

The Hindu Important News Articles & Editorial For UPSC CSE

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The Economic Survey 2025-26, tabled in Parliament of India by Union Finance Minister Nirmala Sitharaman, presents a nuanced macroeconomic narrative: a relatively upbeat domestic outlook for India contrasted with a fragile and risk-laden global environment. Authored by Chief Economic Adviser V. Anantha Nageswaran, the Survey raises India's medium-term growth potential to ~7%, while warning of global shocks that could exceed the severity of the 2008 financial crisis.

Key Highlights and Analysis

1. Upgraded Growth Outlook for India

Medium-term potential growth revised upward from 6.5% to ~7%, reflecting:

- Higher capital formation
- Improved labour force participation
- Better efficiency in factor deployment

FY26 growth pegged at 7.4% (government estimate);
 FY27 range at 6.8-7.2%.

Reform momentum cited as decisive:

PLI schemes, FDI liberalisation, logistics reforms

Strong public capex (physical & digital infrastructure)

Tax simplification, MSME credit support

Healthier corporate and banking balance sheets

2. Grim Global Outlook and Risk Scenarios

The Survey outlines three probabilistic global scenarios for 2026:

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Survey predicts upbeat India, troubled world

The Economic Survey 2025-26 that was tabled in Parliament puts FY27 growth range at 6.8%-7.2%

T.C.A. Sharad Raghavan
 NEW DELHI

The Economic Survey 2025-26 on Thursday painted a relatively rosy picture of India's medium-term outlook, raising the country's medium term forecast to 7% from the earlier estimate of 6.5%.

However, the Survey simultaneously outlined a relatively grim outlook for the global economy, estimating a 10%-20% chance of a crisis worse than the global financial crisis of 2008 unfolding in 2026.

Even its best-case scenario, however, did not match the revisions as they were in 2025, but "increasingly less secure and more fragile."

The Survey, authored by Chief Economic Adviser V. Anantha Nageswaran and tabled in Parliament by Union Finance Minister Nirmala Sitharaman, went on to say that each of its three probabilistic scenarios for the globe could pose risks to India.

Growth upgrade
 For India, the key drivers of a higher medium-term growth outlook are the growth of capital, improved labour participation, and greater efficiency

The Economic Survey outlined three scenarios for the world economy that could unfold in 2026:

Risk analysis

SCENARIO 1
 The best-case Probability: 40%-45%
 □ Strategic rivalry prevails at a "moderate" level, and conflict remains unresolved.
 □ Existing factors do not lead to a total collapse of economic volatility.
 □ Minor shocks will not threaten the stability of the market.
 □ High levels of policy uncertainty.

SCENARIO 2
 The middle-breakdown Probability: 40%-45%
 □ Systemic breakdown in the longer term.
 □ Strategic rivalry prevails, and the conflict remains unresolved.
 □ Economic volatility continues, leading to a persistence of sanctions and counter measures.
 □ Supply-chain and political pressure.

SCENARIO 3
 The worst-case Probability: 10%-20%
 □ A major conflict between major powers occurs.
 □ The correction triggers intense risk aversion.
 □ If this coincides with geopolitical escalation, it could weaken capital flows and contract global trade.
 □ The macroeconomic fallout could be worse than the 2008 global financial crisis.

in the deployment of these two factors of production. For the current financial year 2025-26, the Survey highlighted the government's estimate of 7.4% growth, adding that its non-inflationary medium-term growth in Q3 (October-December 2025) stood at 7%.

For 2026-27, the Survey estimates a growth rate range of 6.8%-7.2%.

The Survey, it added, was further bolstered by sustained public investment in physical and digital infrastructure, simplification of tax laws, measures targeted at the MSMEs that have sought to

"Over the past three years, the Indian economy has strengthened across several areas relevant for medium-term growth," it said. "Manufacturing-oriented initiatives, such as the production-linked incentive schemes, FDI liberalisation, and logistics reforms, have supported capacity creation."

These measures, it added, were further bolstered by sustained public investment in physical and digital infrastructure, simplification of tax laws, measures targeted at the MSMEs that have sought to

ease credit constraints. These reforms have coincided with stronger corporate balance sheets, rising formalisation of employment, and continued improvements in public administration," the Survey added.

Together, these developments, it said, made a "pervasive case that India's potential growth has risen to around 7% over the medium term."

The Survey further outlined three scenarios for the world that could unfold in 2026. The worst of these, the macroeconomic conse-

quences of which "could be worse than the 2008 global financial crisis," was assigned a probability of 10%-20%.

Under the worst-case scenario, systemic financial and geopolitical stresses would amplify each other, rather than taking place independently.

As a key emerging risk, the Survey said, was the level of highly-leveraged investments in artificial intelligence.

It said, these investments have exposed business models that are de-

pendent on "optimistic" execution timelines, narrow customer concentration, and low capitalisation.

"Under this outcome, strategic rivalry intensifies, the Russia-Ukraine conflict remains unresolved in a desultory form, and collective security arrangements unravel," the Survey predicted.

Risks to India

The Survey said that in all three scenarios, India was relatively better off than most other countries but added that it still faced risks.

"The three scenarios pose a common risk for India: a sharp drop in capital flows and the consequent impact on the rupee," the Survey said. "Only the degree and duration will vary."

It added that this impact might not be confined to a year, and could be more enduring.

The responses, India needs to generate sufficient investor interest and export earnings in foreign currency to offset rising import costs, as regards the success of indigenisation efforts, rising imports will invariably accompany rising incomes, the Survey said.

MORE REPORTS ON

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Survey raises concerns over unconditional cash transfers

It says such programmes may have short-term benefits, but the rapid scale-up and persistence raises concerns about fiscal viability and medium-term growth prospects when not supported by investments in employment, skills, and human capital

T.C.A. Sharad Raghavan
 NEW DELHI

In a year when four major States go to the polls, of which only one is ruled by the Bharatiya Janata Party, the Economic Survey 2025-26 has come out strongly against "unconditional cash transfers" (UCT), including to women. It highlighted that while these have short-term gains, they raise concerns about fiscal sustainability and medium-term growth.

Notably, last year's edition of the Survey had noted that cash transfers and loans to targeted poorer and lower-income households were having positive effects on consumption, although these needs to fund various basic needs and debt repayments.

Assembly elections will be held in West Bengal, Tamil Nadu, Kerala, and Assam, along with Puducherry this year.

