

The Hindu Important News Articles & Editorial For UPSC CSE

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Former Prime Minister Manmohan Singh, 92, passed away at AIIMS Delhi on Thursday, leaving behind a legacy of economic reforms and distinguished leadership.

Nation mourns former PM Manmohan Singh, economist-ruler credited with liberalisation

He passed away at AIIMS on Thursday night after falling unconscious at home

President Droupadi Murmu describes Singh as 'one of the greatest sons of Bharat'

Modi says as PM, Singh made extensive efforts to improve people's lives

Government functions cancelled and seven-day national mourning declared

Sandeep Phukan
NEW DELHI

Former Prime Minister Manmohan Singh, 92, passed away at the All India Institute of Medical Sciences here on Thursday evening. Dr. Singh was admitted to the hospital in the emergency ward around 8 p.m. in a critical condition. "He was treated for age-related medical conditions and had sudden loss of consciousness at home. Resuscitative measures were started immediately at home. He was brought to the medical emergency at AIIMS Delhi at 8.06 pm. Despite all efforts, he could not be revived and was declared dead at 9.51 p.m.," an AIIMS bulletin said. He is survived by his wife, Gurcharan Singh, and three daughters. Dr. Singh, who was PM

for two terms in the Congress-led United Progressive Alliance government from 2004 to 2014, had been in poor health for the past few months. As Finance Minister under former Prime Minister P.V. Narasimha Rao, he was the architect of reforms in 1991 that changed the course of India's economic trajectory.

As a mark of respect to the former Prime Minister, all Union government functions were cancelled and a seven-day national mourning was declared. The Union Cabinet will meet on Friday morning to pass a condolence resolution. Dr. Singh's last rites will be performed with full state honours.

Paying her tribute to the former Prime Minister in a post on X, President Droupadi Murmu described Dr. Singh as "one of the great-

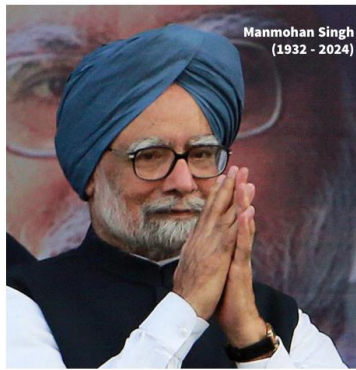
A lasting imprint on India's external relations

NEW DELHI

Although he was sometimes criticised by the Opposition for being "maun" or silent, Manmohan Singh was a prolific communicator when it came to his foreign policy. His engagement with the Quad made way for two of his biggest foreign policy breakthroughs: with Japan, that ended India's isolation over the nuclear tests of 1998, and with the United States, which allowed for the civil nuclear deal. » PAGE 5

est sons of Bharat".

"Dr. Manmohan Singh Ji was one of those rare politicians who also straddled the worlds of academia and administration with equal ease. In his various



Manmohan Singh (1932 - 2024)

roles in public offices, he made critical contributions to reforming Indian economy. He will always be remembered for his service to the nation, his unblemished political life and his

utmost humility. His passing is a great loss to all of us. I pay my respectful homage to one of the greatest sons of Bharat and convey my heartfelt condolences to his family, friends

A forthright FM who effected social change

NEW DELHI

It is well known that Manmohan Singh made way for foreign investments in myriad sectors. Yet, few would remember his maiden Budget also set the foundations of India's modern stock market boom with the creation of SEBI. Or that he passionately battled for consumer interests as well as wealth creators, even as he held reservations against "mindless and heartless" conspicuous consumerism. » PAGE 5

and admirers," she said.

Offering tributes to his predecessor, Prime Minister Narendra Modi said India mourns the loss of one of its most distinguished leaders whose wisdom and

humility were always visible. "Dr. Manmohan Singh Ji. Rising from humble origins, he rose to become a respected economist. He served in various government positions as well, including as Finance Minister, leaving a strong imprint on our economic policy over the years. His interventions in Parliament were also insightful. As our Prime Minister, he made extensive efforts to improve people's lives," Mr. Modi said on X.

Congress Parliamentary Party chairperson Sonia Gandhi and her daughter Priyanka Gandhi Vadra reached the hospital as soon as news of his hospitalisation became known. Congress president Mallikarjun Kharge and Leader of the Opposition in the Lok Sabha Rahul Gandhi, who were in Karnataka's Belagavi for an extended

meeting of the Congress Working Committee, rushed back to Delhi.

In a post on X, Mr. Kharge said India has lost a visionary statesman, a leader of unimpeachable integrity, and an economist of unparalleled stature, and asserted that "history will undoubtedly judge him kindly". "A man of action rather than words, his immense contribution to nation-building will be etched in the annals of Indian history."

"Manmohan Singh Ji led India with immense wisdom and integrity. His humility and deep understanding of economics inspired the nation. My heartfelt condolences to Mrs. Kaur and the family. I have lost a mentor and guide. Millions of us who admired him will remember him with the utmost pride," Mr. Gandhi said.

- ➔ Known as the architect of India's 1991 economic liberalization, he served as PM from 2004 to 2014.
- ➔ Tributes poured in from leaders, acknowledging his wisdom, humility, and nation-building efforts.
- ➔ A seven-day national mourning has been declared, with his last rites to be performed with full state honors.

As an Economist and Administrator

- ➔ **Chief Economic Adviser (1972–76):** Played a crucial role in shaping India's economic policies during a challenging period.
- ➔ **Governor of the Reserve Bank of India (1982–85):** Strengthened India's monetary and financial systems.
- ➔ **Deputy Chairman, Planning Commission (1985–87):** Helped frame India's development strategies.

