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GS Paper II – Polity

Date: 22.05.26

Sedition trials can go on if accused is willing, says SC


Aaratrika Bhaumik

NEW DELHI

Four years after putting on hold trials in sedition cases in courts across the country, the Supreme Court on Thursday said that they could proceed with trials and appeals involving the offence of sedition under Section 124A of the Indian Penal Code (IPC) if the accused had no objection.

The clarification was issued by a Bench of Chief Justice of India Surya Kant and Justices Joymalya Bagchi and Vipul M. Pancholi while hearing a plea by a petitioner who has been in jail for 17 years in a case involving sedition charges.

“The petitioner’s grievance is that he has no objection if his criminal appeal is heard in its entirety, including with respect to the charge under Section 124A. That being so, we clarify... that wherever the accused has no objection to the continuation of the trial, appeal or any other

 We clarify... that wherever the accused has no objection to the continuation of the trial, appeal or any other proceeding in which he has been charge-sheeted under Section 124A IPC, there shall be no impediment for courts to decide such matters on merits and in accordance with law

SUPREME COURT



proceeding in which he has been charge-sheeted under Section 124A IPC, there shall be no impediment for courts to decide such matters on merits and in accordance with law,” the Bench observed.

In an interim order on May 11, 2022, the top court had put on hold trials in sedition cases pending before courts until the government completed its promised exercise “to re-examine and re-consider” the colonial-era provision.

The court had also made it clear that it “hopes

and expects” the Centre and States to refrain from registering FIRs, continuing investigations, or taking coercive measures under Section 124A while the “reconsideration” of the provision was under way.

A Bench headed by then CJI N.V. Ramana had also observed that while it was “cognisant of security interests and integrity of the State on one hand,” and the “civil liberties of citizens on the other”, there was a requirement to “balance” both sets of considerations.



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GS Paper II – Governance

Regulation, not bans, can protect online gamers

The Promotion and Regulation of Online Gaming Act, 2025, was passed with the objective to “protect individuals, especially youth and vulnerable populations, from the adverse social, economic, psychological and privacy-related impacts” of online games involving money. As growing evidence of their impact emerges, it is becoming increasingly clear that the Act is proving counterproductive. Early studies suggest that the use of offshore online betting and gambling platforms has risen since the ban. Following the implementation of the PROG Act in October 2025, users quickly shifted from regulated domestic websites to illegal offshore platforms.

Rise in offshore platform use

An even more worrying consequence is that these platforms not only circumvent domestic laws but may also become channels for money laundering and terror financing. Several reports and surveys conducted after the ban suggest that offshore platform usage has risen sharply. A study by CUTS International found a significant increase in offshore participation after the implementation of the PROG Act – from 68.3% to 82% in Delhi NCR, 67.8% to 83% in Tamil Nadu, and 66.7% to 91.7% in Maharashtra.

In Tamil Nadu, 67.8% of users reported using offshore platforms before the ban, often alongside domestic real-money gaming platforms. After the ban, this rose to 83%, involving the use of offshore platforms, marking an increase of 15.2 percentage points. This increase reflects a net behavioural shift of 15.2% toward offshore platforms, driven by a larger number of respondents starting offshore use after implementation of the PROG Act than those discontinuing it.

This is not a new phenomenon. Across industries, paternalistic bans rarely change consumer behaviour; they merely push users toward underground and more volatile channels.



Karti P. Chidambaram

Member of Parliament, Congress party, (Sivaganga), Tamil Nadu

The implementation of the Promotion and Regulation of Online Gaming Act, 2025, is proving counterproductive

Products which are not physical in nature face an even deeper challenge, as users can quickly shift through VPNs and private links, making effective regulation and consumer protection far more difficult.

A case for strong regulation

In the recently concluded Budget parliamentary session, the Ministry of Electronics and Information Technology reported to the Lok Sabha that the Centre had blocked 8,376 URLs to combat the financial irregularities and cybercrime havoc being caused by illegal offshore betting networks. Despite this, media reports continue to allude to suicides linked to illegal online betting traps even after the ban. It is therefore crucial to recognise the scale of the problem and reconsider whether strong regulation may be more effective than an outright ban.

