Tirumal Classes Quality education

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

The Hindu Important News Articles & Editorial For UPSC CSE

Friday, 23 May, 2025

Edition: International Table of Contents

Page 01: GS 2 : International Relations

The recent confirmation of the death sentence for Nimisha Priya, a Malayali nurse convicted of murder in Yemen, has reignited concerns about the fate of Indian nationals on death row abroad. According to data from the Ministry of External Affairs (MEA), 54 Indians are currently facing capital punishment in foreign countries, with a total of 47 Indians executed between 2020 and 2024.

54 Indians on death row in foreign jails

Dhinesh Kallungal
THIRUVANANTHAPURAM

Even as uncertainty looms large over securing a waiver of the death penalty awarded to Nimisha Priya, a Malayali who has been sentenced to death in Yemen on the charge of murdering a Yemeni national, the data available with the Union Ministry of External Affairs reveals that 54 Indians have been languishing in foreign jails after being awarded capital punishment by foreign courts.

No State-specific data on Indians awaiting capital punishment abroad is available as many foreign countries do not share information on prisoners due to the privacy laws in those countries, unless the person concerned consents to disclose such information. Even countries that share information do not generally provide detailed information about the foreign nationals imprisoned.

47 executed

A total of 47 Indians were executed in foreign countries from 2020 to 2024. Kuwait has executed the highest number of Indians during this period–25. Saudi Arabia executed nine Indians, followed by Zimbabwe–seven, Malaysia–five. The United Arab Emirates (UAE) which accounts for the highest number of Indians on death row has not disclosed the number of Indians executed during this period.

Ajith Kolassery, Chief Executive Officer of NoRKA-Roots, the government agency which works for the welfare of Keralites abroad, said there was a shroud of secrecy about the details of Indians put on death row in foreign countries, especially in Arab countries. Two Keralites were executed in the UAE last month. "We came to know about the capital punishment only after the execution," said Mr. Kolassery, adding that cases like that of Nimisha Priya, which grabbed headlines internationally, had been pursued locally in a serious manner.

The UAE and Saudi Arabia account for higher number of Indians incarcerated for various offences

The NoRKA-Roots has appointed seven legal consultants–five in the UAE and one each in Saudi Arabia and Kuwait who are fluent in Malayalam and Arabic–to aid the Keralites involved in various cases. "We can provide legal assistance to those involved in certain cases, including homicide, but it is difficult to aid those involved in drug cases ," said Mr. Kolassery.

The UAE and Saudi Arabia have a higher number of Indians being incarcerated for various offences, especially since these countries account for the lion's share of Indian immigrants. For instance, Of the 10,152 Indians, including undertrials, jailed across 86 foreign countries, Saudi Arabia has 2,633 Indians, followed by the UAE with 2,518 Indians.

Key Highlights:

1. **Magnitude of the Issue:**
   - 54 Indians are on death row in various countries.
   - 47 Indians were executed abroad from 2020 to 2024.

- Kuwait has executed the highest number (25), followed by Saudi Arabia (9), Zimbabwe (7), and Malaysia (5).
- UAE, with the largest number of Indians on death row, has not disclosed execution statistics.

2. **Lack of Transparency:**
   - Many countries do not provide state-wise or case-specific details due to privacy laws.
   - Executions often come to light only after they have been carried out, especially in Arab countries, creating a challenge for diplomatic and legal intervention.
3. **Vulnerable Diaspora:**
   - The UAE and Saudi Arabia host the largest Indian expatriate communities.
   - A significant number of Indian prisoners are incarcerated in these countries – 2,633 in Saudi Arabia and 2,518 in the UAE.
   - High incarceration rates are often due to strict laws, especially related to drugs, theft, and homicide.
4. **Government Response:**
   - The Government of Kerala, through its agency NoRKA-Roots, has deployed legal consultants fluent in Malayalam and Arabic to assist Keralites in the UAE, Saudi Arabia, and Kuwait.
   - Legal assistance is provided selectively, with priority given to cases like homicide over drug-related offences.

Challenges:

- **Diplomatic Limitations:** Sovereignty of foreign judicial systems limits India's ability to intervene directly, even in capital punishment cases.
- **Legal Barriers and Language Issues:** Many Indians lack proper legal representation or awareness of local laws.
- **Secrecy and Delay:** The lack of communication and late disclosure by host countries hinders timely intervention.
- **Consular Access:** In some countries, gaining timely access to detained individuals is restricted or delayed.

Ethical and Humanitarian Concerns:

- **Due Process:** Concerns persist about the quality of legal proceedings and fair trial standards in certain countries.
- **Human Rights Violations:** Executions without prior intimation to families or the Indian embassy raise ethical concerns.
- **Rehabilitation vs. Punishment:** The death penalty remains a contested issue globally, with growing calls for its abolition, particularly in cases involving migrants and vulnerable groups.

Way Forward:

- **Strengthen Diplomatic Channels:** Enhance bilateral agreements on prisoner rights, legal aid, and timely notification of arrests and sentences.
- **Consular Preparedness:** Equip Indian missions with stronger legal teams and emergency response protocols for capital punishment cases.
- **Public Awareness:** Launch pre-departure orientation programmes to educate Indian migrants on local laws and rights abroad.
- **Legal Aid Fund:** Establish a dedicated fund for providing legal assistance to Indians facing serious criminal charges overseas.
- **International Advocacy:** Engage with international bodies like the UN Human Rights Council to advocate for fair treatment and abolition of the death penalty.

Conclusion:

The issue of Indians on death row in foreign jails is a complex intersection of diplomacy, human rights, migration policy, and criminal justice. While India must respect the legal sovereignty of other nations, it also bears a moral and constitutional obligation to safeguard the rights and lives of its citizens abroad. A proactive, rights-based, and institutionally robust approach is essential to address the legal and humanitarian dimensions of this challenge.

