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By saurabh Pandey



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Low-intensity earthquake recorded in Kodagu








The Hindu Bureau

MYSURU

A low-intensity earthquake of 1.6 magnitude was recorded in Kodagu district of Karnataka on Wednesday. According to Karnataka State Natural Disaster Monitoring Centre (KSNDMC), the epicentre of the earthquake was 2.4 km north west of Made gram panchayat.

“As per the seismic intensity map of the earthquake from the epicentre, the intensity observed is low. The tremor might be felt up to a radial distance of 20 km from the epicentre,” the KSNDMC said.

Recent Seismic Activity in Karnataka

-  **Seismic Activity:** Concentrated in the Mysore-Bangalore region.
-  **Historical Tremors:** Recorded in areas like Bellary.
-  **Active Faults:** Identified in the coastal plain near Bhatkal and Udipi, trending ESE-WNW.
-  **Offshore Faults:** Extend into the Arabian Sea, maintaining the ESE-WNW trend.
-  **Fault Continuation:** No evidence of the West Coast Fault continuing southward into Maharashtra's Konkan region.
-  **Hazard Assessment:** Proximity to faults doesn't necessarily indicate higher earthquake hazard; factors like subsurface geology and building code adherence are crucial.
-  **Building Codes:** Earthquake impact is influenced by local geology and compliance with construction regulations.

'Design stage of small modular nuclear reactor completed'

It will take 60 to 72 months for the reactor to be constructed after the project is sanctioned, Union Minister Jitendra Singh tells Lok Sabha

Jacob Koshy
NEW DELHI

The "concept design" stage of India's proposed Bharat Small Modular Reactor (BSMR) has been completed and is in the process of being approved. Once the project is sanctioned, it will take 60 to 72 months for the reactor to be constructed, Union Minister of State for Science and Technology Jitendra Singh said in the Lok Sabha in response to a query on Wednesday.

The BSMRs are modified versions of India's existing Pressurised Heavy Water Reactor (PHWR) and will have a capacity of 200 MW each. They will be fuelled by "slightly enriched uranium" and are being jointly designed and developed by the Bhabha Atomic Research Centre and Nuclear Power Corporation of India Ltd. (NPCIL).

Manufacturing and delivery of equipment and components will be carried out through various indigenous nuclear vendors developed by the De-



The BSMR was based on the 'globally proven' pressurised water reactor technology. It was equipped with passive safety features

JITENDRA SINGH
Union Minister

partment Of Atomic Energy (DAE). "Critical items", such as low alloy steel forgings required for manufacturing the reactor pressure vessel and reactivity control drive mechanisms, will be procured by domestic private vendors. These BSMRs will be used by energy intensive industries such as steel, aluminium, and cement for captive power and can be set up by repurposing thermal power plants that are to be decommissioned. They can also provide electricity in remote places.

The BSMR was based on the "globally proven" pressurised water reactor technology. It was equipped with passive safety features as well as several engineered safety systems to

ensure nuclear safety during accidents. Systems were planned to handle spent fuel and its storage in-situ, Mr. Singh's written response noted.

In her Budget speech in July 2024, Finance Minister Nirmala Sitharaman said the government would be partnering with the private sector for setting up Bharat Small Reactors (BSRs), research and development of BSMRs, and research & development of newer technologies for nuclear energy.

The government has committed ₹20,000 crore for setting up the first of these by 2033.

India expects to have 100 GW (gigawatt) of nuclear power installed by 2047.

Introduction to Bharat Small Modular Reactor (BSMR)

- **The Bharat Small Modular Reactor (BSMR) project stands as a beacon of innovation in India's burgeoning nuclear energy sector.**
- **Recently, the concept design stage has been triumphantly completed and is now awaiting approval**

Saurabh pandey upsc

Design and Features of BSMR

The BSMRs are intricately designed modified versions of India's existing Pressurised Heavy Water Reactors (PWHR).

Each reactor is expected to have a capacity of 200 MW and will be fueled by slightly enriched uranium. This innovative design is being jointly developed by the Bhabha Atomic Research Centre (BARC) and the Nuclear Power Corporation of India Ltd. (NPCIL).

