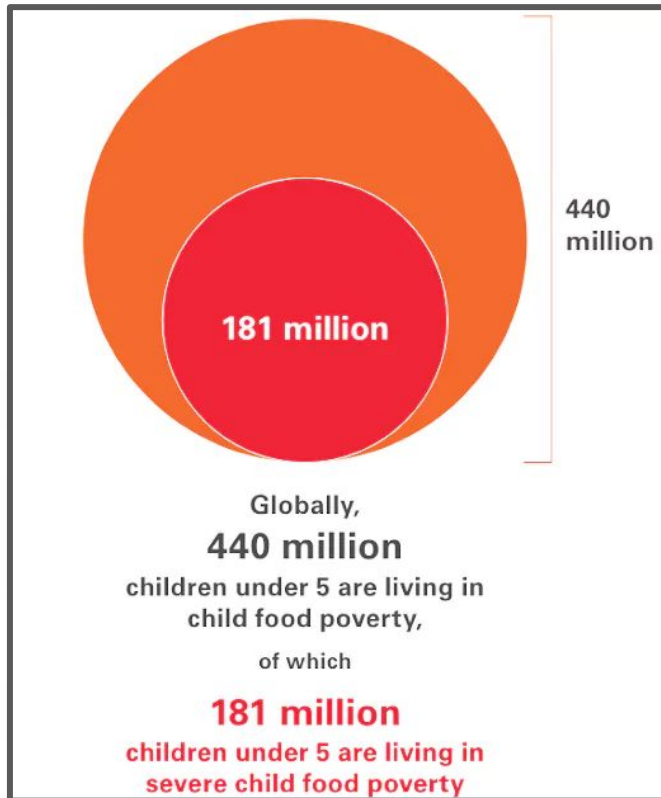
We must remember we are what we eat and what we think – and what is lost in the early years can never be regained. Investing in early childhood nutrition and stimulation is not just about health. It is about empowering children and women to reach their full potential and meeting the evolving needs of society.

Investments in early childhood and investment are particularly urgent as we progress towards increased automation, mechanisation and an accelerated pace of technological advancement, which is likely to lead to less employment for low-skilled and unskilled workers.



Nourish to flourish, nutrition and cognition link

SYLLABUS: GS Paper 2: Issues Related to Children, Health, Government Policies & Interventions; Newspaper: The Hindu; Page Number: 06



- The Integrated Child Development Service (ICDS) Scheme provides for supplementary nutrition, immunization and pre-school education to the children.
- Launched in 1975, it is a centrally sponsored scheme implemented by state governments and union territories.
- The Scheme has been renamed as Anganwadi Services.

Beneficiaries

- Children in the age group of 0-6 years
- Pregnant women and
- Lactating mothers



NEXT



Nourish to flourish, nutrition and cognition link

SYLLABUS: GS Paper 2: Issues Related to Children, Health, Government Policies & Interventions; Newspaper: The Hindu; Page Number: 06

SERVICES UNDER ICDS

Supplementary Nutrition

Pre-school non-formal education

Nutrition & health education

Immunization

Health check-up and

Referral services



FUNDING PATTERN

- All components of ICDS except Supplementary Nutrition Programme are financed through a 60:40 ratio (central : state).
- The Supplementary Nutrition Programme component was funded through a 50:50 ratio. The North East states have a 90:10 ratio.



Initiative	Description
Saksham Anganwadi & Poshan 2.0	Integrated scheme for nutrition, early childhood care, and Anganwadi services.
ICDS	Provides food, health, and preschool education to children under 6 and mothers.
PM POSHAN (Mid-Day Meal)	Hot cooked meals for school children to improve nutrition and attendance.
Anaemia Mukh Bharat	Strategy to reduce anemia among women, children, and adolescents.
National Food Security Act (NFSA)	Legal entitlement to subsidized food grains for two-thirds of the population.
PM Matru Vandana Yojana (PMMVY)	Cash support to pregnant and lactating women for nutrition and care.
Food Fortification	Addition of micronutrients to staples like rice, wheat, oil, and milk.
Creche Facilities (Maternity Act)	Mandated childcare support for working mothers in large establishments.
One Nation One Ration Card	Enables nationwide access to subsidized food via portable ration cards.



