# DIA, DEOGHAR IAS ACADEMY

# *Daily News Feed*

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# To Europe's current economic malaise, add a leadership void

Many believe the region's economies must be overhauled if they are to generate the wealth needed to sustain an ageing population, but the question is whether its politicians can deliver; Europe has notably fallen behind the U.S. in terms of economic growth per capita since the 2008 financial crisis

NEWS ANALYSIS

Reuters

**Openness:** Europe prides itself on its open, trade-oriented economy. AFP

France and Germany's political crises are a setback for efforts to modernise Europe's struggling economy and are already making it harder for companies to take the investment decisions they need to compete globally.

Government collapses in Germany and France–the big two economies that have long powered the European Union–come just as the region must navigate the return of Donald Trump to the White House and mounting trade tensions with China.

From French cognac-makers facing Chinese duties to German component manufacturers awaiting clarity on Europe's industrial strategy for electric vehicles, the timing could not be worse.

**Urgent reforms needed**

Across the 27-nation bloc, few disagree that the region's economies must be overhauled if they are to generate the wealth needed to sustain an ageing population of 450 million. But more than ever, the question is whether its politicians can deliver.

"The French crisis, together with the German one, must not slow down the implementation of the economic reforms," Enrico Letta, author of a 147-page, EU-commissioned report this year on the weaknesses of the region's economy, told Reuters.

The fall of President Emmanuel Macron's government on Wednesday–just weeks after the implosion of the German coalition–is a "potential meteorite" for financial stability in a region struggling with high debt, he warned.

While many Europeans would not swap their quality of life and safety nets for those of their American peers, the continent has fallen behind the United States in terms of economic growth per capita since the 2008 financial crisis.

Everything from weak productivity to fragmented capital markets and the wider banking sector has been blamed. Sanctions on Russia imposed after it invaded Ukraine have deprived EU manufacturers of a cheap energy source.

> The French crisis, together with the German one, must not slow implementation of economic reforms
>
> **ENRICO LETTA**
> Author, EU-commissioned report

With the rise of far-right and hard-left parties making it harder to reach consensus in national parliaments and EU institutions, the prospects for action on Europe's long-term failings are not great.

Uncertainty caused by the collapsed German coalition government is "poison for us", said Axel Petruzzelli, works council chief at the Stuttgart plant of car parts supplier giant Bosch. His company is awaiting urgent clarity on German industrial policy, but that won't come until after February's election.

**United on trade?**

National carrier Lufthansa faces a similar radio silence from Berlin over its call for reductions in airport fees, which are higher than elsewhere in Europe. One executive said it could even shift operations away to lower cost hubs like Rome.

French jet engine-maker Safran said last week that political stability was one key factor in a decision it will take early next year on the site of a new carbon brakes plant, with the U.S. and Canada shortlisted alongside France.

Moreover, the French parliament's failure to agree to a 2025 budget raises the prospect that the spending limits of this year's budget will have to be rolled over as an emergency stopgap, even as inflation pushes costs higher across the board.

"In defence, that will create pressure," Safran CEO Olivier Andries told reporters. "Beyond that, where the pressure will land and how the defence ministry will manage that, I can't say."

**Consumer spending**

With Europe's economy seen barely growing 1% this year, much hope is being placed on consumer spending leading a recovery next year as wage increases boost household incomes–but that assumes that shoppers do not start getting unnerved.

"This kind of political climate does not encourage consumption in general, and particularly for more significant purchases such as a new vehicle," said Marc Mortureux, CEO of French autos lobby group La Plateforme automobile.

Europe prides itself on its open, trade-oriented economy. It is in trade where the most immediate challenges are to be found.

**China's retaliation**

China's move in October to impose anti-dumping duties on European brandy imports–days after the EU announced tariffs on Chinese EV imports–was potentially catastrophic for the sector, said French cognac association BNIC.

Mr. Trump's threat to impose tariffs of at least 10% on all U.S. imports is a test of Europe's solidarity both as it decides how it can pre-empt those threats and how to retaliate if Mr. Trump goes ahead with them. Yet all the inherent tensions in Europe's trade policy–with individual nations seeking to protect those sectors most crucial to their domestic economy–were cruelly on display this week as the EU initialled a trade deal with Brazil, Argentina, Uruguay, Paraguay and Bolivia.

Hailed as the EU's largest ever trade deal, it would–if finalised–pit the German interest in nurturing new markets for its cars and machines against the French interest in defending its farming sector from imports. For now, the political flux in Paris and Berlin makes its final fate all the more unclear. In the words of one French diplomatic source: "It's not the end of the story."

# PM launches LIC's 'Bima Sakhi Yojana'

**Press Trust of India**
PANIPAT

Prime Minister Narendra Modi on Monday launched the 'Bima Sakhi Yojana' of LIC here under which two lakh woman insurance agents will be appointed over the next three years.

'Bima Sakhi Yojana', an initiative of State-owned LIC, is designed to empower women aged 18-70 years who are Class X pass.

The women agents will receive specialised training and a stipend for the first three years to promote financial literacy and insurance awareness.

Under the scheme, the woman agents will also get a stipend of ₹7,000 per month for the first year, ₹6,000 per month in the second year and ₹5,000 per month in the third year. Bima Sakhis will also get the benefit of commission.

The plan is to appoint two lakh Bima Sakhi over a period of three years.