Rising cash transfers
 The Survey noted that aggregate spending on UCT programmes, particularly for women, is estimated at about ₹1.7 lakh crore for the current financial year 2025-26. It added that the number of States implementing them increased



Money matters: Chief Economic Adviser V. Anantha Nageswaran with other officials addressing the media on the Economic Survey on Thursday. SUSHIL KUMAR VERMA

The Economic Survey notes that revenue expenditure continues to account for the bulk of State spending

strained, especially in an environment of limited revenues and elevated deficits," it added.

Fiscal trade-off
 The Economic Survey pointed out the trade-off facing States: additional spending by States will crowd out resources for critical social and physical infrastructure, unless States increase their deficits.

However, deficits themselves cannot increase without further deteriorating the financial health of the States.

"These trade-offs are reinforced by programme design: many schemes lack sunset clauses or periodic reviews, increasing rigidity in revenue expenditure," the Survey said.

"As these transfers absorb a rising share of available fiscal space, the scope for expanding productive capital expenditure becomes increasingly con-

cerning for 84% of total expenditure in 2023-24, albeit somewhat lower than the 86% in 2018-19."

"Within revenue expenditure, however, the composition has undergone a notable shift, with an increasing tilt towards unconditional cash transfers and other committed outlays," the Survey said.

"As these transfers absorb a rising share of available fiscal space, the scope for expanding productive capital expenditure becomes increasingly con-

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The Survey outlines three probabilistic global scenarios for 2026:

Daily News Analysis

Worst case (10–20%): A systemic crisis—financial, technological, and geopolitical stresses reinforcing each other; potentially worse than 2008.

Best case (40–45%): Continuation of 2025 conditions, but increasingly fragile.

Multipolar disorder (40–45%): Intensified strategic rivalry, unresolved Russia–Ukraine conflict, erosion of collective security.

A notable emerging risk is the over-leveraging in AI-related investments, with vulnerabilities from optimistic timelines and concentrated demand.

3. Risks to India

Common risk across scenarios: capital flow volatility and pressure on the rupee.

Potential spillovers via global liquidity tightening and risk aversion.

Policy imperative: bolster export earnings, investor confidence, and foreign exchange resilience to finance a rising import bill as incomes grow.

4. Concerns over Unconditional Cash Transfers (UCTs)

Aggregate UCT spending (especially for women) estimated at ₹1.7 lakh crore (FY26).

Rapid scale-up across States, many already in revenue deficit.

While acknowledging short-term consumption benefits, the Survey flags:

Fiscal sustainability risks

Crowding out of capital expenditure

Weak medium-term growth if not paired with investments in jobs, skills, and human capital

5. Fiscal Policy and FRBM Debate

The Survey supports flexibility for the Centre under the Fiscal Responsibility and Budget Management Act, citing global uncertainty.

Notes credibility gains from reducing the fiscal deficit from 9.2% (FY21) to ~4.4% (FY26).

Warns that rigid adherence to the 3% target may be counterproductive in volatile conditions.

States' finances flagged as worsening: fewer revenue-surplus States; rising committed expenditure (including UCTs).

Conclusion

Daily News Analysis

The Economic Survey 2025–26 makes a persuasive case that India's potential growth has structurally improved to around 7%, underpinned by reforms, public investment, and stronger balance sheets. However, it simultaneously cautions that external vulnerabilities—global financial stress, AI-driven bubbles, and geopolitical fragmentation—pose real risks, primarily through capital flows and currency pressures.

For policymakers, the Survey underscores a calibrated approach: maintain reform momentum, prioritise productive capital expenditure, ensure fiscal flexibility without eroding credibility, and align welfare spending with human capital and employment creation.

UPSC Prelims Exam Practice Question

Ques: With reference to the Economic Survey 2025–26, consider the following statements:

1. The Survey has revised India's medium-term potential growth rate upward to around 7%.
2. For FY 2026–27, India's GDP growth is projected to be in the range of 6.8%–7.2%.
3. The Survey identifies unconditional cash transfers as fiscally neutral for States in the long run.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: a)

UPSC Mains Exam Practice Question

Ques: "Fiscal flexibility is as important as fiscal discipline in a volatile global economy." Examine this statement in light of the Economic Survey's recommendations on the FRBM framework. (150 words)

Page 05 : GS III : Indian Economy / Prelims Exam

The Economic Survey 2025–26, tabled in Parliament of India, has justified the Union government's decision to scrap the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and replace it with the Viksit Bharat Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025.

The Survey argues that while MGNREGA played a crucial role in stabilising rural incomes for nearly two decades, changing rural economic realities and persistent structural flaws necessitated a comprehensive legislative reset.

Survey backs decision to scrap MGNREGA, cites structural flaws, strong rural economy

Sobhana K. Nair
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The Economic Survey tabled in Parliament on Thursday defended the Union government's decision to scrap the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), arguing that though the programme helped stabilise rural incomes since its launch in 2005, it has long grappled with "deep structural issues".

The survey described the new rural employment legislation – the Viksit Bharat Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025 – as a "comprehensive legislative reset" designed to address shortcomings in the United Progressive Alliance-era scheme.

Citing NABARD's latest Rural Economic Conditions and Sentiments Survey (RECSS) from Novem-



Rural realities: The survey describes the new rural jobs law as a 'comprehensive legislative reset' of the MGNREGA. FILE PHOTO

ber 2025, the survey noted a "broad-based strengthening of rural economic fundamentals". According to RECSS, rural India is experiencing robust consumption, high income growth, rising investments, improved access to formal credit, lower inflation perceptions, better loan repayment capacity, and high satisfaction with rural infrastructure.

Another research report

referenced by the survey shows rural consumption at a 17-quarter high, driven by firm growth in both agricultural and non-agricultural real wages.

Steady decline

Against this backdrop, the survey said that demand for MGNREGA has been steadily declining. Person-days generated fell from the pandemic peak of 389.09 crore in 2020-21 to

183.77 crore in 2025-26 (up to December 31, 2025), a drop of more than 53%. This decline, it argued, coincides with rural unemployment falling from 3.3% in 2020-21 to 2.5% in 2023-24, suggesting that many households are finding non-farm or other forms of work outside MGNREGA.

However, activists and workers' unions contend that demand was "artificially suppressed" due to low budget allocations and technological hurdles such as mandatory digital attendance, which they say created high barriers for workers.

The survey highlighted that improved rural economic conditions and reduced dependence on MGNREGA make it necessary to "re-examine the design and objectives of employment guarantee programmes in light of changing rural realities." It also acknowledged the

scheme's contributions to stabilising incomes and creating basic infrastructure, which it said had "transformed the nature of rural employment requirements."

Other issues

Women's participation rose sharply from 48% in 2013-14 to 58.1% in 2024-25.