Nourish to flourish, nutrition and cognition link



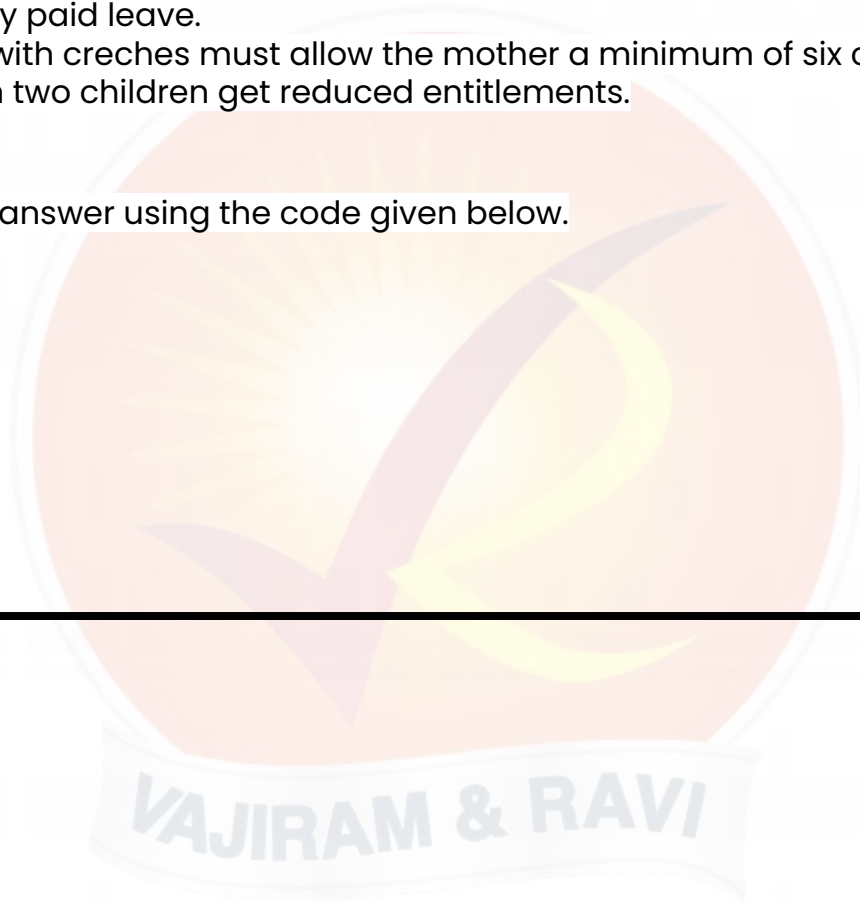
SYLLABUS: GS Paper 2: Issues Related to Children, Health, Government Policies & Interventions; Newspaper: The Hindu; Page Number: 06

Prelims PYQ 2019) Which of the following statements is/are correct regarding the Maternity Benefit ' (Amendment) Act, 2017?

1. Pregnant women are entitled to three months of pre-delivery and three months of post-delivery paid leave.
2. Enterprises with creches must allow the mother a minimum of six creche visits daily.
3. Women with two children get reduced entitlements.

Select the correct answer using the code given below.

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



How have deception techniques evolved?

SYLLABUS: GS Paper 3: Defence

Newspaper: The Hindu; Page Number: 08

The story so far:

In contemporary warfare, deception has evolved alongside the increasing precision and lethality of modern weaponry. As combat platforms – from fighter jets and tanks to warships – become more sophisticated, so too have techniques developed to shield them from detection and attack. Over the decades, the traditional art of battlefield trickery has merged with digital-age innovations, incorporating decoys and countermeasures designed to confuse, mislead, or overwhelm enemy sensors and targeting systems. By creating doubt and sowing confusion, these decoys not only waste enemy munitions but also buy crucial time for the actual platform to evade or retaliate. Hence, decoys turn deception into a strategic asset as critical as firepower.