Narendra Modi

**In remembrance:** Priest Olivier Ribadeau Dumas leads the Eucharist during a mass open to the public at the Notre-Dame de Paris Cathedral, in Paris, France, on December 8. REUTERS

# A dialogue with our fragile past: the importance of historical memory

The world needs to look differently at its historical memory and the cultural heritage which embodies it. The large fire that broke out in Paris and which consumed a part of the Cathedral of Notre-Dame in 2019, is a grim reminder that centuries of heritage can be destroyed in minutes

**Ramin Jahanbegloo**

*On December 7, the Notre Dame de Paris or the Cathedral of Notre Dame was re-opened after a massive fire destroyed its roof and spire five years ago in 2019. In this article, dated April 20, 2019, Ramin Jahanbegloo explains the importance of historical memory and why it is imperative to preserve it, however fragile.*

It is only after our heritage is destroyed, in natural disasters and conflicts, that we realise how fragile historical memory is – even for a globalised period of history like ours. The large fire that broke out in Paris on Monday and which consumed a part of the Cathedral of Notre-Dame , is a grim reminder that centuries of heritage can be destroyed in minutes. Of course the French people can rebuild the physical structure and in this enterprise they will be certainly supported by the vast wealth of Europe, America and others, made possible by centuries of industrialisation and capital accumulation. But rebuilding the Notre-Dame de Paris does not mean that we can necessarily renew its original spirit – of blocks of sandstones which narrate their own geological and social history. Undoubtedly, for over 800 years, the cathedral has been the driving force behind the eternal return of Paris as the 'Heart of the World'.

**Repository of history**

As a powerful spiritual symbol of Christian faith, it counts many treasures, such as the crown of thorns, which are believed to have been placed on Jesus Christ's head. Joan of Arc was beatified in the cathedral in 1909, after her execution for heresy in 1431.

And, for more than three centuries, Notre-Dame has stood as a symbol of political change in France. During the French Revolution, its treasures were plundered.

However, as seen in the famous painting of Jacques-Louis David, Napoleon Bonaparte crowned himself emperor of France at Notre-Dame in 1804. Other famous political ceremonies of the 20th and 21st centuries in France, such as the liberation of Paris from Nazi occupation in 1944, the farewell to Charles de Gaulle in 1970, and a requiem mass in tribute to François Mitterrand in 1996, took place in the Notre-Dame Cathedral.

Last but not least, for nearly nine centuries, Notre-Dame has been at the centre of French and world literature. We all remember Victor Hugo's *The Hunchback of Notre-Dame* (1831) with the cathedral as its centre plot. Hugo's multiple references to the architecture of the Cathedral are breathtaking and stupefying.

Strangely, it is as if Hugo was present at the fire, when he described flames in the cathedral (when Quasimodo uses fire and stones to attack Truands in order to save Esmerelda): "All eyes were raised to the top of the church. They beheld there an extraordinary sight. On the crest of the highest gallery, higher than the central rose window, there was a great flame rising between the two towers with whirlwinds of sparks, a vast, disordered, and furious flame, a tongue of which was borne into the smoke by the wind, from time to time."

Even for those of us who are not religious and yet believe in the cathedral as a spiritual home and a monument in glory of the human creativity, the horrific fire destroying this Gothic edifice has been a moment of tragedy and despair. Time might have been the devourer of Notre-Dame as Hugo wrote in his novel, but humanity has long been the enemy of its own heritage.

**Spirit of freedom**

As a matter of fact, what was important for Hugo, as for many other writers and intellectuals of his time, was the spirit of freedom represented by Notre-Dame.

As he put it clearly, "There exists in this era, for thoughts written in stone, a privilege absolutely comparable to our current freedom of the press. It is the freedom of architecture." Hugo is right. To feel the spirit of Notre-Dame, as that of Paris, one needs the freedom of a flâneur.

One needs to allow one's gaze to be further absorbed by the play of light upon a meaningful stone that remained alive after a catastrophe.

Without the stones of Notre-Dame, these aesthetic compasses, we would never be able to take our responsibilities in the world. If we want to be at home in this century, even at a price of living in a topsy-turvy world, we must try to take part in a dialogue with our fragile past. We need to educate our senses and to look differently at our historical memory and the cultural heritage which embodies it.

For centuries, humanity has witnessed the destruction of its historical memory, and each time a new door to our common fate is closed forever. We all believe that this should not happen anymore. But it does happen, and we cannot reconcile ourselves with it. None of us can.

However, within this horizon of despair, which manifests itself in the fragility of human history, there is a moral horizon that expresses a love of humanity in spite of its brokenness. Heritage, therefore, expresses a joy of witnessing the past despite the sadness of historical destruction. It is this joy of witnessing the past that becomes an awareness of our landscape of memory. This awareness is the strongest evidence of the victory of peaceful coexistence between the past and the present. Those who fail to see it, forget to make a prayer that one day the organ pipes of Notre-Dame of Paris will once again reverberate through the sanctuary.

*Ramin Jahanbegloo is Director, Mahatma Gandhi Centre for Peace, Jindal Global University, Sonipat*

# On reforms in merchant shipping

Have the Merchant Shipping Act, 1958, and the Coasting Vessels Act, 1838 failed in addressing the contemporary needs of the merchant marine sector? What are some of the international maritime conventions that India has ratified? Will the new Bills address maritime training and education as well?

EXPLAINER

Amitabh Kumar

**The story so far:**

The Government is preparing to introduce several significant bills aimed at driving much-needed reforms in the shipping industry. Key among them are the Merchant Shipping Bill, 2024 and the Coastal Shipping Bill, 2024, both of which promise to bring transformative changes to boost the sector.

**Why a new bill?**

The Merchant Shipping Act, 1958, and the Coasting Vessels Act, 1838, which the new bills aim to repeal, have become outdated and fail to address the contemporary needs of the merchant marine sector. Significant regulatory gaps exist, particularly for vessels operating in the offshore sector which comprise nearly 50% of Indian-flagged vessels. Furthermore, maritime training was liberalised allowing private sector participation, yet there is no legal framework in the existing Act to regulate their activities effectively.

The Merchant Shipping Act, 1958, also restricts seafarers' welfare provisions to Indian-flagged ships, despite 85% of the 2,80,000 active Indian seafarers working on foreign-flagged vessels. Additionally, the Act lacks enabling provisions for implementing certain international conventions that India has signed or plans to ratify. Crucially, the outdated, license-era provisions of the Act have become a roadblock to modernising maritime administration, which needs to transition from being a mere regulator to a regulator-cum-facilitator, thereby promoting the 'ease of doing business.'

