

The Hindu Important News Articles & Editorial For UPSC CSE

Tuesday, 25 March, 2025

Edition: International Table of Contents

<p>Page 04 Syllabus : GS 2 : International Relations</p>	<p>India imposes anti-dumping duty on Chinese goods for up to 5 years</p>
<p>Page 07 Syllabus : GS 3: Environment & Disaster Management</p>	<p>As ice frozen for millennia thaws, Kashmir wakes up to new risks</p>
<p>Page 07 Syllabus : GS 3: Environment & Disaster Management</p>	<p>Glaciers losing ice at record levels around the globe : UN</p>
<p>Page 10 Syllabus : GS 1 : Indian Society</p>	<p>The need for a localised urban agenda</p>
<p>In News</p>	<p>Black Sea</p>
<p>Page 08 : Editorial Analysis: Syllabus : GS 3 : Enviroment and Ecology</p>	<p>Colossal wastage that is food for thought</p>

A high-level U.S. trade delegation, led by Brendan Lynch, Assistant U.S. Trade Representative for South and Central Asia, has begun a five-day visit to India. The visit is crucial as it precedes the announcement of reciprocal tariffs by the U.S. under President Donald Trump's administration.

Tariffs, market access for agricultural goods on agenda as American trade delegation starts five-day visit today

Suhasini Haidar
NEW DELHI

Market access for agricultural produce, a long-protected area in Indian imports, could be on the agenda as a U.S. delegation, headed by Brendan Lynch, the U.S. Trade Representative's point-person for South and Central Asia, travels to India on Tuesday for a five-day visit.

While the visit, which comes just before the announcement of "reciprocal tariffs" by the Trump administration, is expected to focus on lowering Indian import duties, U.S. Commerce Secretary Howard Lutnik's recent comments that he asked Prime Minister Narendra Modi why India won't "buy a bushel of [American] corn" has led to speculation that the Bilateral Trade Agreement being discussed will be more comprehensive than

an "item-by-item" negotiation.

On Monday, Mr. Modi met Commerce Minister Piyush Goyal and External Affairs Minister S. Jaishankar, reportedly to discuss the upcoming talks and tariffs, government sources said.

Vance's visit

Two high-powered U.S. delegations, including National Security Advisor Mike Waltz and U.S. Vice President J.D. Vance, are also set to separately visit India next month, officials confirmed to *The Hindu*.

Mr. Waltz and Mr. Vance, who is expected to be accompanied by his wife Usha Vance, who is of Indian origin, are expected to visit separately. They will begin consultations ahead of a visit by U.S. President Donald Trump later this year for the Quad Summit, when he and Mr. Modi



Brendan Lynch

are expected to announce the "first tranche" of the Bilateral Trade Agreement (BTA) between the two countries.

"As directed by the leaders of the two countries, India remains committed to working with the U.S. side in the trade and economic domains to enhance prosperity and innovation in both India and the U.S., and deepen supply chain integration between the two countries," the Com-

merce Ministry said in a statement on Monday.

Officials did not comment on President Donald Trump's latest threat to impose 25% additional tariffs on countries that buy oil from Venezuela. While India had zeroed out its oil imports from Venezuela after threats from the previous Trump administration, it resumed imports in December 2023 after the Biden administration relaxed some sanctions. In 2024, India imported 22 million barrels from Venezuela, and Indian PSUs have invested about \$1 billion in the country.

Mr. Lynch, the Assistant U.S. Trade Representative for South and Central Asia, will be in India from March 25 to 29 for "regular" trade talks, the Ministry said, indicating the talks will focus on the BTA rather than the impending tariffs that will be implemented on a num-

ber of countries, including India, from April 2.

Balanced trade

"This visit reflects the United States' continued commitment to advancing a productive and balanced trade relationship with India," the U.S. Embassy spokesperson said, adding that the U.S. looks forward to discussions on trade and investment in a "constructive, equitable, and forward-looking manner".

India-U.S. trade, including goods and services, is touching \$200 billion, with a trade deficit of about \$45 billion in India's favour, which Mr. Trump has asked India to address.

In an interview to the "All-In" podcast over the weekend, Mr. Lutnik said he had raised the sharp divide in deficits and import duties during Mr. Modi's visit to Washington in February. He claimed India has

an average "50%" tariff on imports, (India's simple tariff average, according to WTO, is 17%), compared with the U.S.'s "4%", and that India "protects its farmers".

"I said to PM Modi, you have 1.4 billion people and you brag to us how amazing your economy is... Why won't you buy a bushel of our corn?" adding, "So [U.S.] farmers can't go to [India] but [Indian farmers] can come at us... Why is that okay?"

Thus far India has allowed market access for a range of American nuts, duck meat, and apples, but analysts say that negotiators must now be prepared to discuss the influx of a range of American agricultural products, including corn, soyabean, cotton, rice, pulses, and even dairy products.

(With inputs from Nistula Hebbar)

- The discussions are expected to revolve around reducing India's import duties and expanding market access for American agricultural products, a traditionally sensitive area for India.

Key Issues on the Agenda

Agricultural Market Access

- U.S. Commerce Secretary Howard Lutnik's remarks about India not purchasing American corn highlight U.S. demands for greater access to India's agricultural market.
- The U.S. is likely to push for the export of corn, soybeans, cotton, rice, pulses, and dairy products, in addition to nuts and apples already being imported.

- India has traditionally protected its farmers through tariffs and subsidies, making agricultural imports a politically sensitive issue.

Bilateral Trade Agreement (BTA)

- The visit is expected to lead to the first phase of a Bilateral Trade Agreement (BTA) between India and the U.S.
- A more comprehensive trade deal beyond an "item-by-item" approach is being considered.

