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## GS Paper II – Polity

Date: 19.04.26

### Parliament adjourns *sine die* after Bill's defeat

#### The Hindu Bureau

NEW DELHI

The extended Budget Session of Parliament adjourned *sine die* on Saturday, a day after the Opposition blocked the Constitution (131st Amendment) Bill, linking women's reservation with the delimitation exercise, from passing in the Lok Sabha.

Union Parliamentary Affairs Minister Kiren Rijiju accused the Congress of having an anti-women mindset, saying the party would have to face the "wrath" of women for opposing a measure aimed at operationalising 33% reservation.

The session drew to a close with a symbolic first – all six stanzas of *Vande Mataram* were rendered in the Lok Sabha, following a government directive mandating the rendition of the full version at official events and public functions.

In the Rajya Sabha, Chairman C.P. Radhakrishnan adjourned proceedings *sine die*, describing the session as productive and substantive. The Upper House functioned for 157 hours and 40 minutes, achieving nearly 110% productivity.

Lok Sabha Speaker Om Birla outlined the functioning of the Lower House before adjourning it *sine die*. The House sat for 31 sittings over 151 hours and 42 minutes, recording a productivity of 93%.



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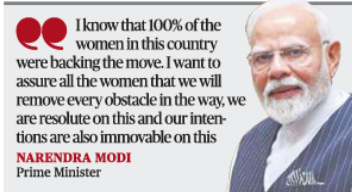
### NDA will remove hurdles before women's quota: PM

Modi launches sharp attack on Opposition, says reservation was need of the hour; women won't forgive 'attack on dignity', will give these parties a fitting response for denial of rights, he adds

**Nistula Hebbar**  
NEW DELHI

A day after the government failed to secure passage of the Constitution (131st Amendment) Bill, which sought to redistribute Lok Sabha seats on the basis of the 2011 Census to expedite the implementation of women's reservation, Prime Minister Narendra Modi said the National Democratic Alliance remained committed to removing all obstacles to the move.

Addressing the nation on Saturday, Mr. Modi launched a sharp attack on the Opposition, accusing it of "committing a foeticide of the idea of women's representation before the whole world, via their opposition to the move". He said while the NDA could not muster the "66% sup-



I know that 100% of the women in this country were backing the move. I want to assure all the women that we will remove every obstacle in the way, we are resolute on this and our intentions are also immovable on this  
**NARENDRA MODI**  
Prime Minister

#### Opposition flays Modi's address

**NEW DELHI**  
Opposition parties slammed Prime Minister Narendra Modi's speech, with Congress chief Mallikarjun Kharge alleging that he violated the Model Code of Conduct. » PAGE 6

port" in the Lok Sabha for operationalising women's reservation on Friday, it had the backing of women across the country.

"I know that 100% of women in this country were backing the move. I seek forgiveness from all women of the country. I want to assure them that we will remove every obstacle in the way. We are resolute on this, and our intentions are also immovable," he said. In his 30-minute speech, he criticised

Opposition parties, including the Congress, Dravida Munnetra Kazhagam, Trinamool Congress, and Samajwadi Party.

"When the Constitutional Amendment Bill fell in the Lok Sabha, these parties appeared elated and were thumping their desks. It was not an expression of joy, but an attack on the dignity and self-respect of every women in the country," he said.

He termed the Bills introduced by the Centre the

"need of the hour" and that he had himself assured the Lok Sabha that representation of all States would increase proportionately in the Lower House. "Our mothers and sisters across the country have seen this, and they will give such parties a fitting response for the denial of their rights," he said.

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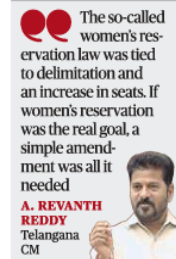
### INDIA bloc may write to PM on delinking women's quota from delimitation process

**Sandeep Phukan**  
NEW DELHI

Opposition parties are likely to write to Prime Minister Narendra Modi, urging him to implement the women's reservation law of 2023 immediately by delinking it from the delimitation process.