How has India deployed decoys?

During Operation Sindoor, the Indian Air Force (IAF) is believed to have successfully deployed the AI-enabled X-Guard Fibre-Optic Towed Decoy (FOTD) system – developed by Israel's Rafael – on its Rafale fighters as part of their electronic warfare (EW) suite. Although neither the IAF nor official sources have confirmed the use of X-Guard, former U.S. F-15 pilot Ryan Bodenheimer told Indian media outlets that it was “the best instance of spoofing and deception ever seen.” Confusion persists over how many, if any, Rafales were actually lost in a May 7 strike on Islamist camps inside Pakistan. The Pakistan Air Force (PAF) may have downed several X-Guard decoys – trailing about 100 metres behind each aircraft – misidentifying them as real targets.

Analysts believe the PAF's Chinese-origin J-10C fighters, armed with PL-15E beyond-visual-range air-to-air missiles, struggled to distinguish between the decoys and actual aircraft. Several

missiles reportedly locked onto the X-Guards instead, leading PAF pilots to prematurely claim multiple shootdowns.

How does the FOTD system work?

Acquired via classified channels, the lightweight (30 kg), retractable, and reusable X-Guard mimics the Rafale's Radar Cross-Section (RCS), doppler velocity, and spectral signature across multiple radar bands. It can also replicate the Rafale's onboard electronic countermeasures – creating a convincing illusion for both human operators and tracking systems.

Its 360-degree jamming signal capability integrates seamlessly with the Rafale's SPECTRA (Self-Protection Equipment Countering Threats to Rafale Aircraft) EW suite. While SPECTRA manages threat detection, blocking, and onboard defensive measures, the X-Guard

adds a trailing expendable layer, jointly forming a multi-tiered defensive shield. Following Operation Sindoor, the IAF is reportedly fast-tracking additional X-Guard unit acquisitions via the emergency procurement route recently approved by the Ministry of Defence.

Comparable systems include Leonardo UL's BriteCloud, deployed on Eurofighter Typhoons, Sweden's Gripen-Es, and certain F-16 variants; and the AN/ALE-50/55 series from Raytheon/BAE Systems used on the F/A-18E/F Super Hornet. Some of these systems can also be adapted for use on unmanned aerial vehicles such as on Israeli Herons or U.S.-origin MQ-9 Reapers, albeit with onboard signal processing and remote deployment modifications.

What about land-based decoys?

Ground forces too have long relied on

RAFALE SPECIFICATIONS



How have deception techniques evolved?

SYLLABUS: GS Paper 3: Defence

Newspaper: The Hindu; Page Number: 08

decoys to mislead enemy Intelligence, Surveillance, Reconnaissance (ISR) assets and divert precision-guided weapons. Inflatable, radar-reflective, and heat-emitting dummy systems simulating tanks, artillery, missile batteries, and command posts are regularly deployed to bait strikes. From the 1991 Gulf War to the ongoing Ukraine conflict, such decoys have absorbed expensive munitions and disrupted offensive momentum.

With drones and loitering munitions saturating modern battlefields, these ground decoys have become increasingly sophisticated. Russia's Inflatech decoys can simulate entire armoured formations within minutes. Ukraine has deployed wooden and 3D-printed fakes to exhaust Russian drone and missile stocks. The U.S. Army too has trialled decoy vehicles to fool top-attack weapons like Javelin anti-tank guided missiles. China has also invested in camouflage and deception technologies across its ground forces.

In April 2025, the Indian Army issued a request for information to domestic vendors seeking physical decoys of its Russian-origin T-90S/SK main battle tanks to replicate not just its dimensions, but also its thermal and acoustic signatures to deceive enemy drones and munitions.