Tariffs and Trade Balance

- India maintains a trade surplus of \$45 billion with the U.S.
- The U.S. argues that India's high tariffs (U.S. claims an average of 50%, though WTO data suggests 17%) restrict U.S. exports.
- President Trump has threatened a 25% tariff on imports from countries buying Venezuelan oil, which could impact India as it resumed Venezuelan oil imports in December 2023.

Upcoming High-Level Visits

- National Security Advisor Mike Waltz and U.S. Vice-President J.D. Vance will visit India next month ahead of Trump's visit for the Quad Summit.
- These meetings will lay the groundwork for deeper trade, economic, and strategic ties.

Implications for India

- **Economic:** Increased imports of American agricultural products could impact Indian farmers, requiring policy adjustments. However, better access to U.S. markets for Indian goods could benefit certain sectors.
- **Strategic:** Strengthening Indo-U.S. trade ties aligns with India's efforts to integrate into global supply chains and counter China's dominance.
- **Political:** With elections approaching in both countries, leaders may use trade negotiations to showcase economic and diplomatic achievements.

Conclusion

- While the U.S. seeks greater market access for its agricultural products, India will have to balance trade liberalization with protecting domestic farmers. The success of the trade talks will shape the future of India-U.S. economic relations, influencing both global trade dynamics and domestic policies.

UPSC Mains Practice Question

Ques:India and the U.S. are deepening their trade relations through negotiations on a Bilateral Trade Agreement (BTA). Discuss the challenges and opportunities associated with such an agreement. **(250 words)**



A recent study, published in Remote Sensing Applications: Society and Environment, highlights the alarming extent of permafrost melting in Jammu & Kashmir (J&K) and Ladakh. The study, conducted by researchers from the University of Kashmir and IIT-Bombay, underscores the environmental and infrastructural risks posed by thawing permafrost in the Indian Himalayas.

As ice frozen for millennia thaws, Kashmir wakes up to new risks

According to a new study, permafrost covers 64.8% of the total area of J & K and Ladakh. Experts called the finding 'crucial' because permafrost has been largely overlooked as a source of risk in Kashmir even though the construction of dams, roads, and real estate have been known to affect it

Hirra Azmat

Permafrost melting is emerging as a unique environmental threat in the Kashmir Himalayas. A new study has found that thawing permafrost could affect 193 km of roads, 2,415 households, 903 alpine lakes, and eight hydropower projects in the mountainous region.

Permafrost is any type of ground – soil, sediment, rock, etc. – that has been continuously frozen for at least two years. Most of the permafrost on the earth has been that way for several millennia.

But with global warming, the permafrost is slowly beginning to thaw, with dramatic consequences. Permafrost stores several tonnes of organic carbon. As it melts, the carbon is released into the environment, including in the form of methane, a very potent greenhouse gas and climate pollutant.

The stability of permafrost in the Indian Himalayas is thus of great concern.

The new study, published in *Remote Sensing Applications: Society and Environment*, was coauthored by researchers from the University of Kashmir and IIT-Bombay.

According to the study, permafrost covers 64.8% of the total geographic area of Jammu & Kashmir (J&K) and Ladakh. Of this, 26.7% is continuous permafrost (most of the soil is frozen), 23.8% is discontinuous (more than half of the soil is frozen), and 14.3% is sporadic (intermittent patches of frozen soil).

A 'crucial' study

"Region-wise, the Ladakh plateau contains the highest extent (87%) of permafrost, while the foothill plains of Jammu, Shigar Valley, and Sivaliks do not have any permafrost," the authors wrote in their paper.

The study's corresponding author, Irfan Rashid, assistant professor in the Department of Geoinformatics at the University of Kashmir, Srinagar, said the team analysed weekly satellite data for surface temperatures from 2002 to 2023.

"Over 21 years, we examined over 56 images each year, amounting to a total dataset of 1,176 land surface temperature images," he said. The data came from a NASA sensor onboard its Terra and Aqua satellites called MODIS. Rashid said, "Each pixel in [its images] represents an area of 1 sq. km." He continued, "We analysed approximately 22,236 pixels across J&K and Ladakh. This extensive dataset allowed us to identify areas with consistently frozen temperatures and those where freezing conditions are absent or intermittent."

Reet Kamal, associate professor in the Department of Civil Engineering at IIT-Ropar, said the study (in which he wasn't involved) could be a preliminary step in assessing the impact of permafrost degradation.

"It is a crucial study, as permafrost has been largely overlooked, and no similar research has been conducted in this region," Kamal said. "While some studies exist in Uttarakhand, there is a pressing need for more research to better understand the risks associated with permafrost degradation."

According to the experts, the primary factor driving permafrost degradation is the rise in surface temperature.



Tourists enjoying a horse ride at Thajwas Glacier in Sonmarg, 80 km from Srinagar. NISSAR AHMAD

Farooq Ahmad Dar, assistant professor in the Department of Geography and Disaster Management at the University of Kashmir, said that in addition to natural causes, human factors can also affect permafrost. "Activities such as deforestation, land-use change, and wildfires have a severe impact on the permafrost cover and its stability. Vegetation insulates and protects the permafrost from direct solar radiation. Natural processes such as [earthquakes] frequently shake the ground, including permafrost, and cause it to break apart," he said.

Likewise, he added, activities related to infrastructure development, such as the construction of dams, road-laying, and real estate development, have also affected permafrost in the western Himalayas. "It has also been observed that the tourism and associated activities in the region often lead to increased pressure and impact the stability of the permafrost regions," Dar said.

