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THE HINDU NEWSPAPER

22 APRIL 2026

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19A	David is the second-fastest to smash 1,000 runs in the IPL डेविड आईपीएल में 1,000 रन सबसे तेज़ दूसरे खिलाड़ी बने



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Former MP and BJP leader Balbir Punj dies

PCS
The Hindu Bureau
NEW DELHI

Former Rajya Sabha member, journalist and senior BJP leader Balbir Punj, 76, passed away on Saturday evening after being ill for some time.

Punj, a former vice-president of the BJP and associated with the Rashtriya Swayamsevak Sangh (RSS) from a young age, had a long career in public life – in politics and policy circles, and in the media. He began his career as a journalist in 1971 with the newspaper *The Motherland*, later serving for two decades at the *Financial Express*, and then as executive editor of *The Observer of Business and Politics* from May 1996 to March 2000.

He served two terms as a member of the Rajya Sabha, between 2000 and 2006 from Uttar Pradesh and 2008 and 2014 from Odisha. He also served as the chairperson of the National Commission for Youth, which is accorded Minister of State status in the Central government.

He was regarded as an important figure in terms of contributing to the BJP's public policy interventions and stances, as well as an author, penning *Tryst with Ayodhya: Decolonisation of India* (Kitab Wale).

Punj had also been actively involved in journalistic institutions.

He served as President of the Delhi Journalists Association for two consecutive terms between 1989 and 1991 and was general secretary of the National Union of Journalists from 1993 to 1995.

कार्यकाल के लिए दिल्ली जर्नलिस्ट्स एसोसिएशन के अध्यक्ष के रूप में कार्य किया और 1993 से 1995 तक नेशनल यूनियन ऑफ जर्नलिस्ट्स के महासचिव रहे।

19A. Former MP and BJP leader Balbir Punj dies पूर्व सांसद और भाजपा नेता बलबीर पुंज का निधन

• Former Rajya Sabha member, journalist and senior BJP leader **Balbir Punj**, 76, passed away on Saturday evening after being ill for some time.

पूर्व राज्यसभा सदस्य, पत्रकार और वरिष्ठ भाजपा नेता **बलबीर पुंज**, 76, का शनिवार शाम कुछ समय से बीमार रहने के बाद निधन हो गया।

• Punj, a former vice-president of the **BJP** and associated with the **Rashtriya Swayamsevak Sangh (RSS)** from a young age, had a long career in public life — in politics and policy circles, and in the media.

पुंज, जो **भाजपा** के पूर्व उपाध्यक्ष थे और कम उम्र से ही **राष्ट्रीय स्वयंसेवक संघ (RSS)** से जुड़े थे, का सार्वजनिक जीवन में लंबा करियर रहा — राजनीति, नीति निर्माण और मीडिया में।

• He began his career as a journalist in 1971 with the newspaper **The Motherland**, later serving for two decades at the **Financial Express**, and then as executive editor of **The Observer of Business and Politics** from May 1996 to March 2000.

उन्होंने 1971 में **The Motherland** समाचार पत्र के साथ पत्रकार के रूप में अपना करियर शुरू किया, बाद में दो दशकों तक **Financial Express** में कार्य किया, और फिर मई 1996 से मार्च 2000 तक **The Observer of Business and Politics** के कार्यकारी संपादक रहे।

• He served two terms as a member of the **Rajya Sabha**, between 2000 and 2006 from **Uttar Pradesh** and 2008 and 2014 from **Odisha**.

उन्होंने **राज्यसभा** के सदस्य के रूप में दो कार्यकाल पूरे किए, 2000 से 2006 तक **उत्तर प्रदेश** से और 2008 से 2014 तक **ओडिशा** से।

• He also served as the chairperson of the **National Commission for Youth**, which is accorded Minister of State status in the Central government.

उन्होंने **राष्ट्रीय युवा आयोग** के अध्यक्ष के रूप में भी कार्य किया, जिसे केंद्र सरकार में राज्य मंत्री का दर्जा प्राप्त है।

• He was regarded as an important figure in terms of contributing to the BJP's public policy interventions and stances, as well as an author, penning **Tryst with Ayodhya: Decolonisation of India** (Kitab Wale).

उन्हें भाजपा की सार्वजनिक नीति हस्तक्षेपों और रुख में योगदान देने वाले एक महत्वपूर्ण व्यक्तित्व के रूप में देखा जाता था, साथ ही वे एक लेखक भी थे, जिन्होंने **Tryst with**

Ayodhya: Decolonisation of India (Kitab Wale) लिखी।

• Punj had also been actively involved in journalistic institutions.

पुंज पत्रकारिता संस्थानों में भी सक्रिय रूप से जुड़े रहे।

• He served as President of the **Delhi Journalists Association** for two consecutive terms between 1989 and 1991 and was general secretary of the **National Union of Journalists** from 1993 to 1995.

उन्होंने 1989 से 1991 के बीच लगातार दो

NO DELIVERIES SPARED

David is the second-fastest to smash 1,000 runs in the IPL



K. MURALI KUMAR

PCS
Royal Challengers Bengaluru batter Tim David, on Saturday, became the **second-fastest to score 1,000 IPL runs in terms of deliveries faced**. David achieved this milestone during RCB's game against Delhi Capitals. The Australian reached the mark off 560 balls, with Andre Russell (545 deliveries) being the best.

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19A. David is the second-fastest to smash 1,000 runs in the IPL डेविड आईपीएल में 1,000 रन सबसे तेज़ दूसरे खिलाड़ी बने

- Royal Challengers Bengaluru batter **Tim David**, on Saturday, became the **second-fastest** to score **1,000 IPL runs** in terms of deliveries faced.
रॉयल चैलेंजर्स बेंगलुरु के बल्लेबाज **टिम डेविड** शनिवार को **सबसे तेज़ दूसरे खिलाड़ी** बने जिन्होंने गेंदों के हिसाब से **1,000 आईपीएल रन** पूरे किए।
- David achieved this milestone during **RCB's game** against **Delhi Capitals**.
डेविड ने यह उपलब्धि **RCB के मैच** में **दिल्ली कैपिटल्स** के खिलाफ हासिल की।
- The **Australian** reached the mark of **560 balls**, with **Andre Russell (545 deliveries)** being the best.
यह **ऑस्ट्रेलियाई** खिलाड़ी **560 गेंदों** में इस आंकड़े तक पहुँचा, जबकि **आंद्रे रसेल (545 गेंदें)** सबसे तेज़ हैं।

GS Paper 1: Geography		19 April 2026
TOPICS COVERED		
19A	Waltz of the winds हवाओं का नृत्य	

Waltz of the winds

A 'disturbance' in the weather system brings rain to India during non-monsoon months but can also disrupt agricultural schedules and trigger extreme events
GS I: Geography

The India Meteorological Department (IMD) had forecast that the month of April would have 12% more rain than is usual over most of India except the northeastern States and part of the southern peninsula.

This also means that several parts of North India, which usually start to become hot and dry, were relatively cooler on account of several "western disturbances" (WD).

These are extra-tropical storms from the Mediterranean that bring in rains to India during the non-monsoon months. The month of March saw eight such WD in North India, two above the six that's usual.

Following eight WDs in March, at least three or four distinct, strong systems affected northwest India through mid-April, causing significant damage to crops in Punjab, Haryana, and Rajasthan.

The number of such WDs are expected to abate in the latter half of the month.

The WDs have an effect of improving air quality in some regions. The rain settles atmospheric dust but in the build-up to the rain, there can be a temporary rise in dust from the strong winds that precede these rains.

Text by Jacob Koshy

Winged visitors: Pigeons perch on electrical wires while a few take flight amid the rain in the old quarters of Delhi. AFP



19A. Waltz of the winds हवाओं का नृत्य

- A 'disturbance' in the weather system brings rain to India during non-monsoon months but can also disrupt agricultural schedules and trigger extreme events.
मौसम प्रणाली में एक 'विघटन' गैर-मानसून महीनों के दौरान भारत में वर्षा लाता है, लेकिन यह कृषि कार्यक्रमों को बाधित कर सकता है और चरम घटनाओं को भी उत्पन्न कर सकता है।
- The India Meteorological Department (IMD) had forecast that the month of April would have 12% more rain than is usual over most of India except the northeastern States and part of the southern peninsula.



भारत मौसम विज्ञान विभाग (IMD) ने पूर्वानुमान लगाया था कि अप्रैल महीने में अधिकांश भारत में सामान्य से 12% अधिक वर्षा होगी, सिवाय उत्तर-पूर्वी राज्यों और दक्षिणी प्रायद्वीप के कुछ हिस्सों के।

- This also means that several parts of **North India**, which usually start to become **hot and dry**, were relatively **cooler** on account of several "**western disturbances**" (WD). इसका यह भी मतलब है कि उत्तर भारत के कई हिस्से, जो आमतौर पर गर्म और शुष्क होने लगते हैं, कई "पश्चिमी विक्षोभ" (WD) के कारण अपेक्षाकृत ठंडे रहे।
- These are **extra-tropical storms** from the **Mediterranean** that bring in rains to India during the **non-monsoon months**. ये भूमध्य सागर से आने वाले उष्णकटिबंधीय-बाह्य तूफान हैं, जो गैर-मानसून महीनों के दौरान भारत में वर्षा लाते हैं।
- The month of **March** saw **eight such WD** in North India, two above the **six** that's usual. मार्च महीने में उत्तर भारत में ऐसे आठ पश्चिमी विक्षोभ देखे गए, जो सामान्य छह से दो अधिक हैं।
- Following eight WDs in March, at least **three or four distinct, strong systems** affected **northwest India** through mid-April, causing significant **damage to crops** in **Punjab, Haryana, and Rajasthan**. मार्च में आठ पश्चिमी विक्षोभों के बाद, अप्रैल के मध्य तक कम से कम तीन या चार अलग-अलग, मजबूत प्रणालियों ने उत्तर-पश्चिम भारत को प्रभावित किया, जिससे पंजाब, हरियाणा और राजस्थान में फसलों को भारी नुकसान हुआ।
- The number of such WDs are expected to **abate** in the latter half of the month. ऐसे पश्चिमी विक्षोभों की संख्या महीने के दूसरे भाग में कम होने की संभावना है।
- The **WDs** have an effect of **improving air quality** in some regions. पश्चिमी विक्षोभ कुछ क्षेत्रों में वायु गुणवत्ता सुधारने का प्रभाव भी डालते हैं।
- The rain settles **atmospheric dust** but in the build-up to the rain, there can be a temporary **rise in dust** from the **strong winds** that precede these rains. बारिश वायुमंडलीय धूल को बैठा देती है, लेकिन वर्षा से पहले तेज हवाओं के कारण अस्थायी रूप से धूल में वृद्धि हो सकती है।

GS Paper II: Governance		19 April 2026
TOPICS COVERED		
19A	NMC proposes to ease norms for establishing new medical colleges एनएमसी नए मेडिकल कॉलेज स्थापित करने के मानदंड आसान करने का प्रस्ताव	
19A	Use Ashwagandha roots, extracts only, FSSAI tells food-product firms केवल अश्वगंधा की जड़ें और अर्क ही उपयोग करें, FSSAI ने खाद्य उत्पाद कंपनियों से कहा	



NMC proposes to ease norms for establishing new medical colleges

GS II: Governance

Bindu Shajan Perappadan

NEW DELHI

The National Medical Commission (NMC) has now proposed significant draft amendments to its 2023 regulations, focusing on easing the norms for establishment of medical colleges – allowing in more trusts and societies. It is also looking at tightening postgraduate (PG) medical education standards, and introducing a single-State licence for Armed Forces Medical Services (AFMS) doctors to practise nationwide.

The Commission, in its latest notice, has invited comments until May 7, on its proposed amendments to the “Registration of Medical Practitioners and Licence to Practice Medicine (Amendment), Regulations 2026”.

“The draft regulations aim to tighten regulatory



A total of 43 new medical colleges have been established across the country for the academic year 2025–26. FILE PHOTO

control over the quality of education while streamlining the processes for setting up institutions and regulating military medical personnel,” said a senior Health Ministry official.

Addressing the administrative burden of frequent transfers, the NMC has proposed easing transfer-related paperwork by allowing AFMS doctors to register once with a State medical council at commissioning,

with the licence valid nationwide during active service. Retired doctors will need to re-register in their State of practice.

The annual renewal of licence will be centrally managed so that licences will not go inactive due to delayed, individually filed renewals and the registration council will handle professional misconduct cases, with recommendations from the State where

the incident occurred.

For more stringent standardisation in PG medical education, the Commission has asked all medical colleges to adhere to updated infrastructure, faculty, and clinical facilities criteria with standalone PG institutes to have 220 beds, with at least 80% bed occupancy, a revised senior faculty-student ratio of 1:2 and limiting non-government colleges to a maximum of four seats when starting a new PG course or increasing intake.

A total of 43 new medical colleges have been established across the country for the academic year 2025-26 and the Centre has approved 11,682 MBBS seats and 8,967 PG seats across the country for the said academic year. Union Minister of State for Health and Family Welfare Anupriya Patel said in a written reply in the Rajya Sabha.

19A. NMC proposes to ease norms for establishing new medical colleges

एनएमसी नए मेडिकल कॉलेज स्थापित करने के मानदंड आसान करने का प्रस्ताव

- The **National Medical Commission (NMC)** has now proposed significant draft amendments to its 2023 regulations, focusing on easing the norms for establishment of medical colleges — allowing in more trusts and societies.

राष्ट्रीय चिकित्सा आयोग (NMC) ने अब अपने 2023 के नियमों में महत्वपूर्ण मसौदा संशोधन प्रस्तावित किए हैं, जिनका ध्यान मेडिकल कॉलेजों की स्थापना के मानदंडों को आसान बनाने पर है — जिससे अधिक ट्रस्ट और सोसायटी को अनुमति मिल सके।

- The Commission, in its latest notice, has invited comments until May 7, on its proposed amendments to the “**Registration of Medical Practitioners and Licence to Practice Medicine (Amendment), Regulations 2026**”.

आयोग ने अपने नवीनतम नोटिस में “चिकित्सा प्रैक्टिशनरों का पंजीकरण और चिकित्सा अभ्यास का लाइसेंस (संशोधन), विनियम 2026” में प्रस्तावित संशोधनों पर 7 मई तक टिप्पणियां आमंत्रित की हैं।

- “The draft regulations aim to tighten regulatory control over the quality of education while streamlining the processes for setting up institutions and regulating military medical personnel,” said a senior **Health Ministry** official.

एक वरिष्ठ स्वास्थ्य मंत्रालय अधिकारी ने कहा, “मसौदा नियम शिक्षा की गुणवत्ता पर नियामक नियंत्रण को मजबूत करने के साथ-साथ संस्थानों की स्थापना और सैन्य चिकित्सा कर्मियों के विनियमन की प्रक्रियाओं को सरल बनाने का लक्ष्य रखते हैं।”



- Addressing the administrative burden of frequent transfers, the NMC has proposed easing transfer-related paperwork by allowing AFMS doctors to register once with a State medical council at commissioning, with the licence valid nationwide during active service.
बार-बार स्थानांतरण से जुड़े प्रशासनिक बोझ को कम करने के लिए, NMC ने AFMS डॉक्टरों को नियुक्ति के समय एक बार राज्य चिकित्सा परिषद में पंजीकरण की अनुमति देकर स्थानांतरण संबंधी कागजी कार्रवाई को आसान बनाने का प्रस्ताव दिया है, जिससे उनका लाइसेंस सक्रिय सेवा के दौरान पूरे देश में मान्य रहेगा।
- Retired doctors will need to re-register in their State of practice.
सेवानिवृत्त डॉक्टरों को अपने अभ्यास वाले राज्य में पुनः पंजीकरण करना होगा।
- The annual renewal of licence will be centrally managed so that licences will not go inactive due to delayed, individually filed renewals and the registration council will handle professional misconduct cases, with recommendations from the State where the incident occurred.
लाइसेंस का वार्षिक नवीनीकरण केंद्रीय रूप से प्रबंधित किया जाएगा ताकि व्यक्तिगत रूप से देर से किए गए नवीनीकरण के कारण लाइसेंस निष्क्रिय न हों और पंजीकरण परिषद पेशेवर दुराचार के मामलों को संभालेगी, जिसमें उस राज्य की सिफारिशें होंगी जहां घटना हुई।
- For more stringent standardisation in PG medical education, the Commission has asked all medical colleges to adhere to updated infrastructure, faculty, and clinical facilities criteria with standalone PG institutes to have 220 beds, with at least 80% bed occupancy, a revised senior faculty-student ratio of 1:2 and limiting non-government colleges to a maximum of four seats when starting a new PG course or increasing intake.
पीजी चिकित्सा शिक्षा में अधिक सख्त मानकीकरण के लिए, आयोग ने सभी मेडिकल कॉलेजों को अद्यतन अवसंरचना, संकाय और क्लिनिकल सुविधाओं के मानदंडों का पालन करने को कहा है, जिसमें स्वतंत्र पीजी संस्थानों में 220 बेड, कम से कम 80% बेड ऑक्यूपेंसी, संशोधित वरिष्ठ संकाय-छात्र अनुपात 1:2 और गैर-सरकारी कॉलेजों को नए पीजी कोर्स शुरू करने या सीटें बढ़ाने पर अधिकतम चार सीटों तक सीमित करना शामिल है।
- A total of 43 new medical colleges have been established across the country for the academic year 2025–26 and the Centre has approved 11,682 MBBS seats and 8,967 PG seats across the country for the said academic year, Union Minister of State for Health and Family Welfare **Anupriya Patel** said in a written reply in the **Rajya Sabha**.
शैक्षणिक वर्ष 2025–26 के लिए देशभर में कुल 43 नए मेडिकल कॉलेज स्थापित किए गए हैं और केंद्र ने 11,682 एमबीबीएस सीटों और 8,967 पीजी सीटों को मंजूरी दी है, यह जानकारी स्वास्थ्य और परिवार कल्याण राज्य मंत्री **अनुप्रिया पटेल** ने **राज्यसभा** में लिखित उत्तर में दी।

Use Ashwagandha roots, extracts only, FSSAI tells food-product firms

GS II: Governance

Meenakshi Verma Ambwani
NEW DELHI

The Food Safety and Standards Authority of India (FSSAI) has told companies to ensure that Ashwagandha used in products is done in compliance with the notified standards. It has directed food business operators to ensure only roots of Ashwagandha and its extracts are used in the products and at prescribed limits. It emphasised the use of the herb's leaves and extracts was prohibited.

Besides Ayurvedic med-

icines, Ashwagandha (Withania Somnifera) is used in a variety of products such as nutraceuticals and supplements.

Recently, it has been used in functional food products like herbal teas and wellness beverages.

'Not permitted'

In its latest advisory, the FSSAI said it had come to its attention certain manufacturers were using Ashwagandha leaves and extracts in products. It pointed out "use of Ashwagandha leaves in crude or

extract or any other form is not permitted" under the notified regulations.

The FSSAI said it had specified the standards for health supplements, nutraceuticals; food for special dietary use, food for special medical purpose under the Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food) Regulations, 2016. The regulations provide the list of plants or botanicals per-

mitted for use in such products. "As per Schedule IV of aforesaid regulations, only the roots and extracts of Ashwagandha are permitted for use in these categories of products, subject to compliance with the prescribed limits," it said.

The Ministry noted available scientific studies "reported possible safety concerns for Ashwagandha leaves due to higher concentrations of reactive withanolides, particularly Withaferin-A".