UPSC MainsPractice Question

Ques : The increasing number of Indians on death row in foreign countries raises serious questions about India's diplomatic preparedness and migrant protection framework." Discuss. **(150 Words)**

Page 05: GS 3 :Enviroment

President Droupadi Murmu conferred 6 Kirti Chakras and 33 Shaurya Chakras to personnel from the Armed Forces, Central Armed Police Forces (CAPFs), and State/UT police for exceptional acts of bravery. Many of these awards were presented posthumously in recognition of their supreme sacrifice in operations across Jammu & Kashmir, Northeast India, anti-piracy missions, and Left-Wing Extremism (LWE) zones.

6 Kirti Chakras, 33 Shaurya Chakras conferred on defence, police personnel

The Hindu Bureau
NEW DELHI

President Droupadi Murmu presents Kirti Chakra (Posthumous) to kin of DSP Humayun Muzzammil Bhat in New Delhi on Thursday. PTI

President Droupadi Murmu conferred six Kirti Chakras and 33 Shaurya Chakras on personnel from the armed forces, the Central armed police forces, and the State and Union Territory police units at a ceremony held at the Rashtrapati Bhavan on Thursday.

Four of the Kirti Chakras and seven of the Shaurya Chakras were given away posthumously.

"The gallantry awards were given to the personnel for displaying raw courage, unparalleled bravery and total disregard to personal safety in the line of duty," a Defence Ministry statement said. They were honoured for the bravery displayed during various operations related to counter-terror and counter-insurgency in Jammu and Kashmir and Northeast, the statement said. "Dreaded terrorists were neutralised and apprehended during these operations, and arms and ammunition were recovered."

On Navy awardees

The Navy awardees led anti-piracy operations, resulting in the surrender of pirates and the rescue of hostages, while demonstrating bravery during fire-fighting operations on a burning oil tanker, the Ministry said on the awards presented for the Navy's operations in the Gulf of Aden and Arabian Sea as the Yemen-based Houthis threatened global shipping and as piracy attempts resurfaced.

The awardees from the Indian Air Force showed utmost courage in life-threatening circumstances during the rescue of aircraft, by manoeuvring away from civilian areas to avoid any loss of life/property. Officers of the CRPF displayed bravery during various operations in areas affected by Left-Wing Extremism, the statement said.

Key Points for Prelims:

1. Gallantry Awards Structure in India:
    - Peacetime Gallantry Awards:
        - Ashoka Chakra (Highest)

    - Kirti Chakra
    - Shaurya Chakra
  - These awards recognize valour, courageous action or self-sacrifice otherwise than in the face of the enemy (i.e., during peace).
2. 2024 Highlights:
  - 6 Kirti Chakras awarded, 4 posthumously
  - 33 Shaurya Chakras, 7 posthumously
  - Recipients belonged to: Indian Army, Navy, Air Force, CRPF, State Police
3. Operational Areas:
  - Jammu & Kashmir & Northeast: Counter-terrorism and counter-insurgency operations
  - Left-Wing Extremism (LWE): CRPF operations in Red Corridor regions
  - Maritime Security: Indian Navy in anti-piracy and fire-fighting missions (Gulf of Aden, Arabian Sea)
  - Indian Air Force: Safe aircraft rescue to avoid civilian damage
4. Special Acts Recognised:
  - Neutralisation/apprehension of terrorists
  - Rescue of hostages from pirate control
  - Avoiding civilian casualties during airborne emergencies
  - Bravery during oil tanker fire incidents
5. Institutional Roles:
  - President of India: Supreme Commander of the Armed Forces; confers gallantry awards
  - Ministry of Defence: Issues official statements and citations

UPSC PrelimsPractice Question

Ques: Consider the following statements:

1. The Kirti Chakra can only be awarded to military personnel.

2. The President of India is the final authority to confer gallantry awards.

3. The Indian Navy recently received Shaurya Chakras for operations in the Gulf of Aden.

Which of the statements given above are correct?

a) 1 and 2 only

b) 2 and 3 only

c) 1 and 3 only

d) 1, 2 and 3

Ans: b)

The Second Lancet Commission on adolescent health and wellbeing has raised alarms over the insufficient investment and legislative frameworks to address the mounting health challenges faced by the world's adolescent population. With adolescents forming nearly a quarter of the global population, the report underscores the urgency of targeted policies and increased global support to secure their health and future.

Report on adolescent health records calls for more investments and laws

Ramya Kannan
CHENNAI

The second *Lancet* Commission on adolescent health and wellbeing has recorded that despite progress in some areas, without increasing investments, by the end of 2030, at least half of the world's adolescents – around 1 billion people – will live in multi-burden countries facing complex health challenges. Further, it has projected that in 2030, 464 million adolescents globally will be overweight and 42 million years of healthy life will be lost to mental disorders or suicide.

The report, released this week at the end of the commission's term, pointed out that funding for adolescent health and wellbeing is not commensurate with the magnitude of the challenge and is not targeted to the areas of greatest need. For example, specific funding for adolescent health accounted for only 2.4% of total development assistance for health in 2016-21, despite adolescents accounting for 25.2% of the world population.

The global population of adolescents constitutes around 24% of the world's population.

Launched in 2021, the commission included 44 commissioners, with meaningful involvement of 10 youth commissioners and 122 adolescents participating in Youth Solution Labs.

World Health Organization (WHO) Director-General Adhanom Ghebreysus Tedros, writing in *The Lancet*, said: "Over the past two decades, adolescent mortality has declined by 27%, owing to substantial reductions in malnutrition and communicable diseases, and expanded access to education – especially for girls. These changes will pave the way towards greater gender equity and better life outcomes."