Contributions as Finance Minister (1991–1996)

- ➔ **Economic Liberalization (1991):** Spearheaded historic reforms under Prime Minister P.V. Narasimha Rao, introducing liberalization, privatization, and globalization (LPG).
- ➔ **Dismantling License Raj:** Abolished complex licensing systems, paving the way for ease of doing business.
- ➔ **Boosting Foreign Investment:** Opened multiple sectors to foreign direct investment (FDI), fostering global partnerships and inflows.

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Daily News Analysis

- **Fiscal Consolidation:** Implemented policies to reduce fiscal deficits, stabilizing the economy.
- **Exchange Rate Reforms:** Transitioned to a market-determined exchange rate, boosting export competitiveness.
- **Banking and Financial Reforms:** Strengthened banking systems, introduced reforms in the capital markets, and established SEBI as a regulator.
- **Export Promotion:** Introduced policies to diversify and boost India's export base.

Contributions as Prime Minister (2004–2014)

- **Sustained Economic Growth:** Oversaw years of high GDP growth, elevating India to the status of a global economic powerhouse.
- **Mahatma Gandhi NREGA:** Launched flagship rural employment schemes to reduce poverty and promote social welfare.
- **Nuclear Deal with the U.S.:** Finalized the Indo-U.S. Civil Nuclear Agreement, cementing India's global standing.
- **Social and Economic Inclusion:** Expanded healthcare, education, and infrastructure programs, focusing on inclusive growth.
- **Technology and Innovation:** Promoted digital technology, laying groundwork for initiatives like Digital India.
- **Foreign Policy Leadership:** Strengthened India's global partnerships, especially with the U.S., Russia, and Southeast Asia.
- **Legislative Milestones:** Oversaw the passage of key laws like the Right to Information Act, and Food Security Act.

Dr. Singh's contributions as a reformist economist and statesman defined modern India's economic and political trajectory

The resurgence of polio, including vaccine-derived strains, highlights the global risk of incomplete eradication efforts.

A global polio resurgence and the need to reevaluate the basics

Eternal vigilance is the price we pay to inhabit a planet with a range of biodiversity. Any letup, and it's likely that years of achievement might be undone. We are seeing a glimpse of this in a resurgence of polio worldwide, with environmental samples and human cases throwing up both wild polio virus as well as vaccine-derived polio virus

Ramya Kannan

The gains of science can easily be frittered away, much faster than they were earned. Eternal vigilance is the price we pay to inhabit a planet like earth, with the range of biodiversity it has. Any letup, and it's quite likely that years of achievement might be undone. We are seeing a glimpse of this in a resurgence of polio worldwide, with environmental samples and human cases throwing up both wild polio virus as well as vaccine-derived polio virus.

The World Health Organization (WHO) has reported that poliovirus had been detected through routine surveillance of wastewater systems in five countries in the WHO European Region (Finland, Germany, Poland, Spain, and the United Kingdom) since September this year. "While no cases have been detected to date, the presence of the virus underscores the importance of vaccination and surveillance, as well as the ongoing risk that any form of poliovirus poses to all countries everywhere," the WHO says.

In Pakistan, four WPV1 cases and eight WPV1-positive environmental samples were lifted. In Cameroon and Cote D'Ivoire, one case each of cVDPV2 was detected, while in Chad and Nigeria, four and three cases of cVDPV2 were detected recently, according to the WHO. Additionally, positive environmental samples were found in Finland, Germany, and the United Kingdom.

In the past 3 months, circulating vaccine-derived poliovirus type 2 (VDPV2) was detected in sewage samples in Barcelona, Spain; Warsaw, Poland; Cologne, Bonn, Dresden, Duesseldorf, Mainz, Hamburg, and Munich in Germany; Tampere in Finland; and Leeds, London, and Worthing in the UK, according to the WHO. The detected virus was genetically linked to a strain that emerged in Nigeria. In none of the five countries was there confirmed local circulation of the virus at this time, the health body said.

"WHO continues to support national and local public health authorities in their investigations and monitoring of the situation, including identification of any potential subnational immunity gaps that may need to be addressed," added Robb Butler, Director, Communicable Diseases, Environment and Health at WHO/Europe. "Vaccination of every vulnerable child is essential to ensure that the virus cannot lead to lifelong paralysis or even death."

All five countries where the virus was detected maintained strong disease surveillance and high levels of routine immunisation coverage, estimated at



Children show their ink-marked fingers after being administered with polio drops by healthcare workers as part of the Pulse Polio Program, at New Gardiner Road Hospital in New Delhi. ANI

85-95% nationally with 3 doses of inactivated polio vaccine (IPV), which provides excellent protection from paralysis caused by poliovirus. Earlier, polio was also picked up in Gaza on July 16, 2024. It was confirmed in a 10-month-old child who became paralysed in August 2024.

However, pockets of undervaccination exist in every country. In response to the detections, investigations are ongoing, including through continued disease surveillance. Subnational immunity levels have been examined to identify any potential gaps and immunisation of unvaccinated children, the WHO says.

Vaccine controversy

In the context of the surge, the debate about what vaccine to use has once again come to be of interest. Even back in the early 20th century, initial theories about poliovirus transmission pointed to respiratory transmission based on the epidemiological features of polio before later studies shifted the focus to the faecal-oral route, primarily due to research on virus shedding in the gut. The polio Sabin vaccine, also known as the oral polio vaccine (OPV), is a live-attenuated vaccine that was developed by physician and microbiologist Albert Sabin. It was adopted by the WHO because of the efficacy in administering the vaccine and given the mammoth task in front of the world at that time. The flip side, however, was that oral polio vaccine allowed vaccine-derived polioviruses to infect children.