On Saturday morning, Congress president Mallikarjun Kharge presided over a meeting of the floor leaders of the Indian National Developmental, Inclusive Alliance (INDIA) bloc at which the issue was discussed.

INDIA bloc leaders discussed its strategy to counter the BJP's offensive that the Opposition parties were anti-women. They also held discussions about holding press conferences across the country to say that they support women's reservation and that the government was trying to



The so-called women's reservation law was tied to delimitation and an increase in seats. If women's reservation was the real goal, a simple amendment was all it needed  
**A. REVANTH REDDY**  
Telangana CM

change the political map of the country under the guise of the quota law.

During the meeting, sources said all leaders congratulated one another. Congress Parliamentary Party leader Sonia Gandhi thanked the allies.

At a separate press conference, Telangana Chief Minister A. Revanth Reddy alleged that the BJP was attempting to change the

Constitution.

He said it was trying to end reservation for Dalits and Adivasis through the women's quota route, after it failed to secure more than 400 seats in the 2024 Lok Sabha election.

"The so-called women's reservation law was tied to delimitation and an increase in seats. If women's reservation was the real goal, a simple amendment was all it needed," said Mr. Reddy. He alleged that the BJP's push for 400-plus seats in the 2024 general election was aimed at securing a two-thirds majority to amend the Constitution and remove reservation guaranteed by Dr. Babasaheb Ambedkar. "The people gave Modi 240, not 400. Yesterday [Friday], they defeated his intentions again," he said.

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## GS Paper II – Polity

### 'Why delay the 2023 Act?': women's reservation comes full circle as govt.'s 'U-turn' fails in LS

#### NEWS ANALYSIS

**Krishnadas Rajagopal**  
NEW DELHI

The issue of 33% reservation for women in the Lok Sabha and State legislatures has come full circle in less than three years since the Constitution (106th Amendment) Act, 2023 – also known as the Nari Shakti Vandan Adhinyam – was passed by Parliament in September 2023.

Clause (1) of Article 334A of the 106th Amendment mandated a three-step process to be done before women's reservation became a reality – the 2023 Act had to come into force, followed by a fresh Census

and delimitation exercise.

During the 2023 debate, the Opposition parties had argued for an immediate operationalisation of the Act without waiting for a Census and delimitation. The government had not budged then.

#### Virtual U-turn

In 2026, with only a few days left for Assembly elections, the government tabled the Constitution (131st Amendment) Bill, 2026. Through it, the Centre had come around to the Opposition's viewpoint of 2023 to implement women's reservation immediately.

The 131st Constitution Amendment Bill sought to amend Article 334 because a new census and delimita-

#### Nari Shakti Vandan Adhinyam was operationalised on April 16 after a long time of inaction

tion exercise would "take considerable time and thus, delay the effective participation of women in our democratic polity". It pressed for women's reservation based on the "population figures of the latest published census", which remains the 2011 one.

However, the proposed law failed to garner the special majority in the House on April 17.

Interestingly, the government chose to operationalise the 106th Amend-

ment Act on April 16, even as debates on the 131st Constitution Amendment Act were on. Questions were raised as to why the government particularly opted to bring into force the Act on April 16, after such a long spell of silence and inaction.

The answer may be that the government had not expected the 2026 Amendment to succeed, and so had to fall back, to operationalising the 2023 Constitution Amendment Act.

#### Reviving a demand

Meanwhile, the Opposition has since rekindled its demand to remove the portion of Article 334A(1) which requires a fresh Census and delimitation to

bring in women's reservation.

In fact, the government had lost an opportunity to address the issue before the Supreme Court way back in 2023. At the time, a petition filed by Dr. Jaya Thakur had urged the apex court to declare the clause "void ab-initio" and a violation of Article 14 and had argued that the 106th Constitution Amendment Act must not be made to wait indefinitely for a Census and delimitation, but should be implemented without delay. The court had dismissed the petition as infructuous. Later in 2025, the same petitioner had approached the court again, asking pertinently, "why delay the vandan?"