The global population of roughly 2 billion adolescents constitutes around 24% of the world's population. "The current generation of adolescents is the largest in the history of humanity...Projections suggest that by 2100 around 46% of the world's adolescents will live in Africa, and that 85% will live in Africa or Asia," the report states. The proportion of adolescents living in conflict-affected areas has more than doubled since the 1990s, now totalling 340 million.

The report draws attention to the possible impact of social media on the lives of adolescents who it calls the 'first global generation of digital natives'. Globally, 79% of 15-24-year-olds use the Internet, and more than 95% of adolescents in high-income and upper-middle-income countries are digitally connected. It calls for "enabling laws and policies provide the foundational environments for sustained improvements in adolescent health and wellbeing. These environments should protect adolescent sexual and reproductive health and rights, reduce the impact of the commercial determinants of health, and promote the healthy use of social media and online spaces."

Key Highlights of the Report:

- **Population and Vulnerability:**
  - Adolescents (ages 10–24) make up about 24% of the global population.
  - By 2100, 85% of the world's adolescents will reside in Africa and Asia, with 46% in Africa alone.
  - 340 million adolescents are living in conflict-affected areas, double the number from the 1990s.
- **Health Burdens:**
  - If current trends continue, 1 billion adolescents will live in multi-burden countries by 2030.
  - By 2030, an estimated 464 million adolescents will be overweight, and 42 million years of healthy life will be lost to mental disorders or suicide.
- **Funding Gaps:**
  - Despite comprising over 25% of the global population, adolescents received only 2.4% of development assistance for health (2016–2021).
  - The report calls for more strategic and need-based investment in adolescent health.
- **Digital Generation:**
  - Adolescents are the first global generation of digital natives, with 79% of 15–24-year-olds using the internet globally.
  - The report highlights both the potential and risks of social media, advocating for policies that promote healthy online engagement and shield youth from harmful digital content.
- **Progress Achieved:**
  - A 27% decline in adolescent mortality over the past two decades due to improved nutrition, disease control, and education—especially for girls.

Relevance to India

India has the largest adolescent population globally. The report's implications are crucial for shaping:

- Public health policy (National Health Mission, Rashtriya Kishor Swasthya Karyakram)
- Social sector reforms (education, nutrition, digital safety)
- Gender equity and reproductive rights
- Mental health initiatives under National Mental Health Programme (NMHP)

Issues Raised:

- **Underinvestment in Adolescent Health:** Disproportionate to demographic share.
- **Policy Gaps**: Absence of adolescent-specific legislation and digital safety laws.
- **Mental Health Crisis:** Rising depression, anxiety, and suicide rates.

- **Impact of Commercial Determinants:** Processed food, alcohol, tobacco, and digital marketing affecting health.
- **Need for Inclusive Participation:** Importance of involving adolescents in policymaking.

Way Forward:

- **Increased Budgetary Allocations:** Specific, sustained, and scalable investments in adolescent health services.
- **Legislative Frameworks:** Laws to protect adolescent health rights, regulate social media exposure, and ensure digital safety.
- **Cross-sector Collaboration:** Health, education, technology, and social justice ministries must work in coordination.
- **Youth-Centric Governance:** Institutional mechanisms for adolescent consultation, like youth councils and digital governance platforms.
- **Focus on Marginalised Youth:** Conflict zones, rural areas, and vulnerable social groups need targeted outreach.

Conclusion:

The Lancet Commission's findings serve as a global wake-up call. For India, with its massive adolescent base, this is an opportunity to lead with innovative policies and substantial investments. Ensuring adolescent health and wellbeing is not merely a health sector concern but a strategic imperative for national development, demographic dividend, and sustainable future.

UPSCMainsPractice Question

Ques: Adolescents form one of the largest but most underserved sections of the global population." In the light of the recent Lancet report, discuss the need for targeted policy and legal frameworks for adolescent health and wellbeing in India. (250 Words)

The launch of Nafithromycin — the first globally developed antibiotic in 30 years — marks a scientific breakthrough. However, the rising threat of Antimicrobial Resistance (AMR) continues to pose a significant public health crisis, especially in countries like India. Experts warn that AMR is no longer a future risk but a present-day emergency requiring multi-sectoral action, innovation, education, and strong governance.

A leading cause for AMR is the misuse and overuse of antibiotics across various sectors. While only about 30% of all antibiotics are used to treat humans, the majority are used in livestock, agriculture and aquaculture. FILE PHOTO

New drugs arrive on the block, but AMR threats continue

While the launch of Nafithromycin — the first antibiotic to be developed in the past 30 years globally — is a welcome step, experts warn that addressing antimicrobial resistance is no longer optional, and tackling it requires a multifaceted approach with a shared sense of responsibility

Soujanya Padikkal

In 2020, 58-year-old Viswanathan, recovering from a stroke, sought physiotherapy from an Ayurvedic practitioner, hoping to regain mobility. However, this treatment caused wounds on his leg. As a diabetic with an already weakened immune system this marked the beginning of his battle with antimicrobial resistance (AMR).

After a year of battling infections, he was given a last-resort antibiotic that damaged his kidneys.

Hospital-acquired infections further complicated his condition, and ultimately, he died in April, 2021.

Antibiotics, known to save millions of lives, are now making headlines for the opposite reason. AMR occurs when microorganisms like bacteria evolve to develop resistance against the very drugs designed to kill them. AMR contributed to 1.27 million deaths globally and in India caused 2,97,000 deaths in 2019 based on a report by the Institute of Health Metrics and Evaluation (IHME), University of Washington. The public health impact of bacterial AMR has been significant. According to a study published in *The Lancet*, 1.91 million people could die directly from AMR and 8.22 million deaths associated with AMR could occur globally in 2050.