(The writer is with The Hindu businessline)



19A. Use Ashwagandha roots, extracts only, FSSAI tells food-product firms केवल अश्वगंधा की जड़ें और अर्क ही उपयोग करें, FSSAI ने खाद्य उत्पाद कंपनियों से कहा

- The **Food Safety and Standards Authority of India (FSSAI)** has told companies to ensure that **Ashwagandha** used in products is done in compliance with the notified standards.
भारतीय खाद्य सुरक्षा और मानक प्राधिकरण (FSSAI) ने कंपनियों से कहा है कि उत्पादों में उपयोग की जाने वाली **अश्वगंधा** अधिसूचित मानकों के अनुसार ही होनी चाहिए।
- It has directed food business operators to ensure only **roots of Ashwagandha** and its extracts are used in the products and at prescribed limits.
इसने खाद्य व्यवसाय संचालकों को निर्देश दिया है कि उत्पादों में केवल **अश्वगंधा की जड़ें** और उनके अर्क ही उपयोग किए जाएँ और वह भी निर्धारित सीमाओं के भीतर।
- It emphasised the use of the herb's **leaves and extracts** was prohibited.
इसने जोर देकर कहा कि इस जड़ी-बूटी की **पत्तियों और उनके अर्क** का उपयोग प्रतिबंधित है।
- Besides Ayurvedic medicines, **Ashwagandha (Withania Somnifera)** is used in a variety of products such as nutraceuticals and supplements.
आयुर्वेदिक दवाओं के अलावा, **अश्वगंधा (Withania Somnifera)** का उपयोग न्यूट्रास्यूटिकल्स और सप्लीमेंट्स जैसे कई उत्पादों में किया जाता है।
- Recently, it has been used in functional food products like herbal teas and wellness beverages.
हाल ही में इसका उपयोग हर्बल चाय और वेलनेस पेय जैसे फंक्शनल फूड उत्पादों में किया जा रहा है।

'Not permitted'

'अनुमति नहीं है'

- In its latest advisory, the FSSAI said it had come to its attention certain manufacturers were using Ashwagandha leaves and extracts in products.
अपने नवीनतम परामर्श में FSSAI ने कहा कि उसके ध्यान में आया है कि कुछ निर्माता उत्पादों में अश्वगंधा की पत्तियों और अर्क का उपयोग कर रहे हैं।
- It pointed out "use of Ashwagandha leaves in crude or extract or any other form is not permitted" under the notified regulations.
इसने बताया कि अधिसूचित नियमों के तहत "अश्वगंधा की पत्तियों का कच्चे रूप में या अर्क या किसी अन्य रूप में उपयोग अनुमति नहीं है।"
- The FSSAI said it had specified the standards for health supplements, nutraceuticals; food for special dietary use, food for special medical purpose under the Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food) Regulations, 2016.
FSSAI ने कहा कि उसने स्वास्थ्य सप्लीमेंट्स, न्यूट्रास्यूटिकल्स; विशेष आहार उपयोग वाले खाद्य पदार्थ, विशेष चिकित्सा उद्देश्य वाले खाद्य पदार्थ के लिए मानक Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food) Regulations, 2016 के तहत निर्धारित किए हैं।
- The regulations provide the list of plants or botanicals permitted for use in such products.
ये नियम उन पौधों या वनस्पतियों की सूची प्रदान करते हैं जिनका उपयोग ऐसे उत्पादों में अनुमति प्राप्त है।
- "As per Schedule IV of aforesaid regulations, only the roots and extracts of Ashwagandha are permitted for use in these categories of products, subject to compliance with the prescribed limits," it said.
"उपरोक्त नियमों की अनुसूची IV के अनुसार, केवल अश्वगंधा की जड़ें और उनके अर्क ही इन श्रेणियों के उत्पादों में उपयोग के लिए अनुमत हैं, वह भी निर्धारित सीमाओं के अनुपालन के अधीन," इसमें कहा गया।
- The Ministry noted available scientific studies "reported possible safety concerns for Ashwagandha leaves due to higher concentrations of reactive withanolides, particularly



Withaferin-A”.

मंत्रालय ने कहा कि उपलब्ध वैज्ञानिक अध्ययन “अश्वगंधा की पत्तियों में उच्च मात्रा में रिएक्टिव विथेनोलाइड्स, विशेषकर विथाफेरिन-A के कारण संभावित सुरक्षा चिंताओं” की रिपोर्ट करते हैं।

GS Paper III: Economy		19 April 2026
TOPICS COVERED		
19A	What led to the Noida workers' protest? नोएडा श्रमिकों के विरोध का कारण क्या था?	
19A	'Mutual fund body spent 90% investor awareness fund on digital media' 'म्यूचुअल फंड निकाय ने 90% निवेशक जागरूकता फंड डिजिटल मीडिया पर खर्च किया'	
19A	Once a piped dream, now a necessity कभी एक पाइप्ड सपना, अब एक आवश्यकता	
19A	Annatto seed growers pitch for govt. support एनैटो (Annatto) बीज उत्पादक सरकारी सहायता की मांग कर रहे हैं	

What led to the Noida workers' protest?

What are the key demands of Noida workers? Why are workers dissatisfied with current wages? How are minimum wages determined in Noida? How has the U.P. government responded? What steps has the government taken to address workers' concerns?

GS III: Economy

MOB

Anuj Kumar

The story so far:

The Noida workers' protest, which escalated into widespread violence on April 13, has become a significant crisis for the Uttar Pradesh government. The unrest, primarily driven by demands for higher wages and improved working conditions, paralysed parts of the city's industrial zones and triggered a massive security response. On April 14, domestic workers in high-rise buildings such as Cleo County also began protesting for higher pay. The administration took a dual approach of crackdowns and concessions. In a direct response to the unrest, the Uttar Pradesh government announced a 20-21% increase in minimum wages, effective retroactively from April 1. As Uttar Pradesh heads towards the election, the situation has given the Opposition an issue to corner the government on.

Why did workers take to the streets?

The most direct trigger was the Haryana government's decision to raise its minimum monthly wage by 35%, from approximately ₹14,000 to ₹19,000. Workers in Noida, doing similar work just across the border, questioned why they were earning significantly less (around ₹11,000-₹13,000) for the same labour. The State typically revises wages twice a year based on the

Many workers reported being forced to work extended hours without corresponding pay increase or weekly off

Variable Dearness Allowance (VDA), but workers argued that these routine adjustments were insufficient and left them with lower pay than in Delhi and Haryana, which also have a BJP government at present. A long-standing wage gap became an urgent survival issue due to the sudden rise in LPG cylinder prices and essential food items, driven by the West Asian crisis.

Protesters also highlighted systemic violations of the eight-hour workday norm, arguing that 12-hour shifts have become standard in many Noida industrial units. Many workers reported being forced to work extended hours without a corresponding pay increase or any weekly off.

Another major grievance is the informalisation of the workforce. Even in large registered factories, many workers lack written contracts or job security. They blamed middlemen/contractors for pocketing portions of their wages, with some being made to sign for double shifts but paid only for single shifts. Difficulties in accessing Employee Provident Fund (EPF) and insurance benefits, along with the absence of formal trade union representation, also came to the fore.

How are the wages decided?

Minimum wages in Uttar Pradesh are determined through a structured legal framework combining a fixed base wage with dynamic allowances. The process is governed by the Minimum Wages Act, 1948, and the Uttar Pradesh Minimum Wages Rules, 1952, though the transition to the new Code on Wages is influencing current decisions.

Under the Code on Wages 2019, the Centre must set a national floor wage – a binding minimum benchmark. No State can go below it, though they set their own rates, often varying.

The core wage structure is calculated based on norms established by the 15th Indian Labour Conference (ILC), which ensures a worker can support a family of three consumption units (self, spouse, and two children).

What are workers' demands?

The primary demands include a minimum wage of ₹20,000 to ₹26,000 per month for unskilled workers to match the rising cost of living, and

direct company hiring to prevent contractors from skimming wages.

Workers are also demanding strict implementation of double pay for every hour worked beyond the standard shift, immediate clearance of pending bonuses from the previous financial year, and retrospective payment of wage arrears. They have called for a significant increase in House Rent Allowance, citing the skyrocketing rents in Noida sectors and villages.

They also insist that any work beyond eight hours be voluntary and compensated as overtime, along with guaranteed paid weekly holidays. Additionally, they seek the establishment of functional Internal Complaints Committees to address workplace harassment and verbal abuse by managers, as well as the withdrawal of FIRs and unconditional release of those arrested during the April 13 protests.

How is the government responding?

While the protests have pushed the Centre to hasten the process of deciding the national floor wage, the Uttar Pradesh government is prioritising the resumption of production to protect Noida's image as a safe investment zone, while using wage hikes to pacify the core workforce. Chief Minister Yogi Adityanath fast-tracked an interim wage increase of 20-21% specifically for the Noida and Ghaziabad regions. By making this retroactive, he aimed to put cash directly into workers' pockets to offset war-driven inflation in fuel and food.

To address concerns about temporary fixes, the State has announced plans to form a Wage Board tasked with developing a long-term salary structure that reflects regional cost-of-living differences, potentially narrowing the gap with Delhi and Haryana.

The Labour Department has begun audits of industrial units to identify contractors who skim wages or fail to deposit EPF/ESI contributions. Sources say the government is pushing for direct bank transfers to ensure workers receive their full pay without middleman interference.

The district administration has established sector-wise grievance committees where factory owners, worker representatives, and labour officials meet weekly to resolve local disputes.

Industry bodies have noted that while some worker grievances are genuine, micro, small and medium enterprises are also under pressure due to global tensions, urging the government to maintain balance while addressing labour concerns.



Flames billow as factory workers set a police motorcycle ablaze during a protest demanding higher wages in Noida, Uttar Pradesh, on April 13. PTI



19A. What led to the Noida workers' protest?

नोएडा श्रमिकों के विरोध का कारण क्या था?

- What are the key **demands** of Noida workers?
नोएडा श्रमिकों की प्रमुख **मांगें** क्या हैं?
- Why are workers dissatisfied with current **wages**?
श्रमिक वर्तमान **मजदूरी** से असंतुष्ट क्यों हैं?
- How are minimum **wages** determined in Noida?
नोएडा में न्यूनतम **मजदूरी** कैसे निर्धारित की जाती है?
- How has the U.P. Does the government respond?
उत्तर प्रदेश सरकार ने कैसे प्रतिक्रिया दी है?
- What steps has the government taken to address workers' concerns?
श्रमिकों की चिंताओं को दूर करने के लिए सरकार ने क्या कदम उठाए हैं?
- The Noida workers' protest, which escalated into widespread **violence** on April 13, has become a significant **crisis** for the Uttar Pradesh government.
नोएडा श्रमिकों का विरोध, जो 13 अप्रैल को व्यापक **हिंसा** में बदल गया, उत्तर प्रदेश सरकार के लिए एक गंभीर **संकट** बन गया है।
- The unrest, primarily driven by demands for higher **wages** and improved working conditions, paralysed parts of the city's industrial zones and triggered a massive security response.
यह अशांति मुख्यतः अधिक **मजदूरी** और बेहतर कार्य स्थितियों की मांग से प्रेरित थी, जिसने शहर के औद्योगिक क्षेत्रों को प्रभावित किया और बड़े सुरक्षा प्रतिक्रिया को जन्म दिया।
- On April 14, domestic workers in high-rise buildings such as Cleo County also began protesting for higher pay.
14 अप्रैल को, क्लियो काउंटी जैसे ऊँची इमारतों में घरेलू श्रमिकों ने भी अधिक वेतन के लिए विरोध शुरू किया।
- The administration took a dual approach of crackdowns and concessions.
प्रशासन ने दमन और रियायतों की दोहरी नीति अपनाई।
- In a direct response to the unrest, the Uttar Pradesh government announced a 20-21% increase in minimum **wages**, effective retroactively from April 1.
अशांति के सीधे जवाब में, उत्तर प्रदेश सरकार ने न्यूनतम **मजदूरी** में 20-21% वृद्धि की घोषणा की, जो 1 अप्रैल से प्रभावी होगी।
- As Uttar Pradesh heads towards the election, the situation has given the Opposition an issue to corner the government on.
जैसे-जैसे उत्तर प्रदेश चुनाव की ओर बढ़ रहा है, इस स्थिति ने विपक्ष को सरकार पर हमला करने का मुद्दा दे दिया है।

Why did workers take to the streets?

श्रमिक सड़कों पर क्यों उतरे?

- The most direct trigger was the Haryana government's decision to raise its minimum monthly **wage** by 35%, from approximately ₹14,000 to ₹19,000.
सबसे सीधा कारण हरियाणा सरकार का न्यूनतम मासिक **वेतन** 35% बढ़ाने का निर्णय था, जो लगभग ₹14,000 से बढ़कर ₹19,000 हो गया।
- Workers in Noida, doing similar work just across the border, questioned why they were earning significantly less (around ₹11,000-₹13,000) for the same labour.
नोएडा के श्रमिकों ने, जो सीमा के दूसरी ओर समान कार्य करते हैं, सवाल उठाया कि उन्हें समान काम के लिए कम (लगभग ₹11,000-₹13,000) क्यों मिलता है।
- The State typically revises **wages** twice a year based on the Variable Dearness Allowance (VDA), but workers argued that these routine adjustments were insufficient.



राज्य आमतौर पर मजदूरी को वर्ष में दो बार VDA के आधार पर संशोधित करता है, लेकिन श्रमिकों का कहना था कि यह पर्याप्त नहीं है।

- They also said it left them with lower pay than in Delhi and Haryana, which also have a BJP government at present.
उन्होंने कहा कि इससे उन्हें दिल्ली और हरियाणा की तुलना में कम वेतन मिलता है, जहाँ भी वर्तमान में BJP सरकार है।
- A long-standing wage gap became an urgent survival issue due to the sudden rise in LPG cylinder prices and essential food items, driven by the West Asian crisis.
LPG सिलेंडर और आवश्यक खाद्य वस्तुओं की कीमतों में अचानक वृद्धि के कारण लंबे समय से चला आ रहा वेतन अंतर एक गंभीर जीविका समस्या बन गया।
- Protesters also highlighted systemic violations of the eight-hour workday norm.
प्रदर्शनकारियों ने आठ घंटे के कार्यदिवस के मानक के व्यवस्थित उल्लंघन को भी उजागर किया।
- They argued that 12-hour shifts have become standard in many Noida industrial units.
उनका कहना था कि कई नोएडा औद्योगिक इकाइयों में 12 घंटे की शिफ्ट सामान्य हो गई है।
- Many workers reported being forced to work extended hours without a corresponding pay increase or any weekly off.
कई श्रमिकों ने बताया कि उन्हें बिना अतिरिक्त वेतन या साप्ताहिक अवकाश के लंबे समय तक काम करने के लिए मजबूर किया जाता है।
- Another major grievance is the informalisation of the workforce.
एक और प्रमुख शिकायत श्रमिकों के कार्यबल का अनौपचारिकीकरण है।
- Even in large registered factories, many workers lack written contracts or job security.
यहां तक कि बड़ी पंजीकृत फैक्ट्रियों में भी कई श्रमिकों के पास लिखित अनुबंध या नौकरी की सुरक्षा नहीं है।
- They blamed middlemen/contractors for pocketing portions of their wages.
उन्होंने बिचौलियों/ठेकेदारों पर अपने वेतन का हिस्सा हड़पने का आरोप लगाया।
- Some were made to sign for double shifts but paid only for single shifts.
कुछ से डबल शिफ्ट के हस्ताक्षर कराए गए लेकिन भुगतान केवल एक शिफ्ट का किया गया।
- Difficulties in accessing Employee Provident Fund (EPF) and insurance benefits also came to the fore.
EPF और बीमा लाभ प्राप्त करने में कठिनाइयाँ भी सामने आईं।
- The absence of formal trade union representation was also highlighted.
औपचारिक ट्रेड यूनियन प्रतिनिधित्व की कमी को भी उजागर किया गया।

How are the wages decided?

मजदूरी कैसे तय की जाती है?

- **Minimum wages in Uttar Pradesh are determined through a structured legal framework combining a fixed base wage with dynamic allowances.**
उत्तर प्रदेश में न्यूनतम मजदूरी एक संरचित कानूनी ढांचे के माध्यम से तय की जाती है, जिसमें स्थिर आधार वेतन और गतिशील भत्ते शामिल होते हैं।
- **The process is governed by the Minimum Wages Act, 1948, and the Uttar Pradesh Minimum Wages Rules, 1952.**
यह प्रक्रिया 1948 के न्यूनतम मजदूरी अधिनियम और 1952 के उत्तर प्रदेश न्यूनतम मजदूरी नियमों द्वारा नियंत्रित होती है।
- The transition to the **new Code on Wages is influencing current decisions.**
नए वेज कोड में बदलाव वर्तमान निर्णयों को प्रभावित कर रहा है।
- Under the Code on Wages 2019, the Centre must set a national floor **wage.**
2019 के वेज कोड के तहत केंद्र को राष्ट्रीय न्यूनतम वेतन तय करना होता है।



- No State can go below it, though they set their own rates.
कोई भी राज्य इससे नीचे नहीं जा सकता, हालांकि वे अपनी दरें तय करते हैं।
- The core wage structure is calculated based on norms established by the 15th Indian Labour Conference (ILC).
मूल वेतन संरचना 15वें भारतीय श्रम सम्मेलन (ILC) द्वारा निर्धारित मानकों के आधार पर तय की जाती है।
- It ensures a worker can support a family of three consumption units (self, spouse, and two children).
यह सुनिश्चित करता है कि एक श्रमिक तीन उपभोग इकाइयों (स्वयं, जीवनसाथी और दो बच्चे) वाले परिवार का समर्थन कर सके।

What are workers' demands?

श्रमिकों की मांगें क्या हैं?

- The primary demands include a minimum **wage** of ₹20,000 to ₹26,000 per month for unskilled workers.
मुख्य मांगों में अकुशल श्रमिकों के लिए ₹20,000 से ₹26,000 मासिक न्यूनतम वेतन शामिल है।
- Workers also demand direct company hiring to prevent contractors from skimming wages.
श्रमिक ठेकेदारों द्वारा वेतन काटे जाने से बचाने के लिए सीधे कंपनी भर्ती की मांग कर रहे हैं।
- They demand strict implementation of double pay for overtime hours.
वे ओवरटाइम घंटों के लिए डबल पे की सख्त व्यवस्था की मांग कर रहे हैं।
- Immediate clearance of pending bonuses from the previous financial year is also demanded.
पिछले वित्तीय वर्ष के लंबित बोनस का तुरंत भुगतान भी मांगा गया है।
- They seek retrospective payment of wage arrears.
वे बकाया वेतन के पूर्वव्यापी भुगतान की मांग कर रहे हैं।
- A significant increase in House Rent Allowance is also demanded.
हाउस रेंट अलाउंस में महत्वपूर्ण वृद्धि की भी मांग की गई है।
- They insist overtime beyond eight hours should be voluntary and compensated.
वे चाहते हैं कि आठ घंटे से अधिक काम स्वैच्छिक हो और उसका भुगतान किया जाए।
- Guaranteed paid weekly holidays are also demanded.
भुगतान सहित साप्ताहिक अवकाश की गारंटी भी मांगी गई है।
- They seek Internal Complaints Committees for workplace harassment issues.
वे कार्यस्थल उत्पीड़न के लिए आंतरिक शिकायत समिति की मांग कर रहे हैं।
- They also demand withdrawal of FIRs and release of those arrested during protests.
वे FIR वापस लेने और गिरफ्तार लोगों की रिहाई की भी मांग कर रहे हैं।

How is the government responding?

सरकार कैसे प्रतिक्रिया दे रही है?