Yet the Economic Survey said these gains were overshadowed by "deeper structural issues", including mismatch between expenditure and physical progress, work not being executed on the ground, use of machines in labour-intensive tasks, and frequent bypassing of digital attendance systems.

Misappropriation accumulated over time, and only a small proportion of households completed 100 days of work post-pandemic, indicating that the scheme's architecture has "reached its limits".

Key Arguments Presented by the Survey

1. Improved Rural Economic Conditions

Drawing on data from National Bank for Agriculture and Rural Development (NABARD), particularly the Rural Economic Conditions and Sentiments Survey (RECSS), the Survey highlights:

Robust rural consumption and income growth

Rising investment and improved access to formal credit

Lower inflation perceptions and better loan repayment capacity

High satisfaction with rural infrastructure

Rural consumption has reached a 17-quarter high, supported by growth in both agricultural and non-agricultural real wages.

2. Declining Demand for MGNREGA

Person-days generated fell sharply from 389 crore (2020–21) to 184 crore (2025–26) — a decline of over 53%.

Rural unemployment declined from 3.3% (2020–21) to 2.5% (2023–24), suggesting increased availability of non-farm employment.

The Survey interprets this as reduced dependence on public employment guarantees.

3. Structural Flaws in MGNREGA

The Survey identifies long-standing issues:

Mismatch between expenditure and physical outcomes

Instances of work not being executed on the ground

Use of machinery in labour-intensive works

Weak monitoring and misappropriation

Limited households achieving the statutory 100 days of employment, especially post-pandemic

Technological and administrative rigidities, including digital attendance systems

Despite rising women's participation (from 48% in 2013–14 to over 58% in 2024–25), the Survey argues that the scheme's architecture has reached its limits.

Counterviews and Concerns

Civil society groups and workers' unions argue that:

Demand for work was artificially suppressed due to low budgetary allocations

Digital and technological requirements created barriers for vulnerable workers

These critiques raise questions about exclusion errors, federal equity, and the right-based nature of welfare schemes.

Analytical Perspective

Shift from welfare to productivity: The move reflects a broader policy transition from income support to employment linked with skills, livelihoods, and productivity.

Fiscal sustainability vs. social security: Scrapping a rights-based scheme like MGNREGA raises debates on balancing fiscal discipline with social protection.

Federal and social justice dimensions: Given MGNREGA's role in distress absorption, especially during crises, its removal demands robust alternatives.

Conclusion

The Economic Survey 2025–26 presents a strong case that MGNREGA, while historically transformative, has become misaligned with contemporary rural economic conditions. Improved rural livelihoods, declining unemployment, and persistent implementation challenges are cited to justify its replacement with a redesigned employment framework.

UPSC Prelims Exam Practice Question

Ques : With reference to the Economic Survey 2025–26, consider the following statements:

1. The Economic Survey justified scrapping MGNREGA due to declining rural unemployment and reduced dependence on public employment guarantees.
2. According to NABARD's Rural Economic Conditions and Sentiments Survey (RECSS), rural consumption and access to formal credit have weakened in recent years.
3. Women's participation under MGNREGA crossed 55% in 2024–25.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 1 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Ans: a)

UPSC Mains Exam Practice Question

Ques : The Economic Survey 2025–26 links improved rural economic fundamentals with declining demand for MGNREGA. Analyse this claim using data from the Survey. How far does this justify a shift away from public employment guarantee programmes? **(150 Words)**

Page 06 : GS II : Social Justice

The Economic Survey 2025–26, released ahead of the Union Budget and tabled in Parliament of India, flags a critical bottleneck in India's human capital journey: the uneven distribution of secondary schools, particularly in rural areas. This challenge directly threatens the goals of the National Education Policy (NEP 2020), which aims to raise India's Expected Years of Schooling (EYS) from 13 to 15 years under the 5+3+3+4 structure.

Economic Survey highlights uneven distribution of secondary schools

The report notes the need to 'internationalise' higher education and build State capacity in the sector; main reason for children dropping out continues to be the need to supplement household income, and domestic and care responsibilities

Abhinay Lakshman

NEW DELHI

A key issue in achieving the target set by the National Education Policy (NEP), 2020 to increase expected years of schooling in India to 15 from the current 13 was the "uneven distribution of schools", said the Economic Survey for 2025-26, released on Thursday ahead of the Budget.

Only about 17% schools provide secondary education in rural areas, it showed, and about 38% schools provide secondary education for urban areas.

The Survey showed that this corresponded with other sources of data that said the largest number of out-of-school children were of secondary school age (between 14 and 18 years), and the need to supplement household income, and domestic and care responsibilities continued to be the leading reasons for school dropouts.

"Building State capacity in higher education, fostering academia-industry col-



The report shows that only about 17% schools in rural areas, and about 38% in urban areas provide secondary education. FILE PHOTO

laboration, and expanding global engagement can further enhance the education system's responsiveness to the changing needs of the economy," the report said in its chapter discussing education. The report also touched upon the newly introduced *Viksit Bharat Shiksha Adhishthan Bill*, 2025 intended to "replace fragmented, overlapping regulations", and focused on policy interventions needed for the "internationalisation" of higher education.

"Notable gains in school enrolments and higher education sector, and improvement in innovation index also reflect how PM Modi's 'reform express' is fulfilling aspirations, driving transformations and ensuring inclusive growth," Union Education Minister Dharmendra Pradhan said on Thursday, commenting on the outlook on education in the Economic Survey.

Mr. Pradhan also shared a snapshot of the Survey's section on education,

which highlights that India now has 23 Indian Institutes of Technology (IITs), 21 Indian Institutes of Management, and 20 All India Institutes of Medical Sciences, along with establishing two international IIT campuses (in Zanzibar and Abu Dhabi).

While India had improved enrolment at early levels of school education, the "secondary age-specific net enrolment (NER) remains low at 52.2%, highlighting the need to retain students beyond Grade VI-II," the Survey said.

"To fully convert its vast human resource base into high quality human capital, India needs to raise its EYS (Expected Years of Schooling) to 15 years set by NEP's 5+3+3+4 schooling structure for ages 3-18.2," the Survey added.

Citing data from the Periodic Labour Force Survey of 2023-24, the Survey notes that nearly two crore adolescents aged between 14 and 18 were out of school.

"The single largest reason for adolescent dropout

is the need to supplement household income, accounting for 44% of dropouts," it added. While over 67% boys cite the need to supplement household income as a reason for dropping out of school, 55% girls reported domestic and care responsibilities as the "major constraint", the Survey said.

"High dropout rates, driven by economic pressures, make integrating school-based vocational and skills education an urgent priority," the Survey noted, adding that current data from the Periodic Labour Force Survey 2023-24 showed that only 0.97% of adolescents aged between 14 and 18 had received institutional skilling, with 91.94% having received none.