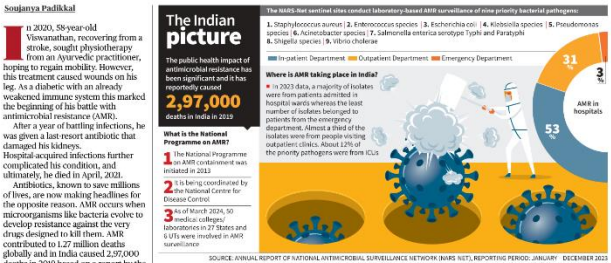
A leading cause for AMR is the misuse and overuse of antibiotics across various sectors. While only about 30% of all antibiotics are used to treat humans, the majority are used in livestock, agriculture and aquaculture. In countries like India, selling antibiotics without prescription also contributes on a large scale to resistance. The recent ban on using colistin as a growth promoter in the poultry industry in India has made significant inroads in curbing resistant strains from emerging.

The World Health Organization (WHO) has declared AMR as one of the top 10 global health threats.

A new antibiotic after 30 years

In its effort to tackle AMR, Mumbai-based pharmaceutical company Wockhardt, with support from the Biotechnology Industry Research Assistance Council (BIRAC) has launched Nafithromycin marketed as 'Miqnat' to treat Community-Acquired Bacterial Pneumonia (CABP). It is a once-a-day, three-day treatment for CABP with a 97% success rate. It is India's first indigenously-developed antibiotic in its class. It was also the first antibiotic to be developed in the last 30 years, globally.

"Nafithromycin is a part of our overall drug discovery programme which we started about 25 years ago," said Habil Khorakiwala, founder-chairman, Wockhardt. "[While] Azithromycin and other drugs were there, there was no new drug coming [up] and resistance was developing on [the other] end," he added. The drug was developed over a span of 15 years.



With slow progress in research, no new drugs have been developed in the past three decades globally. "After the initial boom and the "golden age" of antibiotics (from 1940 to 1960), the field was marked by a sharp decline in new antibiotic approvals for decades," said Tomislav Mestrovic, affiliate associate professor of Health Metrics Sciences, at IHME, responding to questions via mail.

It is no wonder then that with the development of Nafithromycin, India has reached a milestone given it has the highest burden of bacterial infections.

Gaps in healthcare system

While scientific advancements like Nafithromycin are promising, it is also important for us to recognise the gaps within India's healthcare system that prevent effective treatment against AMR.

Vysakh, Mr. Viswanathan's son, a PhD scholar in Poland, said a communication gap exists between medical professionals and the patient's family members. A lapse he believes the medical community also needs to address is the quality of equipment being used. "Another pitfall that happens is diagnostic issues," he pointed out. "It took at least one week to get a proper antibiogram delivered and to figure out [which] bacteria is causing infection and to [administer] the specific antibiotic. So this was a big problem". He also added that there was an issue of accountability within the system.

Vysakh's family's plight is unfortunately a common scenario across the healthcare system. "Understaffing of healthcare professionals combined with high patient loads makes it difficult to ensure adherence to best stewardship practices," said Dr. Mestrovic, while speaking about the key challenges India faces in implementing effective antimicrobial stewardship across its healthcare network.

Apart from these issues, India also faces the added challenge of self-medication by people, selling of antibiotics without prescriptions and lack of a proper regulatory framework. "[In] a lot of low-to-middle income countries you can go to a pharmacy and they will give you an antibiotic without any prescription," said François Franceschi, head of asset evaluation and development and serious bacterial infections project leader, Global Antibiotic Research & Development Partnership (GARDP), as he recalled his experience at a pharmacy in Mumbai.

Despite antibiotics being prescription drugs in India they are sold over-the-counter, contributing significantly to the resistance problem. "Part of the action plans that [are] trying to be implemented in many countries is [to] stop letting people buy antibiotics without prescription. That's a big step and that should happen because otherwise, you know, you are fighting a battle that you're going to lose,"said Dr. Franceschi.

Government action

The Indian government is working on multiple fronts to combat AMR including establishing AMR surveillance networks, developing a National Action Plan and promoting public awareness. "The implementation of the National Action Plan on AMR in 2017 marked a key milestone in aligning the country's efforts with the global strategy, and this is the right path forward," said Dr. Mestrovic.

Promoting public awareness is a key aspect that needs to be addressed from the very beginning. It is not uncommon to see people take antibiotics for a viral fever which is not only ineffective but adds to resistance. "Public awareness about AMR remains low, leading to patient demand for antibiotics even when not needed which is not characteristic only for India, but much wider," said Dr. Mestrovic. The pressing need to educate people about the dangers of inappropriately using antibiotics resonates with all the experts in the field.

Despite antibiotics being prescription drugs in India they are sold over-the-counter, contributing significantly to the resistance problem

Resistance is a natural phenomenon in microorganisms. But it happens over time, through genetic changes and adaptations. However, the widespread and excessive use of antibiotics across sectors has accelerated the process. It is quite natural to wonder then what the future of the new antibiotics that are being developed looks like. "Long-term effectiveness of new antibiotics depends not only on scientific advancement, but also on responsible global stewardship from day one," said Dr. Mestrovic. "Patient education and public awareness are indispensable in the fight against AMR, especially when we are talking about the misuse and overuse of antibiotics."

Education, innovation and regulation need to progress parallelly to curb AMR. "I think it's very important that governments recognise that we need to do something now or we are going to be facing a problem that is much bigger in the future," said Dr. Franceschi. "We need to be multiple steps ahead of [pathogens]".

Nafithromycin is a start and will be launched in the market for a month in the coming few months. The development of antibiotics is a long and resource-intensive process. "Many large pharmaceutical companies exited the antibiotic space because the return on investment was too low compared to chronic disease drugs leading to what many called the "antibiotic innovation gap," said Dr. Mestrovic.