Key Features:

Passive Safety Systems: Engineered to enhance nuclear safety during potential accidents

Indigenous Manufacturing: Equipment will be supplied by domestic nuclear vendors, bolstering local industry

Critical Components: Sourced from private vendors, ensuring quality and reliability

Comparison with Existing Technology

BSMR: Enhanced safety, efficient design, tailored for energy-intensive industries

PWHR: Established technology, larger scale, limited adaptability

Economic and Industrial Implications

The BSMRs are poised to play a crucial role in powering energy-intensive industries such as steel, aluminum, and cement. These reactors can be strategically implemented by repurposing thermal power plants that are slated for decommissioning. Furthermore, they offer a viable solution for electricity generation in remote areas, thereby enhancing energy accessibility.

Benefits for Industries:

Captive Power Generation: Reducing reliance on traditional power sources

Sustainability: Contributing to India's green energy goals

Conclusion

The Bharat Small Modular Reactor project is a monumental step toward a sustainable energy future for India. With its completion, it holds the potential to not only transform the energy landscape but also spur economic growth through job creation and technological advancements

Saurabh pandey upsc

Indian Railways to dig ponds under govt.'s Mission Amrit Sarovar

S. Vijay Kumar

CHENNAI

The Indian Railways will dig ponds as part of the Union government's Mission Amrit Sarovar that aims to address the critical issue of water scarcity in the country.

Amrit Sarovar was launched in April 2022 with the ambitious goal of constructing or rejuvenating 75 ponds in each district of the country. The project made significant progress and as of October 2024, more than 68,000 ponds have been completed, rejuvenating surface and groundwater availability in various regions. These ponds have not only addressed immediate water needs but also established sustainable water resources.

Phase 2 of the mission was launched with a renewed focus on ensuring water availability, with community participation (*Jan Bhagidari*) at its core. It aims to strengthen climate resilience, foster ecological balance, and deliver lasting benefits for future generations.

As part of these initiatives, the government roped in the Railways for desilting, excavating identified waterbodies or constructing new ones at suitable



The mission was launched with goal of constructing 75 ponds in each district of the country.

ble sites in the vicinity of railway lines.

Railway authorities were told to request the respective district authorities to identify possible sites for the creation of new waterbodies near railway worksites.

The excavated material would be used in railway embankments, wherever the quality of the soil is found suitable for rail construction.

The Railways would work in close coordination with the Rural Development Ministry.

The Union government has sent letters to the Chief Secretaries of all the States and Union Territories on the role of the Railways in Mission Amrit Sarovar, sources said, adding that a substantial number of ponds would be rejuvenated or constructed by August 15.

Mission Amrit Sarovar



With a view to conserve water for the future, the Prime Minister has launched a new initiative named Mission Amrit Sarovar on 24th April 2022.

The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav.

APAAR ID system voluntary, but activists and parents raise concern over growing mandates

Aroon Deep

NEW DELHI

Parents and activists worry that it could become near-impossible to opt out of the Education Ministry's Automated Permanent Academic Account Registry (APAAR) ID for school students, though enrolment is supposed to be voluntary.

The APAAR ID ties into DigiLocker and the Academic Bank of Credits (ABC), which the government hopes to use to standardise students' school transcripts in a uniform way as a "single source of truth".

However, the APAAR ID system has drawn scrutiny on data privacy and necessity grounds. While the Education Ministry has said in a document on its website that getting an APAAR ID is not mandatory, the Central Board of Se-

condary Education (CBSE) told schools in a circular in January that it expects them "to ensure 100% saturation of APAAR IDs for all students", a directive that many schools have taken as a mandate.

APAAR IDs are linked to Aadhaar, and some parents who are willing to enrol their children have reported issues linking the students' Aadhaar with APAAR, due to spelling mismatch between their name in school records and the Unique Identification Authority of India (UIDAI) database. Such parents must be referred to a Common Service Centre to update children's documents, the CBSE said in its January circular.

"The APAAR ID system presents significant risks, especially in the collection and handling of minors' sensitive data, including



APAAR presents certain risks, especially in the collection of minors' sensitive data.

personal and academic information, without adequate legal safeguards or robust data protection measures," the Internet Freedom Foundation, a Delhi-based advocacy group, wrote in December. The Education Ministry has admitted that there is no law to mandate APAAR IDs for parents who do not want to enroll their children in the registry.

Another advocacy

group, the Software Freedom Law Centre, India, has published a form that parents can use to inform schools that APAAR is not mandatory, to persuade school administrations that enrolment cannot be compelled. Sandeep Hegde, a Bengaluru-based parent, pushed back against APAAR at his child's school, and was able to get the school to back off from the request, at least for him.

