9th Jan, 2025

1. Digital Personal Data Protection (DPDP) Rules 2025 and the DPDP Act 2023
GS 2 (Governance)

- **Why in News:** The government floated the draft Digital Personal Data Protection (DPDP) Rules 2025 for public consultation.
- **What is the DPDP Act 2023?**
  - The **Digital Personal Data Protection Act (DPDP) 2023** is a law passed by the Indian government to regulate how personal data of individuals is collected, processed, and protected in the digital world.
  - The law mandates that companies and organizations (referred to as data fiduciaries) must obtain consent from individuals before collecting their data.
  - The Act aims to protect citizens' personal data from misuse, ensuring transparency and accountability for organizations handling this data.

Data Rules to be rolled out by mid-2025, says Vaishnaw

Varghese K. George
Aroon Deep
NEW DELHI

The Union government is aiming at finalising and notifying the Digital Personal Data Protection Rules, currently in a draft state, by the middle of the year, Union Minister of Electronics and Information Technology Ashwini Vaishnaw has said.

"The consultations so far have been extensive, and people are by and large okay with the provisions," Mr. Vaishnaw said in an exclusive interview with *The Hindu* on Wednesday. "I don't see too many amendments coming in the final notification beyond some tweaks."

While large firms are prepared to comply quickly with most of the Rules, Mr. Vaishnaw said that a maximum of two years are being given for implementation. This will allow certain categories of data fiduciaries some more time to prepare for the full implementation of the Digital Personal Data Protection (DPDP) Act, 2023, which the Rules seek to operationalise. The government is currently accepting stakeholder comments on the draft until February 18.

"The law has been drafted in a way to ensure the functioning and autonomy of the Personal Data Protection Board of India," Mr. Vaishnaw said, adding that the implementation of the Act would be digital in nature. The same approach has been followed in at least one other institution: the Grievance Appellate Committee, which deals with social media complaints under the IT Rules, 2021.

The law has been drafted in a way to ensure the functioning and autonomy of the board

The consultations so far have been extensive, and people are by and large okay with the provisions

ASHWINI VAISHNAW
Union Minister of Electronics and Information Technology

Promoting components

On electronics manufacturing, Mr. Vaishnaw said, "We are working on a programme for promoting and incentivising component manufacturing in our country", adding to existing schemes for IT hardware and semiconductors.

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- **Why is the DPDP Act Necessary?**
  - As more services shift online, **personal data is being increasingly digitized**. While this offers convenience, it also exposes people to the **risk of misuse, such as unauthorized data sharing or cybercrimes**.
  - The DPDP Act addresses these issues by enforcing stricter rules on how digital platforms collect, store, and use people's data.
- **What are the DPDP Rules 2025?**
  - The DPDP Rules 2025 are the set of regulations developed to help implement the **DPDP Act 2023.**
  - These rules provide the detailed processes and mechanisms for ensuring the Act's provisions are properly followed.
  - **Key Features of the Draft DPDP Rules 2025**
    - **Data Protection Board (DPB):** The draft rules outline the framework for setting up the Data Protection Board (DPB). The DPB will be responsible for adjudicating complaints and enforcing penalties related to violations of data protection rules. The DPB will operate digitally, making it easier for people to file complaints and track cases.
    - **Consent Management for Children's Data**: The rules focus on the protection of children's data, requiring entities to obtain verifiable parental consent before processing a child's personal data. This will be enforced through technical and organizational measures.
    - **Cross-border Data Transfer**: The draft rules allow for the transfer of personal data outside India, but only in specific cases approved by the government. The government will decide which data can be transferred and under what circumstances.
    - **Rights of Individuals**: The rules ensure that individuals have control over their personal data. They can withdraw consent, update, or delete their data, and file complaints against entities that misuse their data.
    - **Data Fiduciaries and Consent Managers**: Organizations that collect and process personal data, like social media platforms, e-commerce websites, and online gaming services, are called data fiduciaries. They are required to seek explicit consent from individuals before using their data.
      - Additionally, consent managers—third-party platforms that help collect and manage consent on behalf of users—are also part of the framework. For instance, platforms that manage financial data and health records may act as consent managers.
    - **Penalties for Violations:** The DPDP Act 2023 provides a penalty mechanism for data fiduciaries who fail to comply with the law. Penalties can be as high as **Rs 250 crore for serious violations**. The severity of the penalty will depend on factors such as the **nature of the violation, efforts made to prevent it, and the duration of the breach.**