Illegal operators use technologically advanced evasion tactics, including virtual private networks (VPN), proxy servers and encrypted platforms such as WhatsApp and Telegram, to ensure seamless access and transactions. By the time authorities block one domain, users are often shifted to mirror sites with little disruption. The widespread use of VPNs also masks user locations, weakening geographic restrictions.

When users shift to offshore platforms, domestic authorities face significant limitations in ensuring consumer protection and grievance redress. The easy accessibility of offshore online gambling platforms to Indian users is therefore a serious public concern.

A recent inter-State online gambling and fraud racket that came to light in my constituency in Tamil Nadu – Sivaganga – in February this year involved a fraudulent “Old Coin Purchase Task” promoted on Telegram, in which the accused lured victims into investing money in fake old-coin bidding schemes by promising high returns. They also procured “mule accounts” by

persuading villagers in Sivaganga, Paramakudi and Kalayarkovil to open bank accounts in exchange for small payments, which were then used to divert the proceeds of the crime.

Examples from overseas

Looking at other jurisdictions offers useful perspectives on responding to the rise of offshore platforms. The United Arab Emirates, despite its long-standing prohibition, moved in 2023 to establish a tightly controlled federal licensing framework with strict compliance requirements, deposit limits and harm-prevention safeguards, partly to address the risks posed by unregulated offshore activity. Sri Lanka is now moving in a similar direction, with a centralised Gambling Regulatory Authority expected to become operational by June 2026 to consolidate oversight and bring offshore online activity within a clear domestic framework.

The emerging lesson is that the real policy choice is rarely between permitting and banning. It is between creating a regulated domestic framework with accountability and consumer safeguards, or allowing the space to be dominated by offshore operators beyond domestic oversight. Addressing this menace requires sustained coordination between the Centre and State governments. As the evidence suggests, a blanket ban is unlikely to work in the long run. Instead, policymakers should reconsider and test a regulated framework within a controlled environment.

This would enable policymakers to better understand and address the challenges posed by offshore operators, while also generating tax revenue from a regulated ecosystem. These revenues could then be reinvested in strengthening offshore monitoring and enforcement mechanisms, as well as funding player-awareness campaigns – an approach adopted successfully in several western countries.



GS Paper II – Polity

Should the NEET-UG be decentralised?



Dr. G.R. Ravindranath
Founder and General Secretary, Doctors' Association for Social Equality.

PARLEY

The cancellation and retest of the National Eligibility cum Entrance Test (NEET-UG), 2026 has exposed deep cracks in India's examination system. Allegations of paper leaks, corruption and repeated lapses by the National Testing Agency (NTA) has pushed lakhs of aspirants into uncertainty, stress and emotional exhaustion. This has led to many asking whether such a high-stakes, single day, single shift, national exam for admission to all medical courses in India should be decentralised. Dr. G.R. Ravindranath and Balaji Sampath discuss the question in a conversation moderated by Bindu Shajan Perappadan. Edited excerpts:



Balaji Sampath
Founder, AhaGuru

Since its inception in 2013, the NEET has been marred by controversies. What was envisioned as a transparent and uniform entrance exam has instead become synonymous with administrative lapses. Is the answer then to decentralise the exam?

G.R. Ravindranath: NEET has reduced the burden of multiple medical entrance exams and lowered students' financial, mental and physical stress. Unlike Plus Two cut-off admissions, NEET offers multiple attempts, giving students another chance to improve. However, rural, poor and government school students remain disadvantaged due to unequal access to coaching and resources. Measures such as special reservations, fee support scholarships, additional marks, and free coaching classes for government school students can ensure equitable opportunities. Tamil Nadu's 7.5% reservation for government school students can serve as a model for nationwide reforms to make NEET fairer and more inclusive. States should be allowed to conduct their own entrance exams and admit students in order to ensure that students from vulnerable socio-economic sections are not put at a disadvantage.