Uncertainties abound

The study said the risks associated with permafrost thawing will be felt significantly across thousands of glacial lakes in the Indian Himalayan arc.

In J&K itself, the authors identified 332 proglacial lakes, of which 65 have differing (nontrivial) glacial lake outburst flood (GLOF) risks. A proglacial lake is formed when water from a melting glacier collects in a depression in the landscape or when its flow is dammed. The Central Water Commission reported last year that between 2011 and 2024, the coverage of "glacial lakes and other water bodies" in the Himalayas had increased by 33%.

In places with steep glacial landscapes, rapidly moving ice sometimes scours the underlying bedrock, further degrading permafrost. The rock-ice avalanche in Chamoli, Uttarakhand, in February 2021 is an example: the avalanche was



In Ladakh, steep slopes containing permafrost are home to residential settlements. Military infrastructure is at risk. Many strategic roads pass through permafrost, and their degradation could have severe implications for connectivity

triggered by a glacier on a sheer slope where the adjacent rock material was frozen.

The South Lhonak Lake in Sikkim suffered a significant GLOF in October 2023 in similar circumstances. The lake is surrounded by moraines composed primarily of permafrost-laden material. Over time, Rashid said, temperature fluctuations induced slope failure triggered by degraded permafrost.

According to Kamal of IIT-Ropar, permafrost degradation is also likely to adversely affect groundwater and the availability of river water. "Permafrost, in the form of rock glaciers, contributes to river flow, and in some areas, its degradation could affect the base flow of rivers. However, no comprehensive studies have been conducted to accurately identify or quantify these impacts in the Indian context. Therefore, making definitive statements on this matter would be premature," he said.

He added that permafrost "may also pose risks to infrastructure, but without in-depth studies, the extent of potential damage remains uncertain."

Planning for permafrost

The experts suggested that while existing roads cannot be closed, the construction of future ones should be informed by the presence or absence of permafrost. This could be a long-term strategy to ensure

sustainable construction in ecologically fragile areas.

According to Rashid, while environmental impact assessments are conducted for projects like hydroelectric power projects, whether they adequately account for GLOFs and other cryospheric hazards is unclear. "Increased awareness of permafrost-related risks has only emerged following major disasters.

Previously, GLOFs were primarily associated with Nepal, but events such as the Kedarnath disaster, the South Lhonak Lake outburst, and incidents in Ladakh have highlighted their broader relevance," Rashid said.

Dar agreed: to mitigate potential risk, he said it is crucial to bring these findings to the implementation level, particularly in places with permafrost.

"Households in permafrost-rich regions face varying degrees of risk," he added. "In Ladakh, steep slopes containing permafrost are home to residential settlements. Military infrastructure in Ladakh is at risk, posing concerns for national security. Many strategic roads pass through permafrost zones, and their degradation due to permafrost thaw or mass wasting could have severe implications for connectivity."

"We mostly rely on satellite remote sensing to monitor land surface

temperatures," Kamal added.

"However, there is currently no *in-situ* monitoring in these regions. Deploying data loggers in the same catchment areas would allow us to track temperature fluctuations more accurately. These data loggers could also help calibrate satellite data and identify any biases, making permafrost monitoring more precise and reliable."

(Hirra Azmat is a Kashmir-based journalist who writes extensively on science, health, and environment. Her stories have appeared in various local and national publications. azmat@hira@gmail.com)

Key Findings of the Study

- Extent of Permafrost in J&K and Ladakh
 - Covers 64.8% of the total geographic area.
 - 26.7% is continuous (permanently frozen).
 - 23.8% is discontinuous (partially frozen).
 - 14.3% is sporadic (intermittently frozen).
 - Ladakh plateau has the highest permafrost coverage (87%).
 - Jammu's foothill plains, Shigar Valley, and Siwaliks do not have permafrost.
- Risks Identified
 - Threat to Infrastructure: 193 km of roads, 2,415 households, and 8 hydropower projects are vulnerable.
 - Impact on Water Bodies: 903 alpine lakes and 332 proglacial lakes in J&K, with 65 lakes at risk of Glacial Lake Outburst Floods (GLOFs).
 - Contribution to Climate Change: Thawing permafrost releases methane, a potent greenhouse gas (GHG), exacerbating global warming.

Causes of Permafrost Degradation

- Climate Change
 - Rising global temperatures are causing surface temperature increases in the Himalayas.
 - This leads to glacial retreat and permafrost degradation.
- Human-Induced Factors
 - Infrastructure development (dams, roads, real estate expansion).
 - Deforestation and land-use changes.
 - Tourism activities increase surface temperature and disturb fragile ecosystems.
- Natural Factors
 - Seismic activity (frequent earthquakes cause permafrost instability).
 - Rock-Ice Avalanches: The Chamoli disaster (2021) and South Lhonak Lake GLOF (2023) serve as recent examples.

Implications of Permafrost Thawing

- Environmental Impacts
 - Increased methane emissions accelerate climate change.
 - Glacial Lake Outburst Floods (GLOFs) threaten thousands of alpine lakes.
 - Water availability may decline as permafrost degradation affects groundwater recharge.
- Socio-Economic and Infrastructure Risks
 - Threats to road networks and hydropower projects due to unstable terrain.
 - Vulnerability of households (especially in Ladakh's steep permafrost slopes).
 - Risks to military infrastructure, which is crucial for India's strategic interests in border regions.