But recent steps at the State level may make it harder for schools to listen to parents in these cases.

U.P. decision

In Uttar Pradesh, the Director-General of School Education indicated last week that it was using APAAR to find discrepancy in school enrolment records, and that it would hold officials responsible if

major changes were found. In another case in Bahraich district, madrasas which did not enrol their students were warned that they would be de-recognised if they did not start APAAR enrolment.

Making such an ID mandatory in schools "directly contradicts the Supreme Court ruling in *K.S. Puttaswamy v Union of India* [2019 (1) SCC 1], which held that Aadhaar – an essential requirement for obtaining an APAAR ID – cannot be mandatory for access to basic education," advocate Apar Gupta, IFF's founder director said.

"Such coercive measures by the government – both at the Central and State level – puts immense pressure on parents as otherwise they may risk losing educational benefits or even accessing education completely."

What is the APAAR ID system?



The APAAR ID(Automated Permanent Academic Account Registry (APAAR) ID is a digital identifier for students, aiming to streamline academic records and link them to various educational services.

Is enrollment in the APAAR ID system mandatory for students?

Officially, it is voluntary; however, many schools are pushing for full enrollment, leading to concerns about compliance pressures.

What are the data privacy concerns regarding the APAAR ID?

The main concerns revolve around the security of personal information linked to Aadhaar and the potential for data breaches.

How does the APAAR ID link to Aadhaar?

The APAAR ID requires linking with Aadhaar for identity verification, which has raised privacy concerns.

What challenges do parents face when enrolling their children in the APAAR ID system?

Common issues include name mismatches with Aadhaar and navigating the enrollment process, often requiring additional documentation

Global coordination can trump efforts to undercut climate predictions

With the US administration under Donald Trump taking a sledgehammer to the NOAA, climate predictions may need to be prepared the same way as the well-coordinated climate projections are in order to protect the overall prediction enterprise from political vagaries and other perturbations

Raghu Murtumadhe

In one of his first acts in his second term as President of the United States, Donald Trump fired several hundred employees of the U.S. National Oceanic and Atmospheric Administration (NOAA). The move triggered a lot of discussion in the climate community and beyond about how it will hurt critical weather and climate services.

The climate community has been working hard to help people adapt to the effects of climate change and build resilience against consequences in the future, so it does not help that the NOAA has now been downsized. While this is unfortunate, this isn't entirely surprising considering the NOAA was also under considerable pressure during Mr. Trump's first term as U.S. President.

Predictions and projections

The weather is local while climate is global, but a good weather forecast still requires global patterns to be captured and accounted for. Climate predictions on the other hand focus on meteorological changes that occur more slowly across multiple seasons. Climate projections offer various possible scenarios for multiple decades to come.

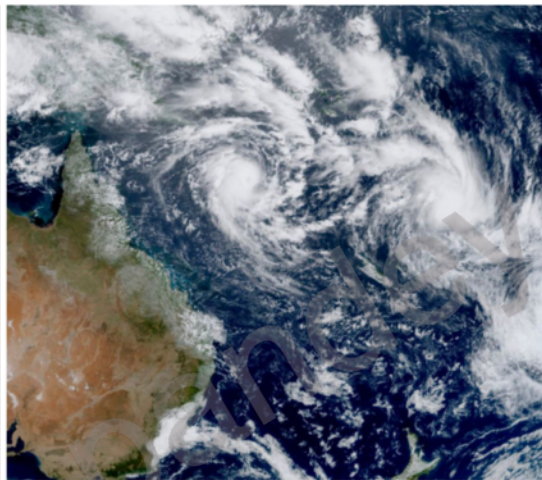
These projection efforts are coordinated closely by the UN Intergovernmental Panel on Climate Change (IPCC). All the research centres involved in preparing these projections need to follow particular protocols as well as focus on certain previously agreed-upon future scenarios. Once every few years, the IPCC prepares a grand synthesis of all simulations from tens of models to produce an assessment report. The latest such report was issued in 2021-2022.

Climate predictions are national efforts with some coordination under the UN World Meteorological Organisation (WMO), especially for global observational systems. Climate predictions need the models to be prepared by 'initialising' them before each forecast begins. Data from all the relevant sources – including weather-monitoring stations and satellites – are fed into the models responsible for simulating ocean, atmospheric, and land systems. Different prediction centres follow different methodologies during this data assimilation step. Since no single country can cover the globe with its observation systems, global coordination in this enterprise is inevitable.