- The protests have pushed the Centre to hasten the national floor wage process.
प्रदर्शनों ने केंद्र को राष्ट्रीय न्यूनतम वेतन प्रक्रिया तेज करने के लिए प्रेरित किया है।
- The Uttar Pradesh government is prioritising resumption of production.
उत्तर प्रदेश सरकार उत्पादन बहाली को प्राथमिकता दे रही है।
- It aims to protect Noida's image as a safe investment zone.
इसका उद्देश्य नोएडा की सुरक्षित निवेश क्षेत्र की छवि को बनाए रखना है।
- Chief Minister Yogi Adityanath announced a 20-21% interim wage increase for Noida and Ghaziabad.
मुख्यमंत्री योगी आदित्यनाथ ने नोएडा और गाजियाबाद के लिए 20-21% अंतरिम वेतन वृद्धि की घोषणा की।



- The increase was made retroactive to put cash directly into workers' pockets.
यह वृद्धि पूर्वव्यापी रूप से लागू की गई ताकि श्रमिकों को सीधे धन मिल सके।
- A Wage Board is planned for long-term salary structure development.
दीर्घकालिक वेतन संरचना के लिए वेज बोर्ड बनाने की योजना है।
- The Labour Department is auditing industrial units for wage and EPF violations.
श्रम विभाग वेतन और EPF उल्लंघनों के लिए औद्योगिक इकाइयों का ऑडिट कर रहा है।
- The government is pushing for direct bank transfers to workers.
सरकार श्रमिकों को सीधे बैंक हस्तांतरण को बढ़ावा दे रही है।
- Sector-wise grievance committees have been established.

'Mutual fund body spent 90% investor awareness fund on digital media'

CS III: Economy

Ashokamithran T.
MUMBAI

The Association of Mutual Funds of India (AMFI), the industry lobby group for asset management companies, spent 87.5% of the investor awareness and education fund on media campaigns via digital platforms and an advertising agency, AMFI filings with the Ministry of Corporate Affairs (MCA) show.

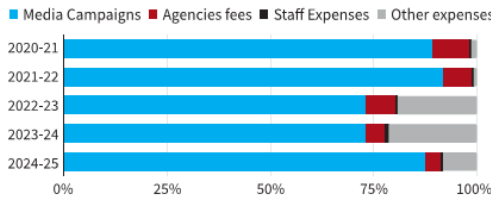
Analysing the five-year expenditure data on investment awareness fund, it was found most of the money was spent on either digital media campaigns or fees for PR agencies.

As of fiscal 2024-25, AMFI spent about ₹362.5 crore from the fund, the largest corpus with the non-profit organisation. As much as 87.5% of it or ₹317 crore, appeared under the head "Media campaigns (Google, Facebook and Dentsu)."

The share of this line item has consistently been either at 90% or a little lower between 2020-21 and 2024-25, the five years for which *The Hindu* carried out the analysis. In only two fiscal years, 2022-23 and 2023-24, this share slid to 73% but was roughly compensated by another line item – "Other expenses (PMG, Value Research, Skilled, etc.)," constituting about 20% of the total expense. PMG, a popular sports management firm, reportedly tied up with the MF body for its "Mutual Fund Sahi Hai" campaign (meaning Mutual Fund is the right investment), which featured cricketing

Bet on digital

AMFI spent most of its expenses from investor education fund on digital media campaigns



Source: MCA Filings

legends Sachin Tendulkar and Mahendra Singh Dhoni among others.

SEBI mandate

Securities and Exchange Board of India (SEBI), the capital markets watchdog, mandated AMC's must set aside at least 0.02% of Assets Under Management (AUM) for financial literacy initiatives. Half of that is used by the AMC's for own campaigns and the other needs to be pooled together with the association. The balance in the fund as of fiscal 2024-25 was more than ₹1,114 crore, up 30% from the previous year.

The AUM is the total unit holder money managed by the AMC's. This effectively means investors are funding the awareness initiatives. While campaigns are popular, it raised questions on effectiveness.

The investor awareness programme leans more towards promotion than education, said a person with direct knowledge of the matter.

"It is more important to teach the investors about the risk-reward relationship in different asset classes," the person said. Invest-

ment should be made more on educational content and tying up with school curriculum, the person continued. Queries sent to AMFI's spokespersons on campaign outcome and balance fund allocation across online and offline activities did not elicit response till press time.

The current norms on investor awareness have a blind spot regarding the type of initiatives, said Sonam Chandwani, managing partner, KS Legal & Associates. "This creates a risk of form-over-substance compliance, where campaigns may satisfy regulatory checklists without necessarily improving financial literacy or investor outcomes in any measurable way," she said.

She suggested there be "periodic content audits, outcome-based assessments and standardisation of messaging principles to ensure that investor education" drives actually end up making investors better.

SEBI Chairperson Tuhin Kanta Pandey said the board plans to bring all stakeholders, including AMFI, on board to address these concerns.

सेक्टर-वार शिकायत समितियाँ बनाई गई हैं।

- These include factory owners, worker representatives, and labour officials.

इनमें फैक्ट्री मालिक, श्रमिक प्रतिनिधि और श्रम अधिकारी शामिल हैं।

- Industry bodies say both worker grievances and MSME pressures must be balanced.

उद्योग निकायों का कहना है कि श्रमिकों की समस्याओं और MSME दबावों के बीच संतुलन जरूरी है।

19A. 'Mutual fund body spent 90% investor awareness fund on digital media'

'म्यूचुअल फंड निकाय ने 90% निवेशक जागरूकता फंड डिजिटल मीडिया पर खर्च किया'

- The Association of Mutual Funds of India (AMFI), the industry lobby group for asset management companies, spent 87.5% of the investor awareness and education fund on media campaigns via digital platforms and an advertising agency, AMFI filings with the Ministry of Corporate Affairs (MCA) show.

एसोसिएशन ऑफ म्यूचुअल फंड्स ऑफ इंडिया (AMFI), जो एसेट मैनेजमेंट कंपनियों का उद्योग लॉबी समूह है, ने निवेशक जागरूकता और शिक्षा फंड का 87.5% हिस्सा डिजिटल प्लेटफॉर्म और एक विज्ञापन एजेंसी के माध्यम से मीडिया अभियानों पर खर्च किया, जैसा कि कॉरपोरेट मामलों के मंत्रालय (MCA) में AMFI की फाइलिंग से पता चलता है।

- Analysing the five-year expenditure data on investment awareness fund, it was found most of the



money was spent on either **digital media campaigns** or fees for PR agencies.

निवेश जागरूकता फंड के पाँच साल के खर्च डेटा के विश्लेषण में पाया गया कि अधिकांश पैसा या तो **डिजिटल मीडिया अभियानों** या PR एजेंसियों की फीस पर खर्च किया गया।

- As of fiscal 2024-25, AMFI spent about ₹362.5 crore from the fund, the largest corpus with the non-profit organisation.
वित्त वर्ष 2024-25 तक, AMFI ने इस फंड से लगभग ₹362.5 करोड़ खर्च किए, जो इस गैर-लाभकारी संगठन के पास सबसे बड़ा कोष है।
- As much as 87.5% of it or ₹317 crore, appeared under the head “**Media campaigns (Google, Facebook and Dentsu)**.”
इसका 87.5% यानी ₹317 करोड़ “**मीडिया अभियान (Google, Facebook और Dentsu)**” शीर्षक के अंतर्गत दर्ज किया गया।
- The share of this line item has consistently been either at 90% or a little lower between 2020-21 and 2024-25, the five years for which The Hindu carried out the analysis.
इस लाइन आइटम का हिस्सा 2020-21 से 2024-25 के बीच लगातार 90% या उससे थोड़ा कम रहा है, जिन पाँच वर्षों का विश्लेषण The Hindu ने किया।
- In only two fiscal years, 2022-23 and 2023-24, this share slid to 73% but was roughly compensated by another line item — “Other expenses (PMG, Value Research, Skilled, etc.),” constituting about 20% of the total expense.
केवल दो वित्तीय वर्षों 2022-23 और 2023-24 में यह हिस्सा 73% तक गिरा, लेकिन इसे लगभग “अन्य खर्च (PMG, Value Research, Skilled आदि)” नामक दूसरे मद से संतुलित किया गया, जो कुल खर्च का लगभग 20% था।
- PMG, a popular sports management firm, reportedly tied up with the MF body for its “Mutual Fund Sahi Hai” campaign (meaning Mutual Fund is the right investment), which featured cricketing legends Sachin Tendulkar and Mahendra Singh Dhoni among others.
PMG, एक लोकप्रिय स्पोर्ट्स मैनेजमेंट फर्म, ने कथित तौर पर MF निकाय के साथ “Mutual Fund Sahi Hai” अभियान (जिसका अर्थ है म्यूचुअल फंड सही निवेश है) के लिए साझेदारी की, जिसमें सचिन तेंदुलकर और महेंद्र सिंह धोनी जैसे क्रिकेट दिग्गज शामिल थे।

SEBI mandate

SEBI का निर्देश

- Securities and Exchange Board of India (**SEBI**), the capital markets watchdog, mandated AMC's must set aside at least 0.02% of Assets Under Management (**AUM**) for financial literacy initiatives.
भारतीय प्रतिभूति और विनिमय बोर्ड (**SEBI**), जो पूंजी बाजार नियामक है, ने अनिवार्य किया है कि AMC's को अपने Assets Under Management (**AUM**) का कम से कम 0.02% वित्तीय साक्षरता पहलों के लिए अलग रखना होगा।
- Half of that is used by the AMC's for own campaigns and the other needs to be pooled together with the association.
इसका आधा हिस्सा AMC's अपने अभियानों में उपयोग करते हैं और बाकी हिस्सा एसोसिएशन के साथ मिलाकर उपयोग किया जाता है।
- The balance in the fund as of fiscal 2024-25 was more than ₹1,114 crore, up 30% from the previous year.
वित्त वर्ष 2024-25 तक इस फंड का शेष ₹1,114 करोड़ से अधिक था, जो पिछले वर्ष से 30% अधिक है।
- The AUM is the total unit holder money managed by the AMC's.
AUM वह कुल निवेशक धन है जिसे AMC's द्वारा प्रबंधित किया जाता है।
- This effectively means investors are funding the awareness initiatives.
इसका अर्थ है कि निवेशक ही इन जागरूकता पहलों को वित्तपोषित कर रहे हैं।



- While campaigns are popular, it raised questions on effectiveness. हालांकि अभियान लोकप्रिय हैं, लेकिन उनकी प्रभावशीलता पर सवाल उठे हैं।
- The investor awareness programme leans more towards promotion than education, said a person with direct knowledge of the matter. इस मामले की जानकारी रखने वाले व्यक्ति ने कहा कि निवेशक जागरूकता कार्यक्रम शिक्षा से अधिक प्रचार पर केंद्रित है।
- “It is more important to teach the investors about the risk-reward relationship in different asset classes,” the person said. “निवेशकों को विभिन्न परिसंपत्ति वर्गों में जोखिम-लाभ संबंध के बारे में सिखाना अधिक महत्वपूर्ण है,” उस व्यक्ति ने कहा।
- Investment should be made more on educational content and tying up with school curriculum, the person continued. उन्होंने आगे कहा कि निवेश अधिकतर शैक्षिक सामग्री और स्कूल पाठ्यक्रम से जोड़ने पर होना चाहिए।
- Queries sent to AMFI's spokespersons on campaign outcome and balance fund allocation across online and offline activities did not elicit response till press time. अभियान के परिणाम और ऑनलाइन-ऑफलाइन गतिविधियों में फंड वितरण पर AMFI प्रवक्ताओं को भेजे गए प्रश्नों का प्रेस समय तक कोई उत्तर नहीं मिला।
- The current norms on investor awareness have a blind spot regarding the type of initiatives, said Sonam Chandwani, managing partner, KS Legal & Associates. KS Legal & Associates की मैनेजिंग पार्टनर सोनम चंदवानी ने कहा कि निवेशक जागरूकता के मौजूदा नियमों में पहलों के प्रकार को लेकर एक “ब्लाइंड स्पॉट” है।
- “This creates a risk of form-over-substance compliance, where campaigns may satisfy regulatory checklists without necessarily improving financial literacy or investor outcomes in any measurable way,” she said. “इससे ऐसा जोखिम पैदा होता है कि केवल औपचारिक अनुपालन हो सकता है, जहाँ अभियान नियामक चेकलिस्ट तो पूरा कर लेते हैं लेकिन वित्तीय साक्षरता या निवेश परिणामों में वास्तविक सुधार नहीं होता,” उन्होंने कहा।
- She suggested there be “periodic content audits, outcome-based assessments and standardisation of messaging principles to ensure that investor education” drives actually end up making investors better. उन्होंने सुझाव दिया कि “नियमित सामग्री ऑडिट, परिणाम-आधारित मूल्यांकन और संदेश मानकीकरण” होना चाहिए ताकि निवेशक शिक्षा वास्तव में निवेशकों को बेहतर बना सके।
- SEBI Chairperson Tuhin Kanta Pandey said the board plans to bring all stakeholders, including AMFI, on board to address these concerns. SEBI अध्यक्ष तुहिन कांत पांडे ने कहा कि बोर्ड इन चिंताओं को दूर करने के लिए AMFI सहित सभी हितधारकों को साथ लाने की योजना बना रहा है।



Once a piped dream, now a necessity

Disruptions triggered by the West Asia war have upended LPG supply chains, pushing households, hotels and industries alike to turn to piped natural gas (PNG) across Telangana. Gas distribution companies are speeding up network expansion, though adoption remains largely urban and cluster-driven. While PNG offers uninterrupted supply and more convenience, challenges such as infrastructure costs and last-mile connectivity persist, even as the State positions it as a more reliable, cleaner alternative to conventional cooking fuel, writes N. Ravi Kumar

Between back-to-back client calls and site visits, Nikhil (name changed) finds himself adding a rather unusual task to his to-do list: tracking down plumbers.

Odd as it may sound, but for officials at Bhayanagar Gas Ltd (BGL), it has become routine. As Hyderabad witnesses a sharp rise in demand for piped natural gas (PNG) connections, plumbers and allied tradesmen have suddenly become critical to keeping up with installations.

For years, PNG remained in the background, overshadowed by the well-established and reliable liquefied petroleum gas (LPG) network. But that recently changed when the conflict in West Asia disrupted key maritime routes, tightening India's LPG imports. Almost overnight, attention shifted to PNG. As shortages deepened, especially for commercial users, a system once considered niche began drawing interest from households, hotels and industries alike.

"We came across stories of people waiting up to 25 days to book an LPG refill, and some even turning to the black market," says Raintree Park Welfare Association president R. Sai Chowdhary, adding, "But for the 500 apartments in our residential community with PNG connections, there were no such hassles." Daily routines continued uninterrupted, say vice-president Satyanarayana Mullaipudi and former president K.R.K. Prasad.

At least 100 more residents in the 1,776-apartment Malaysian Township in Kukatpally, have signed up for PNG connections. Chowdhary shares. While BGL had laid the pipeline network across the complex, the remaining work involves extending the line to individual kitchens and ac- tuating connections after residents pay a refund- able security deposit of ₹7,000 each.

This local trend reflects a wider shift across Telangana. From Kukatpally to Karimnagar, demand for PNG has risen across the geographical areas allotted to City Gas Distribution (CGD) companies by the Petroleum and Natural Gas Regulatory Board. Sensing a big opportunity to reduce reliance on imported LPG, the Centre has also stepped in, directing States directing States to ease permissions for pipeline-laying infrastructure and linking higher commercial LPG allocation to PNG usage.

Defined territories, ambitious targets

Across Telangana, the CGD landscape is divided into nine geographical areas, each allotted to a specific operator. BGL, authorised in October 2009 for Hyderabad, is among the forerunners in the country. Megha Engineering Group has secured five geographical areas while Indian Oil Corporation, Torrent Gas and Maharashtra Natu-



We use PNG for cooking and hence, did not face any issue (during the LPG supply crisis). When prices rose, we slowed down supply of items that take longer to cook. But otherwise it has been smooth. The flame is consistent and we don't have to worry about replenishing LPG cylinder stock.

NARESH, Manager, Bhayanagar, Gachibowli



For users, the advantages are practical and immediate: uninterrupted supply, no hassle for booking refills, and freedom from the logistical hassles associated with cylinder deliveries. Concerns ranging from noise and floor damage to the discomfort of letting delivery personnel into homes, especially for senior citizens, are also eliminated. The absence of cylinders in kitchens adds a layer of safety too.

Urban bias and infrastructure gaps

But the shift is not uniform. PNG adoption shows an urban bias, and even in cities for those residing in apartment complexes. Extending the network to semi-urban and rural areas, or even to colonies with independent houses within cities, remains a challenge. Higher capital expenditure for operators and logistical difficulties of laying pipelines in densely populated areas with narrow roads continue to slow expansion.

Building on the Centre's nudge to all States, the Telangana government issued a Government Order last month to ease the rollout of CGD infrastructure. The move simplifies approvals for laying pipelines, permits round-the-clock work and waives certain charges. This was followed by a coordination meeting with the departments concerned and CGD operators to fast-track execution on the ground.

Industry sources say the long pending works are now likely to pick up pace. A stronger push to CGD infrastructure, they note, will accelerate PNG expansion, reduce dependency on conventional fuels and minimise supply disruptions. The broader gains include lower carbon emissions and a more sustainable energy mix for the State.

BGL sources say several large generic drug manufacturers in Hyderabad have begun using PNG alongside LPG. Industrial users such as a major glass manufacturer and the Ramagundam Fertiliser and Chemicals plant are also on the network. For many micro and small enterprises, however, switching remains a challenge due to high investment costs, existing volume-based discounts on LPG and the flexibility that cylinders offer for works such as welding.

In the near term, commercial establishments located close to existing pipelines are well positioned to transition. Naresh, the manager at Bhanganagar Bhawan in Gachibowli, says operations remained largely unaffected during the LPG crunch. "We use PNG for cooking and hence, did not face any issue. When prices rose, we slowed down supply of items such as set dosa that take longer to cook. But otherwise it has been smooth. The flame is consistent and we don't have to worry about replenishing LPG cylinder stocks," he points out.

Similar inefficiencies are cited by star hotels. Apart from kitchens, PNG is also used for laundry and boilers, with operators pointing to better cost control compared to commercial LPG, where some fuel often goes unutilised. That said, kitchens typically require compatible burners when switching to PNG.

With these advantages, CGD companies are stepping up outreach to both commercial users and households, particularly in high-rise build-

ings where network extension is more viable. However, scaling up still hinges on big investment in core infrastructure and availability of more tradesmen like plumbers. And sources in the oil industry say that operators often seek firm customer commitments before expanding aggressively. In Malaysian Township, residents credit BGL for having laid the backbone network in advance and extending pipelines up to individual apartments.

Meanwhile, CNG, the transport counterpart of PNG, continues to see steady uptake. Autorickshaw driver P. Ajappa says that while queues at outlets have become longer in recent weeks, supply has remained consistent.

Even as groundwork expands, CGD companies are pressing ahead with aggressive rollout plans, betting on recent government relaxations to speed up work. Syed Mudalibbi, senior manager (CGD) at Indian Oil Corporation for its Jagtial-Peddapalli-Karimnagar-Rajanna Sircilla GA, says, "We have established nine CNG stations across the four districts. Since trunk connectivity is available at Ramagundam, PNG connections have been extended to three localities. Of the nearly 800 connections, 265 are live," he says.

Growth potential and challenges

Growth in domestic PNG remains moderate for now, largely due to the limited presence of high-rise apartments. That, however, is expected to go up after works to lay a 65-70 km pipeline from Ramagundam to Karimnagar, is completed by the first quarter of 2027. Once operational, the stretch is expected to unlock huge growth in both domestic and commercial segments. The network will subsequently extend to Peddapalli, and from Karimnagar further to Rajanna Sircilla and Jagtial over the next two years.