- **Exemptions:** Some exemptions apply under the DPDP Act. These exemptions include cases related to law enforcement activities, judicial functions, or performing regulatory functions that require the processing of personal data. Startups or entities engaged in research may also be granted certain relaxations.
- **Filing Complaints**: Citizens who believe their data rights have been violated can file complaints with the **Data Protection Board (DPB)**, which will function digitally. Individuals will be able to file complaints online, and the Board will handle these cases remotely.
- **Timeline for Implementation:** While the DPDP Act 2023 was passed in August 2023, the rules are still under consultation. After the finalization of the rules, the government will take approximately two years to fully implement the Act, giving companies and organizations time to align their systems and processes with the new data protection requirements.

- **Impact of the DPDP Act**
  - The DPDP Act is aimed at improving transparency and accountability for digital platforms. It also gives individuals more control over their data, allowing them to make informed choices about how their personal information is used.
  - The law will help safeguard citizens against the misuse of their personal data, whether through cybercrimes, unauthorized sharing, or breaches of privacy.

2. The Right to Food and the Struggle with the PDS
GS 3(Food Security)

- **Why in News:**
  - **The right to food**, a cornerstone of human dignity and survival, **has been enshrined as a fundamental right in India for over two decades.**
  - However, **recent reports from Jharkhand, Odisha, and Bihar reveal a troubling reality:** the Public Distribution System (PDS), designed to ensure food security, has not been able to protect the most vulnerable.
  - **Bureaucratic inefficiencies, systemic corruption, and social inequities have created barriers** that deprive marginalized communities of their basic entitlement to sustenance.

The right to food and the struggle with the PDS

In 2023, there was a report discussing the right to food in the context of Jharkhand. Similarly, a few days ago, there was another report that was in the context of Odisha. These reports highlighted something alarming – that a substantial number of households have been removed from the rolls of the Public Distribution System (PDS). This disturbing situation is not limited to Jharkhand and Odisha. Bihar, another State in the east-central region, has its own PDS tragedy.

The example of the Musahar community

Bihar was blighted by a supply crisis, when rations were needed the most, at the time of the COVID-19 pandemic. Since then, there are communities which continue to be in want of a stable supply of ration. This is more notable among extremely marginalised communities such as the Musahars. This is a community that has been pushed beyond the edge of destitution by the socio-politics of caste. Its struggle with the PDS emerges as a significant symptom of the same.

A number of Musahar households in Patna district do not have an active ration card. Even if they do have one, there is another problem – the card does not have the names of all the family members.

There are also several people who have lost access to their monthly supply of ration ever since biometric verification was made mandatory at fair price shops (FPS). In such cases, the individuals concerned are forced to get a new ration card as after verification it emerges that their names have been struck off the PDS rolls. The ruling dispensation and its over the top marketing of 'smart cities' clearly posits before us the disconnect between the government and the people most in need of state welfare.

Ananye Krishna

Field Researcher at the DIVSE Charitable Trust

Shailendra Kumar

Field Researcher at the DIVSE Charitable Trust

Bureaucratic hurdles are a reason why a substantial number of households have found themselves removed from PDS rolls in parts of north, central and east India

Problems with the PDS are not limited to enrolment and access. There is also the flow of corruption through the veins of the system. Households enrolled with the PDS have reported that FPS dealers have been releasing only four kilograms of food grain/person when a below poverty line (BPL) household which has a Priority Household (PHH) ration card is entitled to five kilograms a person. The four kilograms of grain being issued is rice, which is the lowest quality of 'Usna' rice. No amount of wheat is issued.