Way Forward & Mitigation Strategies

- Scientific Monitoring and Research
 - Establish in-situ monitoring stations to track permafrost changes.
 - Use data loggers to calibrate satellite imagery and improve accuracy.
- Policy and Planning
 - Environmental Impact Assessments (EIAs) must include permafrost-related hazards.
 - Restrict construction in ecologically fragile zones.
 - Incorporate permafrost mapping into infrastructure planning (especially for roads and dams).
- Disaster Risk Reduction
 - Develop early warning systems for GLOFs and landslides.
 - Increase awareness and community participation in disaster preparedness.
- Sustainable Development
 - Implement climate-resilient infrastructure projects.
 - Promote eco-tourism to reduce human-induced pressure on permafrost regions.

Conclusion

- The permafrost thawing in J&K and Ladakh is a silent but severe environmental crisis. Urgent policy interventions, scientific monitoring, and sustainable development strategies are needed to mitigate its impact. This issue must be integrated into India's climate action plan and disaster preparedness strategies to safeguard infrastructure, local communities, and the fragile Himalayan ecosystem.

UPSC Mains Practice Question

Ques :Permafrost thawing in the western Himalayas poses severe risks to hydropower projects, roads, and settlements. Discuss the infrastructural challenges and suggest measures for sustainable development in these fragile regions. **(250 words)**

Page 07:GS 3: Environment & Disaster Management

- Glaciers worldwide are melting at an unprecedented rate, with the UNESCO report highlighting the largest glacial mass loss on record in the last three years. The loss of 9 trillion tonnes of ice since 1975 has significantly contributed to sea level rise, affecting millions globally. This crisis is primarily driven by climate change, rising temperatures, and human-induced environmental degradation.



The Pastoruri glacier in Peru. It used to host ski competitions. Now it is a glacier in extinction, with the remaining ice field cordoned off because of the risk of ice fall. REUTERS

Key Findings of the UNESCO Report

- Accelerated Ice Loss:
 - Since 1975, 9 trillion tonnes of ice have melted.
 - In 2024 alone, glaciers lost 450 billion tonnes of ice.
 - Five of the last six years recorded the largest glacial mass loss in history.
- Contribution to Sea Level Rise:
 - Melting glaciers have caused an 18 mm rise in global sea levels from 2000 to 2023 (about 1 mm per year).
 - Every 1 mm rise in sea level exposes up to 300,000 people to annual flooding.
- Impact on Freshwater Resources:
 - Glaciers and polar ice sheets hold about 70% of the world's freshwater.
 - 1.1 billion people in mountain communities rely on glaciers for drinking water, agriculture, and hydroelectric energy.
 - Rapid melting is leading to water shortages and regional conflicts.
- Increased Frequency of Natural Disasters:
 - Rising temperatures increase the severity and frequency of avalanches, landslides, flash floods, and Glacial Lake Outburst Floods (GLOFs).
 - Rwenzori Mountains in Africa are projected to lose all glaciers by 2030, intensifying water-related conflicts.
- Geopolitical and Socio-Economic Consequences:
 - Loss of glaciers can destabilize food production, impact livelihoods, and displace populations.
 - Coastal and island nations are particularly vulnerable to climate migration due to sea-level rise.

Glaciers losing ice at record levels around the globe: UN

Reuters

Glaciers around the globe are disappearing faster than ever, with the last three-year period seeing the largest glacial mass loss on record, according to a UNESCO report released on March 21.

The 9 trillion tonnes of ice lost from glaciers since 1975 are roughly equivalent to "an ice block the size of Germany with the thickness of 25 metres," Michael Zemp, director of the Switzerland-based World Glacier Monitoring Service, said during a press conference announcing the report at the UN headquarters in Geneva.

The dramatic ice loss is expected to accelerate as climate change, caused by the burning of fossil fuels, pushes global temperatures higher. This will likely exacerbate economic, environmental, and social problems across the world as sea levels rise and these key water sources dwindle.

Zemp said five of the last six years registered the largest losses, with glaciers losing 450 billion tonnes of mass in 2024 alone.

The accelerated loss has made mountain glaciers one of the largest contributors to sea level rise, putting millions at risk of devastating floods and damaging water routes that billions of people depend on for hydroelectric energy and agriculture.

Stefan Uhlenbrook, the director of water and cryosphere at the World Meteorological Organisation, said that about 275,000 glaciers remain globally which, along with the Antarctic and Greenland ice sheets, comprise about 70% of the world's freshwater.

Glaciers lost 450 billion tonnes of mass in 2024 alone. The highly accelerated loss has made mountain glaciers one of the largest contributors to sea level rise, raising the risk of flooding

About 1.1 billion people live in mountain communities, which suffer the most immediate impacts of glacier loss, due to the increasing risks with natural hazards and unreliable water sources. The remote locations and difficult terrains also make cheap fixes difficult to come by. Rising temperatures are expected to worsen droughts in areas that rely on snowpack for freshwater, while increasing both the severity and frequency of hazards like avalanches, landslides, flash floods, and glacial lake outburst floods (GLOFs).

"Things in certain regions are happening actually much faster than we anticipated," Heidi Sevestre, glaciologist at the Arctic Monitoring and Assessment Program, said.

She noted a recent trip to the Rwenzori Mountains in Uganda and the Democratic Republic of the Congo in East Africa, where glaciers are now expected to disappear by 2030. Sevestre has worked with the region's indigenous Bakonzo communities who believe a deity called Kitasamba lives in the glaciers.

Glacial melt in East Africa has led to increased local conflicts over water, according to the new UNESCO report, and while the impact on a global scale is minimal, the trickle of melting glaciers around the world is having a compounding impact.

Between 2000 and 2023, melting mountain glaciers have caused 18 mm of global sea level rise, about 1 mm per year. Every millimeter can expose up to 300,000 people to annual flooding, according to the World Glacier Monitoring Service.