Within the industry, a section of CGD players believe that PNG adoption could be further sped up if supported by incentives on the lines of LPG schemes such as the Pradhan Mantri Ujjwala Yojana.

Acknowledging that the government's push to PNG is unprecedented, Telangana LPG Distributors Association president Jagan Mohan Reddy says piped gas is the need of the hour but the targets set by CGD companies are too ambitious. "I wish they could get it," he says, expecting the impact of PNG in the near term to be largely local or limited to some areas of the GAs as LPG still holds a strong advantage in terms of portability, especially for tenants and households that relocate frequently.

Property owners, who let out on rent, may also hesitate to opt for permanent pipeline connections.

Policy changes are also throwing up implementation challenges. In the wake of the war, the government has mandated that households shifting to PNG surrender their LPG connections. While residents in Malaysian Township say they have not received any such communication from distributors, Reddy says identifying and mapping such households will not be an easy task. Complications could arise in independent houses with multiple kitchens or tenants.

For some residents, delays on the ground are a more immediate concern. S. Prakash Rao, who lives in MES Colony in Venkatapuram, Alwal, says it has been four years since pipelines were extended up to individual kitchens in the area, but without developing the underground network. Nearby areas, such as the locality behind Russh Hospital in Saichitra, already have access to PNG, leaving residents of Venkatapuram still waiting for the service to go live.

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19A. Once a piped dream, now a necessity कभी एक पाइपड सपना, अब एक आवश्यकता

- Disruptions triggered by the West Asia war have upended LPG supply chains, pushing households, hotels and industries alike to turn to piped natural gas (PNG) across Telangana. Gas distribution companies are speeding up network expansion, though adoption remains largely urban and cluster-driven. While PNG offers uninterrupted supply and more convenience, challenges such as infrastructure costs and last-mile connectivity persist, even as the State positions it as a more reliable, cleaner alternative to conventional cooking fuel, writes N. Ravi Kumar

पश्चिम एशिया युद्ध से उत्पन्न व्यवधानों ने LPG आपूर्ति श्रृंखलाओं को प्रभावित कर दिया है, जिससे तेलंगाना में घरों, होटलों और उद्योगों को पाइपड नेचुरल गैस (PNG) की ओर बढ़ने के लिए मजबूर होना पड़ा है। गैस वितरण कंपनियाँ नेटवर्क विस्तार को तेज कर रही हैं, हालांकि इसका अपना अर्थ अभी भी मुख्यतः शहरी और क्लस्टर-आधारित है। जबकि PNG निरंतर आपूर्ति और अधिक सुविधा प्रदान करता है, फिर भी बुनियादी ढांचे की लागत और अंतिम-मील कनेक्टिविटी जैसी चुनौतियाँ बनी हुई हैं, जबकि राज्य इसे पारंपरिक ईंधन की तुलना में अधिक विश्वसनीय और स्वच्छ विकल्प के रूप में प्रस्तुत कर रहा है, लिखते हैं एन. रवि कुमार।

- Between back-to-back client calls and site visits, Nikhil (name changed) finds himself adding a rather unusual task to his to-do list: tracking down plumbers.

लगातार क्लाइंट कॉल्स और साइट विजिट्स के बीच, निखिल (नाम बदला गया) अपने टू-डू लिस्ट में एक अजीब काम जोड़ते हुए खुद को पाता है: प्लंबरों की तलाश करना।

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- Odd as it may sound, but for officials at **Bhagyanagar Gas Ltd (BGL)**, it has become routine. यह सुनने में अजीब लग सकता है, लेकिन **भाग्यनगर गैस लिमिटेड (BGL)** के अधिकारियों के लिए यह एक नियमित काम बन गया है।
- As Hyderabad witnesses a sharp rise in demand for **piped natural gas (PNG)** connections, plumbers and allied tradesmen have suddenly become critical to keeping up with installations. जैसे-जैसे हैदराबाद में **पाइपड नेचुरल गैस (PNG)** कनेक्शनों की मांग तेजी से बढ़ रही है, प्लंबर और संबंधित तकनीशियन इंस्टॉलेशन को बनाए रखने के लिए अत्यंत महत्वपूर्ण हो गए हैं।
- For years, PNG remained in the background, overshadowed by the well-established and reliable **liquefied petroleum gas (LPG)** network. सालों तक PNG पृष्ठभूमि में रहा, जिसे मजबूत और विश्वसनीय **एलपीजी (LPG)** नेटवर्क ने पीछे छोड़ दिया था।
- But that recently changed when the conflict in West Asia disrupted key maritime routes, tightening India's LPG imports. लेकिन यह हाल ही में बदल गया जब पश्चिम एशिया में संघर्ष ने प्रमुख समुद्री मार्गों को बाधित किया, जिससे भारत के LPG आयात प्रभावित हुए।
- Almost overnight, attention shifted to PNG. लगभग रातों-रात ध्यान PNG की ओर चला गया।
- As shortages deepened, especially for commercial users, a system once considered niche began drawing interest from households, hotels and industries alike. जैसे-जैसे कमी बढ़ी, विशेषकर व्यावसायिक उपयोगकर्ताओं के लिए, एक समय में सीमित माना जाने वाला सिस्टम अब घरों, होटलों और उद्योगों में रुचि का केंद्र बन गया।
- "We came across stories of people waiting up to 25 days to book an LPG re• ll, and some even turning to the black market," says Raintree Park Welfare Association president **R. Sai Chowdary**, adding, "But for the 500 apartments in our residential community with PNG connections, there were no such hassles." "हमने ऐसे मामले देखे जहाँ लोग LPG रिफिल के लिए 25 दिन तक इंतजार कर रहे थे और कुछ लोग काला बाजार तक जा रहे थे," कहते हैं **R. साई चौधरी**, रेनट्री पार्क वेलफेयर एसोसिएशन के अध्यक्ष, और जोड़ते हैं, "लेकिन हमारे 500 अपार्टमेंट जिनमें PNG कनेक्शन है, वहाँ ऐसी कोई समस्या नहीं थी।"
- Daily routines continued uninterrupted, say vice-president **Satyanarayana Mullapudi** and former president **K.R.K. Prasad**. दैनिक दिनचर्या बिना किसी रुकावट के जारी रही, ऐसा कहते हैं उपाध्यक्ष **सत्यनारायण मुल्लापुडी** और पूर्व अध्यक्ष **K.R.K. प्रसाद**।
- At least 100 more residents in the 1,776-apartment Malaysian Township in Kukatpally, have signed up for PNG connections, Chowdary shares. कुकटपल्ली के 1,776 अपार्टमेंट वाले **मलेशियन टाउनशिप** में कम से कम 100 और निवासियों ने PNG कनेक्शन के लिए आवेदन किया है, चौधरी साझा करते हैं।
- While BGL had laid the pipeline network across the complex, the remaining work involves extending the line to individual kitchens and activating connections after residents pay a refundable security deposit of ₹7,000 each. जबकि BGL ने पूरे परिसर में पाइपलाइन नेटवर्क बिछा दिया था, बाकी काम में पाइप को व्यक्तिगत रसोई तक ले जाना और प्रत्येक निवासी द्वारा ₹7,000 की वापसी योग्य सुरक्षा जमा राशि देने के बाद कनेक्शन सक्रिय करना शामिल है।
- This local trend re• flects a wider shift across Telangana. यह स्थानीय प्रवृत्ति तेलंगाना में व्यापक बदलाव को दर्शाती है।
- From Kukatpally to Karimnagar, demand for PNG has risen across the geographical areas allotted to City Gas Distribution (CGD) companies by the Petroleum and Natural Gas Regulatory Board.



कुकटपल्ली से लेकर करीमनगर तक, पेट्रोलियम और प्राकृतिक गैस नियामक बोर्ड द्वारा **CGD कंपनियों** को दिए गए क्षेत्रों में PNG की मांग बढ़ी है।

- Sensing a big opportunity to reduce reliance on imported LPG, the Centre has also stepped in, directing States to ease permissions for pipeline-laying infrastructure and linking higher commercial LPG allocation to PNG usage.
आयातित LPG पर निर्भरता कम करने के बड़े अवसर को देखते हुए केंद्र सरकार ने भी हस्तक्षेप किया है, राज्यों को पाइपलाइन बिछाने की अनुमति आसान करने और अधिक व्यावसायिक LPG आवंटन को PNG उपयोग से जोड़ने का निर्देश दिया है।

Defined territories, ambitious targets

परिभाषित क्षेत्र, महत्वाकांक्षी लक्ष्य

- Across Telangana, the CGD landscape is divided into nine geographical areas, each allotted to a specific operator.
तेलंगाना में CGD क्षेत्र को नौ भौगोलिक क्षेत्रों में विभाजित किया गया है, प्रत्येक एक विशेष ऑपरेटर को दिया गया है।
- BGL, authorised in October 2009 for Hyderabad, is among the forerunners in the country.
हैदराबाद के लिए अक्टूबर 2009 में अधिकृत **BGL** देश के अग्रणी संगठनों में से एक है।
- Megha Engineering Group has secured 7 geographical areas while Indian Oil Corporation, Torrent Gas and Maharashtra Natural Gas have one each.
मेघा इंजीनियरिंग ग्रुप ने पाँच क्षेत्र हासिल किए हैं, जबकि इंडियन ऑयल कॉर्पोरेशन, टोरेंट गैस और महाराष्ट्र नेचुरल गैस के पास एक-एक क्षेत्र है।
- Unlike conventional markets, these entities operate within defined territories, leaving little room for direct competition.
पारंपरिक बाजारों के विपरीत, ये कंपनियाँ परिभाषित क्षेत्रों में काम करती हैं, जिससे प्रत्यक्ष प्रतिस्पर्धा की गुंजाइश कम होती है।
- All the companies have been set targets in terms of pipeline infrastructure (inch-km), domestic PNG connections and compressed natural gas (CNG) stations for automobiles.
सभी कंपनियों को पाइपलाइन बुनियादी ढांचे (इंच-किमी), घरेलू PNG कनेक्शन और वाहनों के लिए **CNG स्टेशन** के लक्ष्य दिए गए हैं।
- Their consumer base also includes commercial establishments such as restaurants and canteens, as well as industrial units.
उनका उपभोक्ता आधार रेस्तरां, कैंटीन जैसे व्यावसायिक प्रतिष्ठानों और औद्योगिक इकाइयों को भी शामिल करता है।
- At the heart of their operations is the 48-inch, bi-directional East-West Pipeline stretching from Kakinada in Andhra Pradesh to Bharuch in Gujarat.
उनके संचालन के केंद्र में 48-इंच की द्वि-दिशात्मक ईस्ट-वेस्ट पाइपलाइन है, जो आंध्र प्रदेश के काकीनाडा से गुजरात के भरुच तक फैली है।
- Operated by Pipeline Infrastructure Ltd, the network spans 1,485 km, including spur and dedicated lines.
Pipeline Infrastructure Ltd द्वारा संचालित यह नेटवर्क 1,485 किमी तक फैला है, जिसमें शाखा और समर्पित लाइनें शामिल हैं।
- In terms of visibility, it is the growing number of household connections that stands out.
दृश्यता के संदर्भ में, घरेलू कनेक्शनों की बढ़ती संख्या प्रमुख रूप से दिखाई देती है।
- For K.Veena, a dentist residing in Malaysian Township, the transition has been seamless.
मलेशियन टाउनशिप में रहने वाली दंत चिकित्सक **K. वीना** के लिए यह परिवर्तन सहज रहा है।
- In the few months since switching to PNG, she says there have been no concerns around usage, access or availability.



PNG अपनाने के कुछ महीनों में ही उन्होंने कहा कि उपयोग, पहुंच या उपलब्धता को लेकर कोई समस्या नहीं हुई है।

- While there is a difference between LPG and PNG in terms of their calorific value, it is marginal, explains Mullanpudi, who has years of experience in the oil industry. हालांकि LPG और PNG के कैलोरी मान में अंतर है, लेकिन यह मामूली है, ऐसा तेल उद्योग के अनुभवी मुल्लापुडी बताते हैं।
- Pricing, too, remains broadly comparable. कीमत भी लगभग समान ही है।
- Unlike LPG, PNG is metered, billed bi-monthly and operates on a postpaid system. LPG के विपरीत PNG मीटर आधारित है, द्विमासिक बिलिंग होती है और यह पोस्टपेड प्रणाली पर चलता है।
- BGL officials say options such as pre-paid connections and smart meters are also being explored to streamline usage and billing. BGL अधिकारियों का कहना है कि प्रीपेड कनेक्शन और स्मार्ट मीटर जैसे विकल्पों पर भी विचार किया जा रहा है।
- A standard domestic LPG cylinder of 14.2 kg currently costs ₹965 in Hyderabad, often with additional informal charges demanded by the delivery staff. हैदराबाद में 14.2 किग्रा का घरेलू LPG सिलेंडर वर्तमान में ₹965 का है, जिसमें अक्सर डिलीवरी स्टाफ द्वारा अतिरिक्त अनौपचारिक शुल्क भी लिया जाता है।
- PNG, on the other hand, is priced at ₹51 per standard cubic metre or one unit, with industry sources suggesting that roughly 750 grams of LPG is equivalent to one unit of PNG. इसके विपरीत PNG की कीमत ₹51 प्रति स्टैंडर्ड क्यूबिक मीटर या एक यूनिट है, और उद्योग स्रोतों के अनुसार लगभग 750 ग्राम LPG एक यूनिट PNG के बराबर है।
- The transition does require minor adjustments. इस परिवर्तन में कुछ छोटे समायोजन की आवश्यकता होती है।
- Existing LPG stoves need a slight modification to the nozzle to allow for better gas flow, although some newer models are compatible with both fuels, says Prasad. पुराने LPG स्टोव में गैस प्रवाह बेहतर करने के लिए नोजल में हल्का संशोधन करना पड़ता है, हालांकि कुछ नए मॉडल दोनों ईंधनों के लिए उपयुक्त हैं, ऐसा प्रसाद कहते हैं।
- For users, the advantages are practical and immediate: uninterrupted supply, no hassle for booking re-ills, and freedom from the logistical hassles associated with cylinder deliveries. उपयोगकर्ताओं के लिए फायदे व्यावहारिक और तुरंत हैं: निरंतर आपूर्ति, रिफिल बुकिंग की परेशानी नहीं, और सिलेंडर डिलीवरी की लॉजिस्टिक समस्याओं से मुक्ति।
- Concerns ranging from noise and door damage to the discomfort of letting delivery personnel into homes, especially for senior citizens, are also eliminated. शोर, फर्श क्षति और विशेषकर बुजुर्गों के लिए घर में डिलीवरी कर्मियों को बुलाने की असुविधा जैसी समस्याएँ भी समाप्त हो जाती हैं।
- The absence of cylinders in kitchens adds a layer of safety too. रसोई में सिलेंडरों की अनुपस्थिति सुरक्षा का एक अतिरिक्त स्तर जोड़ती है।

Urban bias and infrastructure gaps

शहरी झुकाव और बुनियादी ढांचे की कमी

- But the shift is not uniform. लेकिन यह बदलाव समान नहीं है।
- PNG adoption shows an urban bias, and even in cities for those residing in apartment complexes. PNG अपनाने में शहरी झुकाव दिखता है, और शहरों में भी यह मुख्यतः अपार्टमेंट परिसरों तक सीमित है।



- Extending the network to semi-urban and rural areas, or even to colonies with independent houses within cities, remains a challenge.
अर्ध-शहरी और ग्रामीण क्षेत्रों तक नेटवर्क बढ़ाना, या शहरों में स्वतंत्र घरों वाली कॉलोनियों तक पहुँचाना अभी भी एक चुनौती है।
- Higher capital expenditure for operators and logistical difficulties of laying pipelines in densely populated areas with narrow roads continue to slow expansion.
ऑपरेटरों के लिए उच्च पूंजी लागत और घनी आबादी वाले क्षेत्रों में संकरी सड़कों के कारण पाइपलाइन बिछाने की लॉजिस्टिक कठिनाइयाँ विस्तार को धीमा कर रही हैं।
- Building on the Centre's nudge to all States, the Telangana government issued a Government Order last month to ease the rollout of CGD infrastructure.
केंद्र द्वारा सभी राज्यों को दिए गए निर्देशों के आधार पर तेलंगाना सरकार ने पिछले महीने **CGD बुनियादी ढांचे** को आसान बनाने के लिए एक सरकारी आदेश जारी किया।
- The move simplifies approvals for laying pipeline, permits round-the-clock work and waives certain charges.
यह कदम पाइपलाइन बिछाने की मंजूरी को सरल बनाता है, चौबीसों घंटे काम की अनुमति देता है और कुछ शुल्कों को माफ करता है।
- This was followed by a coordination meeting with the departments concerned and CGD operators to fast-track execution on the ground.
इसके बाद संबंधित विभागों और CGD ऑपरेटरों के साथ समन्वय बैठक हुई ताकि कार्यान्वयन को तेज किया जा सके।
- Industry sources say the long pending works are now likely to pick up pace.
उद्योग स्रोतों का कहना है कि लंबे समय से लंबित कार्य अब तेजी पकड़ेंगे।
- A stronger push to CGD infrastructure, they note, will accelerate PNG expansion, reduce dependency on conventional fuels and minimise supply disruptions.
वे कहते हैं कि CGD बुनियादी ढांचे पर जोर PNG विस्तार को तेज करेगा, पारंपरिक ईंधनों पर निर्भरता कम करेगा और आपूर्ति व्यवधानों को घटाएगा।
- The broader gains include lower carbon emissions and a more sustainable energy mix for the State.
इसके व्यापक लाभों में कम कार्बन उत्सर्जन और राज्य के लिए अधिक टिकाऊ ऊर्जा मिश्रण शामिल है।
- BGL sources say several large generic drug manufacturers in Hyderabad have begun using PNG alongside LPG.
BGL स्रोतों के अनुसार हैदराबाद में कई बड़ी दवा निर्माता कंपनियों ने LPG के साथ PNG का उपयोग शुरू किया है।
- Industrial users such as a major glass manufacturer and the Ramagundam Fertiliser and Chemicals plant are also on the network.
एक प्रमुख कांच निर्माता और रामागुंडम उर्वरक एवं रसायन संयंत्र जैसे औद्योगिक उपयोगकर्ता भी इस नेटवर्क से जुड़े हैं।
- For many micro and small enterprises, however, switching remains a challenge due to high investment costs, existing volume-based discounts on LPG and the flexibility that cylinders offer for works such as welding.
हालांकि कई सूक्ष्म और छोटे उद्यमों के लिए परिवर्तन चुनौतीपूर्ण है क्योंकि उच्च निवेश लागत, LPG पर मौजूदा मात्रा आधारित छूट और वेल्डिंग जैसे कार्यों के लिए सिलेंडरों की लचीलापन मौजूद है।
- In the near term, commercial establishments located close to existing pipelines are well positioned to transition.
निकट भविष्य में, मौजूदा पाइपलाइनों के पास स्थित व्यावसायिक प्रतिष्ठान परिवर्तन के लिए बेहतर स्थिति में हैं।
- Naresh, the manager at Bengaluru Bhavan in Gachibowli, says operations remained largely unacted during the LPG crunch.