Institutions like Bangalore Bioinnovation Centre (BBC) and the Centre for Cellular and Molecular Platforms (C-CAMP) and companies like Wockhardt, Orchid Pharma and Bugworks in India are among the few companies that focus on antibiotic development.

Given the low return on investment, it is mostly small pharma companies taking on the challenge of developing new antibiotics during this crisis. And the path is not easy, especially when it comes to clinical trial approval by the Central Drugs Standard Control Organization (CDSCO). "We expect the regulators and the government as a whole to have a much better appreciation of fundamental drug research and make more enabling policies for us," said Dr. Khorakiwala.

Accessibility and affordability are other important factors in the development of new antibiotics. Wockhardt's strategy is to price its drugs based on the purchasing power of different countries. For example, the price of a drug in India could be up to 80% less than the price in the United States. "Accessibility is as important as finding a new drug", added Dr. Khorakiwala.

For Vysakh, the issue is deeply personal. His story is a reminder of the harsh reality of AMR — a silent threat unnoticed by many. And his experience sheds light on the challenges families face in healthcare facilities in India. "I would really love to see two major changes – diagnostics and proper quality control for the equipment used," he said. He also believes education has to be the first step in this fight against AMR.

Emerging resistance

Infectious diseases experts have also flagged emerging resistance to newer drug formulations too, more recently. Abdul Ghafur, founder, AMR Declaration Trust, in a letter to the Drugs Controller General of India cautioned that misuse of newer molecules is leading to initial signs of resistance as reported by *The Hindu*. Ceftazidime-avibactam – a potent antibiotic, he claimed, is losing efficacy due to extensive, irrational, and uncontrolled use. Experts say that it is more than ever before, important for the government to lead antibiotic stewardship, at this stage, as newer molecules are finally enter the market.

Addressing AMR is no longer optional and tackling it requires a multifaceted approach with a shared sense of responsibility to make a difference. "Combating AMR is not just a scientific or medical challenge, it is a collective responsibility that requires coordinated action across sectors, as well as sustained investment and empowered communities," said Dr. Mestrovic. "We have the right tools, knowledge and innovation to make a difference, but success depends on translating awareness into action at every level – from policymakers and researchers to the medical community and the public."

(Soujanya Padikkal is a freelance content provider based in Hyderabad sotji.padikkal@yahoo.co.in)

Key Issues Highlighted:

1. Alarming AMR Statistics:

- AMR was directly responsible for 1.27 million deaths globally in 2019, with 2.97 lakh deaths in India.
- Projected deaths by 2050: 1.91 million directly due to AMR, and 8.22 million associated deaths.
- WHO lists AMR as one of the top 10 global health threats.

2. Misuse Across Sectors:

- Only 30% of antibiotics are used for humans; the rest are used in livestock, aquaculture, and agriculture.
- Over-the-counter (OTC) sales of antibiotics in India without prescriptions continue despite being illegal.
- Colistin ban in poultry is a positive step but not enough.

3. Innovation Gaps:

- No major antibiotics had been developed globally for three decades until Nafithromycin.
- Major pharmaceutical companies have exited the antibiotic market due to low return on investment.
- Innovation is now led by small firms and startups, supported by government schemes like BIRAC.

4. Nafithromycin – A Breakthrough:

- Developed by Wockhardt in partnership with BIRAC.
- Treats Community-Acquired Bacterial Pneumonia (CABP) with a 97% success rate.
- Represents India's emergence as a drug innovator, not just a manufacturer.

5. Systemic Healthcare Challenges:

- Delayed diagnostics, lack of accountability, and poor equipment quality hinder AMR control.
- Understaffing, high patient loads, and communication gaps worsen patient outcomes.
- Self-medication and patient demand for antibiotics reflect low public awareness.

6. Emerging Resistance to New Drugs:

- Even new drugs like Ceftazidime-avibactam are losing effectiveness due to irrational use.
- Experts stress the urgency for antibiotic stewardship and regulatory enforcement.

7. Regulatory and Policy Needs:

- The National Action Plan on AMR (2017) was a milestone, but implementation remains weak.
- Experts call for enabling policies, faster clinical approvals, and pricing based on country affordability.

India's Response So Far:

- Colistin ban in poultry
- National AMR Surveillance Network
- National Action Plan on AMR (2017)
- Promotion of indigenous research and innovation (e.g. via BIRAC, BBC, C-CAMP)

Challenges Going Forward:

- Lack of a strict prescription-only regime
- Gaps in diagnostics, stewardship, surveillance, and public engagement
- Need for sustained investment in fundamental drug research
- Making antibiotics affordable and accessible

Way Forward:

- Implement one-health approach: Integrate human, animal, and environmental health policies.
- Strengthen regulatory frameworks to stop OTC sales and irrational prescriptions.
- Promote stewardship programs in hospitals and clinics.
- Foster R&D ecosystem for antibiotic innovation through public-private partnerships.
- Launch public awareness campaigns targeting both urban and rural populations.

Conclusion:

Combating AMR is not merely a medical challenge but a societal, economic, and governance imperative. India has taken some pioneering steps through innovation like Nafithromycin, but systemic reforms in regulation, diagnostics, education, and investment are crucial. As antibiotic resistance grows, a shared sense of responsibility across sectors and stakeholders is essential to safeguard the future of public health.