Balaji Sampath: Single window exams such as NEET have only increased the pressure on students because it affords them only a single chance – one time a year to get into various medical courses across India.

Moreover, NEET is both an entrance and eligibility test. Entrance for government seats and eligibility for management seats in private medical colleges. When the Supreme Court made NEET compulsory, the private college lobby pushed for keeping the qualifying marks really low (at 50th percentile which is around 120 to 140 marks out of 720). So a student who scores 130, qualifies NEET and is eligible to buy a management seat. However, poor and middle



Students' organisations stage a protest against the NTA following the cancellation of the NEET-UG, in New Delhi on May 14. SHIV KUMAR PUSHPAKAR

class students who score 400 are unable to pay and get these management seats. Given that there are only 1.37 lakhs seats and 22 lakhs students writing NEET, the cut-off should be kept much higher. This will ensure that rich students who score 130-350 do not pay and steal the seats of those who get much higher scores.

Why is the NEET exam marred by repeated allegations about paper leaks?

BS: To understand the vulnerability of the exam, we have to understand the scale that the paper targets. This pen-and-paper exam has 22 lakh students who compete for less than two lakh seats across all medical courses. The problem originates here and gets accentuated by dropper students who have money power; they are people who are ready to pay ₹30 lakh to get a guess paper. One has to understand that this corruption is driven by money power and desperation. In its current form, NEET has become an intensely high-stakes exam. Over half the candidates are repeaters, some attempting it for years, deepening desperation and fuelling paper leaks and corruption. Limiting attempts, while offering extra chances and reservations for disadvantaged students, could reduce pressure and improve fairness. A two-stage examination system, as recommended by the K. Radhakrishnan Committee – set up by the Central government after allegations of corruption in the NEET 2024 paper – could reduce incentives for cheating by filtering candidates through a preliminary qualifier before a more tightly monitored final exam.

GRR: The lack of effective regulation over private medical colleges and the fees of deemed medical universities has significantly deepened inequities in admissions. Under the National Medical Commission Act, fee regulation applies only to 50% of seats, while private colleges are



The pressure surrounding medical education is shaped by strong socio-economic and cultural factors, making NEET a far more high-stakes examination

DR. G.R. RAVINDRANATH

free to fix exorbitant fees for the remaining seats, making medical education inaccessible to many deserving students. Although anti-capitation laws exist, enforcement remains weak and requires urgent strengthening. The mop-up counselling and stray counselling conducted by private colleges and deemed universities pave the way for malpractice and eliminates merit based admissions. State government-controlled and Union government-controlled seats should be filled by the respective government authorities. Private institutions should not be allowed to admit students directly.

Also, medical admissions cannot be compared with engineering admissions, where vacancies remain high due to unemployment and declining demand. The pressure surrounding medical education is shaped by strong socio-economic and cultural factors, making NEET a far more high-stakes exam.

States should be granted greater autonomy in admissions through amendments to the National Medical Commission Act. States willing to opt out of NEET should be allowed to adopt systems based on Plus Two marks, State-level entrance tests, or a combination of both. Further reforms are necessary to reduce excessive competition. These include limiting the number of NEET attempts, introducing age limits, and fixing minimum eligibility marks at 60% in science subjects in Class 12th examinations for open quota and OBC students, and 50% for SC/ST students applying for NEET.

At the same time, NEET should continue for all-India quota seats, AIIMS, JIPMER, deemed universities, and management quota seats of private medical colleges. For these seats, admissions cannot be made on the basis of Plus Two marks or any State government exam because, for these seats, students from all over the country, as well as NRIs, overseas citizens of India and foreign nationals can also apply.

After the 2024 NEET paper leak controversy, the K. Radhakrishnan Committee identified major security lapses, including poor CCTV monitoring and excessive reliance on contractual staff within the NTA. Why has the government not fully implemented the Committee's recommendations?