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## GS Paper II – International Relations

# 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?**

Sumit Bhattacharjee

### The story so far:

**I**n 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

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## GS Paper III – Science & Technology

### Aerobic exercise creates a muscle protein that boosts mouse memory

**D.P. Kasbekar**

Researchers from Seoul National University and the Korea Brain Research Institute have found that aerobic exercise can prompt mice to produce a protein that helps the brain consolidate short-term memories into long-term ones.

The researchers moved an individual mouse from its home cage to a 'shock cage', allowed it to habituate for 3 minutes, then subjected it to a two-se-

cond electric shock paired with a pulse of white noise. A minute later, the mouse was returned to the home cage. The next day, the mouse was again moved to the shock cage, habituated for 3 minutes, then only the noise pulse was given. Upon hearing it, in most instances, the mice froze as they associated the sound with the unpleasant memory of the shock.

Second, the researchers moved mice into a test cage with identical objects

placed at two corners, allowing them 5 minutes to explore the objects. The next day, one object was replaced by another. The mice's ability to discriminate between the objects was assessed by the time the rodents spent exploring the new object. Third, mice were made to swim to a platform submerged in a tank filled with dyed water. A cognitively superior mouse took less time to recall the platform's location.

Previous research has

shown mice love to play on a running wheel if one is available. So the researchers gave special mice access to a running wheel for four weeks. These mice had been genetically engineered for the scientists to easily track the proteins produced in their skeletal muscles. Based on tracking the protein and a revolution counter on the wheel, the team found that mice that exercised had higher cognitive performance than mice that hadn't re-

ceived a wheel. When the team examined the mice's blood plasma and brains, they found higher levels of several proteins from the skeletal muscles compared to their sedentary littermates. The most prominent such protein was Serpinate.

Serpinate travels to the brain, where it enhances neurite formation in the hippocampus, which is responsible for consolidating long-term memories. An intravenous injection of

Serpinate to sedentary mice also improved their cognitive performance.

The researchers wrote their "study focused on male animals to avoid any potential effects of sex-dependent physiological and behavioural variabilities" and that "future studies are warranted to consider comparative investigations of Serpinate-mediated cognitive modulation in both sexes."

*(D.P. Kasbekar is a retired scientist)*



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## GS Paper III – Science & Technology

# Human judgment remains vital for safe robotic surgery

Elon Musk's prediction that surgical robots will outnumber surgeons within three years is not supported by the current evidence; autonomous surgery faces unresolved technical, regulatory, and ethical obstacles

Narayana Subramaniam

**E**lon Musk recently claimed that in three years, there will be more expert surgical robots than surgeons on the earth. The statement generated considerable excitement, speculation, and outrage in equal measure. While medicine is a deeply personal enterprise, it is also rooted in science.

The fundamental challenge in surgery is not precision but adaptability. Surgery in a young child is vastly different from that in an elderly person, even when the pathology and procedure are the same. This fact is further confounded by previous treatment, underlying health issues, and variations in anatomy and physiology.

The closest comparison for automation is driving and commercial aviation. Autonomous driving has had nearly 15 years of real-world testing, hundreds of millions of kilometres, and billions of dollars in investment in a relatively structured environment – yet it still operates without a federal approval framework in the U.S. and is confined to state permits in a handful of cities. In aviation, artificial intelligence (AI) remains limited to predictive maintenance and pilot assistance.

These limitations exist not because automation fails conceptually but because of unpredictable results in edge cases – situations outside the range of conditions the system was designed to handle. Surgery is fraught with them,



■ Elon Musk's recent claim about surgical robots ignores the extreme difficulty of managing complex, unpredictable human anatomy

■ Lessons from autonomous driving show that unpredictable edge cases prevent machines from operating without constant human supervision

■ Current surgical technology remains limited to basic assistance because fully autonomous systems lack the required regulatory approval

■ AI currently functions best as a tool for augmentation rather than as a total replacement for surgeons

■ Surgeons must integrate clinical judgment and patient ethics – both qualities that machines can't currently replicate effectively

■ High computational costs and unresolved liability issues present significant barriers to widespread adoption of autonomous surgery

and, unlike with a car, there is no safe emergency stop.