A major thrust of the Survey's section on higher education is the need to "internationalise" the sector, along with developing State capacities for higher education, considering that over 81% of higher education enrolments were in State institutions.

Key Findings of the Survey

1. Skewed Availability of Secondary Education

Only ~17% of rural schools and ~38% of urban schools offer secondary education.

Daily News Analysis

This spatial imbalance correlates with the fact that the largest share of out-of-school children belongs to the 14–18 age group (secondary level).

The secondary Net Enrolment Ratio (NER) remains low at 52.2%, despite near-universal enrolment at the primary stage.

2. Dropout Drivers: Economic and Social Constraints

Using Periodic Labour Force Survey (PLFS 2023–24) data, the Survey notes:

Nearly two crore adolescents (14–18 years) are out of school.

Primary reason for dropout: need to supplement household income (44% overall).

67% boys drop out to earn.

55% girls drop out due to domestic and care responsibilities.

Highlights persistent gendered division of labour and poverty-linked exclusion.

3. Weak Integration of Skills and Education

Only 0.97% of adolescents (14–18 years) have received institutional skilling.

Over 91% have received no skilling at all, underscoring the urgency of school-based vocational education to retain students and enhance employability.

Higher Education: Capacity and Internationalisation

Over 81% of higher education enrolments are in State institutions, exposing capacity and quality constraints at the State level.

The Survey calls for:

Strengthening State capacity in higher education

Academia–industry collaboration

Internationalisation of Indian higher education

References reforms such as the Viksit Bharat Shiksha Adhishthan Bill, 2025, aimed at replacing fragmented regulatory structures.

India's expanding institutional footprint (IITs, IIMs, AIIMS, and international IIT campuses) is highlighted by Education Minister Dharmendra Pradhan, but access and retention remain the core challenges.

Critical Analysis

Daily News Analysis

Access vs. enrolment paradox: Early-grade enrolment gains are not translating into secondary completion due to infrastructure gaps and economic compulsion.

Rural disadvantage: Uneven school distribution deepens regional inequality and limits social mobility.

Human capital risk: Without improving secondary retention, India risks a low-skill demographic dividend.

Policy imperative: Secondary education expansion must be aligned with income support, flexible schooling, vocational pathways, and gender-sensitive interventions.

Conclusion

The Economic Survey 2025–26 underscores that India's education challenge is no longer enrolment at entry levels, but retention and progression at the secondary stage. Uneven school distribution, economic pressures on households, and inadequate vocational integration threaten the NEP 2020 goal of raising Expected Years of Schooling to 15.

For India to convert its vast population into high-quality human capital, policy focus must shift towards expanding secondary school infrastructure—especially in rural areas—integrating skills within schooling, addressing gendered dropout causes, and empowering States in higher education delivery. Only then can educational reforms translate into inclusive and sustainable economic growth.

UPSC Mains Exam Practice Question

Ques: Despite significant gains in primary enrolment, India continues to face high dropout rates at the secondary level. Examine the socio-economic and gender-specific factors responsible for secondary school dropouts in India. (150 Words)



Page 07 : GS III : Science and Tech

Space exploration is often viewed as a high-cost scientific pursuit with limited direct relevance to everyday life. However, the experience of agencies such as NASA and Indian Space Research Organisation (ISRO) demonstrates that investments in space research have generated extensive civilian and healthcare spin-offs. Technologies originally developed to keep astronauts alive and missions functional in extreme environments have significantly improved diagnostics, treatment, medical devices, telemedicine, and public health systems on Earth.

From moon to MRIs: how space research has transformed healthcare

A number of research developments meant for space have made their way down to earth, improving and enhancing healthcare; from digital image processing deployed in ultrasounds, CTs, MRIs and mammography to wearables that monitor heart rate, ECG, respiration and movement, space research has contributed to better life on earth

K. Ganapathy

Many of us may not be aware of the many spinoffs that come about in the field of space exploration. A significant number of them, however, have contributed to better healthcare here on earth.

Under the United States' space programme, NASA, there are over 2,000 such spinoffs, profiled since 1975, with benefits for earth and the field of commercial products. India too has made some progress in this regard. While the ISRO's current annual budget of ₹3,46 crore is 6% of the NASA's annual budget, over 150 such spinoffs have been transferred to other industries, including several in health/biomedical sectors (implants, sensors, medical electronics), through the ISRO's Technology Transfer Programme.

Just a few examples include the ISRO's VSAT terminals and VSAT-enabled mobile medical units to facilitate healthcare delivery in remote locations; an endoscopic catheter-based impedance probe to assess mucosal health; a capacitive sensor to detect malignancy in lesions; the ISRO's "Smart limb" – a low-cost hand prosthesis for amputees, and an artificial polyurethane foot.

Diagnostics and imaging
 Patients and even doctors seldom realise that the digital image processing developed in ultrasounds, CTs, MRIs and mammography images was initially used in planetary and astronomical image analysis.

NASA technologies improved MRI and CT imaging primarily by providing advanced noise reduction, image segmentation, and fusion methods that enhance contrast, reduce noise, and help with better distinguishing of tissues, especially at low doses or low signal.

The agency's work in improving planetary earth observations, and plasma physics data. They were then used in clinical radiology as software and workflow concepts.

For example, NASA's Jet Propulsion Laboratory and other NASA centres developed digital enhancement techniques (coarse-grain stretching, filtering, deblurring) to analyse analog lunar and planetary images. These were later adapted to improve CT and MRI images, especially in low-contrast situations. Other image analysis techniques using portable, networked systems, speckle reduction, and elastography were initially refined for satellite imagery and then used on board the International Space Station.

Infrared thermometers using IR sensors and optics were developed for stellar temperature measurement.

Compact blood analysers and miniature "lab-on-a-chip" devices used in point-of-care diagnostics will eventually make available, a sophisticated laboratory in a small device. The impetus and initial funding for this research, which today benefits carthlings, came from sheer necessity for



Tech upgrades: NASA technologies improved MRI and CT imaging primarily by providing advanced digital image-processing, segmentation, and fusion methods that enhance contrast, reduce noise, and help with better distinguishing of tissues, especially at low doses or low signal. GETTY IMAGES

blood tests in microgravity situations 400 km above the earth.

The now commonplace wearables, those monitoring heart rate, ECG, respiration and movement, were originally developed from medical telemedicine. Non-invasive glucose and metabolic monitoring concepts using optical and microwave sensing were developed for monitoring smart clothes, and embedded strain gauges, accelerometers, and ECG electrodes evolved from space suit monitoring.