A recent paper, *The Respiratory Route of Transmission of Virulent Polioviruses*,

Widespread assumption of faecal-oral transmission led to the exclusive use of OPV. However, researchers suggest that a shift towards the inactivated poliovirus vaccine would be more effective in preventing polio transmission, particularly in regions where respiratory transmission is the main route

by T. Jacob John, Dhanya Dharmapalan, Robert Steinglass, and Norbert Hirschhorn, in the peer-reviewed journal *Infectious Diseases*, presents a thorough analysis of the transmission routes of poliovirus, particularly wild polioviruses (WPVs) and circulating vaccine-derived polioviruses (cVDPVs). They make the case that the transmission of virulent polioviruses (WPV and cVDPV) is via the respiratory route, like other contagious childhood infectious diseases such as measles, rubella, varicella, diphtheria, and pertussis. But the systems of virus amplification and transmission are different in that silently reinfected individuals can transmit virulent polioviruses but not the pathogens of these other childhood diseases.

"Poliovirus does not replicate in the environment nor in contaminated food – hence, faeces has to be consumed to become exposed. If faeces were consumed at high dosage and frequency to saturate children or cause outbreaks of polio, certainly one would expect many other diseases to occur pari passu with polio. They don't. Conversely, one would

expect polio to be a regular part of outbreaks of enteric diseases following contamination of drinking water; it isn't," the paper rationalises.

Respiratory transmission?

The paper explores the long-standing debate over whether poliovirus is primarily transmitted via the faecal-oral route or the respiratory route. Historically, the faecal-oral route was widely accepted, particularly after the introduction of the oral polio vaccine. The authors argue that available evidence leans strongly towards respiratory transmission as the primary route. While poliovirus is known to shed in both the throat and stool, the paper challenges the assumption that the faecal-oral route is the dominant means of transmission. Instead, the authors emphasise that virus shedding in the throat is critical for transmission, and this shedding supports the respiratory transmission theory.

The authors say continuing to distribute OPV is the wrong path to polio eradication. On the other hand, vaccination with Injectable Polio Vaccine will expedite the eradication of WPV and cVDPVs. Dr. Jacob John argues, "The earlier OPV is replaced with IPV, the faster the world will reach global polio eradication. Since IPV is non-transmissible, the OPV-to-IPV switch should be planned/implemented country by country until OPV is no longer used anywhere. That is the only way the Global Polio Eradication Initiative (GPEI) can avoid causing polio in the name of eradication."

The paper discusses how initial studies pointed to respiratory transmission based on the epidemiological features of polio before later studies shifted the focus to the faecal-oral route, primarily due to research on virus shedding in the gut. Dr. John, a retired professor of virology from Christian Medical College, who also served as an expert member on the National Technical Advisory Group on Immunisation, has always been forceful about his view that OPV could be used only for "polio control" but not for "polio eradication". Without global use of IPV and without global withdrawal of OPV, the polio eradication project cannot even begin.

The authors argue that the widespread assumption of faecal-oral transmission has led to the exclusive use of the oral polio vaccine (OPV) in the GPEI. However, the authors suggest that, based on their findings, a shift towards the inactivated poliovirus vaccine (IPV) would be more effective in preventing polio transmission, particularly in regions where respiratory transmission is the main route.

THE GIST

Poliovirus had been detected through routine surveillance of wastewater systems in five countries: Finland, Germany, Poland, Spain, and the United Kingdom since September this year

OPV is a live-attenuated vaccine. It was adopted because of the efficacy in administering. The flip side was that oral polio vaccine allowed vaccine-derived polioviruses to infect children

Researchers say OPV is the wrong path, and vaccination with IPV will expedite eradication efforts. Since IPV is non-transmissible, the OPV-to-IPV switch should be implemented country by country until OPV is no longer used anywhere

➡ Surveillance, vaccination gaps, and the debate over transmission routes emphasize the ongoing challenges in fully eliminating the disease.

Detection of Polio Cases and Environmental Samples

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Daily News Analysis

- ➔ The World Health Organization (WHO) detected poliovirus in wastewater systems across five countries in the WHO European Region: Finland, Germany, Poland, Spain, and the UK. These detections occurred from September 2024.
- ➔ Despite the detection of the virus in environmental samples, no confirmed cases of polio have been reported in these countries to date.
- ➔ WHO emphasized the importance of ongoing vaccination and surveillance to mitigate any potential risks, as the presence of the virus still poses a global threat.

Polio Cases and Virus Detection Worldwide

- ➔ In Pakistan, four cases of wild poliovirus type 1 (WPV1) and eight WPV1-positive environmental samples have been reported.
- ➔ Other countries, including Cameroon, Côte d'Ivoire, Chad, and Nigeria, have reported circulating vaccine-derived poliovirus type 2 (cVDPV2) cases.
- ➔ Environmental samples containing cVDPV2 were detected in various cities, including Barcelona (Spain), Warsaw (Poland), and Munich (Germany). This indicates the widespread nature of the virus.

Vaccination and Immunity Levels

- ➔ Countries like Finland, Germany, Poland, Spain, and the UK maintain high immunization rates, ranging from 85% to 95%, with three doses of the inactivated polio vaccine (IPV).
- ➔ This provides substantial protection from paralysis caused by the virus.
- ➔ Subnational areas with lower vaccination coverage may have immunity gaps, which WHO is investigating to address potential risks.

Resurgence of Vaccine-Derived Polio and Debates on Transmission Routes

- ➔ There has been a growing debate regarding the primary transmission route of poliovirus. While the faecal-oral route was traditionally assumed, recent studies suggest respiratory transmission may also play a significant role.
- ➔ A study published in the Infectious Diseases journal argues that poliovirus shedding in the throat is critical for transmission, indicating that respiratory transmission could be more prevalent than previously believed.