**What are the features of the Merchant Shipping Bill?**

The Merchant Shipping Bill introduces significant changes to modernise India's maritime framework, drawing upon the best practices of leading maritime jurisdictions like the U.K., Norway, and Singapore. Some of the key reform measures include:

i) Ease of registration: the existing law restricts vessel registration to entities with 100% Indian ownership. The new Bill proposes significant reforms to attract foreign investment. It also reduces the ownership threshold for Indian citizens/entities from 100% to 51%, enabling more flexibility. It allows Limited Liability Partnerships (LLPs), Non-Resident Indians (NRIs), and Overseas Citizens of India (OCIs) to own and register Indian vessels. This is in line with the law of the U.S. where Green card holders are permitted to own American flagships or Singapore law where permanent residents can own ships of their flags. It also permits foreign entities to hold shares in Indian vessels while ensuring majority ownership remains with Indian entities, NRIs, or OCIs.

Additionally, the Bill allows the registration of vessels chartered by Indian entities under the bareboat charter-cum-demise, enabling entrepreneurs to acquire ownership of vessels at the end of the charter period. This provision, particularly beneficial for capital-deficient entrepreneurs, facilitates entry into the shipping industry without upfront investment.

India is the second largest ship recycling centre after Bangladesh, and the ship recycling industry practises the concept of cash purchase of the vessel before it is brought for demolition. Often it becomes difficult for cash buyers to register the vessels for their final voyage, as they no more remain 'seaworthy'. To address challenges faced by the ship recycling industry, the Bill introduces provisions for temporary registration of vessels destined for demolition. This measure is expected to bolster activities at India's ship recycling hubs like Alang.

**Quick change:** Catamaran boats pass by a merchant navy ship anchored off Visakhapatnam. FILE PHOTO

ii) Enlarging the scope of vessels: the existing Act regulates only mechanised ships (engine-fitted vessels) above a certain size, leaving smaller mechanised vessels and all non-mechanised vessels outside its ambit. This regulatory gap has allowed many vessels to operate without adequate oversight. India's offshore drilling sector gained prominence in 1974 when Sagar Samrat, a merchant vessel designed for exploratory offshore drilling, drilled the first well in Bombay High. Since then, the offshore sector has employed a diverse range of mechanised and non-mechanised vessels, such as accommodation barges, work barges, submersibles, and drones. However, these vessels remain either unregulated or inadequately regulated under the current framework, exposing the sector to operational and safety risks.

The new Bill seeks to address this issue by expanding the definition of 'vessels' to uniformly include a wide range of crafts, including submersibles, semi-submersibles, hydrofoils, non-displacement crafts, amphibious crafts, wing-in-ground crafts, pleasure crafts, barges, lighters, Mobile Offshore Drilling Units (MODUs), and Mobile Offshore Units (MOUs), whether mechanised or not. This definition is expected to enhance transparency and ensure comprehensive regulatory oversight in the offshore sector.

Furthermore, the 26/11 Mumbai attacks, which exploited gaps in maritime security, underscored the urgent need for stricter regulation of all categories of vessels. By empowering authorities to issue instructions to all types of vessels, the new Bill aims to strengthen coastal security, making India's coastline safer and more secure.

**What about marine pollution?**

The Government has recently undertaken several initiatives to minimise pollution from shipping activities. Some of the measures include reducing the sulphur content in marine fuel from 3.5% to less than 0.5%, banning the use of single-use plastics on Indian ships, and launching the online portal 'Swachh Sagar' to facilitate the proper disposal of ship-generated waste at Indian ports.

The International Maritime Organization (IMO) has adopted several conventions aimed at preventing and combating marine pollution, such as the Civil Liability Convention (CLC), the Convention on Limitation of Liability on Maritime Claims (LLMC), the Bunker Convention, the International Convention for the Prevention of Pollution from Ships (MARPOL), and the Wreck Removal Convention. The existing law, however, has either omitted or partially implemented these conventions. The new Bill fully incorporates these international conventions, aligning India's maritime regulatory framework with global standards. This comprehensive approach reinforces India's commitment to combating marine pollution and safeguarding the maritime environment for sustainable shipping practices.

**What are provisions for seafarers'?**

The remarkable growth in the number of Indian seafarers employed on foreign-flagged ships over the last 7-8 years stands out as one of the biggest success stories in Indian merchant shipping. The workforce has grown from 1,16,000 in 2015-16 to 2,85,000 today, with nearly 85% of these seafarers serving on foreign-flagged vessels.

However, the existing Act lacks provisions for the welfare and safety of this vast workforce working on foreign-flagged vesels. The proposed Bill addresses this gap by extending the scope of welfare measures initiated by the Union government to include Indian seafarers working on foreign-flagged ships as well. Furthermore, it seeks to extend the protections and benefits outlined in the Maritime Labour Convention (MLC) to all Indian seafarers, ensuring better working conditions, safety standards, and support systems for those contributing to the global maritime industry.

**What about maritime training?**

Under Entry 25 of List 1 (Union List) of the Constitution, the Union Government is responsible for the education and training of the mercantile marine and the regulation of such education and training provided by States and other agencies. In the past, maritime training was primarily conducted by government-run institutions directly under the administrative control of the maritime regulator, the Director General of Shipping. Consequently, there was no need for a specific legal framework to regulate these institutions.

However, following economic liberalisation, maritime training was opened to the private sector. Today, over 160 maritime training institutes operate across the country, yet their activities are governed solely by rules, government orders, and notifications rather than an enabling legal framework. This regulatory gap has allowed unauthorised institutes to operate without obtaining proper approvals, making it challenging for the maritime administration to take action against offenders.