Navies too employ a layered suite of countermeasures, ranging from floating chaff and acoustic decoys to offboard active deception systems, to protect warships from missile and submarine threats. Among the most effective is the self-propelled Nulka active missile decoy, jointly developed by Australia and the U.S., that operates independently of its launch platform and mimics the radar signature of a much larger vessel, drawing radar-guided missiles away from their real target.

Ultimately, decoys – across air, land, and sea – have become indispensable to modern warfighting. For a relatively low investment, they deliver high-impact protection.

	
MiG-29	TEJAS MK1
SPEED (Mach) 2.25	VS RANGE (km) 1.80
RANGE 2 100	3000 km
RADAR Zhuk-ME	EL/M-2052

35. Consider the following aircraft :

1. Rafael
2. MiG-29
3. Tejas MK-1

How many of the above are considered fifth generation fighter aircraft ?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None



Jan Vishwas 2.0 : Bill to amend 16 laws



SYLLABUS: GS Paper 2: Government Policies & Interventions
Newspaper: The Indian Express; Page Number: 14

HARIKISHAN SHARMA
NEW DELHI, AUGUST 24

THE JAN Vishwas (Amendment of Provisions) Bill, 2025, which was introduced in Lok Sabha last week, seeks to amend 16 Central Acts in order to decriminalise and rationalise certain offences and penalties.

This is the second Jan Vishwas legislation brought in by the Narendra Modi government. The first Jan Vishwas (Amendment of Provisions) Act, 2023, decriminalised 183 provisions in 42 central acts administered by 19 ministries/departments.

"The 2025 Bill expands this reform agenda to cover 16 Central Acts administered by 10 ministries/departments... to further enhance trust-based governance for ease of living and doing business," the press release by the Ministry of Commerce and Industry said.

Why was the Bill brought in?

A database put together by the Vidhi

Centre for Legal Policy contains 882 central laws, 370 of which have criminal provisions for 7,305 crimes. More than 75% of all crimes are defined under laws that regulate areas beyond core criminal justice, such as shipping, taxation, financial institutions, and municipal governance, Vidhi's research found.

This overreach of criminal law is criticised for a number of reasons.

■ There are some severe punishments for seemingly small offences. For instance, one can be arrested in India for milking a cow on the street or not providing proper exercise to one's pet dog.

While many such criminal provisions are rarely enforced, they leave the door open for arbitrary exercise of power by the State and run contrary to the basic legal principle of proportionality in crime and punishment. Often, such laws are a product of outdated notions of morality and an overly paternalistic outlook taken up by the State, experts believe.

■ According to a 2022 report by the Observer Research Foundation, "of the 1,536

laws that govern doing business in India, more than half carry imprisonment clauses. Of the 69,233 compliances that businesses have to follow, 37.8% carry imprisonment clauses. More than half the clauses requiring imprisonment carry a sentence of at least one year."

Such overreach of criminal law, the report argues, "[has] created barriers to the smooth flow of ideas, organisation, money, entrepreneurship and through them the creation of jobs, wealth and GDP."

■ The excessive criminalisation further impacts India's already over-burdened legal system. According to the National Judicial Data Grid, as on August 24, there were more than 3.6 crore pending criminal cases in India's district courts, more than 2.3 crore of which are more than one year old.

"The criminal consequences prescribed for technical/procedural lapses and minor defaults clog the justice delivery system and put adjudication of serious offences on the back

EXPL
LA

burner," a Commerce Ministry press release from 2023, when the first Jan Vishwas Bill was introduced, stated, adding that the amendment "would go a long way in reducing undue pressure on the justice system, reduce the pendency of cases and help in a more efficient and effective justice dispensation".

What does the Bill do?

The 2025 Bill proposes amending 355 provisions, "288 provisions decriminalised to foster ease of doing business, and 67 provisions proposed to be amended to facilitate ease of living".