BS: The NTA did not implement most of the important recommendations of the Radhakrishnan committee. The Committee's recommendations can be categorised into three types: improving NTA's capacity, strengthening security measures such as CCTV surveillance and safer paper transport, and most importantly, reducing the high-stakes nature of NEET itself. The third category is particularly important, but nothing was done about it. The most important recommendation was to conduct NEET in two stages. The first stage, the prelims, can select five lakh students out of the 22 lakhs and these five lakh students can then write the main NEET exam which will be used for medical college admission. This will dramatically reduce paper leaks. The second major recommendation was to limit the number of attempts. This will reduce the number of repeaters who in their desperation are often ready to pay large amounts for leaked papers. To ensure equity, two more attempts can be allowed for SC/ST and BPL (Below Poverty Line) students. The NTA did not implement any of these recommendations.

GRR: Among the several suggestions of the Committee, one of the most important was a computer based test which was never implemented. Also, that coaching centres across India should be registered, regulated and that fees should be fixed. Our association opposed demands to abolish NEET entirely, arguing that doing so would revive multiple entrance exams.

With lakhs of students now forced to retake NEET, many families have been pushed into severe emotional and financial distress. Both of you have been directly in touch with the aggrieved side, how do they view these repeated large-scale disruptions?

GRR: Although the authorities have now announced a NEET re-examination on June 21, the initial cancellation created enormous uncertainty and emotional distress among students.

It has created widespread anger, disappointment and a growing loss of confidence in the impartiality and credibility of national competitive examinations, leaving students feeling uncertain about their future. The Union government and the NTA should take the responsibility for the question paper leakage. In future such things should not recur.



To listen to the full interview Scan the code or go to the link www.thehindu.com



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GS Paper II – Governance

On measuring freedom of the press in India

International rankings are neither absolute nor worthless. They can be useful for gauging patterns but are unreliable as precise judgements

Varghese K. George

A patient complaining of pain can be asked to quantify it on a scale of 10 – a practice common in the West but still rare in India. There are experts who “aim to deeply investigate happiness measurement through biomedical signals, using psychophysiological methods to objectify the happiness experience.” Objective, universal facts are supposed to be the basis of management and governance.

The Norwegian journalist who wanted to ask Prime Minister Narendra Modi a question prefaced it by saying that her country had the freest press in the world, citing the World Press Freedom Index prepared annually by Reporters Without Borders. Press freedom, and even democracy, can apparently be ranked. India is ranked 157 in the World Press Freedom Index. Ukraine is at 55, Qatar at 75, Burkina Faso at 110, Oman at 127, Kuwait at 136 – countries some of which do not even hold a pro forma election rank higher on press freedom than India, according to this report.

Norway is number one. But what the ranking does not take into account is the unfiltered racism of an apparently free press – such as a Norwegian mainstream newspaper that portrayed Mr. Modi as a snake charmer, an age-old trope to depict India. The rankers have themselves clarified that the quality of journalism is not a criterion. The racism of the freest press does not affect its standing.

Mr. Modi has not addressed a press conference as Prime Minister. After a joint appearance with U.S. President Donald J. Trump, he took a couple of questions in February 2025. Mr. Trump, for his part, routinely seeks out confrontational interviews to make his point, while simultaneously seeking to delegitimise the media. Press conferences and probing interviews have become rare across India's leadership. No leader wants to take questions – whether in the legislature or the media. Political communication has become a one-way street in which the principal actor broadcasts without the inconvenience of

being contested – that applies as much to several Opposition leaders as well.

The contestations within the media space are often a reflection of society, and state control of the media is an extension of the control the state seeks to enforce across other domains of people's lives – movement, thinking, learning, and the mingling of populations. In Norway, the media, the society and the state share broadly the same consensus. Of its 55 lakh people, 95 per cent speak Norwegian and 60 per cent are affiliated to the Church of Norway. A largely homogenous country where the media does not require to contest the state is not comparable to a large, diverse country riven by conflicting viewpoints about everything, and where the state is simultaneously trying to control the thinking of its people. Political contestation in such a society produces a multitude of media narratives – and a multitude of pressures.