Climate predictions also tend to be internal efforts. The participating countries under the WMO also merge multiple such predictions to produce a so-called multi-model ensemble.

But as Mr. Trump's decision to take a sledgehammer to the NOAA indicates, we may need to make climate predictions the same way we prepare the well-coordinated climate projections, with redundancies in the global to regional predictions, in order to protect the overall prediction enterprise from political vagaries and other debilitating perturbations.

On the plus side, a globally coordinated climate predictions system will also bring about higher-resolution models and more accurate predictions for all countries. They could also help governments respond better to the rapidly emerging suite of extreme events. Many such events assailed the earth during the



Keeping track: The weather is local while climate is global, but a good weather forecast still requires global patterns to be captured and accounted for. AP

record-setting global warming of 2023 and 2024, and this is likely to continue in 2025. Coordinated predictions will also benefit from regular global stocktakes that record the numbers of events that were correctly predicted and how many provided meaningful inputs to governments to prepare for, mitigate, manage, and recover from climate-related disasters.

Towards K-scale modelling

The other critical question is whether the predictions that are available have the requisite spatial resolution required for governments to respond to location-specific disasters. The answer is a clear 'no'. Even climate projections do not offer information at scales required for regional and local adaptation and resilience-building. There have been repeated calls now to move beyond the current state of coarse resolution models used for predictions and projections, to move towards the use of 1 km scale, or K-scale, models.

Such modelling will require considerable computing resources that no one country can afford – yet it also offers a valuable opportunity to incorporate climate predictions into international climate action. As other experts have also suggested, a global effort can make this happen, with each region and country receiving more accurate and more location-specific early warnings and seasonal outlooks.

Such coordinated K-scale modelling for climate predictions and projections should be a high priority.

A globally coordinated climate predictions system will bring about higher-resolution models and more accurate predictions for all countries. They could also help governments around the world respond better to a rapidly emerging suite of extreme events

This author has already suggested that modelers focus less on projecting the climate until the year 2050 and more on that at the more socially relevant timescales of multiple years to a decade or two. Modelers currently understand that uncertainties in projections for the first couple of decades are dominated by the natural variability of the climate system plus limitations in the models themselves. The 'IPCC-clim' models thus consider innovation in energy and transportation, population growth, carbon capture, and the effects of various climate policies to understand the possible levels of warming by 2050.

These projections are envisioned to capture all eventualities, including Russia's invasion of Ukraine, the West Asia conflict, and so on – yet it misses the downsizing of the NOAA and the exit of a highly industrialised country from international climate talks.

A crack requirement to build resilience in any sector that depends on government funding or market forces is a cost-benefit analysis that justifies its existence. Obviously, it does not suffice to

claim that the value of a service is self-evident. If one prediction center is doing better than another, questions can easily be raised about the size of their workforces and their operational efficiency. If a smaller workforce is consistently able to make better predictions, we need to understand how and replicate it.

This goes beyond Mr. Trump, who has no regard for the effects of the U.S.'s continuing industrialisation on the world's climate. It is instead about a world in which modelling centres and efforts still matter, where public funding is limited even when it is not a zero-sum game, so the extent that the centres need to rationalise their contributions rather than sidestepping audits in the name of a climate 'emergency'.

Each centre has to be prepared to defend itself with convincing answers to the difficult questions. They may not like the questions but they can still be fair in the larger economic picture. In the same vein, a cost-benefit analysis of the IPCC's projections is also needed to make the climate centres more resilient. Overall, it is crucial to justify the need for continued long-term projections.

All these factors underscore the need for resilient climate prediction efforts as a global enterprise. Any negligence or delay on this front will only leave the centres vulnerable to being pared back themselves, as the system is only as strong as the weakest link.

(Raghu Murtumadhe is retired professor, IIT Bombay, and emeritus professor, University of Maryland. mahatmajyoti@gmail.com)

Impacts of NOAA Downsizing on Climate Predictions:

The National Oceanic and Atmospheric Administration (NOAA) has long been a cornerstone in the realm of weather and climate forecasting. However, in a startling move, several hundred employees were let go, igniting a firestorm of concern within the climate community. 🌍

NOAA's Role: The agency is pivotal in collecting data and analyzing trends that inform both short-term weather forecasts and long-term climate projections

The Importance of Accurate Climate Predictions

Accurate climate predictions are not merely a luxury; they are essential for preparing for future weather patterns and climate-related disasters.