Documentation that has no legal basis

Coming back to the issue of enrolment in PDS. The Government of Bihar offers its citizens the option to file a ration card application using a paper-based application form or by filling in an online application form through its e-PDS portal. The first option requires the Aadhaar details of the applicant and their family members. The second option requires an extra set of documents, namely caste certificate, income certificate, and residence certificate. Even when the applicant uses the first method, the officials eventually demand these certificates.

The demand for such documents is not exclusive to Bihar. Jharkhand also makes such a demand while Uttar Pradesh makes it mandatory to provide an income certificate, and Madhya Pradesh requires the submission of proof of residence.

The requirements of these certificates do not have any legal basis. Neither the National Food Security Act (NFSA) of 2013 nor the PDS control order of 2015 explicate the requirement of such documents. An officer from the Food and Consumer Protection Department in Bihar has confirmed that the requirement of those certificates is an oversight in the online system. Here again we see that in the race towards digitisation and e-governance, governments have shed all and any conception of governance and citizen welfare.

The issue of exploitation

It is notable, and most unfortunate, that the government, which has complete awareness of its systemic flaws, has made no attempt at systemic change and that people continue to be crushed under the weight of official indifference. To make matters worse, this hubris of power has provided the perfect conditions for the creation of a market of exploitation.

Most of the people, especially in the Musahar community, who seek to avail the benefits of PDS, neither have the resources nor the knowledge to interact with online processes. This situation has been aggressively exploited by middlemen who charge a sum that is north of ₹1,000 to have a ration card made. Within this market of exploitation, it is not uncommon to hear that neither document was issued nor the middleman traceable after payment.

Amidst the myriad challenges, if the people are somehow able to file their application, there is still no guarantee that they will get their ration card. While the 2015 order states that ration card should be issued within 30 days of the application being filled, there are cases of people whose applications have been pending for long – between four to 18 months. These applications are not for an entitlement which goes above and beyond the diurnal needs of a person. They are for the basic means of subsistence. It has been 24 years since the right to food was recognised as a fundamental right in the case, *People's Union of Civil Liberties vs Union of India*. Since then, governments have wound bureaucratic red tape around it so tightly that it is choking the very people it was meant for.

- **A Detailed Examination of the Exclusion Crisis:**
  - **Scale of Exclusion**
    - **In states like Jharkhand and Odisha, substantial numbers of households have been removed from the PDS rolls**, often without clear justification or due process.
    - This **phenomenon extends to Bihar, where the plight of the Musahar community exemplifies the devastating impact** of such exclusion.
    - The **Musahars, among the most marginalized castes in India, have historically been relegated** to the fringes of society.
  - **The Impact of Biometric Verification**
    - The **introduction of biometric verification** at fair price shops (FPS) was **intended to enhance efficiency and reduce fraud in the PDS.**
    - However, in practice, it **has become a tool of exclusion**. **Many beneficiaries**, particularly in rural and marginalised communities, **have lost access to rations because their biometric details could not be authenticated.**
    - This is often **due to technical errors,** lack of proper infrastructure, or discrepancies in their Aadhaar details.
    - **When names are struck off the PDS rolls as a result, individuals must reapply for a new ration card**, a process fraught with bureaucratic hurdles.
  - **Disconnected Governance**