The proposed Bill seeks to address this significant anomaly by introducing clear legal provisions for regulating maritime training in line with the constitutional mandate. This step is expected to eliminate illegal maritime training institutes and associated fraudulent practices, which often exploit unsuspecting rural youth, while ensuring the delivery of high-quality, standardised maritime education nationwide.

**Is there a focus on coastal shipping?**

The Government has taken a significant step by distinguishing between the technical regulation of ships and the commercial utilisation of Indian coastal waters, removing provisions related to the latter from the Merchant Shipping Act. These aspects, including licensing, permissions for operations along the Indian coast and Exclusive Economic Zone (EEZ), creation of a coastal plan involving the Union and States, and the integration of inland and coastal shipping, have been incorporated into the proposed Coastal Shipping Bill, 2024. This focused approach aims to foster growth and development of the Indian coastal sector.

The move aligns with the Government's flagship 'Sagarmala' program, which emphasises the promotion of coastal shipping through initiatives like dedicated berths for coastal vessels and enhanced hinterland connectivity for coastal cargo movement. Infrastructure development and a robust regulatory framework must progress simultaneously, making the introduction of the Coastal Shipping Bill both timely and essential.

Maritime development, like any developmental initiative, should remain bipartisan and above party politics. By fostering investment, enhancing safety, combating marine pollution, and supporting seafarers' welfare, the proposed reforms promise to unlock the true potential of India's maritime sector.

*Amitabh Kumar is Former Director General Shipping, Government of India. Views expressed are personal.*

## THE GIST

- The Merchant Shipping Bill, 2024 introduces significant changes to modernise India's maritime framework, drawing upon the best practices of leading maritime jurisdictions like the U.K., Norway, and Singapore.
- Under Entry 25 of List 1 (Union List) of the Constitution, the Union Government is responsible for the education and training of the mercantile marine and the regulation of such education and training provided by States and other agencies.
- The Government has recently undertaken several initiatives to minimise pollution from shipping activities. Some of the measures include reducing the sulphur content in marine fuel from 3.5% to less than 0.5%, banning the use of single-use plastics on Indian ships etc.

# *India used 114 mg of antibiotics for every kg of meat in 2020*

Of the 190 countries for which the data was collected, India ranked 30th in terms of antibiotic usage in animals

**DATA POINT**

**Hannah Ritchie**
**Fiona Spooner**

For humanity, antibiotics are a huge blessing. Antibiotics have saved millions of lives from bacterial infections. However, there is growing concern that these bacteria will become resistant to the drugs we use against them.

When we think about antimicrobial resistance, we often focus on what drugs humans take. We might not even consider the use of antibiotics in livestock, but they also pose a threat.

In fact, much more antibiotics are given to livestock than to humans. Researchers previously estimated that, in the 2010s, around 70% of antibiotics used globally were given to farm animals. While there hasn't been an update of these figures in the last few years, it's likely that more antibiotics are still used in livestock than humans.

Overusing antibiotics in livestock increases the risk of disease in animals and humans in several ways. First, antibiotics are often used as a cheap substitute for basic animal welfare practices, such as giving animals enough space, keeping their living environments clean, and ensuring that barns are well-ventilated. A failure to maintain hygienic conditions on farms increases the risk of disease for both livestock and humans.

Second, the overuse of antibiotics can also increase the risk of bacteria that are resistant to treatment. That threatens the health of the animals but can also be a risk for humans for crossover diseases.

Finally, humans can be exposed to resistant pathogens by eating contaminated meat and dairy products.

One of the key challenges in understanding the extent and risks of antibiotic resistance in livestock is the lack of transparent data sharing from countries. Of course, comparing the total amount of antibiotics given to cows, sheep, pigs, and chickens would be unfair. Cows are bigger than chickens, so we would expect them to need more antibiotics for the same impact. So, researchers compare antibiotic use in units adjusted for the size of animals – usually as the number of milligrams used per kilogramme of meat product.

Chickens tend to receive the least antibiotics. You can see this in **Chart 1:** they receive about seven times less than sheep and five times less than pigs. Cows also receive less than pigs and sheep.

Antibiotic use is measured in milligrams per kg of animal product. Sheep have the highest usage at 243 mg, followed by pigs at 173 mg, cattle at 60 mg, and chickens at 35 mg.

One of the reasons why antibiotics are used in lower quantities in chickens is that they are killed at a much younger age. Fast-growing breeds reach their "slaughter weight" at around 42 days, so they are often slaughtered when they are just 40 to 50 days old. Since their lifespan is shorter, they consume fewer antibiotics. Pigs are usually slaughtered when they are around five to six months. The fact that intensive livestock get far more antibiotics than animals raised outdoors is one reason why cows tend to get less antibiotics than pigs.

Of course, the exact amount of antibiotics given varies across countries. Researchers Ranya Mulchandani and colleagues estimated antibiotic use across the world based on the best available data, as well as extrapolations for those countries that don't release data.

**Map 2** shows antibiotic usage in livestock per kg of meat in 2020. Asia, Oceania, and most of the Americas use a lot of antibiotics. Europe and Africa, in blue, tend to use less than 50 mg per kg. For instance, India used 114 mg of antibiotics in livestock per kg of meat in 2020, compared to 4 mg in Norway – 30 times less. Of the 190 countries for which the data was collected, India ranked 30th in terms of antibiotic usage in animals. There are a few reasons why these differences are so large.

The first one is affordability and access: farmers in Africa, for example, have less access, just like they have less access to other farming inputs, such as fertilizers.

Another reason is the differences in regulatory and industry norms regarding antibiotic use. Antibiotic use has dropped significantly in Europe, partly due to regulation.

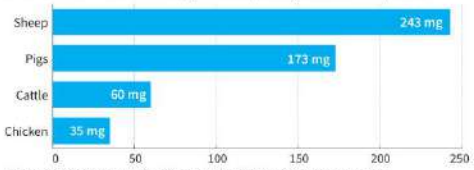
Finally, the most popular types of livestock make a difference. As we saw earlier, sheep and pigs tend to receive far more antibiotics than cattle or chickens, even after adjusting for their size. That means countries that raise many pigs would tend to use more antibiotics. More than half of Thailand's meat supply is in the form of pig meat. In China, it is two-thirds. That's more than the global average of one-third.