The 16 laws that will be amended are: Reserve Bank of India Act, 1934; Drugs and Cosmetics Act, 1940; Road Transport Corporation Act, 1950; Tea Act, 1953; Coir Industry Act, 1953; Handlooms (Reservation of Articles for Production) Act, 1985; Delhi Municipal Corporation Act, 1957; Apprentice Act, 1961; Motor Vehicles Act, 1988 (MVA); New Delhi Municipal Council Act, 1994;

Central Silk Board Act, 1948; Textiles Committee Act, 1963; Agricultural and Processed Food Products Export Development Authority Act, 1985; Micro, Small and Medium Enterprises Development Act, 2006; Legal Metrology Act, 2009 (LMA); and Electricity Act, 2003.

What are the key features of the Bill?

■ The Bill introduces concepts of "warning" and "improvement notice" for first-time offenders in 76 offences under 10 Acts, including the MVA, the Apprentice Act, and the LMA.

For instance, a first-time offender will be served an improvement notice for the use of non-standard weights and measures, an offence which currently carries a penalty of upto Rs 1 lakh. This will require the offender to rectify the non-compliance within a specified time, failing which they can be punished with a fine.

■ The Bill, like its predecessor, removes imprisonment clauses for minor, technical or procedural defaults for a number of of-

fences, and replaces them with penalties or warnings. For instance, it proposes a fine (between Rs 10,000 and Rs 10 lakh) instead of the existing three-month imprisonment for non-compliance of orders under the Electricity Act, 2003.

■ The Bill also proposes rationalisation of penalties. It proposes higher penalties for repeated offences through an automatic 10% increase in the penalty every three years. This is aimed at achieving "deterrence without legislative amendments".

"The goal of Jan Vishwas is to create a more business-friendly environment and promote ease of living by eliminating unnecessary legal hurdles and simplifying the regulatory landscape," Commerce Minister Piyush Goyal said on August 18.

This has been a key plank of the NDA government for the last 11 years.

The Bill has been referred to the Select Committee of Lok Sabha, which is supposed to submit its report by the first day of the next Parliament session.



Jan Vishwas 2.0 : Bill to amend 16 laws



SYLLABUS: GS Paper 2: Government Policies & Interventions
Newspaper: The Indian Express; Page Number: 14

Initiative	Description
Goods and Services Tax (GST)	Unified indirect tax system across the country.
Insolvency and Bankruptcy Code (IBC), 2016	Streamlined insolvency and resolution process.
Digital India Initiative	Digital delivery of government services and online processes.
Startup India Initiative	Support for startups tax exemptions, compliance, and funding access.
Online Single Window Clearance System	Centralized portal for approvals and clearances.
Decriminalization of Minor Offences	Removed penal provisions for minor business-related offences.
Labour Law Reforms	Consolidated 29 labor laws into 4 simplified labor codes.
Faceless Income Tax Assessment & Appeals	Introduced non-intrusive, electronic tax assessments and appeals.
Corporate Law Simplification (MCA21, Amendments)	Online company registration and compliance system.



ISRO Holds Air Drop Test for Gaganyaan Mission



SYLLABUS: GS Paper 3: Space Technology, Achievements of Indians in Science & Technology; Newspaper: The Hindu; Page Number: 12

The Indian Space Research Organisation (ISRO) on Sunday successfully carried out its first Integrated Air Drop Test (IADT-1), a critical milestone in preparations for the country's maiden human spaceflight programme, Gaganyaan.

"ISRO successfully accomplishes first Integrated Air Drop Test (IADT-01) for end-to-end demonstration of parachute-based deceleration system for Gaganyaan missions," the ISRO wrote on X.

The IADT is a specialised trial to ensure the parachute system designed for the Gaganyaan crew module performs reliably in real-world conditions.

During the test, a dummy crew capsule weighing around five tonnes was lifted up through the air before being dropped by a Chinook helicopter. As it descended through a few km, its main parachutes had to open in a specific sequence to decelerate the capsule to a safe splashdown speed.