Switching from OPV to IPV

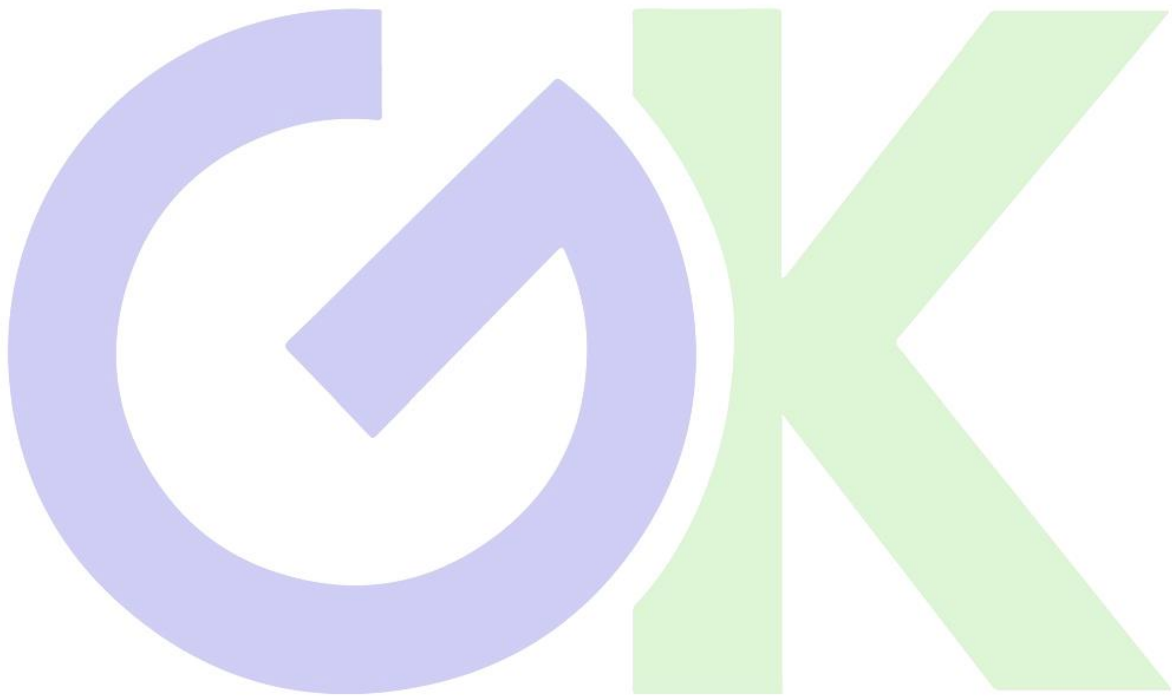
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- ▶ Experts recommend switching from the oral polio vaccine (OPV) to IPV globally to prevent further cases of vaccine-derived polio and accelerate the eradication of the virus.

UPSC Mains Practice Question

Ques : Discuss the challenges to global polio eradication efforts, focusing on the resurgence of vaccine-derived polio and the implications of shifting from oral polio vaccine (OPV) to inactivated polio vaccine (IPV). (150 Words /10 marks)



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The U.K. recently voted to legalize assisted dying for terminally ill patients, sparking significant ethical and legal debates.

Should assisted dying be legalised?

What concerns do opponents of the assisted dying Bill in the U.K. raise? What changes does the proposed law seek to introduce? How does India's legal stance on euthanasia compare to the U.K.'s position?

EXPLAINER

Garimella Subramaniam

The story so far:

Britain's House of Commons on November 29 voted by a majority to legalise assisted dying – a less controversial synonym for assisted suicide in England and Wales. The step signals a seismic social shift on an emotive issue. Advocates regard the new Bill as a humane and compassionate intervention that should – for those who want to exercise the option – bring closure to a painful, debilitating and degrading dependence on the immediate family. Opponents, who include the head of the Church of England, are apprehensive that the severely disabled and vulnerable patients may feel forced to end their lives to relieve the burden on relatives. "It should never become easier to seek help to die than to live," they say. The debate on the Bill's merits has also brought to the fore concerns that the delivery of hospice and palliative care services could be undermined. Portrayed sometimes as a "Give us our last rights" campaign, about 75% of the public has backed the liberalisation of assisted dying, as per a U.K. National Centre for Social Research survey.

How controversial is the move?

The U.K. courts have time and again maintained that given the sensitive ethical, philosophical, and social questions involved, the subject of assisted dying was not a matter on which the judiciary could pronounce a decision based on concrete evidence. Successive British governments have similarly maintained that any change to existing law was for parliament to consider and a matter of their conscience for individual MPs and that the government would officially adopt a neutral stance. The Terminally Ill Adults (end of life) legislation was thus brought forward as a private member Bill by the Labour MP Kim Leadbeater. Among its supporters



Moral debate: Opponents are apprehensive that the severely disabled and vulnerable patients may feel forced to end their lives to relieve the burden on relatives. AP

were Prime Minister Keir Starmer, the Home Secretary, the chancellor of the exchequer, and the Opposition leader Rishi Sunak. Six Cabinet Ministers opposed the proposal.

What is the current law in this area?

Suicide, (self-inflicted death), or attempted suicide are not in themselves criminal offences in England and Wales. Conversely, an act that encourages or assists a person to commit suicide or attempted suicide is a criminal offence that carries a 14-year prison sentence under the 1961 Assisted Suicide Act.

What is the proposed law?