गाचीबोवली के बैंगलुरु भवन के प्रबंधक नरेश कहते हैं कि LPG संकट के दौरान संचालन पर ज्यादा असर नहीं पड़ा।

- “We use PNG for cooking and hence, did not face any issue. When prices rose, we slowed down the supply of items such as set dosa that take longer to cook. But otherwise it has been smooth. The PNG game is consistent and we don't have to worry about replenishing LPG cylinder stocks,” he points out.
“हम खाना पकाने के लिए PNG का उपयोग करते हैं, इसलिए कोई समस्या नहीं हुई। जब कीमतें बढ़ीं, तो हमने सेट डोसा जैसे लंबे समय लेने वाले आइटम की आपूर्ति कम कर दी। लेकिन बाकी सब सुचारु रहा। लौ स्थिर रहती है और हमें LPG सिलेंडर स्टॉक की चिंता नहीं करनी पड़ती,” वे बताते हैं।
- Similar efficiencies are cited by star hotels.
इसी तरह की दक्षता स्टार होटलों द्वारा भी बताई जाती है।
- Apart from kitchens, PNG is also used for laundry and boilers, with operators pointing to better cost control compared to commercial LPG, where some fuel often goes unutilised.
रसोई के अलावा PNG का उपयोग लॉन्ड्री और बॉयलर में भी होता है, जहाँ ऑपरेटर व्यावसायिक LPG की तुलना में बेहतर लागत नियंत्रण बताते हैं, क्योंकि उसमें कुछ ईंधन अक्सर बर्बाद हो जाता है।
- That said, kitchens typically require compatible burners when switching to PNG.
हालांकि, PNG पर स्विच करते समय रसोई में आमतौर पर संगत बर्नर की आवश्यकता होती है।
- With these advantages, CGD companies are stepping up outreach to both commercial users and households, particularly in high-rise buildings where network extension is more viable.
इन फायदों के साथ CGD कंपनियाँ व्यावसायिक उपयोगकर्ताओं और घरों दोनों तक पहुँच बढ़ा रही हैं, विशेषकर ऊँची इमारतों में जहाँ नेटवर्क विस्तार अधिक संभव है।
- However, scaling up still hinges on big investment in core infrastructure and availability of more tradesmen like plumbers.
हालांकि विस्तार अभी भी बड़े बुनियादी ढांचे के निवेश और अधिक प्लंबर जैसे तकनीशियनों की उपलब्धता पर निर्भर करता है।
- And sources in the oil industry say that operators often seek firm customer commitments before expanding aggressively.
और तेल उद्योग के स्रोतों के अनुसार ऑपरेटर आक्रामक विस्तार से पहले अक्सर ग्राहकों से ठोस प्रतिबद्धता मांगते हैं।
- In Malaysian Township, residents credit BGL for having laid the backbone network in advance and extending pipelines up to individual apartments.
मलेशियन टाउनशिप में निवासी BGL को पहले से बैकबोन नेटवर्क बिछाने और पाइपलाइन को व्यक्तिगत अपार्टमेंट तक लाने का श्रेय देते हैं।
- Meanwhile, CNG, the transport counterpart of PNG, continues to see steady uptake.
इस बीच PNG का परिवहन संस्करण CNG लगातार स्थिर रूप से बढ़ रहा है।
- Autorickshaw driver P. Ajappa says that while queues at outlets have become longer in recent weeks, supply has remained consistent.
ऑटो रिक्शा चालक पी. अजप्पा कहते हैं कि हाल के हफ्तों में आउटलेट पर कतारें लंबी हुई हैं, लेकिन आपूर्ति स्थिर बनी हुई है।
- Even as groundwork expands, CGD companies are pressing ahead with aggressive rollout plans, betting on recent government relaxations to speed up work.
जैसे-जैसे आधारभूत कार्य बढ़ रहा है, CGD कंपनियाँ तेज विस्तार योजनाओं के साथ आगे बढ़ रही हैं, हाल के सरकारी ढील पर भरोसा करते हुए।
- Syed Mudabbir, senior manager (CGD) at Indian Oil Corporation for its Jagtial-Peddapalli-Karimnagar-Rajanna Sircilla GA, says, “We have established nine CNG stations across the four districts. Since trunk connectivity is available at Ramagundam, PNG connections have been extended to three localities. Of the nearly 800 connections, 265 are live,” he says.
इंडियन ऑयल कॉर्पोरेशन के वरिष्ठ प्रबंधक (CGD) सैयद मुदब्बिर कहते हैं, “हमने चार जिलों में नौ CNG



स्टेशन स्थापित किए हैं। रामागुंडम में ट्रंक कनेक्टिविटी उपलब्ध होने के कारण PNG कनेक्शन तीन क्षेत्रों तक बढ़ाए गए हैं। लगभग 800 कनेक्शनों में से 265 सक्रिय हैं।”

Growth potential and challenges

विकास क्षमता और चुनौतियाँ

- Growth in domestic PNG remains moderate for now, largely due to the limited presence of high-rise apartments.
घरेलू PNG की वृद्धि अभी फिलहाल मध्यम है, मुख्यतः ऊँची इमारतों की सीमित उपस्थिति के कारण।
- That, however, is expected to go up after works to lay a 65-70 km pipeline from Ramagundam to Karimnagar, is completed by the first quarter of 2027.
हालांकि, रामागुंडम से करीमनगर तक 65-70 किमी पाइपलाइन का काम 2027 की पहली तिमाही तक पूरा होने के बाद इसमें वृद्धि की उम्मीद है।
- Once operational, the stretch is expected to unlock huge growth in both domestic and commercial segments.
इसके चालू होने पर घरेलू और व्यावसायिक दोनों क्षेत्रों में बड़े पैमाने पर वृद्धि की उम्मीद है।
- The network will subsequently extend to Peddapalli, and from Karimnagar further to Rajanna Sircilla and Jagtial over the next two years.
इसके बाद नेटवर्क पेड्डापल्ली तक और फिर करीमनगर से राजन्ना सिरसिला और जगतियाल तक अगले दो वर्षों में बढ़ाया जाएगा।
- Within the industry, a section of CGD players believe that PNG adoption could be further sped up if supported by incentives on the lines of LPG schemes such as the Pradhan Mantri Ujjwala Yojana.
उद्योग में कुछ CGD कंपनियों का मानना है कि यदि PNG को LPG योजनाओं जैसे प्रधानमंत्री उज्ज्वला योजना जैसी प्रोत्साहन नीतियों का समर्थन मिले तो इसका अपना और तेज हो सकता है।
- Acknowledging that the government's push to PNG is unprecedented, Telangana LPG Distributors Association president **Jagan Mohan Reddy** says piped gas is the need of the hour but the targets set by CGD companies are too ambitious.
सरकार द्वारा PNG को दिया गया समर्थन अभूतपूर्व है, यह स्वीकार करते हुए तेलंगाना LPG वितरक संघ के अध्यक्ष **जगन मोहन रेड्डी** कहते हैं कि पाइपड गैस समय की जरूरत है लेकिन CGD कंपनियों के लक्ष्य बहुत महत्वाकांक्षी हैं।
- “I wish they could get it,” he says, expecting the impact of PNG in the near term to be largely local or limited to some areas of the GAs as LPG still holds a strong advantage in terms of portability, especially for tenants and households that relocate frequently.
“मैं चाहता हूँ कि वे इसे हासिल करें,” वे कहते हैं, और उम्मीद करते हैं कि निकट भविष्य में PNG का प्रभाव मुख्यतः स्थानीय या कुछ क्षेत्रों तक सीमित रहेगा क्योंकि LPG अभी भी पोर्टेबिलिटी में मजबूत लाभ रखता है, विशेषकर किरायेदारों और बार-बार स्थान बदलने वाले घरों के लिए।
- Property owners, who let out on rent, may also hesitate to opt for permanent pipeline connections.
किराये पर देने वाले संपत्ति मालिक भी स्थायी पाइपलाइन कनेक्शन लेने में हिचकिचा सकते हैं।
- Policy changes are also throwing up implementation challenges.
नीति परिवर्तन भी कार्यान्वयन चुनौतियाँ पैदा कर रहे हैं।
- In the wake of the war, the government has mandated that households shifting to PNG surrender their LPG connections.
युद्ध के बाद सरकार ने अनिवार्य किया है कि PNG अपनाने वाले घर अपने LPG कनेक्शन छोड़ दें।
- While residents in Malaysian Township say they have not received any such communication from distributors, Reddy says identifying and mapping such households will not be an easy task.



हालांकि मलेशियन टाउनशिप के निवासी कहते हैं कि उन्हें वितरकों से ऐसा कोई संदेश नहीं मिला है, रेड्डी का कहना है कि ऐसे घरों की पहचान और मैपिंग आसान नहीं होगी।

- Complications could arise in independent houses with multiple kitchens or tenants. कई रसोई या किरायेदारों वाले स्वतंत्र घरों में जटिलताएँ उत्पन्न हो सकती हैं।
- For some residents, delays on the ground are a more immediate concern. कुछ निवासियों के लिए जमीन पर देरी अधिक तात्कालिक चिंता है।
- S. Prakash Rao, who lives in MES Colony in Venkatapuram, Alwal, says it has been four years since pipelines were extended up to individual kitchens in the area, but without developing the underground network. एस. प्रकाश राव, जो वेंकटपुरम, अलवाल की MES कॉलोनी में रहते हैं, कहते हैं कि क्षेत्र में व्यक्तिगत रसोई तक पाइपलाइन पहुंचे चार साल हो गए हैं, लेकिन भूमिगत नेटवर्क विकसित नहीं हुआ है।
- Nearby areas, such as the locality behind Rursh Hospital in Suchitra, already have access to PNG, leaving residents of Venkatapuram still waiting for the service to go live. पास के क्षेत्र जैसे सुचित्रा में रश हॉस्पिटल के पीछे वाले इलाके में PNG पहले से उपलब्ध है, जिससे वेंकटपुरम के निवासी अभी भी सेवा शुरू होने का इंतजार कर रहे हैं।

Annatto seed growers pitch for govt. support

Cultivated on nearly 10,000 acres across Andhra Pradesh, Annatto seeds are the world's second most important natural colourant after caramel. Thanks to impressive laboratory tests confirming seed quality and organic farming practices, they are in high demand across the European Union and West Asia. However, the absence of government-backed organic certification, a proper procurement mechanism, and adequate storage facilities is forcing farmers to sell their produce at throwaway prices to middlemen, writes T. Appalanaidu

GS III: Economy

Looking at the red hue on his hands, Pallala Suryanarayana Reddi, 38, recalls a game he once played with his friends as a child. Now a tribal farmer, he says, "Over the past few years, I have been earning my livelihood cultivating annatto seed (Bixa orellana L.), which was once only a source of fun?" Plucking a bunch of seeds from an annatto shrub along the Pamuluru stream in the heart of Papikonda National Park, Mr. Reddi explains how they used to grind the seeds by hand with water and splashed the mixture on each other, delighting in the natural red colour on their bare skin.

The annatto seed, widely used as a natural food colour and dye, is cultivated on around 10,000 acres in Andhra Pradesh, with 90 per cent of the area located in Mareduvilli mandal of Polavaram district. According to the Horticulture Department, Integrated Tribal Development Authority (ITDA-Rampachodavaram, Polavaram district), the district produces an estimated 2,500 metric tonnes annually.

The crop is completely rain-fed and requires no pesticides or fertilizers, just pruning of branches as part of crop management. The first harvest comes in the second year after planting, and the yield continues for more than two decades. In an official document, Tamil Nadu Agricultural University states, "annatto seed is widely known for its dye, used for coloring food, dyeing cloth and painting skin. The pulp surrounding the seeds is used in herbal medicine to treat burns, constipation, and fever. These seeds are the world's second most important natural colourant after caramel, producing hues ranging from yellow to red."

Tracing the origin of the seed, P. Vengalaiah, Head of the Horticulture Research Station in Pandiri Maamidli under Dr. Y.S.R. Horticultural University, A.P., explains: "Annatto seed is believed to have been brought to the Mareduvilli agency by the British for their needs at that time. Until recent years, the commercial value of the plant had not been explored by the tribals, despite its presence in their forests for generations."

Kola Muttayya, ITDA Rampachodavaram Horticulture Officer, an alumnus of the Indian Institute of Horticultural Research (IIHR-Bengaluru), says that nearly 6,000 acres of annatto plantation was registered on the e-crop portal (March-2026). The rest of the crop cannot be registered as it is grown in the land that belongs to the Forest Department. He claims that the annatto seed cultivation was doubled in the land owned by the tribal farmers compared to 2024-25, hinting at a steady expansion of the crop.

Mr. Suryanarayana Reddi, who studied to be a government teacher, has since succeeded in rais-



Most of the farmers who were cultivating cashew have switched to annatto, as it is risk-free with very low input costs, high yields, and returns. Still, the GCC is not procuring annatto seeds while it continues to procure cashew

JALLI SIRUMANNA DORA
Tribal farmer

ing two annatto plantations covering four acres-one in the backyard of his house in Vaalamuru village on the banks of the Pamuluru stream, and another near Mareduvilli in Polavaram district. Despite the good yield, he explains: "This year, our family harvested a three-acre plantation in Mareduvilli and obtained around 250 kilograms. However, we sold the harvest at ₹250 per kilogram, whereas last June it fetched us about ₹700 per kilogram. We were forced to sell to middlemen at such giveaway prices due to the absence of government stakeholders."

Jalli Sirumanna Dora, a Koya Dora tribal farmer of G.M. Valasa Panchayat (Mareduvilli Mandal), says, "Around 350 farmers of Konda Reddi, Koya Dora, and Valmiki tribes are cultivating annatto in over 1,500 acres. However, the entire yield is procured only by the middlemen as no government agency is available for procurement. This year, the middlemen offered ₹140/kg in February and March—peak harvesting season." The harvesting season lasts until the end of May.

Based in Gokavaram in East Godavari district, Tuni in Kakinada district, and Visakhapatnam city, the middlemen dictate prices, as tribal farmers have no alternative way to market their yield. They reportedly arrive at the farmers' doorsteps during the harvesting season and offer advance payments on the condition that the harvest is sold exclusively to them.

In March, the ITDA-Rampachodavaram authorities attempted to regulate the annatto seed trade by mandating that middlemen obtain a local trade license to procure the seeds. All the line departments—including police, forest, agriculture, horticulture, tribal welfare and PESA Committee (Panchayat Extension to Scheduled Areas Act, 1996)—have been involved in monitoring the trade. The PESA Committee is now responsible for approving the entry of middlemen into its respective panchayats. However, tribal farmers are left with no alternative marketing channels



and must sell their annatto seeds exclusively to the middlemen.

Mr. Sirumanna Dora blames the Andhra Pradesh Girijan Cooperative Corporation (GCC) and the ITDA-Rampachodavaram for their failure to regulate annatto seed trade in the agency. "Most of the farmers who were cultivating cashew have switched to annatto, as it is risk-free with very low input costs, high yields, and returns. Still, the GCC is not procuring annatto seeds while it continues to procure cashew," he says. The first harvest of cashew comes in the fifth year after planting, he added.

GCC chairperson Kidari Sravan claimed that he was unaware of annatto cultivation in the State or of tribal farmers engaging in it. Meanwhile, Mr. Kola Muttayya stated that the GCC lacks dedicated godown space for storing annatto seeds and has yet to formulate a policy for their procurement and marketing.

The ITDA also conducted a field-level survey on farming and harvesting methods in March. It documented a list of farmers cultivating annatto seeds in the Polavaram district, where women played an instrumental role—beginning with raising nurseries, pruning, harvesting, and segregation of seed from the pod.

Braving the scorching heat in Vaalamuru village, 19-year-old Pallala Anitha of the Konda Reddi community has freshly harvested annatto seeds and now waits for the middleman from Gokavaram town to procure them. Her family owes the middleman ₹20,000, a loan he extended last monsoon to help them meet daily needs. "The middleman deducts the debt and cuts ₹20 per kilogram while procuring the harvest, which is the final yield for this year. We cannot afford to store the harvest until the price rise expected in June," she says.

Organic certification

Not only farmers but also exporters in Andhra Pradesh are losing opportunities for direct exports due to the lack of Organic Certification for annatto seeds in the State. Instead, they sell the

seeds to counterparts in Mumbai and Delhi.

S. Visweswara Rao, proprietor of Visakhapatnam-based S.R. Manyam Spices and Exports, says: "The annatto seeds grown in the Mareduvilli agency have great demand in the European Union, in the Middle East, the United Arab Emirates is the largest importer of annatto seeds. However, these countries insist on Organic Certification from the place of origin."

He adds that importers are engaged with laboratory tests confirming seed quality and organic farming practices, but they cannot proceed without certification. "Many major companies, including those from Germany, England, Japan, Italy, and the UK, are keen to import annatto seeds grown in the Mareduvilli agency. Since I failed to provide Organic Certification for six bulk orders, they are currently on hold as I seek time to obtain it," Mr. Visweswara Rao said.

Andhra Pradesh State Organic Products Certification Authority (APSOPCA-Guntur)'s spokesperson, G. Yugandhar, claims, "The authority did not issue a single Organic Certificate to any individual or grower group for annatto seeds grown in Andhra Pradesh till date. We haven't received an application seeking Organic Certification from any eligible entity." Any NGO, exporter, grower group, exporter, registered society, company or trust can apply for the Organic Certification of the respective crop, he added.

The APSOPCA, established in 2022, is responsible for inspection and certification of organic products and Good Agricultural Practices. It is also entitled to provide third-party organic certification under the National Programme for Organic Production (NPOP). The Agricultural and Processed Food Products Export Development Authority (APEDA), whose prime objective is to promote the export of agricultural products, permitted the APSOPCA for organic certification in South States and three Union Territories.

However, the APEDA-Visakhapatnam authorities claimed that there is no data on annatto seed export from Andhra Pradesh. The traders question the APEDA's contribution towards annatto seed export as it remains a mute spectator unable to tap the export potential of the seed. The ongoing West Asia war has also hit the exports of annatto seed to Dubai and the United Arab Emirates, leading to a steep fall in the price in Indian cities, from where the seed is directly exported to the consumers, they note.

GI tag

On April 10, 2026, the ITDA Rampachodavaram filed an application with the Geographical Indications Registry (GIR) seeking a Geographical Indication (GI) tag for annatto seeds cultivated in the Mareduvilli agency.

"The ITDA Rampachodavaram is the applicant for the GI tag for annatto seeds, which are grown using organic farming methods. The inspection by GIR authorities is expected soon. While there are certain challenges in marketing and promoting annatto seeds, efforts will be made to encourage the crop," said ITDA Rampachodavaram Project Officer B. Smaran Raj.

Speaking about organic certification, he added that the ITDA will explore ways to obtain certification through APSOPCA, which will ensure better livelihood opportunities for local tribal communities.

However, the process of securing organic certification for annatto in the Mareduvilli agency has not yet begun. Every stage of cultivation and crop management must be documented, inspected, and certified by APSOPCA before the certification can be granted, he said.



19A. Annatto seed growers pitch for govt. support

एनैटो (Annatto) बीज उत्पादक सरकारी सहायता की मांग कर रहे हैं

- Cultivated on nearly 10,000 acres across Andhra Pradesh, Annatto seeds are the world's second most important natural colourant after caramel. Thanks to impressive laboratory tests confirming seed quality and organic farming practices, they are in high demand across the European Union and West Asia. However, the absence of government-backed organic certification, a proper procurement mechanism, and adequate storage facilities is forcing farmers to sell their produce at throwaway prices to middlemen, writes T. Appalanaidu

आंध्र प्रदेश में लगभग 10,000 एकड़ में उगाए जाने वाले एनैटो बीज दुनिया में कैरेमल के बाद दूसरे सबसे महत्वपूर्ण प्राकृतिक रंग हैं। बीज की गुणवत्ता और जैविक खेती की पुष्टि करने वाले प्रभावशाली प्रयोगशाला परीक्षणों के कारण इनकी मांग यूरोपीय संघ और पश्चिम एशिया में बहुत अधिक है। हालांकि, सरकारी समर्थित ऑर्गेनिक सर्टिफिकेशन, उचित खरीद व्यवस्था और पर्याप्त भंडारण सुविधाओं की कमी के कारण किसान अपनी उपज को कम दामों पर बिचौलियों को बेचने के लिए मजबूर हैं, लिखते हैं टी. अप्पलानायडू।

- Looking at the red hue on his hands, Pallala Suryanarayana Reddi, 38, recalls a game he once played with his friends as a child. Now a tribal farmer, he says, "Over the past few years, I have been earning my livelihood cultivating annatto seed (*Bixa orellena* L.), which was once only a source of fun."