"Billions of people are connected to glaciers, whether they know it or not, and that will require billions of people to protect them," Sevestre said.

India-Specific Implications

- India, with its Himalayan glaciers, faces significant risks due to glacial melt:
- Threat to Water Security: Rivers like Ganga, Brahmaputra, and Indus depend on Himalayan glaciers. Their rapid melting could lead to seasonal water scarcity.
- Disasters like GLOFs: The Kedarnath floods (2013) and the Chamoli disaster (2021) highlight the dangers of glacial melt.
- Impact on Agriculture: Depleting glacier-fed rivers could disrupt irrigation and impact food security.
- Military & Infrastructure Risks: Melting glaciers threaten strategic roads, military bases, and hydroelectric projects in Ladakh and Arunachal Pradesh.

Mitigation Strategies & Policy Recommendations

- Strengthening Climate Policies:
 - Achieving Net Zero Emissions: India has pledged to reach net-zero emissions by 2070. Implementing strict carbon reduction policies is crucial.
 - Reducing Dependency on Fossil Fuels: Enhancing renewable energy sources (solar, wind, hydro) can lower carbon emissions.
- Improving Glacier Monitoring & Early Warning Systems:
 - Deploying data loggers and remote sensing to monitor glacier movements and predict GLOFs.
 - Strengthening disaster management systems in Himalayan states.
- Sustainable Infrastructure Development:
 - Limiting unregulated tourism and construction in eco-sensitive zones.
 - Ensuring Environmental Impact Assessments (EIA) before road and dam projects.
- International Cooperation:
 - Strengthening India's role in global agreements like the Paris Climate Accord and Glasgow Climate Pact.
 - Collaborating with Himalayan and Arctic nations for climate resilience strategies.

Conclusion

- Glacier melting is not just an environmental issue, but a global humanitarian crisis. Immediate action is needed to mitigate its effects on water security, disaster management, and climate resilience. India, being home to the Himalayan glaciers, must prioritize sustainable development, early warning systems, and international cooperation to protect its people and resources from this escalating crisis.

Ques :Discuss the impact of rapid glacial melting on global sea levels and its socio-economic consequences.(250 words)



- India is undergoing rapid urbanisation, with its urban population expected to become the largest globally. However, urban policies and plans are often designed at the central level, far from the actual urban realities, raising concerns about their effectiveness.

The need for a localised urban agenda

Can centrally sponsored schemes and centrally run urban missions give localised solution to cities? Does the central control over finances bode well for the growth of cities? Can a top-down approach work? Is decentralisation of funds necessary?

EXPLAINER

Tikender Singh Panwar
Hitesh Vaidya

The story so far:

India is on the cusp of a profound urban metamorphosis. In the forthcoming decades, India is anticipated to boast the most significant urban population globally. However, India's urban future is shaped by blueprints drawn far from the streets where people live.

What has been India's urban journey?

The urban evolution was set in motion in the post-90s era when India embraced a liberalisation policy. Successive Union governments have played a pivotal role in steering India's urbanisation through a series of missions, from the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to the five urban flagship missions. This journey underscores the crucial role of the Union Government in sculpting India's urban fabric.

What role does the Centre play?

As 'urban development' is a State subject, how much of a role should the Centre have to shape the urbanisation process has always triggered many questions. Many housing schemes such as the Indira Awas Yojana, the Rajiv Awas Yojana, and now the Pradhan Mantri Awas Yojana (PMAY) as well as welfare schemes for essential utilities starting from the Basic Services for the Urban Poor (BSUP) during the UPA regime, to the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and the Swachh Bharat Mission (SBM), have all been strong catalysts in triggering the urbanisation process in Indian cities.

In the mobility sector, centrally run urban missions supported cities in planning their city mobility plans. During the National Democratic Alliance (NDA) regime, the Union government focused on metro rail projects, which consumed almost 30% of the total Union budget. However, these missions often impose a prescriptive, top-down approach, prioritising spatial distribution, financial modalities, and administrative procedures over local needs. This leaves States and cities limited flexibility to customise and prioritise operational mechanisms within diverse contexts.

Why is the Centre promoting a top down approach when it comes to finances?

There are many reasons, with one of the major ones being that cities were treated as the "engines of growth", leading urbanisation. Another plausible reason is that successive Union governments have seen cities as potential hubs with which they never wanted to part. It could also be the recognition that infrastructure is a 'crucial enabler of growth' for raising India's competitiveness and achieving the target of a \$5 trillion economy by 2025. Hence, even though the budgetary transfers were bracketed in centrally sponsored and Central sector schemes, they influenced urban trajectory. However, cities need targeted investments to accelerate economic growth. This includes building skilling centres, trade hubs, and innovation spaces; prioritising infrastructure that directly impacts economic indicators, not just livability.

Successive Union finance commissions, while transferring funds have put conditionalities to shape and design the urbanisation process at the sub-national



Localise solutions: A labourer pulls a cable in front of two office buildings in Gujarat International Finance Tec-City (GIFT) at Gandhinagar, in 2015. REUTERS

level. For example, the conditionalities levied on city governments to enhance property tax and make it commensurate to the rise in the State's GDP were suggested by the 15th Finance Commission. Likewise, instead of recommending grants directly to the city governments and letting them take a call according to their priorities, the Commission added conditions to the grants.

What could be the more effective alternative?

Urban development is a State subject, and while the Central government can 'nudge' and 'guide' substantially, State and local governments play significant roles in shaping the sector. India is urbanising differently in different States, and even in various regions within States. The current labour migration is from the northern States to the ones in the south, and hence southern States now have a different demographic pattern. In States like Kerala and Karnataka, it is the rural-urban continuum that is dominating – the Kerala Chief Minister termed the State as a 'single city', for one doesn't know where the boundary of the city ends and the village panchayat starts.