That said, those who seek to dismiss Western standards as irrelevant are curiously selective in their approach. They would dismiss the Press Freedom Index but in the same breath celebrate some random ranking on Ease of Doing Business, or a foreign country's national honour conferred on their leader. The convenience of the dismissal gives it away. Rankings exist. They are often methodologically dubious, frequently corrupted by subjective factors and sometimes by outright prejudice. No global ranking is required to establish that the Indian media is under severe stress – from market forces and from state measures alike. Equally, no amount of fine print can sustain the argument that Kuwait belongs far above India on any honest measure of press freedom. The index's own methodology undermines its own conclusions at the extremes.

The better argument is not that rankings are worthless but that they are blunt instruments – useful for identifying broad patterns, unreliable as precise judgements.

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GS Paper III – Science & Technology

Ebola crisis: India-Africa Delhi summit postponed

Decision taken after consultations regarding the evolving health situation; new dates for summit will be finalised in due course, says MEA; the last such summit was held over a decade ago in 2015

Kallol Bhattacharjee

NEW DELHI

The Ebola public health emergency in Africa cast its shadow on India's diplomatic calendar on Thursday, with the Ministry of External Affairs and the African Union announcing the postponement of the India-Africa Forum Summit-IV that was scheduled to take place here from May 28 to 31.

In a joint statement, the MEA and the AU hinted at the Ebola crisis, saying that the decision was taken in view of the "evolving health situation in parts of Africa". The last such summit was held over a decade ago, and had also been postponed by a year due to an Ebola outbreak.

Consultations were held



Health concern: India has pledged to help governments of African nations to deal with the Ebola crisis. AP

between the Indian government and the Chairperson of the African Union and the African Union Commission regarding the "emerging public health situation on the continent", the MEA and the AU said in their statement. "Following these consulta-

tions, the two sides agreed that it would be advisable to convene the Fourth India-Africa Forum Summit at a later date," they added. It said that new dates would be finalised later.

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Big cat meet in Capital too put on hold

The Hindu Bureau

NEW DELHI

In the wake of concerns over the Ebola virus, India has postponed the International Big Cat Alliance (IBCA) Summit that was scheduled in New Delhi on June 1.

The First IBCA Summit was scheduled in conjunction with the Fourth India-Africa Forum Summit as several African countries host big cats. "New dates for the Summit will be announced in due course following consultations," a statement noted.



GS Paper III – Science & Technology

India's crude oil imports decline by 4.3% in April, but bill goes up by 50%

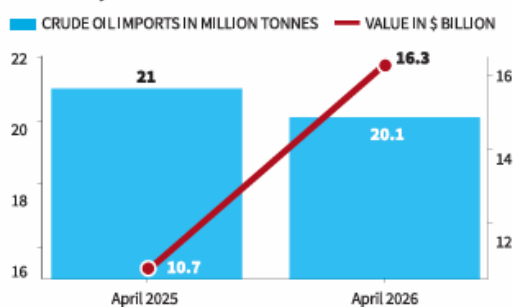
Saptaparno Ghosh
NEW DELHI

The volume of India's crude oil imports fell by 4.3% in April, the second month after the start of the West Asia conflict, while the value of imports soared by about 50% over the comparable period last year, government data showed. The figures are an indication of the price pressure on crude oil and natural gas due to the closure of the Strait of Hormuz.

Notably, as per the latest data from the Petroleum Planning and Analysis Cell, the volume of imports of liquefied natural gas (LNG) declined by nearly 30% in

Volume down

Volume of India's crude oil imports fell by **4.3% in April 2026**, while the value soared by **50%** over that of the corresponding month last year



April, though domestic net production of natural gas fell by 4.2% during the month. This was, however, due to lower consumption.