The Bill before parliament seeks to give terminally ill, mentally competent adults who have less than six months to live – which assumes that a reliable method exists of forecasting survival – the option to end their life. Under one stipulation, any such request must be authorised by two doctors and a High Court judge.

What were the petitioners' prayers?

Since 2001, severely disabled applicants have petitioned the U.K. courts that the

1961 law, as well as the prosecution's refusal to allow them to end their lives under medical assistance, was incompatible with their rights under the European Convention on Human Rights (ECHR). At issue was the right to life (Article 2), which the petitioners viewed as entailing the right to self-determination and an entitlement to end life with assistance. They have also argued that the denial of the option to die with assistance – insofar as it failed to alleviate suffering – amounted to cruel and degrading treatment prescribed under Article 3. It moreover constituted an infringement of the right to privacy and freedom of conscience enshrined in Articles 8 and 9. Finally, as persons with disabilities who needed assistance to end their lives, the denial of permission by the prosecution amounted to discrimination, in breach of Article 14 of the ECHR.

What did the court rule?

The U.K. House of Lords in 2002 unanimously overruled these contentions. But, in a 2014 Supreme Court decision, the majority opined that although the 1961 law was incompatible

with the rights of two incurably suffering but not terminally ill petitioners, it was for parliament to modify the law. In 2015, the European Court of Human Rights ruled that the U.K. Supreme Court was under no obligation to examine the merits of a challenge to primary legislation and that Britain's government was open to concluding that this was a matter for parliament to arrive at a suitable determination. It is thus crystal clear that only new legislation can alter the *status quo* in this matter.

What is the position in India?

In *Common Cause vs. Union of India* (2018), the Supreme Court affirmed that the "right to die with dignity" is integral to the right to life and personal liberty under Article 21 of the Constitution. The court also legalised "passive euthanasia," which involves the withdrawal of life support from terminally ill patients or those in a permanent vegetative state. This allows individuals to die a natural death in the absence of medical interventions. The top court also issued comprehensive guidelines to facilitate passive euthanasia. For instance, if a patient leaves behind a living will, it must be executed in the presence of two witnesses and attested by a Judicial Magistrate. In 2019, the Indian Society of Critical Care Medicine filed an application seeking modification of these guidelines, arguing that they were onerous and impractical. Accordingly, a five-judge Constitution Bench in 2023 simplified the process by imposing strict timelines at each stage and limiting the role of the Judicial Magistrate.

In September, the Health Ministry released draft guidelines on withdrawing medical support for terminally ill patients, addressing a regulatory gap that had left healthcare professionals in the lurch. These specify that doctors must refrain from initiating life-support measures when they offer no benefit to the patient and are likely to cause suffering and a loss of dignity. *Garimella Subramaniam is Director, Strategic Initiatives, AgnoShin Technologies Pvt. Ltd (With inputs from Aaratrika Bhaumik)*

THE GIST

▼ The U.K. House of Commons recently voted to legalise assisted dying, marking a significant shift. Supporters view it as compassionate, while opponents worry about vulnerable patients feeling pressured to end their lives.

▼ Current law criminalises assisting suicide, but the proposed Bill allows terminally ill patients with less than six months to live to choose assisted death, with strict safeguards involving doctors and a High Court judge.

▼ India has legalised passive euthanasia (withdrawing life support for terminally ill patients) through the Supreme Court's ruling.

➡ This decision has profound implications for human rights and medical ethics, with comparisons drawn to India's legal stance on euthanasia.

Recent Legal Developments in the UK

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Daily News Analysis

- ➔ On November 29, 2024, the U.K. House of Commons voted to legalize assisted dying for terminally ill adults in England and Wales.
- ➔ The Bill aims to allow terminally ill, mentally competent adults with less than six months to live the option to end their life.
- ➔ The proposal has generated significant debate, with 75% of the public supporting it, according to a U.K. National Centre for Social Research survey.
- ➔ Advocates argue that assisted dying offers a humane solution for those enduring painful and debilitating conditions.
- ➔ Opponents, including the Church of England, fear it could lead to vulnerable individuals being pressured into ending their lives.

Current and Proposed Laws in the UK

- ➔ The 1961 Assisted Suicide Act makes suicide not a criminal offense but criminalizes assisting suicide, with a 14-year prison sentence for helping.
- ➔ The new Bill would allow assisted death but requires approval from two doctors and a High Court judge for any request.

Legal Precedents

- ➔ U.K. courts have repeatedly stated that the issue of assisted dying should be addressed by Parliament, not the judiciary.
- ➔ Previous petitions for assisted dying based on human rights violations were rejected, but in 2014, the Supreme Court suggested that Parliament could amend the law.
- ➔ The European Court of Human Rights also upheld the stance that Parliament must address the issue.

Assisted Dying in India:

- ➔ India's Legal Position In the 2018 Common Cause vs. Union of India case, the Supreme Court recognized the "right to die with dignity" as part of Article 21 of the Constitution. Passive euthanasia was legalized, and guidelines for withdrawing life support were set. In 2023, the Supreme Court simplified these guidelines, making the process more accessible while ensuring legal safeguards.
- ➔ Arguments in Favor of Assisted Dying in India Right to Die with Dignity: It is argued that individuals should have the right to choose to end their suffering and die with dignity, especially in cases of terminal illness.
- ➔ Relieves Pain and Suffering: Assisted dying offers a humane alternative for patients enduring extreme pain and discomfort, allowing them to end their lives on their own terms.
- ➔ Autonomy and Self-Determination: Individuals should have the autonomy to make decisions about their life and death, as part of their right to personal liberty.
- ➔ Overcoming Bureaucratic Hurdles: Assisted dying can help bypass the complex bureaucratic and judicial processes currently in place for euthanasia.