Initially driven by industry and migration, Gujarat's urbanisation is also quite different from that of the rest of the country. In many regions of the State, the core is dominated by the rich while the poor are pushed to the peripheries. However, in some other areas, even the wealthy are moving to the peripheries as the core has gotten too crowded or polluted. Here, they travel to the city core for business or work, but prefer staying in the peripheries, similar to some U.S. cities in the 70s and 80s.

There are such regional aberrations everywhere. Take the example of housing. Not all cities require the

construction of houses. There might be ample social housing, and thus, the PMAY does not bring much traction. Likewise, in some cities, water and essential sanitation services might be better than other cities, and such cities may not want investments in these utilities. In contrast, others who lack such amenities may require them more. Therefore, the universalisation of sanitation, as the provisions of the SBM are determined from the top, is meaningless. In some clustered towns, there may be more need for a decentralised mechanism, whereas for others, one would need a centralised system. The moot point is that 'one size doesn't fit all'. The devolution process must be rethought and devised more scientifically in such a scenario. Instead of creating an island of 'developments', it would be more prudent to devise ways the devolutionary exercise triggers needs/demand-based help.

The total Union Budget should be devolved so that around 70% goes as direct transfers to the States and through State finance commissions to city governments. The other, 30%, can be decided by the Union government, which can decide on national priorities, like climate-resilient infrastructure. However, due to the top-down approach, State governments are mirroring the Centre budget lines without making creative investments to tap their unique identities and contextualities.

This direct transfer of money can be categorised into broad sections: mobility, sanitation, housing, water, waste, and so on. The cities should be asked to prioritise their plans and, in this process, identify the most pressing space in which they require money. Such an exercise can be quickly done with the help of the State governments and through other knowledge agencies. It will also help devise a better, more scientific way of utilising the central devolutionary grant.

The people and the city could decide, and universal mission guidelines would not influence it.

These exercises can also avoid what happened under the smart cities mission in many cities – wherein the money remained either unutilised or in the pressing eagerness to submit what they call the 'utilisation certificate', lousy infrastructure was created which had no demand from the people whatsoever.

Why is it important?

National governments should focus on national and regional issues and international policy, not local ones.

In a democracy like India, national institutions are geographically distant bureaucracies that tend to be insulated from the public and disconnected from community service delivery problems. And that is precisely why a shift is required in the financial devolutionary process. This fits with the fact that plurality is the essence of Indianness.

Unless this forms part of the larger vision, any incremental fixes to making a city liveable will lead to further influx causing infrastructural collapse and deterioration in the quality of living. Centrally driven missions cannot connect the government to the lives of citizen communities in a positive way – it becomes difficult for citizens to accept the central authority of the government to protect their property, resolve conflicts and collect taxes. City governments can provide this tangible link. A fundamental shift in the design of urban missions, redefining the mandate, roles, and responsibilities of actors at Central, State, and local levels, is mandatory for transformation in the new age.

Tikender Singh Panwar is the former deputy mayor of Shimla and Hitesh Vaidya is the former director of NIUA. Both are currently members of the Kerala Urban Commission.

THE GIST

As 'urban development' is a State subject, how much of a role should the Centre have to shape the urbanisation process has always triggered many questions.

The total Union Budget should be devolved so that around 70% goes as direct transfers to the States and through State finance commissions to city governments.

In a democracy like India, national institutions are geographically distant bureaucracies that tend to be insulated from the public and disconnected from community service delivery problems.

➔ Role of the Centre in Urban Development

- Urban development is a State subject under the Constitution. However, successive Union governments have significantly influenced urbanisation through centrally sponsored schemes such as:
 - Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
 - Pradhan Mantri Awas Yojana (PMAY)
 - Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
 - Swachh Bharat Mission (SBM)
 - Metro rail projects
- These schemes have helped in urban development, but they often follow a top-down approach, leaving limited flexibility for States and cities to prioritise their needs.

➔ Central Control Over Finances and Its Impact

- The Union government retains significant control over urban finances, influencing the development trajectory.
- The 15th Finance Commission placed conditions on grants to cities, such as requiring property tax reforms.
- Centrally driven financial policies often lead to uniformity in urban policies, ignoring regional variations.

Why a Decentralised Approach is Necessary?

➔ Urbanisation is Region-Specific

- Different States experience different urbanisation trends:
- Southern States (Kerala, Karnataka, Tamil Nadu): More rural-urban continuum, requiring different infrastructure needs.
- Gujarat: Urbanisation driven by industry and migration, with wealthier populations moving to the peripheries.
- Northern States: High labour outmigration and different housing needs.
- A one-size-fits-all approach does not work, as some cities may not require mass housing projects like PMAY but may need better sanitation, mobility, or infrastructure.

➔ Financial Devolution for Better Planning

- A 70:30 model is proposed for financial devolution, where:
- 70% of Union Budget funds should be directly transferred to States and city governments.
- 30% can be allocated by the Centre for national priorities like climate-resilient infrastructure.

- Cities should have the power to prioritise mobility, sanitation, housing, water, and waste management according to their specific needs.
- **Avoiding Poorly Planned Infrastructure**
 - Centrally designed urban schemes often lead to misallocation of resources.
 - Example: Smart Cities Mission
 - In many cities, funds remained unutilised or were used hastily, resulting in poor-quality infrastructure that lacked local demand.
 - A local governance-driven approach would ensure better utilisation of resources.