        - The **exclusion crisis is emblematic of a broader disconnect** between policymaking and the realities of marginalized populations.
        - While the government promotes ambitious initiatives such as 'smart cities,' **it has failed to address the basic needs of those most reliant on state welfare.**
        - This **disparity highlights a troubling prioritisation of urban development** and technological advancement over the welfare of rural and underprivileged communities.
    - **The Example of the Musahar Community**
        - Bihar was blighted by a supply crisis, when rations were needed the most, at the time of the COVID-19 pandemic.
        - Since then, **there are communities which continue to be in want of a stable supply of ration**.
        - This is more notable among extremely marginalised communities such as the Musahars.
        - **This is a community that has been pushed beyond the edge of destitution** by the socio-politics of caste.
        - Its struggle with the PDS emerges as **a significant symptom of the same.**
        - **A number of Musahar households in Patna district do not have an active ration card.**
        - Even if they do have one, there is another problem, **the card does not have the names of all the family members.**
- **Some Other Problematic Issues with PDS**
    - **Corruption and Mismanagement in PDS**
        - **Beneficiaries entitled to five kilograms** of food grain per person under the Priority Household (PHH) ration card **often receive only four kilograms, and this is typically substandard rice.**
        - **Wheat, a staple for many, is often not issued at all**.
        - Such **practices reveal a pervasive culture of exploitation and mismanagement** that deprives vulnerable families of their rightful entitlements.
    - **Legal and Administrative Barriers**
        - The **enrolment process for ration cards exemplifies how bureaucratic red tape hinders access to food.**
        - In Bihar, **applicants must submit Aadhaar details, caste certificates, income certificates, and residence proofs, despite no legal basis for these requirements** under the National Food Security Act (NFSA) of 2013 or the PDS Control Order of 2015.
        - **Officials often cite these demands as oversights in the digitised system,** yet they persist, further alienating the marginalized.
        - **Jharkhand, Uttar Pradesh, and Madhya Pradesh impose similar documentation demands,** reflecting a broader failure to align governance with citizen welfare.
        - **The push for digitisation and e-governance, while laudable in theory, has prioritised technology over accessibility**, leaving those without digital literacy or resources at a severe disadvantage.
- **The Consequence of Exclusion: Exploitation of Vulnerability**
    - The systemic inefficiencies of the PDS have **spawned a market of exploitation, particularly targeting marginalized communities like the Musahars.**
    - **Middlemen charge exorbitant fees**, sometimes exceeding ₹3,000, for processing ration card applications.
    - Often, **these middlemen disappear after receiving payment**, leaving applicants without documents or recourse.
    - **Even when applications are submitted, delays are rampant**. While the 2015 order mandates the issuance of ration cards within 30 days, many applications remain pending for months, even years.
    - This **delay denies families access to the basic means of subsistence**, turning food security from a fundamental right into an elusive privilege.
- **Necessary Policy Reform to Address these Systematic Issues**
    - **Simplification of Enrolment Procedures**
        - The complexities of the PDS enrolment process **disproportionately impact marginalised communities.**

- **Currently, applicants are often required to provide multiple documents,** including caste certificates, income certificates, and residence proofs, **despite no legal basis for these demands under the NFSA or the PDS Control Order of 2015.**
- **These requirements must be eliminated to simplify the process** and align it with legal frameworks.
- **Reforms should focus on a single-window system for applications,** where minimal documentation is required, and applicants receive clear guidance on the process.

- **Strengthening Accountability and Reducing Corruption**
  - **Corruption within the PDS erodes trust and deprives beneficiaries** of their rightful entitlements.
  - Instances where FPS dealers reduce the quantity or quality of grains distributed must be addressed through stricter oversight and enforcement mechanisms.
  - **The government must establish independent monitoring bodies** to audit the distribution process and ensure adherence to norms.
  - **Whistleblower protection and grievance redressal mechanisms should be strengthened,** empowering beneficiaries to report malpractices without fear of reprisal.
- **Empowering Communities through Local Governance**
  - Decentralisation of the PDS can enhance its responsiveness and accountability.
  - **Empowering local governance bodies,** such as Panchayats, to oversee distribution and address grievances **can improve system efficiency.**
  - **These bodies can also play a role in identifying eligible beneficiaries**, ensuring that no one is excluded due to bureaucratic oversights.