अपने हाथों पर लाल रंग को देखते हुए 38 वर्षीय पलाला सूर्यनारायण रेड्डी अपने बचपन में दोस्तों के साथ खेले गए खेल को याद करते हैं। अब एक आदिवासी किसान के रूप में वे कहते हैं, "पिछले कुछ वर्षों से मैं एनैटो बीज (*Bixa orellena* L.) की खेती कर अपनी आजीविका कमा रहा हूँ, जो कभी केवल मनोरंजन का साधन था।"

- Plucking a bunch of seeds from an annatto shrub along the Pamuleru stream in the heart of Papikonda National Park, Mr. Reddi explains how they used to grind the seeds by hand with water and splashed the mixture on each other, delighting in the natural red colour on their bare skin.

पापिकोंडा राष्ट्रीय उद्यान के केंद्र में पामुलेरु धारा के किनारे एनैटो झाड़ी से बीज तोड़ते हुए श्री रेड्डी बताते हैं कि वे पहले बीजों को पानी के साथ हाथ से पीसकर एक-दूसरे पर लगाते थे और अपनी त्वचा पर प्राकृतिक लाल रंग का आनंद लेते थे।

- The annatto seed, widely used as a natural food colour and dye, is cultivated on around 10,000 acres in Andhra Pradesh, with 90 per cent of the area located in Maredumilli mandal of Polavaram district.

एनैटो बीज, जो प्राकृतिक खाद्य रंग और डाई के रूप में व्यापक रूप से उपयोग होता है, आंध्र प्रदेश में लगभग 10,000 एकड़ में उगाया जाता है, जिसमें 90 प्रतिशत क्षेत्र पोलावरम जिले के मारेडुमिल्ली मंडल में है।

- According to the Horticulture Department, Integrated Tribal Development Authority (ITDA–Rampachodavaram, Polavaram district), the district produces an estimated 2,500 metric tonnes annually.

बागवानी विभाग और ITDA–रामपाचोडावरम (पोलावरम जिला) के अनुसार, जिले में प्रति वर्ष लगभग 2,500 मीट्रिक टन उत्पादन होता है।

- The crop is completely rain-fed and requires no pesticides or fertilizers, just pruning of branches as part of crop management.

यह फसल पूरी तरह वर्षा आधारित है और इसमें किसी कीटनाशक या उर्वरक की आवश्यकता नहीं होती, केवल शाखाओं की छंटाई करनी होती है।

- The first harvest comes in the second year after planting, and the yield continues for more than two decades.

पहली फसल रोपण के दूसरे वर्ष में आती है और उत्पादन 20 वर्षों से अधिक समय तक चलता है।

- In an official document, Tamil Nadu Agricultural University states, "annatto seed is widely known for its dye, used for colouring food, dyeing cloth and painting skin. The pulp surrounding the seeds is used in herbal medicine to treat burns, constipation, and fever.



These seeds are the world's second most important natural colourant after caramel, producing hues ranging from yellow to red."

तमिलनाडु कृषि विश्वविद्यालय के एक आधिकारिक दस्तावेज में कहा गया है कि एनैटो बीज अपने रंग के लिए प्रसिद्ध है, जिसका उपयोग भोजन रंगने, कपड़े रंगने और त्वचा पर लगाने में होता है। इसके गूदे का उपयोग जलन, कब्ज और बुखार के इलाज में किया जाता है। ये बीज **कैरेमल के बाद दुनिया के दूसरे सबसे महत्वपूर्ण प्राकृतिक रंग** हैं, जो पीले से लाल तक रंग प्रदान करते हैं।

- Tracing the origin of the seed, P. Vengaiiah, Head of the Horticulture Research Station in Pandiri Maamidi under Dr. Y.S.R. Horticultural University, A.P., explains: "Annatto seed is believed to have been brought to the Maredumilli agency by the British for their needs at that time. Until recent years, the commercial value of the plant had not been explored by the tribals, despite its presence in their forests for generations."

बीज की उत्पत्ति बताते हुए डॉ. वाई.एस.आर. हॉर्टिकल्चरल यूनिवर्सिटी के अंतर्गत पंडिरी मामीदी स्थित बागवानी अनुसंधान स्टेशन के प्रमुख **पी. वेंगैया** कहते हैं कि एनैटो बीज ब्रिटिशों द्वारा मारेडुमिल्ली क्षेत्र में लाया गया था। हाल के वर्षों तक इसका व्यावसायिक मूल्य आदिवासियों द्वारा नहीं पहचाना गया था।

- Kola Muttayya, ITDA Rampachodavaram Horticulture Officer, an alumnus of the Indian Institute of Horticultural Research (IIHR-Bengaluru), says that nearly 6,000 acres of annatto plantation was registered on the e-crop portal (March-2026).

ITDA रामपाचोडावरम के बागवानी अधिकारी **कोला मुत्तय्या** बताते हैं कि लगभग **6,000 एकड़** एनैटो की खेती ई-क्रॉप पोर्टल पर दर्ज की गई है (मार्च 2026)।

- The rest of the crop cannot be registered as it is grown in the land that belongs to the Forest Department.

बाकी फसल वन विभाग की भूमि में होने के कारण पंजीकृत नहीं की जा सकती।

- He claims that the annatto seed cultivation was doubled in the land owned by the tribal farmers compared to 2024-25, hinting at a steady expansion of the crop.

वे बताते हैं कि आदिवासी किसानों की भूमि में एनैटो खेती 2024-25 की तुलना में दोगुनी हो गई है।

- Mr. Suryanarayana Reddi, who studied to be a government teacher, has since succeeded in raising two annatto plantations covering four acres—one in the backyard of his house in Vaalamuru village on the banks of the Pamuleru stream, and another near Maredumilli in Polavaram district.

सरकारी शिक्षक बनने की पढ़ाई करने वाले **सूर्यनारायण रेड्डी** ने चार एकड़ में दो एनैटो बागान विकसित किए हैं—एक अपने घर के पीछे और दूसरा मारेडुमिल्ली के पास।

- Despite the good yield, he explains: "This year, our family harvested a three-acre plantation in Maredumilli and obtained around 250 kilograms. However, we sold the harvest at ₹250 per kilogram, whereas last June it fetched us about ₹700 per kilogram. We were forced to sell to middlemen at such giveaway prices due to the absence of government stakeholders."

अच्छी उपज के बावजूद वे कहते हैं कि इस वर्ष 3 एकड़ से 250 किलो उत्पादन हुआ, लेकिन इसे ₹250 प्रति किलो बेचना पड़ा, जबकि पिछले साल यह ₹700 प्रति किलो बिका था। सरकारी व्यवस्था न होने के कारण उन्हें बिचौलियों को सस्ते दामों पर बेचना पड़ा।

- Jalli Sirumanna Dora, a Koya Dora tribal farmer of G.M. Valasa Panchayat (Maredumilli Mandal), says, "Around 350 farmers of Konda Reddi, Koya Dora, and Valmiki tribes are cultivating annatto in over 1,500 acres. However, the entire yield is procured only by the middlemen as no government agency is available for procurement. This year, the middlemen offered ₹140/kg in February and March—peak harvesting season". The harvesting season lasts until the end of May.

जल्लि सिरुमन्ना डोरा, कोया डोरा किसान, बताते हैं कि लगभग 350 किसान 1500 एकड़ में खेती कर रहे हैं लेकिन पूरी उपज बिचौलियों द्वारा खरीदी जाती है क्योंकि कोई सरकारी एजेंसी नहीं है।

- Based in Gokavaram in East Godavari district, Tuni in Kakinada district, and Visakhapatnam city, the middlemen dictate prices, as tribal farmers have no alternative way to market their yield.

बिचौलिये पूर्वी गोदावरी, काकीनाडा और विशाखापत्तनम से कीमतें तय करते हैं क्योंकि किसानों के पास कोई अन्य बाजार विकल्प नहीं है।



- They reportedly arrive at the farmers' doorsteps during the harvesting season and offer advance payments on the condition that the harvest is sold exclusively to them.
वे कटाई के समय किसानों के घर पहुंचकर अग्रिम भुगतान देकर उपज अपने पास ही बेचने की शर्त रखते हैं।
- In March, the ITDA-Rampachodavaram authorities attempted to regulate the annatto seed trade by mandating that middlemen obtain a local trade license to procure the seeds.
मार्च में ITDA ने बिचौलियों के लिए स्थानीय लाइसेंस अनिवार्य करने की कोशिश की।
- All the line departments—including police, forest, agriculture, horticulture, tribal welfare and PESA Committee—have been involved in monitoring the trade.
सभी विभाग जैसे पुलिस, वन, कृषि, बागवानी और PESA समिति व्यापार की निगरानी में शामिल हैं।
- However, tribal farmers are left with no alternative marketing channels and must sell their annatto seeds exclusively to the middlemen.
लेकिन किसानों के पास कोई अन्य बाजार विकल्प नहीं है और उन्हें केवल बिचौलियों को ही बेचना पड़ता है।
- Mr. Sirumanna Dora blames the Andhra Pradesh Girijan Cooperative Corporation (GCC) and the ITDA-Rampachodavaram for their failure to regulate annatto seed trade in the agency.
वे GCC और ITDA को व्यापार नियंत्रण में विफल बताते हैं।
- “Most of the farmers who were cultivating cashew have switched to annatto, as it is risk-free with very low input costs, high yields, and returns. Still, the GCC is not procuring annatto seeds while it continues to procure cashew,” he says.
वे कहते हैं कि किसान काजू छोड़कर एनैटो की ओर आए हैं लेकिन GCC इसकी खरीद नहीं कर रही।
- GCC chairperson Kidari Sravan claimed that he was unaware of annatto cultivation in the State or of tribal farmers engaging in it.
GCC अध्यक्ष ने कहा कि उन्हें एनैटो खेती की जानकारी नहीं थी।
- Meanwhile, Mr. Kola Muttayya stated that the GCC lacks dedicated godown space for storing annatto seeds and has yet to formulate a policy for their procurement and marketing.
GCC के पास भंडारण सुविधा और नीति नहीं है।
- The ITDA also conducted a field-level survey on farming and harvesting methods in March.
ITDA ने मार्च में सर्वे किया।
- It documented a list of farmers cultivating annatto seeds in the Polavaram district, where women played an instrumental role—beginning with raising nurseries, pruning, harvesting, and segregation of seed from the pod.
महिलाओं ने नर्सरी, छंटाई, कटाई और बीज अलग करने में महत्वपूर्ण भूमिका निभाई।
- Braving the scorching heat in Vaalamuru village, 19-year-old Pallala Anitha of the Konda Reddi community has freshly harvested annatto seeds and now waits for the middleman from Gokavaram town to procure them.
19 वर्षीय पल्लाला अनिता कटाई के बाद बिचौलिये का इंतजार कर रही है।
- Her family owes the middleman ₹20,000, a loan he extended last monsoon to help them meet daily needs.
उनका परिवार बिचौलिये का ₹20,000 कर्जदार है।
- “The middleman deducts the debt and cuts ₹20 per kilogram while procuring the harvest, which is the final yield for this year. We cannot afford to store the harvest until the price rise expected in June,” she says.
वे कहती हैं कि बिचौलिया कर्ज काटकर ₹20 प्रति किलो कम कर देता है और वे जून तक भंडारण नहीं कर सकते।

Organic certification

जैविक प्रमाणन (Organic Certification)

- Not only farmers but also exporters in Andhra Pradesh are losing opportunities for direct exports due to the lack of Organic Certification for annatto seeds in the State.
जैविक प्रमाणन न होने के कारण किसान और निर्यातक दोनों नुकसान में हैं।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- Instead, they sell the seeds to counterparts in Mumbai and Delhi.
वे बीज मुंबई और दिल्ली में बेचते हैं।
- S. Visweswara Rao, proprietor of Visakhapatnam-based S.R. Manyam Spices and Exports, says: "The annatto seeds grown in the Maredumilli agency have great demand in the European Union. In the Middle East, the United Arab Emirates is the largest importer of annatto seeds. However, these countries insist on Organic Certification from the place of origin."
निर्यातक एस. विश्वेश्वर राव बताते हैं कि यूरोप और UAE में भारी मांग है लेकिन ऑर्गेनिक प्रमाणन जरूरी है।
- He adds that importers are impressed with laboratory tests confirming seed quality and organic farming practices, but they cannot proceed without certification.
वे कहते हैं कि गुणवत्ता अच्छी है लेकिन प्रमाणन के बिना निर्यात संभव नहीं।
- Many major companies including Germany, UK, Japan and Italy are interested but orders are pending due to certification issues.
कई देशों की कंपनियाँ रुचि रखती हैं लेकिन ऑर्डर रुके हुए हैं।
- APSOPCA spokesperson G. Yugandhar says no Organic Certificate has been issued for annatto seeds in Andhra Pradesh so far.
APSOPCA के प्रवक्ता कहते हैं कि अब तक कोई प्रमाणन जारी नहीं हुआ है।
- He adds that any NGO, exporter, grower group, society or company can apply for certification.
वे बताते हैं कि कोई भी संस्था आवेदन कर सकती है।
- APSOPCA, established in 2022, is responsible for inspection and certification under NPOP.
APSOPCA 2022 में स्थापित हुई थी।
- APEDA has permitted APSOPCA for certification in southern states.
APEDA ने इसे दक्षिण भारत के लिए अधिकृत किया है।
- APEDA-Visakhapatnam officials say there is no export data for annatto seeds from Andhra Pradesh.
APEDA के अनुसार कोई निर्यात डेटा नहीं है।
- Traders say the West Asia war has reduced exports and prices have fallen sharply.
व्यापारियों का कहना है कि युद्ध के कारण निर्यात और कीमतें गिर गई हैं।

GI tag

जीआई टैग (Geographical Indication Tag)

- On April 10, 2026, ITDA Rampachodavaram filed an application for a GI tag for annatto seeds.
10 अप्रैल 2026 को ITDA ने GI टैग के लिए आवेदन किया।
- ITDA Project Officer B. Smaran Raj says inspection is expected soon and efforts will be made to promote the crop.
प्रोजेक्ट ऑफिसर कहते हैं कि निरीक्षण जल्द होगा।
- He adds ITDA will explore organic certification for better livelihoods.
वे कहते हैं कि प्रमाणन से आजीविका बेहतर होगी।
- However, the certification process has not yet begun and requires full documentation and inspection.
हालांकि प्रक्रिया अभी शुरू नहीं हुई है और सभी जांच जरूरी है।

GS Paper III: Science and Technology		19 April 2026
TOPICS COVERED		
19A	High blood sugar affects cognitive function via lactate उच्च रक्त शर्करा लैक्टेट के माध्यम से संज्ञानात्मक कार्य को प्रभावित करता है	
19A	The green and crimson chemistry of the watermelon	



	तरबूज की हरी और लाल रसायन विज्ञान
19A	Hearts and bonds हृदय और बंधन
19A	Trump inks executive order to speed research into psychedelic drugs ट्रंप ने साइकेडेलिक ड्रग्स पर शोध को तेज करने के लिए कार्यकारी आदेश पर हस्ताक्षर किए



High blood sugar affects cognitive function via lactate

Researchers have found excess sugar causes a modification to build up on a protein called **Creb3**, which then activates a gene that boosts the production of **lactate** in the **hippocampus**, the brain's memory centre. Excessive lactate kills brain cells, leading to cognitive impairment. A large study confirmed that high blood lactate is a risk factor for memory loss in people with diabetes. The team developed a peptide that, in diabetic mice, lowered lactate levels, preserving cognitive function.

for memory loss in people with **diabetes**.

एक बड़े अध्ययन ने पुष्टि की कि उच्च रक्त **लैक्टेट** मधुमेह वाले लोगों में स्मृति हानि का एक जोखिम कारक है।

- The team developed a **peptide** that, in diabetic mice, lowered **lactate** levels, preserving **cognitive function**.
टीम ने एक **पेप्टाइड** विकसित किया, जिसने मधुमेह वाले चूहों में **लैक्टेट** स्तर को कम किया और **संज्ञानात्मक कार्य** को सुरक्षित रखा।

19A. High blood sugar affects cognitive function via lactate

उच्च रक्त शर्करा लैक्टेट के माध्यम से संज्ञानात्मक कार्य को प्रभावित करता है

- Researchers have found excess **sugar** causes a modification to build up on a protein called **Creb3**, which then activates a gene that boosts the production of **lactate** in the **hippocampus**, the brain's memory centre.

शोधकर्ताओं ने पाया है कि अतिरिक्त **शर्करा** एक प्रोटीन **Creb3** पर संशोधन जमा कराती है, जो फिर एक जीन को सक्रिय करता है जो मस्तिष्क के स्मृति केंद्र **हिप्पोकैम्पस** में **लैक्टेट** के उत्पादन को बढ़ाता है।

- Excessive **lactate** kills brain cells, leading to cognitive impairment.

अत्यधिक **लैक्टेट** मस्तिष्क कोशिकाओं को नष्ट करता है, जिससे संज्ञानात्मक हानि होती है।

- A large study confirmed that high blood **lactate** is a risk factor



The green and crimson chemistry of the watermelon

GS III: S&T



SPEAKING OF
SCIENCE

D. Balasubramanian

The summer season is on and the fruit market is flush with the watermelon ('turbuz' in Hindi, 'vathakkai' in Tamil, 'tormuj' in Bengali, and *Citrullus lanatus* in botany), with its green-yellow striped skins and reddish interiors studded with dark seeds. The watermelon came to India from Africa, and is now ranked alongside apples, bananas, oranges, and grapes as one of the top five most cultivated fruits on the planet.

Given the climatic conditions in India, watermelons have become completely Indian over the centuries. It is a delicious fruit and is easily cultivated,

marketed, and consumed in rural and urban areas. In his book *A Historical Dictionary of Indian Food* (1998), K.T. Achaya noted the traditional use of many gourds, including the watermelon, in daily foods and as fruits.

According to the Indian Institute of Horticultural Research, many States across India, where the land is green, fertile, and well lit by sunlight, grow the fruit both for domestic consumption and for export. Uttar Pradesh leads with an annual production of about 7.07 lakh tonnes of the fruit. The other States that grow the plant include West Bengal, the Northeastern states, Odisha, Andhra Pradesh, and Tamil Nadu.

India also exports watermelons and their products to the UAE, Qatar, Oman, the Maldives, Bangladesh, and some other countries,



The rind is the greenish outer layer that we throw out when we cut the fruit for its red interior. REPORT/PERM/UNSPLASH

fetching a sizable income.

Medicinal values

In a 2017 paper in the Indian agricultural technologies journal *Popular Kheti* (vol. 5, issue 2, eISSN:2321-0001), Reetu and Mahishi Tomar, of the ICAR-National Bureau of Plant Genetic Resources, New Delhi, and ICAR-Central Potato Research Institute, Shimla, respectively, de-

scribed the nutritional benefits of watermelons. It is rich in dietary fibres, vitamins A and C, antioxidants, and anti-inflammatory agents, has anti-cancer properties, and is easily digested.