Conclusion

- A decentralised and localised approach is crucial for sustainable urban development in India. While the Centre can provide strategic guidance, State and local governments must have greater autonomy over urban finances to cater to regional and city-specific needs effectively.

UPSC Mains Practice Question

Ques : Discuss the role of the Union government in shaping urbanisation in India. How can financial decentralisation improve urban governance?(250 words)

In News :Black Sea

US-Russia Talks in Saudi Arabia on Ukraine War and Black Sea Ceasefire.



Why in the News?

- US and Russian officials are engaged in diplomatic talks in Saudi Arabia to advance a broader ceasefire in Ukraine and negotiate a Black Sea maritime ceasefire.
- US President Donald Trump has intensified efforts to broker peace, holding prior discussions with Ukrainian officials in Riyadh.
- The Black Sea ceasefire agreement aims to restore free navigation for shipping, although it has not been a major military flashpoint in recent months.
- The talks are taking place amid continued Russian missile strikes on Ukraine, including a recent attack on Sumy that injured 65 people, including 14 children.

About the Black Sea

- Location: A large inland sea situated at the southeastern extremity of Europe.
- Type: One of the marginal seas of the Atlantic Ocean.
- Area: Covers approximately 436,000 square kilometers (168,000 square miles).
- Bordering regions:
 - West: Balkan Peninsula (Southeastern Europe).
 - East: Caucasus Mountains.
 - North: East European Plains (Russia & Ukraine).
 - South: Anatolia (Turkey, Western Asia).
- Bordering countries:

- Russia and Ukraine (North).
- Turkey (South).
- Bulgaria (West).
- Georgia (East).
- Romania also has access to the Black Sea.

Key features:

- The Crimean Peninsula extends into the Black Sea from the north.
- Russia has the longest coastline (2,300 km), followed by Turkey (1,329 km) and Ukraine (1,282 km).
- It connects to the Aegean Sea (Mediterranean) via the Bosphorus Strait, the Sea of Marmara, and the Dardanelles Strait.
- The Kerch Strait links it to the Sea of Azov.
- The Black Sea has lower salinity than the world's oceans due to isolation from the Mediterranean.
- Major rivers flowing into it include the Danube, Dnieper, Southern Bug, Rioni, and Dniester.

Environmental and Strategic Importance of the Black Sea

- World's Largest Meromictic Basin: The movement of water between upper and lower layers is rare, leading to unique ecological conditions.
- Anoxic zones: One of the largest anoxic basins, meaning low dissolved oxygen in deeper layers, affecting marine biodiversity.

Strategic Geopolitical Importance:

- Crucial for global trade, particularly for Russia and Ukraine's grain and energy exports.
- NATO and Russia frequently conduct naval operations in the region.
- Russia's Black Sea Fleet is stationed in Sevastopol, Crimea, making the region highly militarized.
- Key Islands: Snake Island (Ukraine); Giresun Island (Turkey); St. Ivan Island (Bulgaria).

Colossal wastage that is food for thought

The United Nations Environment Programme's Food Waste Index Report (FWIR) 2024 reveals that in 2022, the world wasted 1.05 billion tonnes of food, equating to nearly 20% of all food available to consumers. Alarmingly, India ranks among the top contributors to this global issue. This is an issue that demands our immediate attention. This issue transcends mere resource mismanagement, representing a profound moral and environmental failure.

Wastage versus loss

Food wastage, as defined by FWIR 2024, includes edible and inedible parts discarded from the food supply chain, from manufacturing and retail to restaurants and households. This differs from food loss, which occurs earlier in the supply chain due to issues such as poor storage, transport and handling. The report highlights India's position as one of the highest food-wasting nations, second only to China. While the per capita household food waste in India (55 kilograms annually) is lower than in some other countries such as the United States (73 kg), India's large population means that this still represents an immense volume of wasted food. This wastage exacerbates climate change, causes economic loss and represents a major form of social injustice.

Food worth a trillion dollars is wasted globally every year – a figure that becomes even more disturbing when one considers that 783 million people are facing hunger. This crisis is particularly serious in India, where an estimated 78 million tonnes of food are discarded each year, even as over 20 crore Indians go to bed hungry. As one of the world's largest food producers, India faces a complex challenge: abundant production alongside persistent food insecurity. This stems from inefficiencies throughout the food supply chain, from farm to consumer. Household waste is driven by over-purchasing (buying more groceries than needed), improper meal planning (not planning meals ahead of time and then having ingredients go bad), limited storage (small refrigerators or lack of cool, dry pantries) and cultural habits of excess food



Vinaya Kumar H.M.

is an Assistant Professor at the Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences, Shivamogga, Karnataka

Governments, businesses and individuals must collaborate to develop an efficient food management system that fosters responsible consumption

preparation (cooking large portions for celebrations or guests). In urban areas, retail markets struggle with poor refrigeration and product short shelf life. Approximately 61% of global food waste occurs at the household level, highlighting the importance of consumer education and better food management practices to address this crisis.

Measuring the environmental impact

The environmental cost of food waste is immense. Food production is resource-intensive, requiring huge amounts of land, water and energy. When food is wasted, so are these precious resources. In India, food waste accounts for 10%-12% of total municipal waste, contributing significantly to methane emissions from landfills (methane is a potent greenhouse gas produced when organic matter decomposes without oxygen).

The UN Climate Change (2024) reports that food loss and waste generate 8%-10% of annual greenhouse gas emissions globally. If food waste was in the form of a country, it would be the third-largest emitter of greenhouse gases after China and the U.S. Household-level activities, including food waste, excessive energy consumption and improper waste disposal (not recycling or composting), significantly increase the carbon footprint. Minimising greenhouse gas emissions at the household level, through actions such as reducing food waste, improving energy efficiency and adopting sustainable diets (eating more plant-based foods and less meat), are crucial.