Understanding the differences between weather and climate predictions is crucial:

Weather Predictions: These are short-term forecasts focused on local conditions.

Climate Predictions: These involve broader, long-term projections based on global trends, often coordinated by bodies like the Intergovernmental Panel on Climate Change (IPCC) and the World Meteorological Organization (WMO)

Moving Towards K-scale Modelling for Better Predictions

One promising avenue for enhancing climate predictions is the development of K-scale models. These high-resolution models can provide more accurate information tailored to specific regions, which is crucial for effective disaster response.

What are K-scale Models?: These models operate at a scale of 1 kilometer, allowing for detailed, localized predictions.

Global Coordination: Implementing such models requires international collaboration, pooling resources and expertise to create a more robust prediction system



Conclusion

The recent downsizing of NOAA is a stark reminder of the vulnerabilities in our climate prediction systems. As we face increasing climate challenges, it is essential to bolster support for NOAA and advocate for coordinated global efforts. By prioritizing resilient prediction systems, we can better prepare for the uncertainties that lie ahead.

Saurabh pandey UPSC



The mycelium of an *oyster mushroom* (*Pleurotus ostreatus*) growing in a petri dish of ground coffee seeds. [uxmuse.com](https://www.uxmuse.com)

The promise of mycelium bricks against climate change

Aditya Ansh

NEWS WRITER

In the light of climate change, the construction industry like many others is considering how it can reduce its carbon footprint and become more sustainable.

One opportunity is concerned with bricks. Fired clay bricks have been the mainstay of the construction industry but their production also emits nearly 200 million tonnes of carbon dioxide every year, which could increase with more urbanisation. A new advance on this front is mycelium bricks. Mycelia are the branching filaments of fungi that make up its vegetative part. Researchers have them harnessed to create biodegradable, fire resistant, and insulative bricks. They are made by combining loam, sand, and fungal spores to create a fibrous network that solidifies into a lightweight material. Within a few days, these materials become a harder structure. Mycelium bricks have the potential to reduce the building sector's carbon footprint, its proponents have said. They are relatively easy to lightweight and good insulators of heat. Aside from potential

Proponents of mycelium bricks have said that they have the potential to reduce the building sector's carbon footprint.


use as padding material in interior design, mycelium has better fire-resistant components can be used in liquid form, sports equipment, and printed circuit boards. But before they can find wider use, mycelium materials need to improve in many ways. At present they cannot bear heavier loads for longer periods. One 2020 review found that while mycelium composites have a high strength-to-weight ratio, it is two orders of magnitude lower than concrete. They are also susceptible to moisture, biodegrade in a few years, and cannot be produced at mass. "The cost of growing and treating fungi for construction purposes is currently higher due to lack of information," Rajesh Jha, a civil engineer and the founder of Patna-based biotech firm *bioactive*, said.

While mycelium is naturally fire-resistant, prolonged exposure to heat could cause structural failure. Mycelium composites also absorb more moisture than synthetic foams and plywood, which is limited for damp environments with leaking walls or roofs. They also do not meet seismic. But these are problems to be solved rather than reasons to discard mycelium bricks. For example, "Mycelium can be treated with non-toxic flame retardants that can enhance fire resistance, followed by a UV-protective coating that can prevent photo-degradation in outdoor applications," Jha said. The biggest challenge is consumers' attitude, which experts have said will require more investment in research and development, to make mycelium bricks more competitive with clay bricks and mainstream companies to shift.

But thanks to climate change and the advent of concerns the high-performance buildings, interest is already growing in alternative and sustainable materials. "This shift along with policy pushes can drive demand for sustainable alternatives and help in growing the market for mycelium," Aditya Krishna Karadada, founder of *Baba BioTech*, a startup incubated at IIT Madras, said. (Aditya Ansh is an independent journalist based in New Delhi. adityaansh@indianexpress.com)

Mycelium bricks




 Mycelium bricks, made from fungi, husk, and sawdust, are biodegradable, fire-resistant, and insulative, presenting a sustainable alternative.

 While mycelium bricks are lightweight and have a high strength-to-weight ratio, they currently cannot support heavy loads and are less durable than concrete.

 Mycelium materials are susceptible to moisture and biodegrade within a few years, posing challenges for use in damp environments.

 Prolonged heat exposure can lead to structural failure, but treatments with non-toxic flame retardants and UV coatings can enhance their properties.