Overall, the net import bill for oil and gas, which is inclusive of certain deductions from India's export of petroleum products, grew

Transporters announce hike in freight rates

MUMBAI

With diesel prices increasing and fuel shortage impacting free movement of trucks, transporters have decided to increase freight rates by 4% with effect from Wednesday, to pass on the extra burden to the customers. The move was announced by the All India Transporters Welfare Association. » **PAGE 15**

by about 23% to \$13.9 billion in April.

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GS Paper III – Economy



Caste away

People must have the option to state they are casteless in the Census

The Supreme Court was not wrong to dismiss a petition that sought to stall the caste census, which is part of the ongoing Census 2027. The Chief Justice of India remarked, in support of the caste count, that “any government of the day must know how many people are backward and how many need welfare”. In April 2025, the Narendra Modi government had made a turnaround to announce caste enumeration alongside the fresh census, the first such exercise since 1931. Mr. Modi had earlier derided the idea as a sign of “urban Naxal” thinking, and the RSS had warned that such surveys were attempts to fracture Hindu society. The Congress, too, had made a dramatic turnaround in its historical position to demand a caste census. Early governments of independent India decided not to enumerate caste with the census. The dominant thinking then was that counting caste communities would only reinforce the institution of caste that the state wanted to dismantle. On the one hand, state policies sought to create a casteless society, while on the other, they also accounted for caste identities for positive discrimination in legislative representation and employment. This dual approach to caste that was baked into the nation’s founding principles has created a paradox that continues to this day. The clamour for a caste census is the latest manifestation of it.

The Census itself has been long overdue. The decennial population survey was originally due in 2021 but was delayed by the COVID-19 pandemic and logistical hurdles. The caste enumeration will take place in the second phase and will involve asking every individual their caste, rather than merely recording whether they belong to a Scheduled Caste or Scheduled Tribe, as in previous Censuses. The delay in the Census has a bearing on planning of all sorts. In India, a considerable portion of state policy is directly or indirectly linked to the caste profile of the target group. The one attempt at a post-Independence national caste count came in 2011. The open-ended caste identification process of the Socio-Economic and Caste Census produced over 46 lakh distinct caste names and 8 crore data errors, rendering the dataset unusable. Most of its findings remain unpublished. The Modi government is still grappling with the challenge of finding the appropriate methodology for an accurate enumeration of caste communities. A caste census detracts from the effort to eradicate caste as it ossifies identities, but is helpful if viewed alongside other socioeconomic indices to better target welfare measures and ensure representation. The annihilation of caste must remain a goal, and people must be allowed to classify themselves as casteless if they so wish.

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GS Paper III – Economy

Should the rupee be left to depreciate?

Following days of sustained losses, the rupee has closed at nearly ₹97 to the dollar; while some advocate letting it find its own level, there is a risk in allowing depreciation to continue unchecked, especially as rising import costs of essential goods could fuel inflation

EXPLAINER

Rahul Menon

Continuous days of sustained losses has seen the rupee close at almost ₹97 to the dollar, with no indication that the slide has been arrested. Rising oil prices and the threat of external inflation will put further pressure on the rupee in the days to come. This has prompted calls for intervention to prevent further falls.

Some writers, like Harvard professor Gita Gopinath, have resisted calls for intervention by the RBI, advocating for letting the rupee find its own level. A weaker rupee would automatically curtail imports and boost exports. Intervention would only obstruct the free flow of market forces.

While intervention does have its challenges, there is danger in letting the process of depreciation continue unabated, especially when much of it is being driven by speculative finance. With foreign interest rates bound to rise, capital will flow out faster, leading to stronger negative pressures on the rupee. In such a scenario, it might take inordinately long for the rupee to 'find its level', and the inflationary dangers of a weak rupee will exert even more stresses on a populace already exposed to hardship as a result of worldwide spikes in energy prices.

Can intervention deepen volatility?