The social injustice of food waste in India is undeniable. Despite being a major food producer, India faces significant challenges in food accessibility and affordability. Widespread wastage prevents food from reaching those who need it most; hindering progress toward Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger) and SDG 12.3 (reduce food waste at retail and consumer levels). Climate change further intensifies food insecurity in India.

Rising temperatures, erratic monsoons and

weather shocks (droughts, floods and landslides) disrupt crop yields and weaken supply chains. Food waste exacerbates this by increasing the demand for limited resources.

Actions that need to be taken

Addressing this crisis requires a multi-pronged approach encompassing both individual actions and systemic reforms. At the household level, individuals can reduce waste through smart meal planning and shopping (creating and sticking to shopping lists), efficient food storage (using airtight containers and storing food at the right temperatures), creative use of leftovers (turning leftover vegetables into soup), composting (turning kitchen scraps into vermicompost) and donating surplus food (to local food banks or charities). Systemically, the government must invest in building more cold storage and transportation infrastructure. Businesses should adopt sustainable practices, such as redistributing unsold food. Educational institutions can raise awareness about responsible consumption. Policymakers should subsidise innovative solutions such as food redistribution networks (apps that connect surplus food with those in need) and improved cold storage (providing subsidies for farmers to invest in refrigeration). Initiatives such as India's "Save Food Share Food" programme demonstrates the potential of large-scale redistribution efforts.

India stands at a critical juncture. Addressing food waste is essential for tackling carbon footprint, ensuring food security and reducing social inequality. Governments, businesses and individuals must collaborate to develop an efficient food management system that minimises waste, optimises resources and fosters responsible consumption. The solution is not simply increasing food production but valuing and conserving what is already available. By making conscious food choices, reducing waste at every level and advocating sustainable food systems, we can move toward a future where food is preserved, resources are optimised and no one goes hungry.

Paper 03: Environment and Ecology

UPSC Mains Practice Question: Discuss the paradox of food surplus and food insecurity in India. How does food wastage contribute to this issue? Suggest policy measures to mitigate the problem.

Context :

- ▶ The United Nations Environment Programme's Food Waste Index Report (FWIR) 2024 highlights a pressing global issue: 1.05 billion tonnes of food wasted in 2022, with India ranking second only to China. This problem is not just about resource mismanagement; it has severe economic, environmental, and social implications.

Key analysis

- ▶ Understanding Food Wastage and Loss
 - Food Wastage: Includes edible and inedible parts discarded from manufacturing, retail, restaurants, and households.
 - Food Loss: Happens at earlier stages due to poor storage, transportation, and handling.
 - India's Per Capita Household Food Waste: 55 kg per year (compared to the U.S.: 73 kg).
 - Total Waste in India: 78 million tonnes per year, while over 20 crore Indians face hunger.
- ▶ Causes of Food Wastage in India
 - Households: Over-purchasing, improper meal planning, lack of storage, cultural habits.
 - Retail & Markets: Poor refrigeration, short shelf life of products.
 - Supply Chain Issues: Inefficiencies from farm to consumer.
- ▶ Environmental Impact
 - Food waste contributes 10%-12% of municipal waste in India, generating methane (CH₄), a potent greenhouse gas.
 - Global food waste contributes 8%-10% of total GHG emissions (third-largest emitter after China & U.S.).
 - Climate Change and Food Waste:
 - Rising temperatures, erratic monsoons, and natural disasters reduce agricultural yield.
 - Wasting food increases demand for scarce resources.
- ▶ Social and Economic Consequences
 - Contradiction: India is among the world's largest food producers, yet food insecurity persists.
 - Hunger and Malnutrition: Widespread food wastage prevents essential food from reaching the needy.
 - Violation of SDGs:
 - SDG 2 (Zero Hunger): Wastage prevents equitable food distribution.
 - SDG 12.3: Calls for reducing food waste at consumer and retail levels.
- ▶ Solutions and Policy Interventions
 - Individual-Level Actions
 - Smart Shopping & Meal Planning: Buy only what is needed, use shopping lists.
 - Proper Storage: Refrigerate perishables correctly, use airtight containers.
 - Composting: Convert food scraps into compost instead of discarding them.
 - Leftover Management: Repurpose leftovers into new meals.

- Donations: Distribute excess food to charities and food banks.

Systemic Reforms

- ➔ Government Interventions
 - Cold Storage & Infrastructure: Improve transport and storage to reduce spoilage.
 - Subsidies for Refrigeration & Preservation: Encourage farmers and retailers to store food properly.
 - Food Redistribution Networks: Support apps that connect surplus food with needy populations.
 - Business & Corporate Responsibility
 - Sustainable Practices: Retailers and restaurants should redistribute unsold food.
 - Corporate Social Responsibility (CSR) Initiatives: Invest in food-saving programs.
- ➔ Educational Awareness
 - School & College Campaigns: Promote responsible food consumption.
 - Public Awareness Drives: Highlight the economic and environmental costs of wastage.
- ➔ Notable Initiatives
 - "Save Food Share Food" Programme: A large-scale Indian initiative to redistribute surplus food.
 - Zero Hunger Initiatives: Programs targeting hunger reduction through better resource management.

Conclusion:

- ➔ Food wastage is a multi-dimensional issue affecting economy, environment, and society.
 - ➔ India faces a paradox: high food production yet severe hunger.
 - ➔ Policy changes, infrastructure improvements, and individual responsibility are key to addressing this crisis.
 - ➔ A shift from increasing food production to better management is necessary for sustainable development.
-