Some countries have reduced antibiotic use a lot. Antibiotics can play an important role in preventing disease and illness in animals. This is no different from humans. So, removing them completely is not necessarily the best option.

The key is to use them more effectively: changing farming practices to reduce antibiotic use where it's in excess or using antibiotics in smaller quantities when it is needed. Many antibiotics given today are not used to prevent disease but to promote growth and produce meat more efficiently.

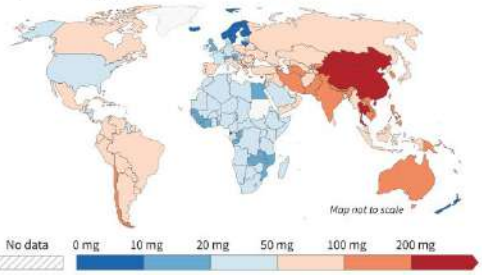
We know countries can reduce antibiotic use while maintaining healthy livestock sectors because some countries have already achieved rapid reductions. Between 2011 and 2022, sales of veterinary antibiotics fell by more than half across several European countries. The use of antibiotics considered critically important in human medicine also fell by half, with some specific drugs falling by 80% to 90%.


**Chart 1**: The chart compares antibiotic use on livestock, in units adjusted for the size of animals — number of milligrams used per kilogramme of meat product




*This was the global average in 2020. Rates of antibiotic use can vary by country.*

**Map 2**:The map shows antibiotic usage in livestock per kilogramme of meat across countries in 2020. This is adjusted for differences in livestock numbers and species by standardizing to a population-corrected unit (PCU)




*Fiona Spooner is Senior Data Scientist and Hannah Ritchie is Deputy Editor and Science Outreach Lead in Our World In Data*

# Paradigm shift

## Syria needs to be free of its societal fissures and religious militias

The regime of Bashar al-Assad has fallen in Syria. The Islamist Hayat Tahrir al-Sham (HTS), a former arm of al-Qaeda that had rebranded itself, is now the most powerful force in the country. Between a secular dictatorship that collapsed like a house of cards and a surging group of militants with a menacing recent past lies the present and future of 23.5 million Syrians. Eight years ago, Mr. Assad seemed to be winning the civil war. He had recaptured most of the lost territories, with help from Russia, Iran and Hezbollah. A tense calm prevailed as militants holed themselves up in the tiny northwestern region of Idlib. In the southeast, the Kurds enjoyed limited autonomy, but bought peace with Damascus. Syria was readmitted into the Arab League. Gulf monarchs, who once funded the anti-Assad militancy, embraced him. But his victory was hollow, as he relied on external allies for security. His army, which fought years of civil war, was in bad shape. Under crippling U.S. sanctions, the government's finances were in a shambles. The country never recovered from the scars of the civil war. To tackle dissent, the regime turned up repression, widening the social schisms.

However, what made Mr. Assad's dramatic fall on December 8 possible were factors beyond his direct control. After the Israel-Hamas war broke out in 2023, Israel has carried out air strikes in Syria, which weakened its armed forces. Israel's war against Hezbollah substantially limited the Lebanese outfit's ability to continue to help Mr. Assad. Iran, which lost officers in Syria, also took a step back, while Russia has been preoccupied with the Ukraine war. The weakening and distraction of the alliance provided the HTS, backed by Türkiye, a golden opportunity. And it took just 12 days for the HTS, and other militias, to reach Damascus as the regime army melted away. With Mr. Assad gone, Syria has an opportunity to build a new future. But the key actors of change are far from promising. The HTS wants to turn Syria, a diverse country with Sunnis, Alawites, Christians, Shias and Druze, into an Islamic state. The Syrian National Army, a sidekick of the HTS, is a Turkish proxy. In the south, there are numerous local militias. It is to be seen whether the winners of the civil war are going to unite under a national flag or, as in the case of the post-Communist Afghanistan or post-Qadhafi Libya, going to start a new one. A desirable outcome would be the establishment of a transition government, a disarming of the militias and the laying of the foundations of an inclusive new republic. But given Syria's tumultuous history, societal fissures, and the ideological and programmatic characteristics of the militias, a likelier outcome would be more chaos and instability. That is the tragedy of Syria.

# *In energy-dependent world, the issue of food security*

"Addressing food insecurity and energy poverty is central to achieving global stability, but tackling these issues independently is no longer sufficient," warns the World Bank in its latest report on climate and development. The intertwined crises of food and energy security are defining the trajectory of the 21st century, casting a long shadow over global stability. Both systems are under siege – food production is strained by climate change, population growth, and inequality, while energy systems face geopolitical tensions, outdated infrastructure, and the slow transition from fossil fuels. Yet, their interconnectedness presents an even greater challenge: agriculture, a lifeline for humanity, is both a significant energy consumer and a contributor to climate change. As the world teeters on the edge of multiple tipping points, can we truly address one without confronting the other?

**Dependency on carbon-intensive energy**

Agriculture consumes nearly 70% of global freshwater resources and is responsible for over 20% of greenhouse gas emissions. Its dependence on fossil fuels – for mechanisation, irrigation, fertilizer production, and transportation –has created a vicious cycle of environmental degradation. This reliance also exposes food systems to energy price shocks, threatening global stability. Rising temperatures and erratic weather patterns further disrupt agricultural output, putting the livelihoods of 2.5 billion people at risk. Between 2020 and 2023, nearly 11.8% of the global population faced severe food insecurity, a figure projected to rise to 956 million by 2028.