 Growing interest in sustainable materials, driven by climate change and policy support, could boost the market for mycelium bricks.

Summary: Mycelium bricks offer a promising sustainable alternative to traditional fired clay bricks, but face challenges in durability and consumer acceptance

Resolving the vexatious fishing dispute



Last week, the Leader of the House in the Sri Lankan Parliament, Bimal Rathnayake, called upon the Indian and Tamil Nadu governments to take "decisive action" against "illegal fishing in Sri Lankan waters". Mr. Rathnayake, also the Transport and Highways Minister, is a key figure in the ruling Janatha Vimukthi Peramuna (JVP)-led National People's Power (NPP) government.

While acknowledging the support of India in general, and Tamil Nadu in particular, to his country during the civil war, the economic crisis, and floods, Mr. Rathnayake made it clear that "the real help" would be to help protect the livelihood of Tamil-speaking fishermen of the Northern Province, who have been "victims of illegal fishing".

In recent years, this is the first time that a high-ranking dignitary from Sri Lanka has spoken so strongly about the festering Palk Bay fisheries dispute, which should have been resolved long ago. In March 2015, the then Sri Lankan Prime Minister, Ranil Wickremesinghe, defended the response of the Sri Lanka Navy to Indian fishermen and termed it as legitimate to "shoot fishermen" trespassing into Sri Lankan waters.

A pernicious practice

So far, neither the External Affairs Ministry nor the Tamil Nadu government's representative has reacted to Mr. Rathnayake's statement. This is not surprising; it is an open secret that fishermen from the districts of Ramanathapuram, Pudukottai, Thanjavur, and Nagapattinam in Tamil Nadu, and from the Karaikal district of the Union Territory of Puducherry, have been crossing the International Maritime Boundary Line for fishing, in pursuit of their livelihoods. More than illegal fishing, fisherfolk of the Northern Province have been complaining about bottom trawling by Indian fishermen. Widely condemned for its



T. Ramakrishnan

Talks between the fishermen of India and Sri Lanka could pave the way for an agreement to put an end to bottom trawling

destructive impact on marine ecosystems, bottom trawling is responsible for nearly half of all discarded fish and marine life globally and disrupts the breeding cycle. The asymmetric economic relationship between the Tamil Nadu fishing community, which is wealthier, and the Sri Lankan fisherfolk from the Northern Province, which is recovering from the aftermath of the civil war, complicates the situation. The north Sri Lankan fishermen, who depend on conventional forms of fishing, are seeking a sustainable solution to protect their waters from over-exploitation.

At the same time, the Indian fishermen are constrained by many factors. There is a small area available for fishing within Indian waters, which is marked by rocks and coral reefs. The Tamil Nadu Marine Fishing Regulation Act, 1983, restricts fishing activities along the Tamil Nadu coastline. Unlike the current 24-hour voyages in the Palk Bay region, the duration for deep-sea fishing, which has long been suggested as an alternative to the fisherfolk, takes around three weeks and naturally involves higher costs of operation and labour. Moreover, diversification requires fishermen to change their orientation, which, in a traditional occupation, can only happen in a gradual manner. It is for these and other reasons that the joint scheme executed by the Union and State governments for deep-sea fishing since July 2017 has come as a cropper.

Needless to say, the governments of India and Tamil Nadu should do more to wean away fishermen from the pernicious practice of bottom trawling, such as by promoting seaweed cultivation, open sea cage cultivation, and sea/ocean ranching. The least the Union government can do is to merge the ₹1,600-crore Palk Bay deep-sea fishing scheme with the ₹20,050-crore Pradhan Mantri Matsya Sampada Yojana. This will help fishermen participate more in deep-sea fishing, given the

higher unit cost allowed for deep-sea fishing vessels.

The importance of talks

But Mr. Rathnayake must be aware that given the complexity of the problem, it is not so easy for any government to bring about such a transition swiftly, let alone seamlessly. What he did not address was his government's attitude towards facilitating talks between the fishermen of the two countries. Both the Indian and Tamil Nadu governments have favoured the resumption of talks between fishermen; these were last held in New Delhi in November 2016. At the last Joint Working Group meeting in Colombo in October last year, the Indian team raised the demand for talks. Even a delegation of fishermen from the Northern Province, who recently met officials of the Indian Consulate General in Jaffna, expressed its willingness to resume discussions with their counterparts on the other side of the Palk Bay. But surprisingly, the NPP government has been silent on this matter. Nothing much can be read into its attitude since it has not even completed six months in office.