- **Conclusion**
  - **The right to food,** affirmed in the landmark case People's Union of Civil Liberties vs. Union of India in 2001, **remains a hollow promise for millions.**
  - **Bureaucratic inefficiency and indifference** have suffocated this fundamental right, **leaving marginalized communities to bear the brunt of systemic failure.**
  - **Addressing these issues is not merely a matter of governance**; it is a moral **imperative to uphold the dignity and survival of the most vulnerable.**
  - The journey towards food security in India requires more than policy; **it demands a commitment to equity, accountability, and the fundamental principle that no one should go hungry in a nation striving for progress.**

3. ISRO Postpones SpaDex Mission
GS 3 (Science and Tech)

- **Why in News:**
  - The Indian Space Research Organisation (ISRO) has postponed its ambitious Space Docking Experiment (SpaDex) mission after encountering unexpected satellite drift during a critical maneuver.
  - The mission aims to establish **India as the fourth country** (after the US, Russia and China) globally with space docking capabilities, crucial for future complex space missions.

ISRO delays satellite docking experiment again, citing drift

ISRO has once again postponed the Space Docking Experiment (SpaDEx) involving two satellites, citing excessive drift during a crucial manoeuvre. The SpaDEx was supposed to take place on Thursday. "While making a manoeuvre to reach 225 m between satellites the drift was found to be more than expected, post non-visibility period. The planned docking for tomorrow is postponed. Satellites are safe. Stay tuned for updates," ISRO said in a post on 'X' on Wednesday. This is the second time in two days that the ISRO postponed the SpaDEx. PTI

- **What does Docking in Space Mean?**
  - **Two space objects coming and joining together for a purpose is called 'docking'.**
  - "Docking" happens when a spacecraft can maneuver and attach to a space station by itself.
  - The National Aeronautics and Space Administration (NASA) defines docking as "mating operations where an active vehicle flies into the mating interface under its own power".
  - Meanwhile, ISRO explains that in-space docking technology is **useful when multiple rockets are launched into space to achieve common mission objectives**.

- **For example**, on the International Space Station (ISS), when a crew module connects to the station, **pressure is equalised and the people are transferred**.

- **SpaDex Mission Overview:**
  - **Purpose of SpaDex mission:**
    - **Docking and undocking technology:** Demonstrates India's ability to dock two satellites in space, paving the way for future projects involving modular spacecraft assembly.
    - **Significance:** Critical for heavy-payload missions like the **Bharatiya Antariksha Station** (planned for 2028) and the **Chandrayaan-4 mission**, which involves lunar sample retrieval.
  - **Satellite details [Chaser (SDX01) and Target (SDX02)]:** Launched on December 30, 2024, aboard the PSLV C60 rocket from Sriharikota.
- **Challenges and Postponement of the SpaDex Mission:**
  - **Unexpected satellite drift:**
    - The satellites drifted more than expected during a maneuver to reduce their distance from 500m to 225m.
    - The issue was identified after a non-visibility period when satellites were out of tracking range.
  - **Safety measures:** Both satellites remain safe, according to ISRO's statement. Further ground simulations are required to enhance accuracy.
  - **Timeline adjustments:** Initial docking scheduled for January 7, postponed to January 9 for additional ground simulations.
- **Docking Procedure in the SpaDex Mission:**
  - **Stepwise approach:**
    - **Distance reduction:** Sequential halts planned at 225m, 15m, and 3m before final docking.
    - **Docking mechanism:** Extended rings on both satellites will connect, followed by rigidization to secure the connection.
  - **Integration and testing:** Power sharing between satellites and synchronized command control as one unit will be tested.
- **Future Applications of the SpaDex Mission:**
  - **Modular space station assembly:** Enables assembly of heavy payloads in space, crucial for building the Bharatiya Antariksha Station.
  - **Chandrayaan-4 mission:** Facilitates docking of the transfer module carrying lunar samples with the re-entry module in Earth's orbit
  - **Strategic importance:** Achieving docking capabilities positions India alongside the US, Russia, and China in advanced space technology.
- **Conclusion:**
  - ISRO's SpaDex mission is a significant step toward enhancing India's space exploration capabilities.
  - Despite the postponement, the mission underscores India's commitment to mastering complex technologies necessary for future space endeavors.