Renewable energy investments reached $500 billion in 2022, but fossil fuel consumption remains robust due to short-term economic and geopolitical pressures. Nations such as the United States, Brazil, and Guyana continue to expand oil and gas production, prioritising exports and domestic energy security. This ongoing dependency on carbon-intensive energy exacerbates the vulnerability of global food systems, particularly in regions with limited access to reliable energy. Energy poverty reveals sharp global inequities. Low-income countries account for a small fraction of global energy demand but suffer disproportionately from supply disruptions. Extreme weather events frequently damage energy infrastructure in regions where power grids are already unreliable. In rural areas, energy deficits hinder agricultural productivity, leading to higher food prices and deepening poverty. In sub-Saharan Africa, per-hectare fertilizer usage remains far below the global average, contributing to food insecurity despite $1.9 billion spent on fertilizer imports by the top 10 African importing countries in 2021 – more than double the amount in 2016.

**Anupama Sen**

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**Amit Mitra**

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There is a need to reimagine agriculture, with the twin crises of food and energy insecurity set to challenge global priorities

Agriculture's reliance on fossil fuels further highlights its vulnerability. Natural gas, critical for fertilizer production, is both a feedstock and an energy source, with 80% of it used for ammonia synthesis and 20% powering the process. Volatility in natural gas prices directly impacts fertilizer costs and global food prices. Geopolitical actions, such as China's 2021 ban on phosphate fertilizer exports, disrupt agricultural supply chains. India, which imports 60% of its diammonium phosphate (DAP) fertilizers, experienced significant delays during critical cropping seasons, exposing its vulnerability to external shocks.

Renewable energy offers a glimmer of hope, but its deployment remains uneven. High-income countries installed 83% of new renewable capacity in 2022, leaving low-income nations reliant on outdated, carbon-intensive systems. While solar-powered irrigation and biomass energy solutions could transform agriculture, high costs and inadequate infrastructure limit their reach. The transition risks bypassing those who need it most.

**Demands on agriculture**

Meanwhile, agriculture is being increasingly burdened with competing demands. Beyond feeding a growing population, it is expected to support the global energy transition by producing biofuels. This dual role often pits food security against energy needs, as biofuel production requires vast land and water resources. In a world where nearly 12% of the population faces hunger, is prioritising energy over food morally defensible? The financial costs of addressing food and energy insecurity are substantial yet achievable. The World Food Security Outlook estimates that ensuring basic caloric needs for the world's most vulnerable populations will require $90 billion annually until 2030. Tackling malnutrition among women and children demands an additional $11 billion per year, while transforming global food systems could cost $300 billion-$400 billion annually – just 0.5% of global GDP. However, for low-income nations, these costs are staggering, with food insecurity expenses in some cases surpassing 95% of GDP.

The implications of inaction are dire. Food insecurity is projected to cost the global economy trillions in lost productivity and adverse health outcomes. Climate-induced energy disruptions threaten to destabilise entire regions, driving social unrest and mass migration. For example, Africa's mineral wealth, essential for renewable technologies, is often extracted without benefiting local economies, perpetuating cycles of poverty and underdevelopment.

**Need for inclusivity**

Despite record investments in renewables, fossil fuel expansions continue unabated. Every delay compounds the human, environmental, and economic costs, narrowing opportunities for a resilient future. Clean energy solutions must address structural barriers to inclusivity, ensuring that the most vulnerable communities are not left behind.

Ultimately, the twin crises of food and energy insecurity challenge global priorities. The solutions are within reach, but they require a fundamental shift in perspective. Agriculture must be reimagined as both a source of sustenance and a cornerstone of sustainable development. Failure to act will create the risk of pushing millions into hunger and undermining global climate goals. As the clock ticks, the question remains: will the world rise to meet the moment?

*The views expressed are personal*

# Places and worship

## Supreme Court hearing may decide future of secularism in India

A special Bench of the Supreme Court of India, headed by Chief Justice of India Sanjiv Khanna, will begin hearing on December 12 a batch of petitions that question the validity of the Places of Worship (Special Provisions) Act, 1991, a law that freezes the status of places of worship in the country as on the day of its independence and bars suits that seek to alter such status. It is no exaggeration to say these petitions pose a virulent challenge to the survival of secularism. The outcome may well decide the trajectory of communal relations and the future of secular thought in the country. The 1991 Act does have some exemptions: it did not apply to what was then the Babri Masjid-Ram Janmabhoomi dispute, which ended in favour of the Ram temple. Nor does it apply to monuments, sites and remains covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958. It will also not apply to any suit that has been finally settled or disposed of, any dispute that has been settled by the parties before the 1991 Act came into force, or to the conversion of any place that took place by acquiescence. The challenge has come in the backdrop of a renewed attempt through motivated litigation by some Hindu organisations and devotees to target mosques such as the Gyanvapi mosque in Varanasi, the Shahi Idgah mosque in Mathura and the Shahi Jama Masjid in Sambhal, among others. Any order that strikes down or dilutes the 1991 law is likely to have a malign influence on these proceedings.

The petitions highlight the demolition of temples by invaders in the past and contend that many mosques have been built on their ruins. The Places of Worship Act, they claim, legalises such depredations, and also violates the right of Hindus and other communities to reclaim their places of worship through legal proceedings. It also violates the right to practise and propagate religion and manage and administer places of worship. Ironically, they also contend that the Act goes against the principle of secularism, which would surely stand to be undermined if their attempts to reclaim these sites succeed. Fortunately, there are some clearly established principles in favour of the Act. In its Ayodhya judgment, a five-member Bench observed that the law "imposes a non-derogable obligation towards enforcing our commitment to secularism". It also called it a "legislative intervention that preserves non-retrogression as an essential feature of our secular values". For the present, it does not seem likely that the Court will depart from the Constitution's secular vision and Parliament's mandate against misusing judicial fora to remedy historical wrongs.