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Daily News Analysis

- ➡ Arguments Against Assisted Dying in India Ethical Concerns: Critics argue that legalizing assisted dying could lead to abuse, with vulnerable individuals feeling pressured by family or society to end their lives.
- ➡ Slippery Slope: Concerns that it could lead to the normalization of euthanasia for non-terminal conditions.
- ➡ Undermines Palliative Care: The focus on assisted dying may divert attention from improving palliative and hospice care services.
- ➡ Religious and Cultural Values: Many believe that ending life prematurely is against moral, religious, and cultural principles.

UPSC Mains Practice Question

Ques : Discuss the ethical and legal implications of the legalization of assisted dying in the U.K. and compare it with India's position on euthanasia and the right to die with dignity. (150 Words /10 marks)

India's fisheries and aquaculture sector plays a vital role in providing livelihoods to millions and has seen significant growth in production.

Why is strengthening fisheries extension services crucial?

What support do Matsya Seva Kendras provide to fish farmers?

Abhilaksh Likhii

The story so far:

India possesses diverse fisheries resources that provide livelihood opportunities to approximately three crore fishers and fish farmers. The country has witnessed an 83% increase in the national fish production since 2013-14, that stands at a record 175 lakh tons in 2022-23. With 75% of this coming from inland fisheries, India is the second-largest fish and aquaculture producer globally. In this backdrop, strengthening last-mile fisheries and aquaculture extension services is of paramount importance. Experts contend that such extension should provide request-based services to fishers/fish farmers on the life cycle of improved species cultured, water quality, disease, and available rearing technologies; address issues faced by seed growers and hatcheries; and conduct need-based

training to promote sustainable practices and fisheries-based activities that have the potential to be viable business models.

What is the role of Matsya Seva Kendras?

Under the flagship Pradhan Mantri Matsya Samapada Yojana, 'Matsya Seva Kendras' (MSK) has been envisioned as one-stop solution to provide a range of extension services by trained aquaculture professionals. The governmental assistance to set up such Kendras for women and weaker sections is available to the extent of 60%. Funds have been provided to State governments and Union Territories for operationalising 102 such Kendras. For example, the MSK in Thrissur, Kerala has a well-equipped lab for water, soil, and microbial analysis to conduct request-based disease tests, while the MSK in Nasik and Sangli districts in Maharashtra focuses on capacity building for fishers/fish farmers

on varied seed/feed inputs backed with the required technology infusion.

Fostering a 'whole of government approach,' the Government of India advises MSKs to mobilise start-ups, cooperatives, fish farmers' producer organisations, joint liability groups, and self-help groups to share best practices. The latter includes regenerative and conservation management practises for both inland and marine fisheries in view of the effects of climate change.

How do Sagar Mitras support fishers?

Another innovative extension initiative by the government is the deployment of "Sagar Mitras" in coastal States and U.T.s as a vital interface between the government and sea-borne fishers. They compile information and data on daily marine catch, price fluctuations, and requisite marketing needs at fish landing centres/harbours. They disseminate information to fishers on local

regulations, weather forecasts, natural calamities, hygienic fish handling, and potential fishing zones in the seas.

How can extension services be improved?

To make the extension and advisory services in fisheries and aquaculture more robust the need of the hour is twofold. First, the above initiatives should be institutionally converged with the already networked field extension machinery of over 700 Indian Council of Agricultural Research-driven Krishi Vigyan Kendras and the State governments and U.T.s extension services. Second, promoting digital outreach. The National Fisheries Development Board has initiated a nationwide virtual learning platform, 'AquaBazaar,' that enables experts to clarify basic concepts and provide practical demonstrations to fishers on breeding/seed production of commercially important fish.

In this context, the World Bank-assisted Government of India project to formalise the fisheries and aquaculture sector is a boon indeed. It aims to create work-based digital identities for all fishers and fish farmers in the country, thereby strengthening their extension, capacity building, and awareness generation needs.

Abhilaksh Likhii is Secretary, Department of Fisheries, Government of India. The views expressed are personal

THE GIST

Strengthening fisheries extension services is essential for supporting fishers and promoting sustainable practices, with initiatives like Matsya Seva Kendras and Sagar Mitras playing key roles.

Matsya Seva Kendras and Sagar Mitras help fishers by providing critical support, training, and information to improve productivity and sustainability.

- ➔ Strengthening extension services is crucial for sustainable growth, with initiatives like Matsya Seva Kendras and Sagar Mitras supporting the sector.
- ➔ Digital platforms and government schemes are helping to improve outreach and capacity building.

India's Fisheries and Aquaculture Sector

- ➔ India's fisheries resources provide livelihood to around three crore fishers and fish farmers.
- ➔ The country saw an 83% increase in fish production since 2013-14, reaching 175 lakh tons in 2022-23.
- ➔ Inland fisheries contribute 75% of this total, making India the second-largest global producer of fish and aquaculture.

Importance of Strengthening Extension Services

- ➔ Experts stress the need for strengthening last-mile fisheries and aquaculture extension services.
- ➔ These services should offer request-based support on improved species, water quality, disease management, rearing technologies, and training on sustainable practices.
- ➔ Addressing challenges faced by seed growers and hatcheries is essential to foster viable business models in the sector.

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Role of Matsya Seva Kendras (MSKs)

- The Pradhan Mantri Matsya Sampada Yojana supports the establishment of MSKs, which provide a range of services by trained aquaculture professionals.
- Government assistance for setting up MSKs is available up to 60%, specifically for women and weaker sections.
- State governments and Union Territories have been provided funds to operationalize 102 MSKs, such as those in Thrissur, Kerala, and Nasik and Sangli, Maharashtra.
- MSKs are focused on capacity building, disease testing, and promoting best practices, including regenerative and conservation management practices in both inland and marine fisheries.