Advanced air and water purification systems (HEPA/particulate filters, catalytic oxidizers) were originally designed for closed spacecraft. Microbial monitoring and sterilization approaches have all been refined for use in space, including sterilization control. Antimicrobial and low-outgassing materials from spacecraft cables are now used in clinical surfaces, catheters, and implant coatings.

Telemedicine and logistics

Satellite-based telemedicine consultations still play a major role in remote areas where terrestrial internet may not be available. Satellite communication also facilitates disaster management, teleradiology and special support including the management of astronauts.

Global disease surveillance and epidemiological mapping using earth observations and satellite data (monitoring of vector-borne diseases, disaster impacts on health systems) have played a major role in containing global outbreaks.

Advanced medical sensors and medical coolers developed to support off-grid space-related field operations, are now widely used in immunisation

programmes. Dose delivery systems for medical supplies rely on satellite navigation and communication. These, too, evolved from space mission.

Devices and interventions

Certain Ventricular Assist Devices were co-developed with NASA flow-dynamics expertise to create very small, low shear endovascular pumps for management of end-stage heart failure. Programmable pacemakers and rhythm management hardware resulted from

radiation-induced mutations, minimization of power management work done for spacecraft.

In 2016, the ISRO developed a low-cost heart pump that assists the human heart, notably in cases of left ventricle failure, using a small, flexible, and durable pump. This device is composed of a special bio-compatible titanium alloy and can pump 3.5 litres of blood per minute. It has been extensively tested with success on animals, and holds promise for eventual clinical trials. Astronaut exercise hardware gave a fillip to robotic and sensor-based medical monitoring and treatment. Prosthetic limbs and orthoses improved, using space shuttle

foam-insulation and composite-material know-how for lighter, better-fitting components. In 1977, the first patient for a cochlear implant was with the NASA assistance.

Transparent ceramic called translucent polycrystalline alumina (TPA). The company Ceradyne, developed TPA in conjunction with the NASA Advanced Ceramics Program, and used it for

infrared antennae on heat-seeking missile trackers. A sunglasses manufacturer, Foster Grant, first licensed a NASA

technology for scratch-resistant lenses, developed to protect space equipment from scratching in space, especially helmet visors.

Space blankets, developed in 1964 for the Apollo programme, are used to insulate and reflect incoming radiation. These items are often included in first aid kits. Tech startup BeeHex developed 3D printing systems for food such as pizza, desserts, and 3D-printing following a NASA-funded project.

Healthcare applications

Biomechanical and physiological models (bone loss, muscle atrophy, cardiovascular deconditioning) developed from astronaut data, have contributed to current management of osteoporosis, sarcopenia, and cardiovascular disease.

Radiobiology and radiation risk models from deep-space exposure studies help cancer treatment and radiotherapy studies. Human factors and ergonomics and cockpit-style interface design methods from spacecraft have been used in intensive care units (ICUs) and operating room monitoring systems.

While the debate about funding space research continues, there is no doubt that investment in space exploration has contributed to better life on earth in a number of ways, particularly in healthcare. For emerging economies in particular, techniques and applications produced by space research can go a long way towards ensuring better healthcare delivery and service.

(Dr K. Ganapathy is a distinguished professor at The Tamil Nadu Dr. MGR Medical College and a former president of the National Society of India of Telemedicine Society of India. drkganapathy@gmail.com)

Key Areas of Impact on Healthcare

1. Medical Imaging and Diagnostics

Advanced digital image processing techniques used today in CT scans, MRIs, ultrasounds, and mammography were first developed for analysing lunar, planetary, and astronomical images.

Noise reduction, contrast enhancement, image fusion, and tissue segmentation—pioneered by NASA's Jet Propulsion Laboratory—now enable clearer diagnosis at lower radiation doses.

Daily News Analysis

Infrared sensing, initially meant for stellar temperature measurement, led to infrared ear thermometers widely used in clinical practice.

Miniaturised lab-on-chip and blood analyser technologies, driven by the need for diagnostics in microgravity, are shaping the future of point-of-care and home-based testing.

2. Wearables, Monitoring, and Preventive Care

Modern wearable health devices (heart rate, ECG, respiration, motion tracking) evolved from astronaut bio-telemetry systems.

Smart textiles with embedded sensors trace their origin to space-suit monitoring technologies.

Non-invasive glucose and metabolic monitoring concepts were first explored for in-flight astronaut health assessment.

3. Medical Devices and Advanced Interventions

Ventricular Assist Devices (VADs) benefited from NASA's expertise in fluid dynamics and low-shear blood pumps.

Advances in pacemakers and implantable devices stem from radiation-hardened electronics and miniaturisation developed for spacecraft.

ISRO's low-cost heart pump, using rocket-grade biocompatible titanium alloy, illustrates India's growing capability in translating space technology into affordable healthcare solutions.

Prosthetics, bionic limbs, cochlear implants, and rehabilitation robotics have benefited from lightweight composite materials and biomechanical research from space missions.

4. Public Health, Telemedicine, and Logistics

Satellite-based telemedicine, pioneered for astronaut support and remote mission operations, now enables healthcare delivery in remote and underserved regions.

Earth-observation satellites support epidemiological surveillance, disaster-health mapping, and climate-disease correlation analysis.

Solar-powered vaccine refrigerators, satellite navigation-based medical drone deliveries, and cold-chain logistics evolved from space mission requirements.

Advanced air and water purification systems, developed for closed spacecraft environments, are now used in hospitals and ICUs.

5. Materials and Everyday Medical Innovations

Antimicrobial coatings, sterile materials, and low-outgassing surfaces from spacecraft cabins are used in catheters, implants, and hospital equipment.

Daily News Analysis

Space blankets, scratch-resistant lenses, invisible braces (TPA ceramics), and even 3D-printed food technologies trace their roots to space research.

Human-factor engineering from spacecraft cockpits has influenced ICU alarm systems and operating room interfaces, improving patient safety.

Indian Context and Significance

ISRO has transferred 350+ technologies to Indian industries, including medical electronics, sensors, implants, and telemedicine solutions.

VSAT-enabled mobile medical units and low-cost prosthetics highlight how space technology supports inclusive healthcare in a developing economy.

With a comparatively modest budget, India demonstrates high social returns on space investment.

Conclusion

The journey from space missions to hospital wards underscores a crucial lesson for public policy: investment in frontier science yields broad societal dividends. Space research has transformed healthcare through better diagnostics, affordable devices, telemedicine, preventive care, and public health surveillance.

For countries like India, these spillovers are especially valuable—helping bridge access gaps, reduce costs, and strengthen healthcare delivery in remote and resource-constrained settings.