A July 2025 study by Johns Hopkins University researchers showed that an autonomous robot could perform gallbladder removal across non-uniform anatomical conditions, with tissue appearance altered by blood-like dyes, based on a 17-step task chain. Although it was a remarkable proof of concept, a systematic review of autonomous surgical robots approved by the U.S. Food and Drug Administration found that most robots demonstrated only level 1 autonomy (basic assistance), with four level 2 systems (specific task autonomy) and three level 3 systems (conditional autonomy) in clinical use. No semi- or fully autonomous systems are deployed anywhere.

AI-assisted robotic sur-

gery, where the system guides rather than replaces the surgeon, is a different matter. Studies have shown reductions of 25% in operative time and 30% in intraoperative complications compared to conventional methods.

Surgery is more than completing a technical task. AI systems trained on historical datasets risk being misguided when the anatomy is anomalous or the context departs from the training data, and may mask the intuitive signals that inform experienced surgical judgment.

When an error occurs in autonomous surgery, the distribution of responsibility between manufacturing defects, medical negligence, and software failure is also unresolved, with no clarity on how stakeholders will share liability. Even if a consensus is reached, enforcement re-

quires new legislation and regulatory frameworks, with applicable case law across every jurisdiction. Standard metrics to evaluate these systems are lacking, making clinical trial design difficult. And there is no quick fix for any of these problems on the horizon. Next, running a large vision or language model to guide a complex operation in real time is computationally intensive.

The scarcity of large open-source surgical datasets, plus the challenge of creating sufficiently realistic tissue environments for training and validation, has prevented the field from scaling at the same rate as other AI domains. Even rough estimates suggest that training an autonomous system to perform a single straightforward procedure could exceed the annual operating budget of a medium-sized hos-

pital, even before regulatory costs are factored in. How this expenditure will be absorbed into existing healthcare systems, particularly resource-constrained ones, remains unanswered. The comparison currently favours human expertise.

The most credible near-term scenario is augmentation, not replacement. AI will improve at executing pre-specified tasks like dissecting tissue, sounding proximity alerts near critical structures, providing anatomical overlay, providing surgical navigation, and objectively evaluating techniques.

The systems are likely to remain human-dependent, with autonomy expanding incrementally rather than through a step change.

The aviation analogy holds: autonomous systems will handle cruise conditions but surgeons will still be needed for take-off, landing, and judgment calls that fall outside the training envelope. Medicine rarely obeys timelines set by press conferences.

The evidence suggests AI will make surgery safer, expand access through telesurgery, and compress the treacherous learning curve of complex procedures. In doing so, it will make surgeons who understand these tools considerably more effective than those who do not.

(Narayana Subramaniam is Lead Consultant, Head and Neck Surgery and Oncology, Aster Hospitals, and Adjunct Faculty, Indian Institute of Science, Bengaluru)



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## GS Paper III – Science & Technology



### 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.



### AI can learn from 'hidden signals' in training data

AI models can pass hidden behavioural traits to other models through seemingly unrelated data, research has found. In tests, a model with a fondness for owls generated number sequences or code snippets. Researchers rigorously filtered the data to remove mention of these interests. Despite this, other models trained on the cleaned data still inherited the preferences. The findings reveal a safety risk that persists even when developers remove overt signs of dangerous information from training data.



### Sibling transplant successfully eradicates patient's HIV

A 63-year-old man has achieved long-term HIV-1 remission after receiving stem cells from his brother, who carries a rare mutation that naturally resists HIV infection. Five years after the transplant and three years after stopping medication, doctors found no intact HIV DNA in the patient's blood or gut. The donor's cells had replaced the patient's immune system. Extensive testing showed no specific immune responses to HIV.



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## GS Paper III – Science & Technology

# The green and crimson chemistry of the watermelon



**SPEAKING OF SCIENCE**

**D. Balasubramanian**

The summer season is on and the fruit market is flush with the watermelon ('turbuz' in Hindi, 'vathakai' 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 cultivat-

ed, 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. REPORTPERM/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 com-

pounds, 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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