The next few months would, in fact, be ideal for the talks to take place, as the annual two-month-long ban on fishing in the eastern coast of India ordinarily begins in mid-April. The senior JVP leader would do well to convince his colleagues, both within and outside the regime, of the need for negotiations which could pave the way for an agreement between the two sides to put an end to this practice. Opposition MP Mano Ganesan said that Colombo should take up the fisheries dispute with Prime Minister Narendra Modi, who is expected to visit Sri Lanka in April. Colombo will then have an excellent opportunity to not only support the resumption of talks between the fishermen, but also offer to host the negotiations.

Fishermen issue between india and srilanka

Bimal Rathnayake, the Leader of the House in Sri Lanka's Parliament, recently made headlines by urging the Indian and Tamil Nadu governments to take decisive action against the rampant illegal fishing occurring in Sri Lankan waters.

This call to arms is not merely a political stance; it reflects the urgent need to protect the livelihoods of Tamil-speaking fishermen in the Northern Province, who have long been victims of these illegal practices.

Saurabh Pandey UPSC



Acknowledgment of Support: Rathnayake recognized the historical support from India and Tamil Nadu during Sri Lanka's civil war and ongoing economic crises but emphasized that true assistance lies in protecting the local fishing communities.

The Pernicious Practice of Bottom Trawling

Impact on Marine Life: Bottom trawling is widely condemned for its destructive impact, accounting for nearly half of all discarded fish and marine life globally, thereby disrupting reproductive cycles.

Economic Disparity: The economic relationship between the wealthier Tamil Nadu fishing community and the struggling Sri Lankan fishermen complicates the resolution of this conflict

The Path Forward: Importance of Dialogue

Past Efforts: Previous talks have occurred, with the last meeting in New Delhi in November 2016. There is a pressing need to revisit these discussions to forge a sustainable solution.

Opportunities for Talks: With the annual fishing ban on the eastern coast of India approaching, now is an opportune moment for dialogue to take place

Saurabh pandey upsc

The Economic Viability of Deep-Sea Fishing

Economic Constraints: Many fishermen are limited by the high costs associated with deep-sea fishing. Unlike the current 24-hour fishing trips in the Palk Bay region, deep-sea ventures often require a three-week commitment, which is financially burdensome for local fishers.

Regulatory Challenges: The Tamil Nadu Marine Fishing Regulation Act of 1983 imposes restrictions that complicate the fishing landscape. Fishermen must navigate a complex web of regulations to access deeper waters

Building Bridges

Bridging the gap between the Indian and Sri Lankan fishing communities is essential for collaborative solutions.

Cultural Exchange: Initiatives that promote cultural exchange between fishermen from both nations can foster understanding and cooperation, paving the way for joint ventures that benefit both sides.

Shared Resources: Developing shared resources, such as fishery management programs, can enhance sustainability and ensure that both communities thrive

Is the government stifling the online gaming sector?

Online skill-based gaming has the potential to harness programming, design, and storytelling talent to leapfrog India to the top of the tech leader board globally

ECONOMIC NOTES

Rajeev Gowda

The Economic Survey 2024-25 has called for “accelerating and amplifying the deregulation agenda”, and has urged the government to “get out of the way” so that businesses can go about their business. While this sounds enticing, what does deregulation mean in practical terms? How should the government take the deregulation agenda forward?

The gaming sector's potential

Target areas for deregulation can be found by surveying the regulatory landscape to identify where the heavy hand of the government is hampering growth. One such domain is the online gaming sector. The judiciary brought

attention back on the need to deregulate the sector through a 2025 Supreme Court stay order on the Union government's retrospective GST demand on the online gaming sector to the tune of ₹1.12 lakh crore. How did this come about?

Online skill-based gaming is a sunrise sector, where three startups have already transformed into unicorns. It has the potential to harness programming, design, and storytelling talent to leapfrog India to the top of the tech leader board globally. India, with 650 million smartphone users and half the population below the age of 35, can outshine other countries in online gaming from the perspective of technology innovation and financial returns. A PwC report pegs online gaming as among the fastest growing sectors in India, accounting for ₹33,000 crore in 2023, and projected to reach ₹66,000 crore, growing at a CAGR of 14.5% between 2023-2028. Online

gaming could create an additional 2-3 lakh direct and indirect jobs in the next few years, in addition to the two lakh jobs already generated.