UPSC Mains Exam Practice Question

Ques: Evaluate the role of space technology in strengthening healthcare delivery in remote and underserved regions of India. (150 Words)

Public health financing is a critical determinant of human development and state capacity. The National Health Policy (NHP 2017) set an ambitious target of raising government health expenditure to 2.5% of GDP by 2025, with the Union government contributing 40% of total public health spending. However, recent data analysed from the Reserve Bank of India (RBI) reveals a widening gap between policy commitments and fiscal reality, particularly at the level of the Centre.

Has health spending by the Centre increased?

As per data from the Reserve Bank of India, allocations for health and family welfare as a percentage of GDP by all States and Union Territories have increased from 2017-18. In contrast, the Union government's spending on health, which increased moderately during the pandemic, has decreased post-pandemic.

ECONOMIC NOTES

Indranil

The 2017 National Health Policy (NHP) had committed to "increase health expenditure by Government as a percentage of GDP [Gross Domestic Product] from the existing 1.15% to 2.5% by 2025." While 2025 is now over, this basic goal is nowhere near realisation, since the Union government has not upscale its health budget as required over the last decade. The NHP also proposed that the Union government's share should be 40% of total public spending. This essentially means that spending by the Centre should increase from the current level of 0.29% to 1% of GDP – which requires increasing allocations by at least three times.

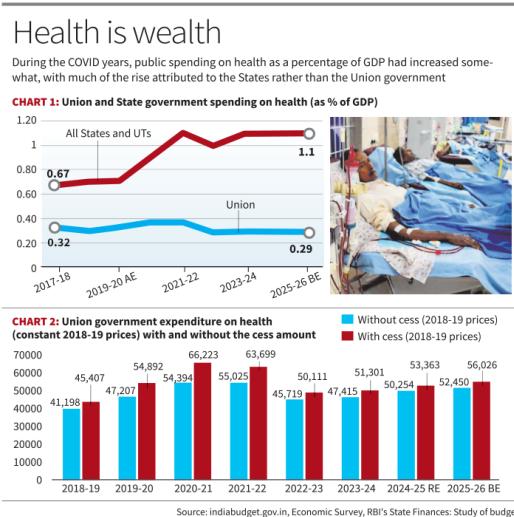
Low spending on public health

Public spending on health in India continues to be abysmally low compared to many countries. For instance, Bhutan's per capita spending on health was 2.5 times more than that of India's, while Sri Lanka was three times in 2021. All the other BRICS nations spent 14-15 times more on health per person than India did. Similarly, Thailand and Malaysia also spend at least 10 times more per capita on health than India.

During the COVID years, public spending on health as a percentage of GDP had increased somewhat, with much of the rise attributed to the States rather than the Union government. The States have sustained such increase post-COVID as well. As per data from the Reserve Bank of India (RBI), allocations for health and family welfare by all States and Union Territories have increased from 0.67% in 2017-18 to 1.1% of GDP as per 2025-26 Budget Expenditure (BE) (Chart 1).

Similarly, the share for health spending in overall State budgets has increased from 5% to 5.6% during this period.

In contrast, the Union government's spending on health as a percentage of



cess amount, we note that the Union Budget's allocation for health has declined by 22.5% in real terms between 2020-21 and 2023-24 (Chart 2).

Cutting schemes

In 2014-15, three-fourth (75.9%) of Union spending on health was transferred to States for various Centrally Sponsored Schemes like the National Health Mission. Overtime, this has declined consistently to reach just 43% in 2024-25 (Budget Estimates), which is completely insufficient to maintain basic health services. It should be noted that the State governments bear the main costs of providing healthcare to people across India, and they need to be adequately resourced by the Union government. The trend reflects hyper-centralisation of financial resources on health, although health services largely fall within the domain of States.

By trying to identify which schemes and programs have received cuts and which have seen considerable increase, one can understand the real health sector priorities of the Union Government. Schemes which strengthen the public health system and protect the health of the most vulnerable sections of society, like the NHM, the Pradhan Mantri Swasthya Suraksha Yojana, and schemes on nutrition and health research have received severe cuts despite doing good work in hard times.

Launched in 2005, the NHM has been a crucial intervention by the Union government to improve health services in rural and urban areas. But in the last seven years, expenditure on this key scheme has mostly remained stagnant or has come down. Between FY14 and FY19, the spending on NHM grew at 7.4% on average, largely due to a sudden jump in FY18. However, during the second tenure of the National Democratic Alliance government, spending on NHM actually declined in real terms by 5.5% on average. *Indranil is a health economist, professor, School of Government and Public Policy, OP Jindal Global University, Haryana.*

THE GIST

Public spending on health in India continues to be abysmally low compared to many countries.

In 2018-19, Health and Education Cess (HEC) was introduced as 4% of one's total taxable income. The cess was supposed to top up and expand existing government spending on health and to take care of the health of poor and rural families.

Schemes which strengthen the public health system and protect the health of the most vulnerable sections of society, like the NHM, the Pradhan Mantri Swasthya Suraksha Yojana, and schemes on nutrition and health research have received severe cuts despite doing good work in hard times

Key Findings from the Data

1. Stagnant and Declining Union Health Spending

Union government health spending:

Declined from 0.37% of GDP (2020-21 Actuals) to 0.29% of GDP (2025-26 BE).

In real (inflation-adjusted) terms, 2025-26 allocations are 4.7% lower than actual spending during the pandemic year.

Share of health in the total Union Budget:

Fell from 2.26% to 2.05% in the same period.

This indicates that the temporary prioritisation of health during COVID-19 was rolled back once the immediate crisis subsided.

2. States Have Driven the Post-Pandemic Increase

In contrast, States and Union Territories have:

Increased health spending from 0.67% of GDP (2017–18) to 1.1% of GDP (2025–26 BE).

Raised health's share in State budgets from 5% to 5.6%.

This underscores that health spending growth in India has been State-led, not Centre-led.

Implication: Growing vertical fiscal imbalance, with States bearing responsibilities without commensurate central transfers.

3. National Health Policy Targets Missed

NHP goal: Union government health spending to rise from ~0.29% to ~1% of GDP.

Reality: No structural scaling-up over the last decade.

India continues to lag far behind peers:

Bhutan (2.5× India's per capita health spending)

Sri Lanka (3×)

Other BRICS countries (14–15×)

Thailand and Malaysia (10×)

4. Health and Education Cess: Dilution of Purpose

Health and Education Cess (4%), introduced in 2018–19, was meant to augment health spending.