4. India, Afghan Taliban Government Hold Key Meet In Dubai

GS 2 (International Relations)

- **Why in News:**
  - A high-level meeting between Afghan Taliban leadership and senior Indian officials was held in Dubai, with Indian Foreign Secretary Vikram Misri and Taliban Acting Foreign Minister Amir Khan Muttaqi in attendance.
  - The meeting aimed to strengthen cooperation between India and Afghanistan, as bilateral ties have largely remained dormant since the Taliban's 2021 takeover, despite India's limited continued aid to Afghanistan.
- **Background of India-Taliban Engagement**
  - **India's Stance on Taliban Governance**

- India, like other major powers, **<u>does not officially recognize the Taliban regime due to its lack of inclusivity and treatment of women and girls</u>.**
- However, India's engagement aims to strengthen ties with the Afghan people and support humanitarian and developmental needs.

India's Misri meets Taliban's Foreign Minister in Dubai

Kallol Bhattacherjee
NEW DELHI

Marking the highest outreach with Afghanistan's Taliban regime, Foreign Secretary Vikram Misri on Wednesday met with the Taliban's Foreign Minister Mawlawi Amir Khan Muttaqi, in the UAE. In a meeting that took place in Dubai, the two sides agreed to promote the use of the Iranian port of Chabahar for trade with the Indian delegation, saying that India would provide "further material support" for Afghanistan in areas such as refugee rehabilitation and health.

"In response to the request from the Afghan side, India will provide further material support in the first instance to the health sector and for the rehabilitation of refugees.

Common interests: Vikram Misri meets Afghanistan Acting Foreign Minister Mawlawi Amir Khan Muttaqi in Dubai on Wednesday. ANI

The two sides also discussed strengthening of sports (cricket) cooperation," the Ministry of External Affairs (MEA) said after the meeting in Dubai.

Support for trade

"It was also agreed to promote the use of the Chabahar port for supporting trade and commercial activities, including for the purpose of humanitarian assistance for Afghanistan," the MEA said.

Significantly, the meeting between Mr. Misri and Muttaqi comes days after India "unequivocally condemned" the bombing of Afghanistan's territories by Pakistan between December 24 and 25.

- **Evolution of India-Taliban Engagement**
  - **Initial Contact (2021):** Indian Ambassador Deepak Mittal met Taliban leaders in Doha days after the Taliban seized power.
  - **Subsequent Meetings:** Indian officials maintained low-key engagements, including Joint Secretary J P Singh's meetings with Taliban leaders in 2022.
  - **Increased Engagement:** A technical team was stationed at the Indian embassy in Kabul to ensure continuity in projects.
- **The Current Meeting**
  - The meeting occurred against the backdrop of Afghanistan's strained ties with Pakistan over the activities of the Pakistan Taliban and retaliatory airstrikes.
  - Dubai was chosen as a neutral venue for this high-level meeting, facilitated by the UAE government, which maintains strong ties with both India and the Taliban.

- **India's First High-Level Engagement with the Taliban**
  - **About the news**
    - The meeting marks India's first high-level bilateral engagement with the Taliban regime.
    - This signalled an upgrade in India's official engagement, which had previously involved only Joint Secretary-level officials.
  - **Key Discussion Areas**
    - **Security Concerns**
      - India emphasized the importance of preventing anti-India terror groups from operating on Afghan soil.
      - India raised concerns about Pakistan-based terror groups like Lashkar-e-Taiba (LeT) and Jaish-e-Mohammed (JeM).
      - The Afghan side acknowledged and expressed sensitivity to India's security concerns.
    - **Development and Humanitarian Aid**
      - India pledged to evaluate development projects in Afghanistan alongside ongoing humanitarian assistance.
      - India has already dispatched significant aid, including food, medicines, vaccines, and earthquake relief materials. Additional support for healthcare and refugee rehabilitation was agreed upon.
    - **Chabahar Port for Trade and Aid**
      - Both sides agreed to promote the use of Iran's Chabahar port to facilitate trade and humanitarian aid to Afghanistan.
      - India's use of the port has received a reprieve from US sanctions.
    - **Strengthening Sports Ties**
      - Enhanced cooperation in cricket was discussed, with India supporting Afghan players in training and providing facilities in Noida
  - **Humanitarian Assistance Delivered So Far**
    - India has sent: 50,000 MT of wheat; 300 tons of medicines; 27 tons of earthquake relief aid; 40,000 litres of pesticides; Millions of vaccine doses and hygiene kits; Winter clothing and stationery kits.
  - **Future Engagement and Collaboration**
    - The two sides agreed to maintain regular contact at various levels to facilitate ongoing and future cooperation.