Role of Sagar Mitras

- Sagar Mitras are deployed in coastal States and U.T.s to serve as an interface between the government and sea-borne fishers.
- They collect data on marine catches, price fluctuations, and marketing needs, while also disseminating crucial information on regulations, weather forecasts, and hygienic practices.

Improving Extension Services

- Extension services can be improved by institutional convergence with over 700 Krishi Vigyan Kendras and State government services.
- Promoting digital outreach is crucial, and platforms like AquaBazaar are helping fishers with virtual learning on breeding and seed production.
- A World Bank-assisted project aims to create digital identities for fishers, enhancing extension services and capacity building.

PYQ : UPSC Mains : 2022

Ques : What are the forces that influence ocean currents? Describe their role in the fishing industry of the world.(150 Words /10 marks)

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In News : China to build world's largest hydropower dam in Tibet

- ▶ The article discusses China's approval of the world's largest hydropower dam on the Yarlung Zangbo River, highlighting its potential benefits and concerns from downstream countries like India and Bangladesh.



Analysis of News:

▶ **Overview of the Hydropower Project**

- China has approved the construction of the world's largest hydropower dam on the lower reaches of the Yarlung Zangbo River on the eastern Tibetan plateau.
- With an estimated annual electricity production of 300 billion kilowatt-hours, the project will significantly surpass the capacity of the Three Gorges Dam.
- This ambitious undertaking aligns with China's carbon neutrality goals, aims to boost engineering and related industries, and is expected to create jobs in Tibet.

▶ **Economic and Engineering Challenges**

- The dam will require extensive investment, with costs likely to exceed the \$34.83 billion spent on the Three Gorges Dam, including engineering and resettlement expenses.
- Unique engineering challenges arise from the dramatic 2,000-meter descent of the river within a 50-kilometer span, offering vast hydropower potential.
- However, specifics regarding displacement and ecological impact remain undisclosed.

▶ **Ecological and Regional Concerns**

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Daily News Analysis

- The dam's construction raises significant concerns about its impact on the local ecosystem, one of the richest and most diverse on the Tibetan plateau.
- India and Bangladesh, located downstream, worry about potential changes to the flow and course of the river.
- Such alterations could affect water availability, agriculture, and biodiversity in the Brahmaputra basin, which is crucial for millions of people in these regions.

➡ **Geopolitical Implications**

- The Yarlung Zangbo transitions into the Brahmaputra River as it flows through India and Bangladesh.
- Any modifications to the river's natural course could strain transboundary water-sharing agreements and escalate tensions between China, India, and Bangladesh.
- These countries have expressed concerns over China's unilateral decision-making in such ecologically and geopolitically sensitive projects.

Tapping into Kazakhstan's rare earths potential

As the world accelerates its transition to cleaner energy through cutting-edge technology, the demand for rare earths has increased globally. India, the third-largest carbon emitter, is pivoting to renewable energy and faces a growing need for rare earths. Despite being the fifth-largest holder of rare earth elements, India relies heavily on China for imports as it lacks advanced technologies for extraction. Amid supply chain disruptions and security concerns tied to China's dominance in this sector, New Delhi is diversifying its sources through agreements with the U.S., Latin American, and African countries to mitigate dependency on China. In this context, Kazakhstan emerges as a promising and strategically closer alternative.

China's monopoly

China accounts for over one-third of the global rare earths' possession and around 70% of its production, with India sourcing around 60% of its imports from Beijing. This heavy reliance stems from India's insufficient domestic production to meet the demands of critical sectors like electronics, defence, and clean energy.

However, China's past actions of disrupting critical technology and mineral supply due to bilateral issues give rise to fears as it tries to exert control over the critical mineral industry. China's monopoly in global and Indian rare earth demand leverages its position to dictate supply chain terms. China recently halted the supply of antimony, crucial for flame retardants, solar cells, batteries, and military gear, citing national security concerns. This move, along with a ban in December 2023 on critical technologies for extracting rare earths and producing magnets, reinforces China's grip on the sector.

Meanwhile, reduced ore supplies from Russia



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– mainly antimony concentrates used in wind and solar energy production – have intensified China's concerns as both the largest producer and consumer of rare earths. Russia's invasion of Ukraine has further exposed the risks of concentrated supply chains, resulting in India and Western nations to seek sustainable, diversified alternatives.

Why Kazakhstan is important

In this context, Kazakhstan, a close ally of India, offers a viable alternative to meet India's rare earth demands. Kazakhstan is among the richest sources of rare earths. With New Delhi's increasing engagement with Astana through the 'Connect Central Asia' policy and connectivity initiatives such as the International North-South Transport Corridor, a rare earth partnership could unlock significant economic benefits for both nations. Kazakhstan holds 15 of the 17 known rare earth elements and, with advanced extraction technologies, could dent China's dominance in this sector. Astana already has extraction agreements with Japan and Germany, while the U.S., South Korea, and the European Union have recently joined exploration and production deals to tap its rare earth reserves.