Example:

FY 2023–24 HEC collection: ₹71,180 crore

Amount allocated to health: ~₹17,795 crore (≈25%)

The remainder merged into general revenues.

Excluding cess, Union health allocations declined by 22.5% in real terms (2020–21 to 2023–24).

Issue: Cess functioning as a fiscal substitute, not a health-sector booster.

5. Cuts in Core Public Health Schemes

Share of Union health spending transferred to States via Centrally Sponsored Schemes:

Declined from 75.9% (2014–15) to 43% (2024–25 BE).

Major schemes facing cuts or stagnation:

National Health Mission (NHM)

Pradhan Mantri Swasthya Suraksha Yojana

Nutrition and health research programmes

NHM:

Grew at 7.4% annually (FY14–FY19).

Declined by 5.5% annually in real terms during the NDA's second tenure.

Critical Analysis

Hyper-centralisation of resources combined with reduced transfers undermines State capacity, despite health being largely a State subject.

India risks entrenching a low public-health equilibrium, where households compensate through out-of-pocket expenditure.

Underfunding preventive and primary healthcare threatens long-term outcomes in nutrition, productivity, and demographic dividend.

Conclusion

The evidence clearly shows that health spending by the Union government has not increased in any meaningful or sustained manner; rather, it has declined in GDP share and real terms post-pandemic. The modest rise in overall public health expenditure has been driven almost entirely by States, even as central transfers and flagship public health schemes face cuts.

For India to meet the objectives of the National Health Policy 2017 and strengthen its human capital base, a structural re-prioritisation of health in the Union Budget, genuine utilisation of health cess funds, and renewed support to State-led health systems are indispensable. Without this, India's commitment to universal and equitable healthcare will remain largely aspirational rather than real.

UPSC Mains Exam Practice Question

Ques: Despite policy commitments, public health expenditure by the Union government in India has remained low. Examine the implications of declining central health spending for cooperative federalism and healthcare delivery. **(150 Words)**

India-Arab League: bridging cultures, creating opportunities

Ministers and delegates of the 22-member Arab League are gathering in Delhi for the 2nd India-Arab Foreign Ministers' Meeting on January 30-31, 2026. This is a major diplomatic outreach by India at a time when there are multiple conflicts brewing on the horizon in the region and the world is grappling with the rapidly changing global order, set in motion largely due to U.S. President Donald Trump's total disregard for the sovereignty of nations and the rules-based international order.

As the ministers gather in Delhi, war clouds are still hovering over Iran and the massive military build-up by the U.S. continues. In Syria, despite a ceasefire, uncertainty continues and long-term peace is still some distance away. Gaza finally looks towards transitioning to peace even as details of phase two of the ceasefire are still in the works. The recovery of the body of the last Israeli hostage from Gaza on January 26 is a major victory for Israel and may well motivate it to move towards relaxing the restrictions in Gaza.

However, the most surprising development is the emergence of fault lines among two close allies – Saudi Arabia and the UAE – mostly over conflicting interests in Yemen but also over power and influence in the region. We need to watch out for the possibility of rival military alliances. India, too, is closely monitoring the situation, while formulating its own strategy for the region.

India and the Arab League

The Arab League, officially known as the League of Arab States (LAS), was formed in Cairo on March 22, 1945, initially with seven members. Today, it has 22 member states from North Africa and West Asia. Although India's relations with countries in the Arab League go back centuries, the engagement with the LAS was formalised in March 2002 when a Memorandum of Understanding (MoU) was signed, institutionalising the process of dialogue. The MoU is aimed to "promote and develop the traditional relationship of friendship and cooperation between India and the Arab States" and provides for annual meetings between the External Affairs Minister of India and the Secretary General of the Arab League.

During the visit of Arab League Secretary General, Amr Moussa, to India in December 2008, the Arab-India Cooperation Forum (AICF) was established. And in December 2010, the Indian Ambassador to Egypt was designated as India's Permanent Representative to the Arab League. The first meeting of the AICF was held in January 2016 at Manama, Bahrain. In addition, there is the India-LAS Partnership and Investment Summit, a biennial flagship economic event. During the current visit of foreign



Col. Rajeev Agarwal (Retired)

Senior Research Consultant, Chintan Research Foundation

ministers, a new initiative called the India and Arab Countries Chambers of Commerce, Industry and Agriculture is scheduled to be inaugurated.

Key pillars of engagement

The India-LAS partnership goes beyond trade and investment. Over the past decade, strategic partnerships and security have emerged as crucial areas of engagement. Oman was the first country with which India signed a strategic partnership in 2008. With the signing of similar agreements with the UAE in 2015, Saudi Arabia in 2019, Egypt in 2023, and Qatar in 2025, the depth and scope of strategic convergence with the region has grown rapidly.

India has also strongly rallied for the region in various multilateral forums such as BRICS and SCO. Even among the strategic vision of countries, there are significant convergences, whether it is the Saudi Vision 2030, the UAE Centennial 2071, the Kuwait Vision 2035, the Oman Vision 2040, or India's Viksit Bharat in 2047. In fact, in the Saudi Vision 2030, India is one of the eight strategic partners.

Trade and investments continue to be the bedrock of the relationship and have stood the test of time, including the COVID-19 pandemic. Most of India's external trade passes through the Suez Canal, the Red Sea, and the Gulf of Aden. Bilateral trade between India and the Arab League currently stands at over \$240 billion. India has signed the Comprehensive Economic Partnership Agreement with the UAE and Oman. As a result, bilateral trade with the UAE has already crossed \$115 billion and has now been reset at \$200 billion by 2030. Major investment commitments in India have been made by the UAE (\$75 billion), Saudi Arabia (\$100 billion) and Qatar (\$10 billion), mostly in the fast-growing infrastructure sector. The cumulative FDI in India from the region has crossed \$2.5 billion. As trade ties grow, connectivity becomes an important factor to ensure speed, efficiency and collective prosperity. The India-Middle East-Europe Economic Corridor, launched at the G20 Leaders' Summit in New Delhi in September 2023, therefore, gains significance and is likely to be discussed at the meeting.

With Prime Minister Narendra Modi pushing for development of digital public infrastructure for speed and transparency of transactions, Fintech is emerging as yet another area of mutual convergence. The RuPay card was launched in the UAE in August 2019. From July 2023, the Indian rupee is being accepted as legal currency at Dubai airports. Also, India and the UAE have operationalised the rupee-dirham settlement system. India's Unified Payments Interface is already accepted for financial transactions in Bahrain, Saudi Arabia, Qatar, and the UAE and is

likely to grow further in the LAS countries soon.