Tax imposition

While the State governments of Karnataka and Telangana are rolling out policies to promote animation, visual effects, gaming, and comics sectors, such positive steps have paled against the instincts of the tax collector. Union and State governments have unanimously slapped a 28% GST on online gaming, a rate usually reserved for public ‘harms’ such as gambling, liquor, and tobacco. Some State governments have even imposed bans on online gaming, classifying them as part of gambling, which the courts overturned and termed unconstitutional, as “games of skill” are legal and cannot be classified as gambling. Such futile legal diversions waste government and industry

resources.

The apparent trigger for such regulatory interventions was the conflation of online gaming with online gambling. There are lessons for those in the online gaming sector from this confusion. Clearly families and regulators are concerned about users' problematic online practices. The industry should therefore strengthen protections against excessive use. For example, by analysing data it possesses about users' behaviour, it can create individually-customised safeguards which prevent problematic practices on their platforms.

The Union government's effort to wring the online gaming sector dry is a black warrant for online gaming, as smaller startups will go bankrupt or simply shut shop. It will also spur the growth of illegal gambling and betting sites, which are already flourishing, typically operating offshore beyond the reach of our regulators.

An effective way for the government to commence its new wave of deregulation would be to rationalise GST rates and co-craft a regulatory framework with the online gaming industry. But the first step is to drop the unjustifiable retrospective GST demand which threatens to eclipse this sunrise sector.

M. V. Rajeev Gowda is a former Member of Parliament and Ex Professor of Public Policy at IIM Bangalore. These views are personal.

THE GIST

▼ A PwC report pegs online gaming as among the fastest growing sectors in India, accounting for ₹33,000 crore in 2023, and projected to reach ₹66,000 crore.

▼ Union and State governments have unanimously slapped a 28% GST on online gaming, a rate usually reserved for public ‘harms’ such as gambling, liquor, and tobacco.

▼ An effective way for the government to commence its new wave of deregulation would be to rationalise GST rates and co-craft a regulatory framework with the online gaming industry.

The Online Gaming Sector: A Potent Growth Engine

The online gaming industry is a prime candidate for deregulation. The Supreme Court's 2025 stay order regarding the retrospective GST demand sheds light on the regulatory challenges faced.

Current Landscape: The online gaming sector is projected to grow from ₹33,000 crore in 2023 to ₹66,000 crore by 2028, demonstrating a CAGR of 14.5%. This growth can create 2-3 lakh jobs in the coming years.

Skill-Based Gaming: Companies in this sector are not just gaming entities; they are technology innovators. With India's vast pool of smartphone users and a youthful demographic, the potential is immense.

Taxation Challenges: The Heavy Hand of Regulation

Despite the potential for growth, the imposition of a hefty 28% GST on online gaming poses significant challenges.

Taxation as a Barrier: This tax rate is generally reserved for industries deemed 'harmful' and has stymied entrepreneurial spirit in the gaming sector.

Legal Confusion: The conflation of online gaming with gambling has led to unnecessary legal entanglements, wasting resources that could be better spent on innovation and growth

Moving Forward: A Collaborative Approach

For the online gaming sector to thrive, a collaborative approach between the government and industry stakeholders is paramount.

Rationalizing GST: A reassessment of the current GST rates is crucial to ensure that the sector can operate competitively.

Regulatory Framework: The government should work alongside industry experts to develop a regulatory framework that protects users while fostering growth.

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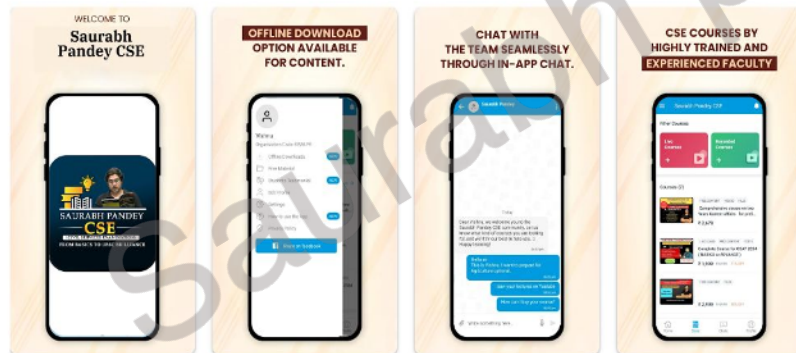


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