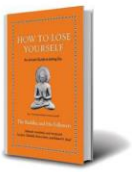
UPSC Mains Practice Question

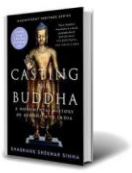
Ques: Despite the availability of new antibiotics, Antimicrobial Resistance (AMR) remains a serious public health concern in India. Discuss the effectiveness of current policies and suggest a way forward for AMR governance.**(250 words)**

Page 10: GS 1 : Art and Culture

Buddhism, often seen through the lens of spiritual detachment and philosophical introspection, is undergoing a renewed examination in contemporary scholarship. Several recent works highlight not only Buddhism's philosophical relevance in today's ego-centric digital age, but also its historical continuity, socio-cultural influence, and geographical rootedness in India from ancient to modern times.

BIBLIOGRAPHY





GETTY IMAGES

Understanding the social, cultural and geographical contexts of Buddhism

In an era of social media obsession, several writers have turned to Buddhist teachings to underscore the fact that a preoccupation with the self and an 'unremitting' egoism will lead to pain and suffering. Other writers are helping readers discover Buddhism's influence on modern Indian history

Sudhirendar Sharma

The world is increasingly getting obsessed with self-promotion and the thinking that it alone can bring about peace and progress. The growing selfie culture is a manifestation of this daily obsession, backed by the technology of the day. Often, a 'perfect' identity is carefully curated on social media with a focus on the self.

Swayed by the glitter of social media, there appears to be no actual pursuit of knowing the inner self. Eventually, this relentless self-promotion is leading to distress. The fear of having less and the desire for more have contributed to a balance sheet of unhappiness.

The illusory self

It's perhaps the right time to re-read the teachings of the Buddha, who argued thousands of years ago that the self is an illusion – and that our belief in it is the cause of most, if not all, of our sufferings. Poring over ancient Buddhist texts, Jay L. Garfield, Maria Heim, and Robert H. Sharf have teamed together to dismantle notions of the self in *How To Lose Yourself: An Ancient Guide to Letting Go* (Princeton University Press).

Their suggestion? "Better to lose your self!" The writers contend that Buddha had argued for letting go of the self, which allows us to see more clearly the innumerable causes and conditions that come together to create our experience and that make us who we are. "When we allow our fantasies of self to dissolve, we discover instead the radically interdependent nature of our existence."

Opening up another flank of study on the ancient religion, Douglas Ober contests the commonly held belief that Buddhism "all but disappeared" from India after the 13th and 14th centuries, and saw a revival only in the mid to late 19th century. In his book, *Dust on the Throne* (Navayana), he notes that Buddhism had *always* been there, and that two centuries of archaeological excavation and textual scholarship now point to a long, enduring, and "unarchived" Indian Buddhist afterlife that extends to the modern day. Ober's exhaustive research told him that Buddhism had an indelible influence on shaping modern India.

As he writes in the Introduction, 'A Dependent Arising', the theory of Buddhism's "disappearance" from the subcontinent is "little more than a useful fiction, deployed to wash over a more complicated historical terrain involving periodic Buddhist resurgences and trans-regional pilgrimage networks." He shows that Indian's modern Buddhist revival began nearly a century before 1956, when the Indian government celebrated "2,500 years of Buddhism" and when B.R. Ambedkar led half a million followers to convert to Buddhism.

Backstory of a revival

Ober argues that the "revival of Buddhism" in colonial and postcolonial India led to a slew of movements, from Hindu reform movements, the making of Hindu nationalism, Dalit and anti-caste activism, as also Nehruvian secular democracy. He tells the stories of individuals and communities that kept Buddhism alive, not least the incredible account of J.K. Birla, eldest son of entrepreneur B.D. Birla, who financed major Buddhist constructions in pilgrimage centres like Rajgir, Sarnath, Bodh Gaya, and also in new centres of "urban Buddhist activity", including Calcutta, Bombay, and New Delhi.

While Ghanashyam Birla, J.K. Birla's younger brother, sided with Gandhi and Congress, J.K. and his father firmly supported the extreme Hindu right and the Hindu Maha Sabha, although as Ober notes, "they never stopped supporting Gandhi either."

Efforts to resurrect Buddhist archaeological heritage are an ongoing process to help connect its monumental past with its philosophy.

In his book, *Casting the Buddha* (Pan Macmillan India), Shashank Shekhar Sinha traces the Buddhist heritage sites and the cities they are located in to understand their larger geographical, sociocultural, and historical contexts. It is an illustrated history of Buddhist monuments in India, spanning 2,500 years. For the purposes of this book, Sinha writes in the Introduction, 'monumental history' plays on the word 'monument' and discusses Buddhist edifices, sites, and connected histories.

Lives of monuments

A closer look reveals how the "lives of the monuments" resonated with the people and communities around them, including monks, laity, kings, traders, guilds, landlords, agriculturalists, and villagers.

Over time, these structures have acquired different forms and meanings, and have also become important "sites of social and cultural interactions." The buildings are "complex ecosystems" which capture the changing times and give an idea about belief systems, rituals, stories, and folklore. For instance, writes Sinha, the sculptured panels on the gateways of Sanchi not only depict events from the life of the Buddha but also the Jataka tales and the mythical bodhisattvas.

Ober contends that Buddhism was an indispensable part of the daily lives of Indians from many walks of life. "They spent their days reading and reinterpreting Buddhist scriptures, attending and delivering dhamma talks, building and rebuilding Buddhist shrines." The lives of Ambedkar, Birla, Kosambi, Mahavir, Sankritayan, and many other figures "help us realise that there is no one single identity at the heart of modern Indian Buddhism... [it] continues to have an important but often unacknowledged role in Indian society."

As Indians relived the past to find a better present and future, "a classless, casteless, egalitarian society," they found the Buddha, writes Ober. That as a society we have not yet been able to eradicate discrimination and poverty means the debates on issues like "caste, inequality, morality, social order, and belonging" are not over. The quest to grasp the historical Buddha and understand his 'inherent mission' must continue, and this says a lot about our modern times and predicament.