# Antimatter idea offers scientists clue to cracking cosmic mystery

If the universe started off with equal amounts of matter and antimatter, where has all the antimatter gone? Nobody knows for certain and the best current theory to explain the world fell woefully short of satisfying three crucial conditions, until a new study pointed out a caveat

Nirmal Raj

One of the most astonishing facts about the natural world is the existence of antiparticles. Theorised by the English physicist Paul A.M. Dirac in 1928 and observed in cosmic rays by American physicist Carl Anderson in 1932, an antiparticle is a 'partner' of a particle type that has the same mass but opposite charge. For example, the antielectron is the antiparticle of the electron; it has the same mass and is positively charged.

Antiparticles are an inevitable consequence of describing the world in terms of quantum mechanics and special relativity.

An antiparticle is a particle travelling backward in time. This is not an oversimplification. If it sounds eerie, that's because it is.

**Cosmic puzzle:** This composite image pieced together by data from multiple telescopes shows a part of the Milky Way galaxy's central region. The bright white portion hosts a supermassive black hole as well as energetic particle reactions that produce antimatter. PUBLIC DOMAIN

## O antimatter, where art thou?

But where is all the antimatter made of antiparticles? It is certainly scarce, or we would have discovered it a long time ago. Still, antiparticles are detectably numerous. Our own bodies make one antielectron every 20 seconds from the decay of potassium-40. Cosmic rays raining down on us supply antiprotons, antielectrons, and even antinuclei. Every proton and neutron – constituents of the nuclei that make up all the matter we can touch – is teeming with antiquarks.

But it is when we look out at the universe as a whole that antimatter's scarcity becomes clear. All galaxies are made of matter, not antimatter. Even in the infant universe, there had to have been a small dissimilarity between the populations of protons and antiprotons for our predictions about the outcomes of the synthesis of nuclei in the early universe and the features of the cosmic microwave background (radiation leftover from the Big Bang) to hold.

That is, for every 1.7 billion proton-antiproton pairs, there should have been an extra unpaired proton.

Presumably the universe started out with equal amounts of matter and antimatter before something happened to distort this symmetry. That's a good thing: otherwise matter and antimatter would have mutually annihilated to fill the universe with nothing but a fog of radiation – no raw material to make stars, planets or us.

But what spoiled the symmetry? Put differently, why is there something around us rather than nothing (but that fog)? Nobody knows for certain. What we do know is that any theory attempting to explain it must satisfy three conditions, called the Sakharov conditions. The best current theory to explain the world, the Standard Model of particle physics, falls woefully short of meeting all of them.

At least this was the lore until the authors of an August 2024 preprint paper pointed out an interesting caveat.

They showed that one of the conditions can be satisfied by the Standard Model alone, provided some new particle species helps with the process of making matter.

## An unsettling discovery

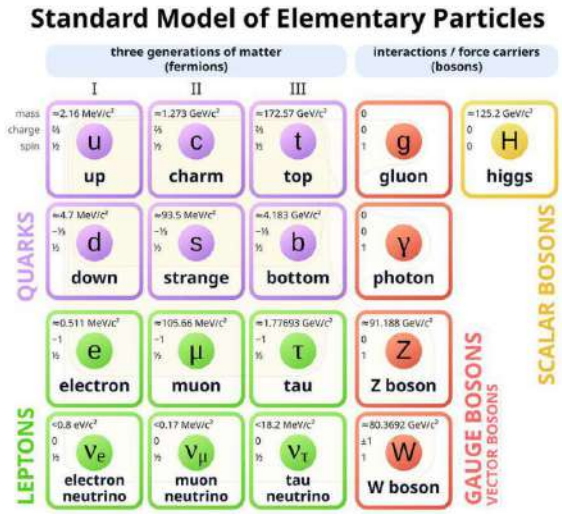
Look at the world in a mirror. Does it look the same? Apples would still fall and moons would circle planets because gravity would be unchanged. Protons and neutrons would cling to form nuclei because the strong nuclear force would be preserved. But atomic nuclei won't undergo radioactive fission because that happens via the weak force. And the weak force, like a vampire, vanishes in the mirror-world.

The discovery of this fact in 1957 was profoundly unsettling because it struck at cherished notions of symmetry in nature. A parity transformation (denoted P) – the act of swapping left and right – appeared to eliminate the weak force. But soon physicists found that if they replaced a particle with its antiparticle in the mirror-world, the weak force reappeared. This action is called charge conjugation (C). It seems the universe didn't conserve P and C separately but did so when they happened together. This is called CP symmetry.

But in 1964, American physicists James Cronin and Val Fitch found that even CP symmetry is violated. And it wasn't violated all the time – which made it more nagging. They found that it was violated around once for every thousand times a process involving the weak force happened in nature. Nine years later, Makoto Kobayashi and Toshihide Maskawa in Japan found that if there were at least three variants of every quark species – with all properties the same except for the mass – CP symmetry violation is unavoidable. And all fermion particles do come in three variants, a.k.a. generations. For instance, the up quark has two other variants: the charm and top quarks. (Around the same time, physicists also found that the strong nuclear force – involved in fission and fusion – ought to violate CP symmetry strongly but doesn't. This is called the strong CP puzzle.)

Now, as soon as CP symmetry violation was confirmed, the Soviet physicist Andrei Sakharov realised it's actually an essential condition to create a matter-antimatter asymmetry in the early universe. Unfortunately, the *amount* of CP symmetry violation the Standard Model allowed for (the -1 in 1,000 rate) proved insufficient to explain the magnitude of the asymmetry. This is where the authors of the August paper have pointed out a loophole. We have known for some time that processes involving mesons – particles made of quark-antiquark pairs – violate CP symmetry, which is just how Cronin and Fitch made their discovery. Now, if a meson could decay to particles not contained in the Standard Model, the matter-antimatter asymmetry could be controlled by the product of two quantities: the amount of standard CP violation and the fraction of decays into the non-standard particles. This fraction can't be too large: otherwise we would have detected the non-standard particles in particle colliders.

The study's conceit, then, is to introduce a mechanism that ensured this fraction was large just in the early universe but evolved to a smaller number today. This can be done if the masses of the new particles vary over time, which is possible to arrange in quantum field theory.