Energy is a critical pillar of the partnership. The region caters to about 60% of India's crude oil imports, 70% of natural gas, and more than 50% of fertilizers and related products. Iraq, Saudi Arabia, and the UAE are the top three exporters of crude oil. The UAE has also signed an agreement with India to store strategic oil reserves in the country, operationalised with an initial investment of \$400 million. With Qatar, the \$78 billion Liquified Natural Gas (LNG) deal signed in February 2024, with assured import of 7.5 million tonnes of LNG a year for another 20 years, adds a critical link to India's energy security. In addition, in July 2023, ADNOC (Abu Dhabi National Oil Company) and Indian Oil signed a LNG contract for 1.2 million metric tonnes per annum over a period of 14 years.

Living under the threat of conflicts and terror, security and defence are growing as important pillars in the partnership. Defence partnership agreements have been signed with multiple countries in the LAS including Oman, the UAE, Saudi Arabia, Egypt, and Qatar and are growing. India's maritime security initiatives such as Security and Growth for All in the Region (SAGAR) aim to promote joint collaboration in the Indian Ocean Region, particularly against sea piracy and maritime security threats. India's agreement with Oman over the Duqm port is a strategic deal that offers a critical advantage to the Indian Navy in its operations in the region while also allowing it to keep a discreet watch on the activity of China's People's Liberation Army Navy. The threat of war in Iran and the future of the Gaza peace process are common areas of security concerns in the region and are likely to figure as a key agenda during the meetings.

Most of the LAS countries are in total sync in India's fight against cross-border terror and have condemned the Uri, Pathankot, Pulwama, and Pahalgam terror attacks in India. Joint production of defence equipment and export of key weapon platforms such as the Tejas fighter aircraft, BrahMos and Aakash missiles, and artillery guns are also emerging as important attractions for LAS countries. Cyber, space and drone are future areas of cooperation.

Looking ahead

As India grows into a major economic, political, and military power, the Arab League region forms a critical part of its global matrix. For LAS countries too, India is a strong and reliable partner. The countries of the two regions may be separated by the Arabian Sea but are joined by history, destiny, trust, and growing brotherhood. The meeting of the foreign ministers of LAS in Delhi offers the perfect opportunity to forge closer ties and seek new avenues of engagement.

As India grows into a major power, the Arab League region forms a critical part of its global matrix. For the Arab League countries too, India is a strong and reliable partner

GS Paper II : International Relations

UPSC Mains Practice Question: Discuss the significance of the India–Arab Foreign Ministers' Meeting in the backdrop of instability in West Asia and the changing global order. **(250 Words)**

Context :

The 2nd India–Arab Foreign Ministers' Meeting (January 30–31, 2026) in New Delhi marks a significant moment in India's West Asia diplomacy. At a time of regional instability, shifting power equations, and erosion of the rules-based international order, India's engagement with the League of Arab States (Arab League/LAS) reflects a calibrated strategy of strategic autonomy, multi-alignment, and economic pragmatism. The meeting underscores India's intent to position itself as a reliable partner and bridge between regions.

Background: India–Arab League Engagement

The Arab League, founded in 1945, comprises 22 countries across West Asia and North Africa.

India's civilisational and commercial links with Arab societies span centuries, but institutional engagement was formalised with the 2002 MoU.

Key institutional mechanisms include:

Arab–India Cooperation Forum (AICF) (est. 2008)

Biennial India–LAS Partnership and Investment Summit

India's Permanent Representation to the Arab League (since 2010)

The current meeting signals a transition from dialogue to deeper strategic coordination.

Key Pillars of the India–Arab League Partnership**1. Strategic and Security Cooperation**

India has signed strategic partnership agreements with:

Oman (2008), UAE (2015), Saudi Arabia (2019), Egypt (2023), Qatar (2025)

Shared concerns:

Regional conflicts (Iran, Gaza, Syria)

Terrorism and radicalisation

Maritime security in the Indian Ocean Region (IOR)

India's Security and Growth for All in the Region (SAGAR) doctrine and access to Duqm Port (Oman) enhance India's naval reach and balance China's maritime presence.

LAS countries' support to India on cross-border terrorism (Uri, Pathankot, Pulwama) reflects growing strategic trust.

2. Trade, Investment, and Connectivity

India–Arab League trade exceeds \$240 billion, making the region one of India's largest trading partners.

Major highlights:

CEPA with UAE and Oman

India–UAE trade crossed \$115 billion, target of \$200 billion by 2030

Investment commitments:

UAE: \$75 billion

Saudi Arabia: \$100 billion

Qatar: \$10 billion

Connectivity initiatives:

India-Middle East-Europe Economic Corridor (IMEC) enhances trade efficiency, supply chains, and geopolitical leverage.

3. Energy Security

The Arab region supplies:

~60% of India's crude oil

~70% of natural gas

50% of fertiliser needs

Key developments:

Strategic petroleum storage agreement with UAE

\$78 billion LNG deal with Qatar (2024) ensuring long-term energy security

LNG contracts with ADNOC and Indian Oil

Energy ties anchor India's economic resilience and growth trajectory.

4. Digital Public Infrastructure & Fintech

India's digital stack is emerging as a global public good:

RuPay card launched in UAE

UPI accepted in UAE, Saudi Arabia, Qatar, Bahrain

Rupee-Dirham settlement mechanism operational

Fintech cooperation aligns with national visions such as:

Saudi Vision 2030

UAE Centennial 2071

India's Viksit Bharat @2047

5. Defence, Technology, and Future Domains

Defence cooperation includes:

Joint exercises

Defence manufacturing and exports (Tejas, BrahMos, Akash)

Emerging areas:

Cyber security

Space cooperation

Drones and AI

These reflect India's evolution from defence importer to defence partner.

Geopolitical Context and Challenges

Growing fault lines among Arab partners (e.g., Saudi Arabia-UAE over Yemen)

Risk of new regional alignments

Uncertainty over Iran, Gaza peace process, and U.S. strategic posture

India must balance:

- Strategic neutrality
- Diaspora and energy interests
- Global power rivalries

Conclusion

The India–Arab League partnership has evolved from historical goodwill to a multi-dimensional strategic relationship encompassing energy security, trade, digital cooperation, defence, and connectivity. The 2nd India–Arab Foreign Ministers' Meeting reflects India's emergence as a trusted, non-intrusive, and development-oriented partner in a turbulent region.

For India, West Asia is not merely a neighbourhood but a strategic extension of its economic growth, maritime security, and global aspirations. Going forward, the challenge lies in leveraging convergences while navigating regional rivalries, ensuring that India's engagement remains balanced, inclusive, and resilient—a hallmark of its foreign policy in a multipolar world.