Sudhirendar Sharma is an independent writer, researcher and academic

Key Themes Emerging from Recent Scholarship:

1. Relevance of Buddhist Philosophy Today:

- In an era dominated by self-promotion, consumerism, and social media obsession, Buddhist teachings on non-self (anatta) and detachment offer critical philosophical counters.
- Works like How To Lose Yourself emphasize that the illusion of self is the root cause of human suffering — a concept that resonates deeply in today's hyper-individualistic world.

2. Myth of Buddhism's Disappearance:

- Historian Douglas Ober challenges the conventional narrative that Buddhism vanished from India post-13th century.
- His work Dust on the Throne shows Buddhism's continuous cultural and religious presence, especially through pilgrimage networks, vernacular traditions, and reformist movements.

3. Modern Revival and Political Linkages:

- Ober identifies the Buddhist revival as pre-dating 1956, tracing its connections to colonial reformism, Dalit activism, Hindu nationalism, and Nehruvian secularism.
- The role of figures like J.K. Birla, Ambedkar, and Kosambi show how diverse ideologies have intersected with Buddhism in modern India.

4. Geographical and Monumental Continuity:

- Casting the Buddha by Shashank Shekhar Sinha explores how Buddhist monuments like Sanchi, Bodh Gaya, and Sarnath are not just architectural relics but living social spaces.
- These monuments have shaped, and been shaped by, their local economies, cultures, and communities over centuries.

5. Buddhism and the Social Fabric:

- The continued relevance of Buddhist ideals — egalitarianism, caste abolition, and moral order — points to its deep social roots.
- Buddhism is not just a religious tradition but also a tool for socio-political reform, especially in the context of Dalit movements and anti-caste struggles.

Implications for Indian Society and Polity:

- Buddhism's resilience in Indian history reflects the pluralism and dynamism of Indian religio-cultural traditions.
- Its emphasis on ethical living, equality, and rationalism aligns with the constitutional values of justice and fraternity.
- Contemporary Buddhist revivalism must be seen as both a cultural rediscovery and a political statement — particularly in discourses around social justice and identity.

Conclusion:

Buddhism in India is not a closed chapter of ancient history; it is an evolving philosophical, social, and cultural force. Its reinterpretation in modern times, amid digital alienation and persistent social inequities, reflects its timeless relevance. From Ambedkarite activism to the architectural symbolism of pilgrimage sites, Buddhism continues to offer both spiritual introspection and political critique.

UPSC Mains Practice Question

Ques: Buddhism has never truly disappeared from India, but has continuously shaped its cultural and philosophical landscape. Examine this statement in the context of recent scholarly reassessments and archaeological evidence.**(250 words)**

Tariff wars and a reshaping of AI's global landscape

In the aftermath of the presidential election in the United States in 2024, renewed implementation of substantial tariffs could lead to a fundamental restructuring of global technology supply chains that power artificial intelligence (AI) development. While established players recalibrate, countries such as India are finding themselves in a precarious, yet potentially advantageous, position – as the "third option" in the technological rivalry between the U.S. and China.

The tariffs have raised the costs of imported components that are critical to AI infrastructure. In 2024, electronics imports to the U.S. alone were nearly $486 billion, with data processing machine imports costing around $200 billion, sourced largely from tariff-affected countries such as Mexico, Taiwan, China, and Vietnam. These tariffs risk making the U.S. the most expensive place in the world to build AI infrastructure, driving companies to relocate data centre construction abroad, ironically to China.

The first wave of the Trump tariffs, between 2018-20, resulted in a price increase for imported semiconductor components. The current tariff regime has expanded this to as high as 27% on critical AI hardware components in 2025, particularly affecting specialised AI accelerators and advanced logic chips, components that constitute the computational foundation.

Arindam Goswami

is a Research Analyst in the High-Tech Geopolitics Programme at The Takshashila Institution, Bengaluru

There could be an impact on economic efficiency and innovation, but some countries could find themselves in a precarious, yet potentially advantageous, position

Economics behind the scenes

Economic theory suggests such tariff policies should stimulate domestic production through import substitution. Indeed, some reports project that the U.S. will more than triple its domestic semiconductor manufacturing capacity from 2022 to 2032, which is the largest projected growth rate globally. However, classical Ricardian trade theory reminds us that comparative advantage remains operative even under protectionist regimes. The specialised nature of AI hardware production means that it has to deal with dispersed technical capabilities, creating inevitable inefficiencies when global supply chains are artificially segmented.

This protectionist approach often comes at the cost of economic efficiency and innovation. The tariffs disrupt global supply chains, increase production costs, and create uncertainty that discourages investment. Empirical studies show that a one standard deviation increase in tariffs can reduce output growth by 0.4% over five years, and reversing the recent U.S. tariffs could have led to a 4% cumulative output gain. In the context of AI – where innovation cycles are rapid and dependent on access to cutting-edge technology and global collaboration – such disruptions can slow technological progress and reduce productivity.

Tariffs may shield domestic firms from competition, reducing their incentive to innovate, and limit access to advanced imported technologies that are necessary for AI advancement. This is consistent with what economists call a "deadweight loss", where the diminished trade volume creates economic inefficiencies that benefit neither producers or consumers.

Rapid expansion in AI chip demand will require massive increases in data centre power capacity, from about 11 GW in 2024 to potentially 68 GW by 2027 and 327 GW by 2030. Failure to meet these infrastructure needs could undermine the U.S.'s competitiveness in AI.

Research demonstrates that access to expensive, advanced computational infrastructure serves as a primary determinant of innovation capacity in AI, leading to a stratification effect. Moreover, tariffs imposed by developed countries can reduce technology transfer rates, temporarily changing innovation incentives, which can in turn, slow down the overall pace of AI innovation. On the other hand, tariffs by developing countries can speed up technology transfer but affect relative wages and innovation differently. This is a complex interplay that can increase global inequalities in AI capabilities.