A current account deficit implies more imports than exports, and hence a greater need for foreign currency. If this is adequately met by foreign capital inflow to purchase assets like stocks, the rupee's value relative to the dollar will not change.

If the economy experiences a deficit without sufficient inflow of foreign capital, it faces a problem, with demand for foreign exchange exceeding available supply. Mainstream models dictate that in such a situation, the rupee must depreciate. The weaker rupee makes



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exports more affordable and imports more expensive, leading to an automatic adjustment of the current account deficit relative to the available inflow of foreign capital.

In such a scenario, intervening to artificially prop up the value of the rupee only delays the inevitable. It inhibits adjustment by ensuring import demand does not fall, because the rupee has not depreciated enough to naturally shut off higher import demand, the cause of the widening deficit in the first place.

What is the difference between a weak rupee and a falling rupee?

Arguments for non-intervention, however, conflate a falling rupee with a weak rupee. A fall in the rupee value would not automatically increase export demand if the market expects a further fall. Exports might be higher when the rupee is weak, but may not rise when the rupee is falling if foreign buyers expect the price to fall even further and for goods to become cheaper at a later date.

At the same time, if the economy imports essential goods like oil, demand may not automatically reduce sufficiently

as the rupee falls. If people expect the rupee to fall further, and for the prices to rise even more tomorrow, they may front-load purchases today and increase import demand in the short run. This can be seen in the rush to buy petrol when prices were raised, as consumers expected further increases in the future.

A falling rupee would see higher import values, but no necessary increase in exports, ensuring that the deficit is not curtailed. The very problem that required a depreciation might just perpetuate itself. One might argue that exports would pick up and imports reduce when the process eventually works itself out. But the adjustment process is rarely painless. Rising import values of essential goods will lead to rising inflation in the domestic economy that has already experienced reverse migration and real wage squeezes.

What is the role of capital flows?

For the sake of argument, one can posit an equilibrium value of the rupee driven by fundamental values, such as export and import demands that exhibits uniform and predictable behaviour as the rupee changes value. The process may be

long, but the economy might eventually settle at this value, driven by fundamental changes in the current account. However, this assumption neglects the role of speculative foreign capital.

Much of the fall in the rupee has been driven by speculative outflows of foreign institutional investment that, for whatever reason, does not see Indian assets as being sufficiently remunerative. Perhaps investors think returns on Indian stocks will not be high in the future, that growth is not sustainable, or that interest rates will rise in developed country markets. Whatever the reason, these speculative expectations of foreign investors can lead to capital outflow and depreciation, necessitating current account adjustments based on the sentiments of foreign investors.

In such a situation, the 'actual' value of the rupee is determined not by consumption demand but by speculation. There are no fundamentals or technical values underpinning the pure speculation of financial markets. With indications that foreign Central Banks may soon raise interest rates, the rupee could come under further pressure.

Intervention is one amongst many policies that must be considered, and one that even developed economies have resorted to. As the yen slid against the dollar in April this year, Japanese Finance Minister Satsuki Katayama signalled that the government would take 'decisive action' in financial markets to maintain the yen.

Intervention to stem speculative capital flows is extremely hard to manage, and can lead to negative outcomes if the force of speculation is too great, or if governments do not - or cannot - show enough commitment in markets. However, we must not assume that the rupee can find an equilibrium value soon, for its fall is being driven by speculation rather than any fundamental economic behaviour. It is time to have a serious conversation regarding the role and place of foreign capital in India's growth story. (Rahul Menon is associate professor at O.P. Jindal Global University.)

THE GIST

▼ If the economy experiences a current account deficit without sufficient inflow of foreign capital, it faces a problem, with demand for foreign exchange exceeding available supply.

▼ Much of the rupee's decline has been driven by speculative outflows of foreign institutional investment. These speculative expectations can lead to capital outflow and depreciation, necessitating current account adjustments driven by market sentiment.



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GS Paper III – Science & Technology

How does the Gaganyaan's life-support system operate?