The (current) crop of fundamental particles making up matter as we know it and the different ways they can interact. The W and Z bosons mediate the weak force. PUBLIC DOMAIN

## Hard-won progress

This mechanism has thus brought one of the three Sakharov conditions within the reach of the Standard Model five decades since these conditions came to light.

The other two conditions are: (i) A large violation in a type of charge carried by particles, called the baryon number. For example, protons and neutrons have a baryon number of 1 and their antiparticles carry a value of -1. (ii) Interactions must occur out of thermal equilibrium, meaning that particle processes in the forward and backward directions do not occur at the same rate.

While the Standard Model does not meet these conditions adequately, the work discussed here serves as an important step towards understanding why matter overwhelmingly dominates over antimatter in our universe today.

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# UGC finalises draft guidelines promoting access to 'life-long' learning and education

**The Hindu Bureau**
NEW DELHI

The University Grants Commission (UGC) has finalised the 'Draft Guidelines for Implementation of Recognition of Prior Learning (RPL) in Higher Education' to provide access to education and to enable the concept of life-long education. RPL is defined in the guidelines as a formal mechanism used to evaluate a person's existing knowledge, skills, and experience gained through formal, non-formal, or informal learning.

UGC Chairman M. Jagadesh Kumar said the guidelines are to address the challenges faced by India's large informal workforce, which requires formal education and career progression opportunities.

He said RPL is integral to the vision of the National Education Policy (NEP), 2020. "RPL allows individuals to gain formal recognition for skills and competencies acquired through informal, non-formal, or experiential learning. Through RPL, such individuals can access higher education, earn formal qualifications, and improve their employability," he said.


M. Jagadesh Kumar

The National Credit Framework (NCrF) supports RPL by facilitating the creditisation of all learning forms –academic, vocational, and experiential, he said.

"To enable individuals to convert their skills into qualifications, RPL helps bridge the gap between real-world experience and formal education and enhance career prospects. RPL contributes to economic growth, social inclusion, and a more skilled workforce," Mr. Kumar said.

The guidelines emphasise robust governance, quality assurance, and collaboration among policymakers, educational institutions, employers, and assessment bodies to ensure fairness, consistency, and inclusivity while implementing RPL.

The objectives of RPL guidelines include enabling individuals who have acquired competencies through non-formal and informal learning methods to access higher education programmes.

# Frigate *INS Tushil* commissioned into the Indian Navy in Russia's Kaliningrad

**Dinakar Peri**
NEW DELHI

India and Russia will enter a new era of cooperation by taking advantage of each other's expertise in areas such as Artificial Intelligence, cybersecurity, space exploration and counter-terrorism, Defence Minister Rajnath Singh said on Monday at the commissioning of the stealth guided missile frigate *INS Tushil* at Kaliningrad, Russia.

"Made in India content is continuously increasing in many ships including *INS Tushil*. The ship is a big proof of the collaborative prowess of Russian and Indian industries. It exemplifies India's journey towards technological excellence through jointmanship," he said at the commissioning ceremony.

*INS Tushil* is an upgraded Krivak III class frigate of Project 1135.6 of which, six are already in service – three Talwar class ships, built at Baltiysky shipyard, St. Petersburg, and three follow-on Teg class ships, built at Yantar shipyard, Kaliningrad. All Krivak frigates are powered by engines from Zorya Nashproekt of Ukraine.

*INS Tushil*, the seventh in the series, is the first of the two additional follow-on ships under construction in Russia. In October 2016, India and Russia signed a deal for four stealth frigates, two to be built in Russia and two to be constructed at Goa Shipyard Ltd. under technology transfer.

The second frigate *Tamal* is expected to be delivered to the Indian Navy in Russia in the first quarter of next year. The construction saw repeated delays initially due to COVID-19 and then the war in Ukraine.

"Our Navy has foiled the designs of piracy, arms and drug smugglers and non-state actors in various hotspots. From the Gulf of Oman to the Gulf of Aden, from Suez to Malacca & from Australia to Madagascar, the Indian Navy is playing the essential role of a net security provider in IOR. India, along with its friendly countries, believes in ensuring that maritime trade in the region remains safe and secure, thereby promoting unhindered trade across the sea."

As a first responder, the Indian Navy is always prepared to provide quick and timely humanitarian assistance and disaster relief to its friends in the region, Mr. Singh said.

*INS Tushil* is designed for blue water operations across the spectrum of naval warfare in all four dimensions air, surface, underwater and electromagnetic. It is armed with a range of advanced weapons, the Navy said in a statement.

The ship is also capable of embarking the upgraded anti-submarine and airborne early warning helicopters, the Kamov 28 and Kamov 31. It is powered by an advanced gas turbine propulsion plant with state-of-the-art controls and is capable of achieving speeds in excess of 30 knots.

# Filmmaker Shaji N. Karun chosen for J.C. Daniel Award

Eminent filmmaker Shaji N. Karun has been selected for the J.C. Daniel Award for 2023, recognising his lifetime contribution to Malayalam cinema, an official release stated on Monday. The award, the highest honour in Malayalam cinema instituted by the Kerala government, includes a cash prize of ₹5 lakh, a citation, and a statuette. Mr. Karun has been able to infuse creative energy into the new wave cinema in Malayalam, a jury chaired by an earlier recipient of the award T.V. Chandran, said. PTI

Sanjay Malhotra

# Union govt. names Sanjay Malhotra as RBI Governor

**The Hindu Bureau**
NEW DELHI

The Centre on Monday announced the appointment of Revenue Secretary Sanjay Malhotra as the 26th Governor of the Reserve Bank of India, a day before incumbent Shaktikanta Das's six-year term comes to an end on Tuesday.

He will take charge of the country's monetary policy framework and banking regulation. He will take charge of RBI at a challenging time with inflation having been a bugbear.