The fibre in the fruit helps keep digestion regular and healthy. The lycopene protects against heart diseases and the seeds contain iron and zinc con-

tains, which help bolster immunity. Rural physicians in several parts of India promote the use of the fruit and its parts as medicines. The fruit and its parts are also used in West Asia and Africa as health promoters.

A group led by Ahmed Attariha from Nigeria has been using parts of the watermelon as part of traditional medicine to help manage diabetes, urinary tract infections, and kidneys.

Another group from the University of Health Sciences in Ghana, led by David Negio, have elucidated the antioxidant and antimicrobial effects of watermelon skin, rind, pulp, and seeds. (DOI: 10.1016/j.sciaf.2020).

The rind is the greenish outer layer that we throw out when we cut the fruit for its red interior. The Ghanaian study also re-

ported that the rind and the seeds have more antioxidant and antimicrobial effects than the rest of the fruit. Yet we discard them while we enjoy the fruit.

Even the juice has health benefits. According to one estimate vetted by doctors, one cup of raw, diced watermelon has 46 calories, some protein and fat, and substantial amounts of vitamins A and C, potassium, and manganese. Including some watermelon in our diet can thus help reduce inflammation and oxidative stress.

So the next time you cook, do not throw away the rind but use it and the seeds in your curries, and enjoy the benefits they offer, in addition to the juice that you enjoy these summer days.

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19A. The green and crimson chemistry of the watermelon

तरबूज की हरी और लाल रसायन विज्ञान

- The summer season is on and the fruit market is flush with the **watermelon** ('turbuz' in Hindi, 'vathakkai' in Tamil, 'tormuj' in Bengali, and *Citrullus lanatus* in botany), with its green-yellow striped skins and reddish interiors studded with dark seeds.
गर्मी का मौसम चल रहा है और फल बाजार **तरबूज** ('तरबूज' हिंदी में, 'वथक्कै' तमिल में, 'तोरमुज' बंगाली में, और वनस्पति विज्ञान में *Citrullus lanatus*) से भरा हुआ है, जिसकी हरी-पीली धारियों वाली छाल और लाल अंदरूनी भाग में काले बीज होते हैं।
- The watermelon came to India from Africa, and is now ranked alongside apples, bananas, oranges, and grapes as one of the top five most cultivated fruits on the planet.
तरबूज अफ्रीका से भारत आया और अब यह सेब, केला, संतरा और अंगूर के साथ दुनिया के शीर्ष पाँच सबसे अधिक उगाए जाने वाले फलों में शामिल है।
- Given the climatic conditions in India, watermelons have become completely Indian over the centuries.
भारत की जलवायु परिस्थितियों के कारण, तरबूज सदियों में पूरी तरह भारतीय बन गया है।
- It is a delicious fruit and is easily cultivated, marketed, and consumed in rural and urban areas.
यह एक स्वादिष्ट फल है और इसे ग्रामीण तथा शहरी क्षेत्रों में आसानी से उगाया, बेचा और खाया जाता है।
- In his book *A Historical Dictionary of Indian Food* (1998), K.T. Achaya noted the traditional use of many gourds, including the watermelon, in daily foods and as fruits.
अपनी पुस्तक *A Historical Dictionary of Indian Food* (1998) में K.T. अचाया ने कई कद्दूवर्गीय फलों, जिसमें तरबूज भी शामिल है, के दैनिक भोजन और फल के रूप में पारंपरिक उपयोग का उल्लेख किया।
- According to the Indian Institute of Horticultural Research, many States across India, where the land is green, fertile, and well lit by sunlight, grow the fruit both for domestic consumption and for export.
भारतीय बागवानी अनुसंधान संस्थान के अनुसार, भारत के कई राज्य जहाँ भूमि हरी, उपजाऊ और सूर्य प्रकाश से अच्छी तरह प्रकाशित है, वहाँ यह फल घरेलू उपभोग और निर्यात दोनों के लिए उगाया जाता है।
- Uttar Pradesh leads with an annual production of about 7.07 lakh tonnes of the fruit.
उत्तर प्रदेश इस फल के लगभग 7.07 लाख टन वार्षिक उत्पादन के साथ सबसे आगे है।



- The other States that grow the plant include West Bengal, the Northeastern states, Odisha, Andhra Pradesh, and Tamil Nadu.
अन्य राज्यों में जहाँ यह फल उगाया जाता है उनमें पश्चिम बंगाल, पूर्वोत्तर राज्य, ओडिशा, आंध्र प्रदेश और तमिलनाडु शामिल हैं।
- India also exports watermelons and their products to the UAE, Qatar, Oman, the Maldives, Bangladesh, and some other countries, fetching a sizable income.
भारत तरबूज और उसके उत्पादों का निर्यात UAE, कतर, ओमान, मालदीव, बांग्लादेश और कुछ अन्य देशों में भी करता है, जिससे अच्छी आय प्राप्त होती है।

Medicinal values

औषधीय गुण

- In a 2017 paper in the Indian agricultural technologies journal Popular Kheti (vol. 5, issue 2, eISSN:2321-0001), Reetu and Maharishi Tomar, of the ICAR-National Bureau of Plant Genetic Resources, New Delhi, and ICAR-Central Potato Research Institute, Shimla, respectively, described the nutritional benefits of watermelons.
2017 में भारतीय कृषि प्रौद्योगिकी जर्नल Popular Kheti (vol. 5, issue 2, eISSN:2321-0001) में रीटू और महर्षि तोमर ने, क्रमशः ICAR-नेशनल ब्यूरो ऑफ प्लांट जेनेटिक रिसोर्सेज, नई दिल्ली और ICAR-सेंट्रल पोटेटो रिसर्च इंस्टीट्यूट, शिमला से, तरबूज के पोषण संबंधी लाभों का वर्णन किया।
- It is rich in dietary fibres, vitamins A and C, antioxidants, and anti-inflammatory agents, has anti-cancer properties, and is easily digested.
यह आहार फाइबर, विटामिन A और C, एंटीऑक्सिडेंट और सूजन-रोधी तत्वों से भरपूर है, इसमें कैंसर-रोधी गुण हैं और यह आसानी से पच जाता है।
- The fibre in the fruit helps keep digestion regular and healthy.
इस फल का फाइबर पाचन को नियमित और स्वस्थ रखने में मदद करता है।
- The lycopene protects against heart diseases and the seeds contain iron and zinc compounds, which help bolster immunity.
लाइकोपीन हृदय रोगों से बचाता है और इसके बीजों में आयरन और जिंक यौगिक होते हैं, जो प्रतिरक्षा को मजबूत करते हैं।
- Rural physicians in several parts of India promote the use of the fruit and its parts as medicines.
भारत के कई हिस्सों में ग्रामीण चिकित्सक इस फल और इसके हिस्सों को औषधि के रूप में उपयोग करने की सलाह देते हैं।
- The fruit and its parts are also used in West Asia and Africa as health promoters.
यह फल और इसके भाग पश्चिम एशिया और अफ्रीका में भी स्वास्थ्य सुधारक के रूप में उपयोग किए जाते हैं।
- A group led by Ahmed Attariha from Nigeria has been using parts of the watermelon as part of traditional medicine to help manage diabetes, urinary tract infections, and kidneys.
नाइजीरिया के अहमद अतारीहा के नेतृत्व में एक समूह तरबूज के हिस्सों का उपयोग पारंपरिक चिकित्सा में मधुमेह, मूत्र मार्ग संक्रमण और किडनी समस्याओं के प्रबंधन के लिए करता है।
- Another group from the University of Health Sciences in Ghana, led by David Negio, have elucidated the antioxidant and antimicrobial effects of watermelon skin, rind, pulp, and seeds.
घाना के यूनिवर्सिटी ऑफ हेल्थ साइंसेज के डेविड नेगियो के नेतृत्व में एक अन्य समूह ने तरबूज के छिलके, रिंद, गूदा और बीजों के एंटीऑक्सिडेंट और रोगाणुरोधी प्रभावों को स्पष्ट किया है।
- The rind is the greenish outer layer that we throw out when we cut the fruit for its red interior.
रिंद वह हरी बाहरी परत है जिसे हम फल को उसके लाल अंदरूनी भाग के लिए काटते समय फेंक देते हैं।
- The Ghanaian study also reported that the rind and the seeds have more antioxidant and antimicrobial effects than the rest of the fruit.
घाना के अध्ययन में यह भी बताया गया कि रिंद और बीजों में फल के अन्य हिस्सों की तुलना में अधिक एंटीऑक्सिडेंट और रोगाणुरोधी प्रभाव होते हैं।



- Yet we discard them while we enjoy the fruit.
फिर भी हम इन्हें फेंक देते हैं जबकि हम फल का आनंद लेते हैं।
- Even the juice has health benefits.
यहाँ तक कि इसका जूस भी स्वास्थ्य लाभ देता है।
- According to one estimate vetted by doctors, one cup of raw, diced watermelon has 46 calories, some protein and fat, and substantial amounts of vitamins A and C, potassium, and manganese.
डॉक्टरों द्वारा प्रमाणित एक अनुमान के अनुसार, एक कप कच्चे कटे तरबूज में 46 कैलोरी, कुछ प्रोटीन और वसा, तथा विटामिन A, C, पोटैशियम और मैंगनीज की पर्याप्त मात्रा होती है।
- Including some watermelon in our diet can thus help reduce inflammation and oxidative stress.
इसलिए आहार में तरबूज शामिल करने से सूजन और ऑक्सीडेटिव तनाव कम करने में मदद मिल सकती है।
- So the next time you cook, do not throw away the rind but use it and the seeds in your curries, and enjoy the benefits they offer, in addition to the juice that you enjoy these summer days.
इसलिए अगली बार जब आप खाना बनाएं तो रिंद को न फेंकें बल्कि इसे और बीजों को अपनी करी में उपयोग करें और इनके लाभों का आनंद लें, साथ ही इस गर्मी में पी जाने वाले जूस का भी।

Hearts and bonds

Why are saturated fats bad for the heart but unsaturated fats are okay?

CS III: S&T

Simply speaking, the two kinds of fats affect the body's LDL cholesterol differently. LDL is the kind that clogs arteries. Saturated fats raise the level of LDL cholesterol in the blood by reducing the number of LDL receptors in the liver. As a result, the liver removes less LDL from the blood. And as the LDL in the blood builds up, it is oxidised and lodged in the artery walls, where it triggers inflammation and forms plaques. Over time, these plaques narrow the

arteries and raise the risk of heart attack and stroke. On the other hand, monounsaturated fats lower LDL levels without touching the HDL cholesterol level, which helps carry LDL back to the liver for disposal. Polyunsaturated fats go further and reduce the level of triglycerides and dampen inflammation. Saturated fats have no double bonds, which makes them solid at room temperature. Unsaturated fats have one or more double bonds, making them flexible and thus allowing them to behave differently inside the body.

Readers may send their questions / answers to science@thehindu.co.in

19A. Hearts and bonds हृदय और बंधन

- Why are **saturated fats** bad for the heart but **unsaturated fats** are okay
सैचुरेटेड फैट्स हृदय के लिए खराब क्यों होते हैं लेकिन **अनसैचुरेटेड फैट्स** ठीक क्यों होते हैं
 - Simply speaking, the two kinds of **fats** affect the body's **LDL cholesterol** differently.
सरल शब्दों में, दोनों प्रकार के **वसा (fats)** शरीर के **LDL कोलेस्ट्रॉल** को अलग-अलग तरीके से प्रभावित करते हैं।
 - **LDL** is the kind that clogs **arteries**.
LDL वह प्रकार है जो **धमनियों (arteries)** को जाम करता है।
 - **Saturated fats** raise the level of **LDL cholesterol** in the blood by reducing the number of **LDL receptors** in the liver.
सैचुरेटेड फैट्स रक्त में **LDL कोलेस्ट्रॉल** का स्तर बढ़ाते हैं क्योंकि वे लिवर में **LDL रिसेप्टर्स** की संख्या कम कर देते हैं।
- As a result, the liver removes less **LDL** from the blood.
इसके परिणामस्वरूप लिवर रक्त से कम **LDL** हटाता है।
- And as the **LDL** in the blood builds up, it is oxidised and lodged in the artery walls, where it triggers **inflammation** and forms plaques.
और जैसे-जैसे रक्त में **LDL** बढ़ता है, यह ऑक्सीडाइज़ होकर धमनियों की दीवारों में जमा हो जाता है, जहाँ यह **सूजन (inflammation)** पैदा करता है और प्लाक बनाता है।
- Over time, these plaques narrow the arteries and raise the risk of **heart attack** and **stroke**.
समय के साथ ये प्लाक धमनियों को संकरा कर देते हैं और **हार्ट अटैक** तथा **स्ट्रोक** का खतरा बढ़ा देते हैं।
- On the other hand, **monounsaturated fats** lower **LDL** levels without touching the **HDL cholesterol** level, which helps carry **LDL** back to the liver for disposal.
दूसरी ओर, **मोनोअनसैचुरेटेड फैट्स** **LDL** स्तर को कम करते हैं बिना **HDL कोलेस्ट्रॉल** को प्रभावित किए, जो **LDL** को वापस लिवर तक ले जाने में मदद करता है।
- **Polyunsaturated fats** go further and reduce the level of **triglycerides** and dampen inflammation.
पॉलीअनसैचुरेटेड फैट्स और आगे जाकर **ट्राइग्लिसराइड्स** के स्तर को कम करते हैं और सूजन को घटाते हैं।



- **Saturated fats** have no double bonds, which makes them solid at room temperature.
सैचुरेटेड फैट्स में कोई डबल बॉन्ड नहीं होता, जिससे वे कमरे के तापमान पर ठोस रहते हैं।
- **Unsaturated fats** have one or more double bonds, making them flexible and thus allowing them to behave differently inside the body.
अनसैचुरेटेड फैट्स में एक या अधिक डबल बॉन्ड होते हैं, जिससे वे लचीले होते हैं और शरीर के अंदर अलग तरह से व्यवहार करते हैं।

Trump inks executive order to speed up research into psychedelic drugs

GS III: S&T
Agence France-Presse
WASHINGTON

U.S. President Donald Trump on Saturday announced an easing of restrictions on research into psychedelic drugs – such as so-called “magic mushrooms” – that have shown promise in treating people with mental health conditions.

Flanked by U.S. Health Secretary Robert F. Kennedy Jr and podcaster Joe Rogan, who has pushed for access to the drugs, Mr. Trump signed an executive order that would help federal researchers cut through the red tape to allow for quicker studies.

The President said the order would “clear away



Donald Trump speaks in the Oval Office after signing an order easing restrictions on research into psychedelic drugs. AFP

unnecessary bureaucratic hurdles, improve data sharing among the FDA [Food and Drug Administration] and the Department of Veterans Affairs and facilitate fast rescheduling of any drugs that become FDA approved.”

Currently, many psychedelics including LSD and psilocybin are classified – or ‘scheduled’ – as having high abuse and addiction potential, and are not approved for medical use, limiting the ability for scientists to study them.

If the FDA, which is charged with regulating pharmaceuticals in the U.S., officially finds a medical benefit for some of the psychedelics, they could be rescheduled, allowing for greater clinical use.

The order only provides for accelerated research and does not immediately require law enforcement authorities to reclassify the drugs, meaning therapeutic use will not expand immediately.

In recent years, there has been a growing push to research the effects of the drugs in treating people – especially war veterans – with difficult anxiety and depression cases, especially those who had experienced traumatic stress.

19A. Trump inks executive order to speed research into psychedelic drugs

ट्रंप ने साइकेडेलिक ड्रग्स पर शोध को तेज करने के लिए कार्यकारी आदेश पर हस्ताक्षर किए

- U.S. President **Donald Trump** on Saturday announced an easing of restrictions on research into **psychedelic drugs** — such as so-called “magic mushrooms” — that have shown promise in treating people with **mental health conditions**.
अमेरिकी राष्ट्रपति **डोनाल्ड ट्रंप** ने शनिवार को साइकेडेलिक ड्रग्स पर शोध से संबंधित प्रतिबंधों में ढील देने की घोषणा की — जैसे तथाकथित “मैजिक मशरूम” — जिन्होंने लोगों की **मानसिक स्वास्थ्य स्थितियों** के इलाज में संभावनाएँ दिखाई हैं।
- Flanked by U.S. Health Secretary **Robert F. Kennedy Jr** and podcaster **Joe Rogan**, who has pushed for access to the drugs, Mr. Trump signed an **executive order** that would help federal researchers cut through the red tape to allow for quicker studies.
अमेरिकी स्वास्थ्य सचिव **रॉबर्ट एफ. कैनेडी जूनियर** और पॉडकास्टर **जो रोगन**, जिन्होंने इन दवाओं तक पहुंच की वकालत की है, के साथ मौजूद रहते हुए श्री ट्रंप ने एक **कार्यकारी आदेश** पर हस्ताक्षर किए, जो संघीय शोधकर्ताओं को लालफीताशाही से राहत देकर तेजी से अध्ययन करने में मदद करेगा।
- The President said the order would “clear away unnecessary **bureaucratic hurdles**, improve data sharing among the **FDA [Food and Drug Administration]** and the Department of Veterans Affairs and facilitate fast rescheduling of any drugs that become FDA approved.”
राष्ट्रपति ने कहा कि यह आदेश “अनावश्यक **प्रशासनिक बाधाओं** को हटाएगा, **FDA [फूड एंड ड्रग**



एडमिनिस्ट्रेशन] और वेटरन्स अफेयर्स विभाग के बीच डेटा साझा करने में सुधार करेगा और किसी भी दवा के FDA अनुमोदित होने पर उसके पुनर्वर्गीकरण को तेज करेगा।”

- Currently, many **psychedelics** including **LSD** and **psilocybin** are classified — or ‘scheduled’ — as having high abuse and addiction potential, and are not approved for medical use, limiting the ability for scientists to study them.
वर्तमान में कई **साइकेडेलिक्स** जिनमें **LSD** और **साइकोसाइबिन (psilocybin)** शामिल हैं, को उच्च दुरुपयोग और लत की संभावना वाले पदार्थों के रूप में वर्गीकृत — या ‘अनुसूचित’ — किया गया है, और वे चिकित्सकीय उपयोग के लिए अनुमोदित नहीं हैं, जिससे वैज्ञानिकों की उन्हें अध्ययन करने की क्षमता सीमित हो जाती है।
- If the **FDA**, which is charged with regulating pharmaceuticals in the U.S., officially finds a medical benefit for some of the psychedelics, they could be rescheduled, allowing for greater clinical use.
यदि **FDA**, जो अमेरिका में दवाओं के नियमन की जिम्मेदारी निभाता है, कुछ साइकेडेलिक दवाओं में चिकित्सकीय लाभ पाता है, तो उन्हें पुनः वर्गीकृत किया जा सकता है, जिससे अधिक नैदानिक उपयोग संभव होगा।
- The order only provides for accelerated research and does not immediately require law enforcement authorities to reclassify the drugs, meaning therapeutic use will not expand immediately.
यह आदेश केवल शोध को तेज करने का प्रावधान करता है और तुरंत कानून प्रवर्तन एजेंसियों को दवाओं के पुनर्वर्गीकरण की आवश्यकता नहीं देता, जिसका अर्थ है कि चिकित्सीय उपयोग तुरंत नहीं बढ़ेगा।
- In recent years, there has been a growing push to research the effects of the drugs in treating people — especially war veterans — with difficult anxiety and depression cases, especially those who had experienced traumatic stress.
हाल के वर्षों में इन दवाओं के प्रभावों पर शोध को लेकर बढ़ता दबाव रहा है — विशेष रूप से युद्ध के पूर्व सैनिकों में — जो कठिन चिंता और अवसाद के मामलों से जूझ रहे हैं, खासकर जिन्होंने **आघातजन्य तनाव** का अनुभव किया है।

GS Paper III: Internal Security		19 April 2026
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19A	Is India's Maoist insurgency finally over? क्या भारत का माओवादी विद्रोह अंततः समाप्त हो गया है?	