During an actual flight with astronauts, the main

parachutes will have to deploy after the capsule has re-entered the atmosphere and has been slowed first by the heat shields and drogue parachutes. The ascent, descent, and post-splashdown phases of the Gaganyaan mission are expected to be the most risky for the astronauts.

According to the ISRO, the effort brought together multiple national agencies – the Air Force, the Defence Research and Development Organisation, the Navy, and the Coast Guard

– in what officials described as a coordinated step towards human-rating India's launch and recovery systems.

Earlier this week, Union Minister of State for Science and Technology Jitendra Singh told the Lok Sabha that major preparatory work for Gaganyaan had already been completed. "The propulsion systems for the crew module and service module have been developed and tested. Environmental control and life support system en-

gineering model realised. Crew escape system (CES): five types of motors developed and static tested," Mr. Singh said in a written reply.

He said infrastructure had been established for "orbital module preparation facility, Gaganyaan Control Centre, Gaganyaan control facility, crew training facility, [and] second launch pad modifications". A series of precursor missions, including test vehicle flights, were currently under way, he added.



ISRO Holds Air Drop Test for Gaganyaan Mission

SYLLABUS: GS Paper 3: Space Technology, Achievements of Indians in Science & Technology; Newspaper: The Hindu; Page Number: 12



Maiden Tests of Integrated Air Defence Weapon System

SYLLABUS: GS Paper 3: Defence

Newspaper: The Indian Express; Page Number: 01

AMRITA NAYAK DUTTA
NEW DELHI, AUGUST 24

THE DEFENCE Research and Development Organisation (DRDO) successfully conducted maiden flight tests of the Integrated Air Defence Weapon System (IADWS), off the Odisha coast around 12.30 pm Sunday.

This marks another step towards developing a homegrown

Energy Weapon (DEW).

The development comes days after Prime Minister Narendra Modi, addressing the nation on Independence Day, announced the launch of Mission Sudarshan Chakra, a comprehensive, multi-layered, networked system aimed at protecting India and its vital installations from a range of enemy attacks across domains.

The shield is expected to offer

nationwide security shield from multidomain enemy attacks under Mission Sudarshan Chakra by 2035.

In a statement, the Ministry of Defence said the IADWS is a multi-layered air defence system comprising all indigenous Quick Reaction Surface to Air Missiles (QRSAM), Advanced Very Short Range Air Defence System (VSHORADS) missiles and a high-power laser-based Directed

multiple layers of protection by combining surveillance, cyber-security, and air defence systems to detect and destroy threats, including long-range missiles, aircraft and unmanned aerial vehicles, along the borders and at critical installations.

Defence research organisations and the private sector are expected to collaborate on the project. It is likely to be integrated

CONTINUED ON PAGE 2

PM Modi announces Mission Sudarshan Chakra to revolutionise national security by 2035

INDIA TV AUGUST 15, 2025



PM Modi, in his address from the Red Fort on 79th Independence Day, announced that India will launch Mission Sudarshan Chakra to develop a powerful weapon system aimed at thwarting any attempts by enemies to attack the country. He also stated that the government will use the latest technological tools to secure strategic, civilian and religious places across the country.



Maiden Tests of Integrated Air Defence Weapon System

SYLLABUS: GS Paper 3: Defence

Newspaper: The Indian Express; Page Number: 01

Mission Sudarshan Chakra

DRDO has successfully tested a new integrated air defence system expected to be a part of a bigger national security shield

THE SYSTEM'S 3 LAYERS

- 1 Quick reaction surface-to-air missiles
- 2 Very short-range air defence system
- 3 Laser-based directed energy weapon

HOW TEST WAS CONDUCTED

During the test, 3 different targets, including two high-speed fixed wing unmanned aerial vehicle targets and a multi-copter drone were simultaneously engaged and destroyed completely by the three defence layers at different ranges and altitudes

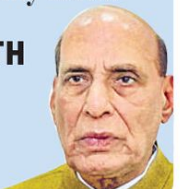
MODI'S 10-YEAR DEADLINE

In his Independence Day address, Prime Minister Modi set a 10-year deadline for developing an indigenous air defence shield integrated with offensive weapons under Mission Sudarshan Chakra to thwart aerial attacks



“This unique flight test has established the multi-layered air-defence capability of our country and is going to strengthen area defence for important facilities against enemy aerial threats.”