Where India stands

This could create unexpected opportunities for India, which has positioned itself as a strategic "third option" in the U.S.-China technological competition. Indian IT exports growth rates have been around 3.3% to 5.1% year-over-year in recent years. AI and digital engineering segments are among the fastest-growing areas within India's tech sector. The Indian government has launched significant AI-related programmes, and increased semiconductor design, fabrication and technology investments, with several billion dollars in semiconductor fab proposals and multinational research and development centres such as AMD's $400 million design campus in Bengaluru.

India's comparative advantage lies in lower labour costs and specialised knowledge domains. India produces approximately 1.5 million engineering graduates annually, with a lot of them showing considerable aptitude for AI development.

India depends heavily on imported hardware components and international collaborations for this. Tariffs and supply chain disruptions that raise costs of AI infrastructure could slow down India's global ambitions in AI. However, India might also benefit indirectly if companies seek alternatives to China for manufacturing and data centre locations.

The economic reshaping catalysed by these tariff policies has accelerated what economists call "capital substitution effects". As hardware costs rise, companies increasingly shift toward optimising existing resources through algorithmic efficiency, model compression techniques and hardware improvements rather than raw computational power. The tariff environment has effectively created these price signals. The cost of using AI models is falling dramatically (by about 40 times a year) due to this. Therefore, while tariffs may increase upfront infrastructure costs, consumer-level AI applications might not see immediate price hikes.

Tariff structures interact with differential regulatory environments uniquely to create novel competitive dynamics. Lenient data protection regulations, broad digital access, and data availability can partially offset hardware cost disadvantages through greater access to training data. Regulatory and economic factors can defy simplistic analysis.

Decentralised AI development

Tariff changes have led to the development of specialised AI hardware that is designed specifically for particular applications rather than general-purpose computation. This "application-specific integrated circuit" (ASIC) approach represents an architectural shift. To optimise data centre infrastructure for AI inference, over 50% of workload accelerators could be custom ASICs by 2028, up from 30% in 2023.

Ironically, policies intended to strengthen domestic technological capabilities could inadvertently accelerate the decentralisation of AI development. Historical analogies suggest that technologies facing market constraints often evolve toward more distributed implementations. The mainframe-to-personal computer transition of the 1980s offers an instructive parallel.

Paper 02:International Relations

UPSC Mains Practice Question:Protectionist trade policies like tariffs can hinder technological innovation in globalized sectors like Artificial Intelligence.Discuss this in the context of India's dependence on imported hardware and its growing AI ambitions.(250 words)

Context :

The renewed imposition of tariffs by the United States in the post-2024 period, especially on AI-critical hardware components, is reshaping global technology supply chains. These economic protectionist measures, while aiming to enhance domestic capacity, may inadvertently lead to inefficiencies, higher costs, and a fragmentation of AI innovation. For countries like India, this emerging dynamic presents both opportunities and challenges in the AI domain.

Key Issues and Trends:

1. Tariffs and AI Infrastructure Costs:

- Tariffs as high as 27% have been imposed on advanced semiconductors and AI accelerators in 2025.
- The U.S., due to increased costs, may become the most expensive destination for AI infrastructure.
- Ironically, some companies may shift operations back to China, reversing earlier intentions.

2. Impact on Global Supply Chains:

- Tariffs disrupt integrated technology supply chains, creating inefficiencies and reducing innovation.
- The AI ecosystem is highly dependent on cross-border collaboration and technological interdependence.
- Studies indicate that such tariffs could lower GDP output growth and lead to a 4% cumulative output loss if maintained.

3. AI Innovation and Deadweight Loss:

- Tariffs reduce competition, diminishing the incentive for firms to innovate.
- The resultant "deadweight loss" affects producers and consumers alike, while slowing down technology transfer globally.

- Nations dependent on imported tech (like India) are vulnerable to cost shocks and supply disruptions.

India's Strategic Position:

Opportunities:

- Positioned as a "third option" between the U.S. and China amid the tech rivalry.
- Rapid growth in AI, digital engineering, and semiconductor R&D.
- India's cost-effective talent pool (1.5 million engineering graduates annually) provides a natural advantage.
- Potential to attract investments in AI design, testing, and data centres from firms seeking diversification.

Challenges:

- India is heavily dependent on hardware imports from affected regions.
- Tariffs and global supply chain fragmentation could hinder access to high-end AI chips and data infrastructure.
- Local semiconductor fabrication ecosystem is still nascent despite recent investments.

Broader Economic and Technological Implications:

- The AI hardware market is shifting toward specialisation — with increasing use of Application-Specific Integrated Circuits (ASICs).
- Tariffs are driving a "capital substitution effect", encouraging:
  - Model efficiency
  - Software-led optimisation
  - Decentralised AI development
- Data regulation environments, such as India's relatively lenient data laws, may offset cost disadvantages by improving access to training data.

Geopolitical and Strategic Takeaways:

- AI is not only a technological race, but a strategic geopolitical competition.
- The global AI race now depends as much on regulatory environments, trade policies, and economic agility as on raw R&D.
- Tariff wars may accelerate a shift from centralised to decentralised AI development, similar to the mainframe-to-PC transition of the 1980s.

Conclusion:

The current U.S.-China tariff war on AI-critical components is reconfiguring the architecture of global AI innovation. India, though constrained by hardware dependence, stands at a critical inflection point. With the right regulatory reforms, infrastructure investments, and global partnerships, it can turn emerging fault lines into a platform for technological leadership. The challenge is not just technological but also strategic — requiring visionary policymaking and coordinated economic diplomacy.