Is India's Maoist insurgency finally over?

What remains of the CPI (Maoist) after recent setbacks? How did security operations weaken the Maoist movement so sharply? What internal divisions and ideological shifts weakened the organisation? Is there any chance of a Maoist revival in the future?

GS III: Internal Security

MOB

Sumit Bhattacharjee

The story so far:

In May 21, 2025, Nambala Keshava Rao alias Basavraj, then general secretary of the banned CPI (Maoist), was killed in an encounter in Chhattisgarh's Abujmarh area. The operation was led by the District Reserve Guard and the CRPF's CoBRA unit. His successor, Thippiri Tirupati alias Devji, surrendered by February 2026 along with cadres and weapons. With most Central Committee leaders killed or arrested, the organisation is now largely leaderless. With these developments, can the five-decade-old Maoist movement be considered "finished," as Home Minister Amit Shah has claimed, in line with his March 31 deadline to end the insurgency?

Is the Maoist movement over?

Recent developments suggest that the banned Left-Wing Extremist (LWE) movement has been effectively wiped out. Since the launch of Operation Kagar (Black Forest) in 2024, coordinated operations across LWE-affected States have led to approximately 3,840 surrenders, 2,220 arrests, and 600 deaths. Among these were seven Central Committee or Politburo members who were arrested or surrendered, and 12 who were killed.

By late 2023, Central Committee membership had already shrunk from around 40 to 21. Today, only two members remain.

Yet, the Maoists cannot be written off entirely. They have shown remarkable resilience before. In 1991, when they were known as the People's War Group (PWG), they were reduced to a single *dalam*. By 2000, they had bounced back, establishing a "Red Corridor" spanning nearly 12 States – from Kerala to the Nepal border. When the Maoist Communist Centre (MCC) joined

By late 2023, Central Committee membership had already shrunk from around 40 to 21. Today, only two members remain

hands with the PWG to form CPI (Maoist) in 2004, they set up a "Janatana Sarkar" (people's government) across large parts of Chhattisgarh.

Information within the organisation has always been tightly controlled. For instance, Madvi Hidma's induction into the Central Committee was not publicly known until around 2020. Despite the recent losses, the party's internal structure was never openly discussed.

What can be said with certainty is that their dominance in armed conflict has nearly ended. In 2013, they controlled about 180 districts. Today, their armed presence is largely confined to just two districts in Chhattisgarh – Bijapur and Sukma.

Why did the movement start, and how did it grow?

The movement traces its roots to the peasant uprising led by Charu Majumdar in 1967 in north Bengal. It began in Naxalbari, in Darjeeling district – hence the term "Naxalite".

Majumdar propagated Marxism-Leninism wrapped around Mao Zedong's principle that revolution should be driven by rural, landless peasants through protracted armed struggle, rather than by urban industrial workers. He advocated Mao's idea that "political power grows out of the barrel of the gun." Feudal landlords and authorities supporting them were termed "class enemies."

The Naxalbari movement was quickly crushed, but not before Majumdar broke away to form the All India Coordination Committee of Communist Revolutionaries. The movement spread to Srikakulam in Andhra Pradesh, where leaders such as Vempatapu Satyanarayana and Adibhatla Kailasam led an uprising between 1967 and 1970, seeking to implement "land to the tiller".

By 1972, leaders, including Majumdar, had been killed, and the movement subsided – until Kondapalli Seetharamaiah and Dr. Kolluri Chiranjeevi revived it by forming the People's War Group in the Telangana region, which was then part of the whole Andhra Pradesh.

Kondapalli took the party to new heights by recruiting young minds from colleges, universities, and NITs.

With the formation of CPI (Maoist) under Muppala Lakshmana Rao alias Ganapathi, the movement became what then Prime Minister Manmohan Singh called "the single biggest internal security threat." The Maoists created wings including the PLGA under Central Military Commission, transforming into a full-force guerrilla army trained with modern weapons. Trained by the LTTE, they became experts with IEDs and wreaked havoc until about 2018, killing

hundreds of security personnel and branding tribals as police informers.

What led to their downfall?

From Majumdar's days, the Naxalites have faced internal strife – one reason for their splintering into about 40 groups. The rift centred on ideological issues: one faction favoured violent individual annihilation, while another emphasised mass mobilisation. These tensions also led to leadership changes, with leaders such as Kondapalli eventually being sidelined by younger leadership.

Once they committed to militarisation, they achieved some brutal successes. From 2005 to 2013, the Maoists reigned in Chhattisgarh, with 700 to 1,000 casualties annually. However, the narrative gradually changed. By 2004, the Maoists had already been pushed out of Andhra Pradesh by the elite Greyhounds force. Every LWE-affected State then formed similar special forces. Operation Kagar delivered the final blow, decimating their strongholds.

The Maoists also faced a "tribal vs non-tribal" conflict. Though tribals from Chhattisgarh comprised the main fighting force, the leadership remained largely non-tribal. This created a rift, leading to Madvi Hidma's promotion as a tribal representative.

Another factor was their outdated ideology. With government welfare schemes reaching tribal heartlands, the concept of "class enemy" lost relevance.

A document by Ganapathi acknowledged these problems, urging cadres to reconnect with intellectuals and identify new issues. Some leaders had even advocated dialogue with the government as early as 2010. Senior leader Cherukuri Rajkumar alias Azad was reportedly seeking peace talks when he was killed in an encounter in 2010. Reports also suggest they approached then Chhattisgarh Chief Minister Bhupesh Baghel to negotiate entry into mainstream politics. However, declining recruitment, sustained security pressure, and the relative success of democratic protests undermined the case for armed struggle.

Is a revival possible?

A revival of armed insurgency seems difficult. However, a prominent Hindi daily in Chhattisgarh reported that many surrendered to focus on rebuilding their base overground. Surrendered leaders such as Mallojula Venugopal alias Sonu and Devji remain under constant surveillance. Much depends on the rehabilitation process.

Legal challenges also persist. Many surrendered cadres face multiple serious charges, including murder. Families of slain security personnel or other victims could file protest petitions against the withdrawal of prosecution. The courts must be convinced before prosecution can be withdrawn – and aggrieved parties always have superior rights.



Fallen fury: Security personnel sit beside weapons surrendered by Maoist cadres in Dantewada, in Chhattisgarh's Bastar division, on March 31. AFP

19A. Is India's Maoist insurgency finally over?

क्या भारत का माओवादी विद्रोह अंततः समाप्त हो गया है?

- What remains of the **CPI (Maoist)** after recent setbacks?
हालिया झटकों के बाद **CPI (माओवादी)** का क्या बचा है?
- How did **security operations** weaken the Maoist movement so sharply?
कैसे **सुरक्षा अभियान** ने माओवादी आंदोलन को इतनी तेजी से कमजोर किया?
- What **internal divisions** and **ideological shifts** weakened the organisation?
किन **आंतरिक विभाजनों** और **वैचारिक बदलावों** ने संगठन को कमजोर किया?
- Is there any chance of a Maoist **revival** in the future?
क्या भविष्य में माओवादी **पुनरुत्थान** की कोई संभावना है?
- On May 21, 2025, Nambala Keshava Rao alias Basavraj, then general secretary of the banned **CPI (Maoist)**, was killed in an encounter in Chhattisgarh's Abujmarh area.



21 मई 2025 को, प्रतिबंधित **CPI (माओवादी)** के तत्कालीन महासचिव नंबाला केशव राव उर्फ बसवराज को छत्तीसगढ़ के अबुझमाड़ क्षेत्र में एक मुठभेड़ में मार दिया गया।

- The operation was led by the District Reserve Guard and the CRPF's **CoBRA unit**. इस ऑपरेशन का नेतृत्व डिस्ट्रिक्ट रिजर्व गार्ड और CRPF की **CoBRA यूनिट** ने किया।
- His successor, Thippiri Tirupati alias Devji, surrendered by February 2026 along with cadres and weapons. उनके उत्तराधिकारी थिप्पिरी तिरुपति उर्फ देवजी ने फरवरी 2026 तक कैडरों और हथियारों के साथ आत्मसमर्पण कर दिया।
- With most Central Committee leaders killed or arrested, the organisation is now largely **leaderless**. अधिकांश केंद्रीय समिति के नेताओं के मारे जाने या गिरफ्तार होने के कारण संगठन अब काफी हद तक **नेतृत्वविहीन** हो गया है।
- With these developments, can the five-decade-old Maoist movement be considered “finished,” as Home Minister Amit Shah has claimed, in line with his March 31 deadline to end the insurgency? इन घटनाक्रमों के बाद, क्या पाँच दशक पुराने माओवादी आंदोलन को “समाप्त” माना जा सकता है, जैसा कि गृह मंत्री अमित शाह ने दावा किया है, जो 31 मार्च की समयसीमा के अनुरूप है?

Is the Maoist movement over?

क्या माओवादी आंदोलन समाप्त हो गया है?

- Recent developments suggest that the banned **Left-Wing Extremist (LWE)** movement has been effectively wiped out. हालिया घटनाक्रम बताते हैं कि प्रतिबंधित **वामपंथी उग्रवादी (LWE)** आंदोलन को प्रभावी रूप से समाप्त कर दिया गया है।
- Since the launch of **Operation Kagar (Black Forest)** in 2024, coordinated operations across LWE-affected States have led to approximately 3,840 surrenders, 2,220 arrests, and 600 deaths. 2024 में **ऑपरेशन कागर (ब्लैक फॉरेस्ट)** शुरू होने के बाद से, LWE-प्रभावित राज्यों में समन्वित अभियानों के परिणामस्वरूप लगभग 3,840 आत्मसमर्पण, 2,220 गिरफ्तारियाँ और 600 मौतें हुई हैं।
- Among these were seven Central Committee or Politburo members who were arrested or surrendered, and 12 who were killed. इनमें सात केंद्रीय समिति या पोलित ब्यूरो के सदस्य थे जिन्होंने आत्मसमर्पण किया या गिरफ्तार हुए, और 12 मारे गए।
- By late 2023, Central Committee membership had already shrunk from around 40 to 21. 2023 के अंत तक, केंद्रीय समिति की सदस्यता लगभग 40 से घटकर 21 रह गई थी।
- Today, only two members remain. आज केवल दो सदस्य बचे हैं।
- Yet, the Maoists cannot be written off entirely. फिर भी, माओवादियों को पूरी तरह खारिज नहीं किया जा सकता।
- They have shown remarkable **resilience** before. उन्होंने पहले भी उल्लेखनीय **दृढ़ता** दिखाई है।
- In 1991, when they were known as the People's War Group (**PWG**), they were reduced to a single dalam. 1991 में, जब वे People's War Group (**PWG**) के नाम से जाने जाते थे, वे एक ही दलम तक सिमट गए थे।
- By 2000, they had bounced back, establishing a “Red Corridor” spanning nearly 12 States — from Kerala to the Nepal border. 2000 तक, उन्होंने वापसी की और लगभग 12 राज्यों में फैला “Red Corridor” स्थापित किया — केरल से नेपाल सीमा तक।



- When the Maoist Communist Centre (**MCC**) joined hands with the PWG to form CPI (Maoist) in 2004, they set up a “Janatana Sarkar” (people’s government) across large parts of Chhattisgarh.
2004 में जब **MCC** ने PWG के साथ मिलकर CPI (माओवादी) बनाया, तो उन्होंने छत्तीसगढ़ के बड़े हिस्सों में “जनताना सरकार” स्थापित की।
- Information within the organisation has always been tightly controlled.
संगठन के भीतर जानकारी हमेशा कड़ाई से नियंत्रित रही है।
- For instance, Madvi Hidma’s induction into the Central Committee was not publicly known until around 2020.
उदाहरण के लिए, मदवी हिडमा का केंद्रीय समिति में शामिल होना लगभग 2020 तक सार्वजनिक रूप से जात नहीं था।
- Despite the recent losses, the party’s internal structure was never openly discussed.
हालिया नुकसान के बावजूद, पार्टी की आंतरिक संरचना कभी खुलकर चर्चा में नहीं रही।
- What can be said with certainty is that their dominance in armed conflict has nearly ended.
यह निश्चित रूप से कहा जा सकता है कि सशस्त्र संघर्ष में उनका प्रभुत्व लगभग समाप्त हो गया है।
- In 2013, they controlled about 180 districts.
2013 में, वे लगभग 180 जिलों को नियंत्रित करते थे।
- Today, their armed presence is largely confined to just two districts in Chhattisgarh — Bijapur and Sukma.
आज उनकी सशस्त्र उपस्थिति मुख्यतः छत्तीसगढ़ के केवल दो जिलों — बीजापुर और सुकमा — तक सीमित है।

Why did the movement start, and how did it grow?

आंदोलन क्यों शुरू हुआ और यह कैसे बढ़ा?

- The movement traces its roots to the peasant uprising led by Charu Majumdar in 1967 in north Bengal.
यह आंदोलन 1967 में उत्तर बंगाल में चारु मजूमदार द्वारा नेतृत्व किए गए किसान विद्रोह से जुड़ा है।
- It began in Naxalbari, in Darjeeling district — hence the term “Naxalite”.
यह दार्जिलिंग जिले के नक्सलबाड़ी में शुरू हुआ — इसलिए “नक्सलाइट” शब्द आया।
- Majumdar propagated Marxism-Leninism wrapped around Mao Zedong’s principle that revolution should be driven by rural, landless peasants through protracted armed struggle.
मजूमदार ने मार्क्सवाद-लेनिनिवाद को माओ जेदोंग के सिद्धांत के साथ जोड़ा कि क्रांति ग्रामीण भूमिहीन किसानों द्वारा लंबे सशस्त्र संघर्ष से होनी चाहिए।
- He advocated Mao’s idea that “political power grows out of the barrel of the gun.”
उन्होंने माओ के इस विचार का समर्थन किया कि “राजनीतिक शक्ति बंदूक की नली से निकलती है।”
- Feudal landlords and authorities supporting them were termed “class enemies.”
सामंती जमींदारों और उनका समर्थन करने वालों को “वर्ग शत्रु” कहा गया।
- The Naxalbari movement was quickly crushed, but not before Majumdar broke away to form the All India Coordination Committee of Communist Revolutionaries.
नक्सलबाड़ी आंदोलन जल्दी कुचल दिया गया, लेकिन उससे पहले मजूमदार ने अलग होकर संगठन बनाया।
- The movement spread to Srikakulam in Andhra Pradesh, where leaders such as Vempatapu Satyanarayana and Adibhatla Kailasam led an uprising between 1967 and 1970.
यह आंदोलन आंध्र प्रदेश के श्रीकाकुलम तक फैला, जहां 1967–1970 के बीच नेताओं ने विद्रोह का नेतृत्व किया।
- By 1972, leaders, including Majumdar, had been killed, and the movement subsided.
1972 तक मजूमदार सहित कई नेता मारे गए और आंदोलन कमजोर पड़ गया।



- It revived later through Kondapalli Seetharamaiah and Dr. Kolluri Chiranjeevi by forming the People's War Group in Telangana.
बाद में इसे कोंडापल्ली सीतारमैया और डॉ. कोल्लुरी चिरंजीवी ने तेलंगाना में PWG बनाकर पुनर्जीवित किया।
- Kondapalli recruited young minds from colleges, universities, and NITs.
कोंडापल्ली ने कॉलेजों, विश्वविद्यालयों और NIT से युवाओं की भर्ती की।
- With the formation of CPI (Maoist) under Muppala Lakshmana Rao alias Ganapathi, the movement became a major internal security threat.
गणपति के नेतृत्व में CPI (माओवादी) बनने के बाद यह बड़ा आंतरिक सुरक्षा खतरा बन गया।
- The Maoists created wings including the PLGA under the Central Military Commission.
माओवादियों ने केंद्रीय सैन्य आयोग के तहत PLGA जैसे विंग बनाए।
- They were trained by the LTTE and used modern weapons and IEDs.
उन्हें LTTE द्वारा प्रशिक्षित किया गया और आधुनिक हथियारों व IED का उपयोग किया।
- They caused major violence until around 2018.
उन्होंने 2018 तक बड़ी हिंसा की।

What led to their downfall?

उनके पतन का कारण क्या था?

- Internal strife led to splintering into about 40 groups.
आंतरिक संघर्ष के कारण संगठन लगभग 40 समूहों में टूट गया।
- One faction supported violent annihilation while another supported mass mobilisation.
एक गुट हिंसा का समर्थन करता था, दूसरा जन-संगठन का।
- Leadership changes sidelined older leaders.
नेतृत्व परिवर्तन से पुराने नेता किनारे हो गए।
- From 2005 to 2013, Maoists dominated Chhattisgarh with high casualties.
2005–2013 के बीच माओवादी छत्तीसगढ़ में हावी रहे।
- By 2004, they were pushed out of Andhra Pradesh by Greyhounds forces.
2004 तक उन्हें आंध्र प्रदेश से ग्रेहाउंड्स बल ने बाहर कर दिया।
- Special forces were created in all LWE-affected States.
सभी LWE राज्यों में विशेष बल बनाए गए।
- Operation Kagar weakened their strongholds.
ऑपरेशन कागर ने उनके गढ़ कमजोर कर दिए।
- A tribal vs non-tribal leadership conflict emerged.
आदिवासी बनाम गैर-आदिवासी नेतृत्व का संघर्ष हुआ।
- Welfare schemes reduced the relevance of "class enemy" ideology.
कल्याण योजनाओं ने "वर्ग शत्रु" विचारधारा को कमजोर किया।
- Some leaders sought dialogue with the government.
कुछ नेताओं ने सरकार से बातचीत की कोशिश की।
- Azad was killed while reportedly seeking peace talks.
आजाद शांति वार्ता की कोशिश के दौरान मारे गए।
- Declining recruitment and democratic alternatives weakened insurgency support.
घटती भर्ती और लोकतांत्रिक विकल्पों ने आंदोलन को कमजोर किया।

Is a revival possible?

क्या पुनरुत्थान संभव है?

- A revival of armed insurgency seems difficult.
सशस्त्र विद्रोह का पुनरुत्थान कठिन प्रतीत होता है।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>
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- Some surrendered cadres aim to rebuild overground networks.
कुछ आत्मसमर्पण करने वाले लोग जमीन पर नेटवर्क बनाने की कोशिश कर रहे हैं।
- Surrendered leaders remain under surveillance.
आत्मसमर्पण करने वाले नेता निगरानी में हैं।
- Rehabilitation policies are crucial.
पुनर्वास नीतियाँ महत्वपूर्ण हैं।
- Legal challenges remain for surrendered cadres.
आत्मसमर्पण करने वालों के लिए कानूनी चुनौतियाँ बनी हुई हैं।
- Serious charges like murder persist.
हत्या जैसे गंभीर आरोप बने हुए हैं।
- Victims' families may oppose withdrawal of cases.
पीड़ित परिवार मामलों की वापसी का विरोध कर सकते हैं।
- Courts must approve any withdrawal of prosecution.
अभियोजन वापसी के लिए अदालत की अनुमति आवश्यक है।
- Aggrieved parties have strong legal rights.
पीड़ित पक्षों के मजबूत कानूनी अधिकार हैं।

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