What are the systems designed to support astronauts aboard the spacecraft while in orbit?

Unnikrishnan Nair S.

The Environmental Control and Life Support System (ECLSS) replicates the earth's atmosphere in earth orbit by managing air, water, temperature, and waste. In short-term space missions, all supplies are carried from the earth and waste is stored for disposal later. Long-duration missions recycle the waste back into useful resources like breathable air and clean water.

What is air revitalisation?

Carbon dioxide is removed from the earth's atmosphere by photosynthesis and by dissolving in the oceans. In Gaganyaan (the Indian Space Research Organisation mission to place a small crew of Indian astronauts in a 400 km orbit around the earth), astronauts' exhalation will increase the cabin's

carbon dioxide content and has to be artificially removed. Elevated levels of carbon dioxide can lead to hypercapnia, causing symptoms such as headaches, dizziness, and impaired cognitive function.

A healthy adult normally exhales around 1 kg of carbon dioxide per day, though this amount increases significantly with physical exertion. The air revitalisation system (ARS) provides fresh air, removes carbon dioxide, and filters trace contaminants or odours that would otherwise accumulate in the cabin. For short missions, oxygen is supplied from high-pressure gas bottles. According to standards, a healthy crew member needs 0.84 kg of oxygen per day to support metabolic functions.

Carbon dioxide is removed using lithium hydroxide canisters. Each canister has activated charcoal that absorbs any odours in the cabin air. A spent canister is

replaced by the crew with a fresh one typically every 20-24 hours. In a microgravity environment lacking natural convection, small fans in the ECLSS are the circulatory system that prevents lethal carbon dioxide and hazardous oxygen pockets from lingering.

How are pressure, temperature and humidity controlled?

The Gaganyaan crew module is designed to maintain a comfortable environment with a temperature of 20-26°C and relative humidity between 30% and 70% to ensure crew comfort and equipment safety. The moisture released through the crews' breath and sweat are the main sources of humidity in the cabin.

Low humidity in the crew cabin can lead to dry skin, irritated eyes, and higher risk of static electricity discharge that could damage electronics. High humidity promotes microbial growth and causes

condensation that may lead to short-circuits or corrosion.

Heat in the crew module is primarily generated by the metabolic body heat of the astronauts (100 to 150 W per crew) and continuously operating onboard electronics and avionics. An active cooling system is used to regulate temperature. Heat is removed by circulating the air through heat exchangers, which will expel the heat into space. The humidity is managed by condensing units that collect water to prevent fogging and short-circuits.

The pressure is held at 101.3 kPa. To mimic the earth's sea-level conditions, the pressure control system uses electronic sensors and safety valves to balance the air and oxygen levels.

Where does water come from?

The primary challenge in space is water doesn't 'pour' but forms floating globules that can cause short-circuits in electronics or pose a hazard if inhaled accidentally. So water must be mechanically forced from storage using pressurised bladders to avoid gas-liquid mixing.

In Gaganyaan, the crew relies on supply of potable water stored in specially designed pouches. They can be pressed to force water directly into the mouth.

How is waste managed?

In microgravity, liquid and solid waste do

not "fall", requiring suction-based airflow systems to pull waste away from the body and prevent it from floating around. These systems must also separate and stabilise waste to avoid microbial contamination and the buildup of toxic gases like ammonia.

In Gaganyaan, specialised faecal collection bags will be used and urine will be sucked through funnels. All waste will be chemically treated to neutralise odours and inhibit bacterial growth, then stored in sealed containers for disposal after return.

How are fires suppressed?

The lack of gravity allows fires to expand into a sphere that is harder to reach with traditional suppressants. In Gaganyaan, smoke detectors will sound an alarm to alert the crew. Fire extinguishers that create fine water mists can be used to put the fire out. A water mist effectively cools the fire and also scrubs toxic smoke particles.

Russia's Soyuz has the option to depressurise the cabin as a last resort to extinguish the fire after the crew has worn a pressure suit.

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