— RAJNATH SINGH, defence minister



1. Akash
Indigenous area defence missile system
RANGE: 25 KM

- IAF inducting 15 squadrons of Akash-1 & two systems for Rs 10,900 crore
- Army has inducted 2 regiments for Rs 14,180cr (Two more Akash-2 regiments from Dec 2018 onwards)

3. Spyder
Israeli low-level quick-reaction missile system
RANGE: 15 KM

- IAF inducting 4 Spyder systems
- DRDO developing 30-km range QR-SAM system

DESI & VIDESHI MISSILE SHIELDS



2. S-400 Triumf

Rs 39,000-crore deal with Russia to be inked this year

RANGE: 400 KM

- 1st missile unit in 24 months after contract. All 5 in 54 months
- China inducting S-400 batteries under \$3 billion inked in 2014

5. Ballistic Missile Defence

- Indigenous project to develop 2-tier BMD shield
- Phase-I (interceptor missiles with 4.5 Mach speed) for 2,000-km range enemy missiles
- Phase-2 (interceptor missiles with 6-7 Mach speed) for 5,000-km range missiles
- Will take 2 years for Phase-I to be deployed

4. Barak-8

Joint DRDO-Israeli Aerospace Industries project
RANGE: 70-KM



- IAF to get initial nine medium-range SAM squadrons for Rs 10,076 crore
- Navy to get it for its frontline warships for Rs 2,606 crore (Initial cost)
- 14 warships fitted with older Barak-1 systems (range 9 km)



Q1. Regarding India's dairy sector initiatives, consider the following statements:

1. Rashtriya Gokul Mission promotes indigenous breeds under the National Programme for Bovine Breeding.
2. National Dairy Plan-I was implemented with World Bank assistance.
3. Dairy Entrepreneurship Development Scheme is implemented by NABARD.
4. e-GOPALA app is launched by Amul.

Which of the statements given above are correct?

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

Answer: c

Q2. Regarding the Nutrient-Based Subsidy Scheme, 2010, consider the following statements:

1. It covers both urea and non-urea fertilisers.
2. Subsidy is fixed per kg of N, P, K, and S annually.

Which of the statements given above is/are correct?

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

Answer: b

Q3. Regarding food-nutrient-based schemes in India, consider the following statements:

1. POSHAN Abhiyaan integrates technology for nutrition outcomes.
2. PM Matru Vandana Yojana subsumed Anganwadi services.
3. The Mid-Day Meal Scheme provides fortified rice in all districts of India.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: a

Q4. Regarding the Gaganyaan Mission, consider the following statements:

1. The PSLV will be used to launch the Crew Service Module (orbital module).
2. The Orbital Module will be placed in Low Earth Orbit.
3. The Crew Service Module will carry four Gagannauts during the mission.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: a

Q5. Regarding the Sudarshan Chakra Mission, consider the following statements:

1. India's Integrated Air Defence Weapon System serves as an arsenal for foreign Quick Reaction Missiles only.
2. It mandates full domestic development, including a fighter jet engine.
3. Protection extends only to strategic military establishments, not civilian assets.

Which of the statements given above is/are correct?

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

Answer: c





VAJIRAM & RAVI

Institute for IAS Examination

A unit of Vajiram & Ravi IAS Study Centre LLP

9-B, Bada Bazar Marg, Old Rajinder Nagar,
New Delhi - 110060 • Ph.: 41007400, 41007500

New No. 62, P Block, 6th Avenue, Anna Nagar,
Chennai - 600040 • Ph.: 044-4330-2121

Visit us at : www.vajiramandravi.com