Kazakhstan's extraction of rare earth elements like dysprosium is projected to grow significantly between 2024 and 2029. The country's President Kassym-Jomart Tokayev recently highlighted rare earths as the "new oil" for Kazakhstan's economy. The country hosts one of the world's three full-cycle beryllium and scandium factories, crucial for telecommunications, and is among the four global manufacturers of tantalum and niobium, essential for nuclear reactors and clean energy. Astana is expanding its role in rare earth and strategic mineral production with investments in tungsten, battery materials, and magnets. Its vast mining potential in rare earth

India's over-reliance on China and possible global shifts after the U.S. regime change underscore the need for diversification.

elements can complement India's efforts in this sector. The Kazakh government is prioritising advanced technologies and partnerships to strengthen its presence in emerging fields like lithium and heat-resistant alloys. Additionally, Kazakh metallurgical plants extract bismuth, antimony, selenium, and tellurium, and use imported technologies to produce gallium from alumina and indium from polymetallic ores, all of which are essential for renewable energy production.

The way forward

India's COP29 pledge to achieve 500 GW of renewable energy by 2030 highlights the importance of rare earth elements like dysprosium in advancing clean energy technologies. India lacks capacity across the rare earth supply chain but plans a 400% increase in mining output over the next decade.

India's over-reliance on China and possible global shifts after the U.S. regime change underscore the need for diversification. India-Kazakhstan collaboration can enhance India's resource security, reduce dependence on China, and support sustainability by procuring rare earth through domestic extraction and import sources through partners in closer proximity. Apart from India's direct connectivity challenges with Kazakhstan, there is a lack of necessary extraction technologies in both countries. Nevertheless, the 'India-Central Asia Rare Earths Forum', proposed by National Security Adviser Ajit Doval during the second India-Central Asia Summit in Astana, aims to boost partnerships and private sector investment, potentially combating these challenges. It could facilitate bilateral training, joint mining ventures, shared geological data and expertise, sustainable extraction practices, and create a regional market to reduce reliance on China.

GS Paper 02 : International Relations

UPSC Mains Practice Question: Discuss the strategic importance of rare earth elements for India's clean energy transition and the challenges posed by dependence on China. How can partnerships with countries like Kazakhstan help address these challenges? (250 Words /15 marks)

Context :

- ➔ The global transition to renewable energy has increased the demand for rare earth elements, critical for clean energy and advanced technologies.
- ➔ India, despite significant reserves, relies heavily on imports from China, posing supply chain and security risks.
- ➔ Kazakhstan offers a strategic alternative for India to diversify its rare earth supply.

Global Demand for Rare Earths and India's Energy Transition

- ➔ The transition to cleaner energy has significantly increased the global demand for rare earths.
- ➔ India, the third-largest carbon emitter, is pivoting to renewable energy and faces a rising need for rare earth elements.
- ➔ Despite being the fifth-largest holder of rare earth reserves, India heavily relies on imports, primarily from China, due to a lack of advanced extraction technologies.
- ➔ Supply chain disruptions and security concerns linked to China's dominance are prompting India to diversify sources through partnerships with the U.S., Latin America, and Africa.
- ➔ Kazakhstan emerges as a promising alternative to reduce dependence on China.

China's Dominance in the Rare Earth Sector

- ➔ China possesses over one-third of global rare earth reserves and contributes approximately 70% of global production.
- ➔ India sources around 60% of its rare earth imports from China due to limited domestic production.
- ➔ China's control over critical minerals has caused disruptions, such as halting antimony supplies and banning key extraction technologies in December 2023.
- ➔ The invasion of Ukraine has further highlighted the risks of concentrated supply chains, with reduced ore supplies from Russia intensifying these concerns.

Kazakhstan as a Strategic Partner for Rare Earths

- ➔ Kazakhstan is one of the richest sources of rare earth elements and holds 15 of the 17 known rare earths.
- ➔ India's 'Connect Central Asia' policy and initiatives like the International North-South Transport Corridor enhance the potential for collaboration.
- ➔ Kazakhstan has advanced extraction technologies and partnerships with countries like Japan, Germany, and the EU.
- ➔ The nation's extraction of elements like dysprosium is expected to grow between 2024 and 2029.
- ➔ Kazakhstan's President has identified rare earths as the "new oil," emphasizing their economic significance.
- ➔ Kazakhstan produces critical materials like beryllium, scandium, tantalum, and niobium, essential for clean energy and telecommunications.

Path to Collaboration and Resource Security

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Daily News Analysis

- ➔ India's pledge to achieve 500 GW of renewable energy by 2030 underscores the importance of rare earth elements.
- ➔ Plans for a 400% increase in mining output highlight India's efforts to build capacity across the rare earth supply chain.
- ➔ The proposed 'India-Central Asia Rare Earths Forum' aims to foster bilateral training, joint mining ventures, and sustainable extraction practices.
- ➔ Collaboration with Kazakhstan can enhance India's resource security, reduce dependence on China, and support sustainability by leveraging regional partnerships.

Importance of Rare Earth Minerals for India's Evolving Economy

- ➔ **Strategic Resource for Technology:** Rare earth minerals are critical for manufacturing electronics, renewable energy technologies, and advanced defense systems, essential for India's technological aspirations.
- ➔ **Renewable Energy Transition:** Key components like neodymium and dysprosium are used in wind turbines and electric vehicle motors, supporting India's shift to clean energy.
- ➔ **Telecommunication Infrastructure:** Rare earth elements are vital for producing optical fibers and semiconductors, pivotal for expanding India's digital economy.
- ➔ **Defense and Space Industry:** Minerals like yttrium and gadolinium are used in missile guidance systems and satellite communication, strengthening India's strategic capabilities.
- ➔ **Boost to Manufacturing Sector:** Availability of rare earths can reduce import dependence and support initiatives like 'Make in India.'
- ➔ **Economic Diversification:** Leveraging domestic resources can attract investments in mining and processing, creating jobs and boosting economic growth.
- ➔ **Global Geopolitical Leverage:** Strengthening rare earth production enhances India's role in global supply chains, reducing dependence on dominant players like China.