        - This engagement keeps the door open for future political-level discussions.
    - **Notable Omissions**
        - The MEA's statement did not address issues such as women's rights, minority inclusion, or broader human rights concerns under the Taliban regime.
- **Key Factors Behind India's Engagement**
    - **Pakistan-Taliban Strains**
        - Once allies, Pakistan and the Taliban are now adversaries, with tensions escalating over border issues and Pakistani airstrikes on Afghan territory.
    - **Iran's Diminished Role**
        - Iran is preoccupied with internal and external conflicts, including restoring deterrence after attacks by Israel, reducing its focus on Afghanistan.
    - **Russia's Reorientation**
        - Russia is caught in its war with Ukraine and shifting towards cooperation with the Taliban as a counter-terrorism ally.
    - **China's Growing Influence**
        - China has established diplomatic ties with the Taliban and is pursuing development projects and resource exploration under its Belt and Road Initiative.
    - **US Policy Uncertainty**
        - With Donald Trump's return to the White House, potential re-engagement by the US with the Taliban is anticipated, prompting India to act swiftly.
- **Challenges and Opportunities**
    - **Challenges:**
        - Suppression of women's and minority rights by the Taliban.
        - Security threats from groups like Islamic State Khorasan Province.
    - **Opportunities:**
        - Increased stability in Afghanistan.
        - Taliban's willingness to safeguard Indian interests and collaborate on development initiatives.
- **Conclusion**
    - India's engagement with the Taliban in Dubai signals a calculated approach to secure its strategic interests while balancing regional stability and humanitarian goals. This dialogue positions India at the forefront of shaping Afghanistan's future amidst a complex geopolitical landscape.
    - Although India has not granted official recognition to the Taliban government, this engagement aims to protect national and security interests, especially as regional power dynamics evolve.

5. How soapstone mining is leading to land-subsidence in Uttarakhand's Bageshwar

Recent events of importance

- **Why in News:**
    - The Uttarakhand High Court has criticized authorities for unregulated soapstone mining in Bageshwar district, which currently has over 160 mine

Before HC: soapstone mining & land-subsidence in Bageshwar

AISWARYA RAJ
DEHRADUN, JANUARY 8

THE UTTARAKHAND High Court on Monday pulled up the government for unregulated soapstone mining in Bageshwar, a district which currently has more than 160 mines.

The Uttarakhand HC took suo motu cognizance of a report published on November 7, 2024 that stated that due to "rampant unregulated mining of soapstone in certain villages of tehsil Kanda in Bageshwar... poor residents of those villages are living in constant threat of natural calamity."

The HC appointed commissioners to visit these sites and submit a report. After this report was submitted on Monday, a Bench of Chief Justice G Narender and Manoj Kumar Tiwari observed that its findings were "not merely alarming but also shocking".

Soapstone is a metamorphic rock made of talc, a naturally occurring mineral, and is used in the construction of countertops, sinks, hearths, and for sculptures. Talc is used in cosmetics, pharmaceuticals, and other industries. According to the Indian Bureau of Mines, Rajasthan and Uttarakhand have the largest soapstone reserves in India.

EXPLAINED ENVIRONMENT

Environmental damage

Land subsidence is a major concern across Uttarakhand. The issue made national news in 2022 after cracks appeared in many roads and houses in Joshimath. Authorities declared the area as a landslide and subsidence-hit zone.

According to the United States' National Oceanic and Atmospheric Administration (NOAA), subsidence is the "sinking of the ground because of underground material movement". This can happen due to a host of reasons, anthropogenic or otherwise. These include mining activities, removal of water/oil, soil erosion, salt compaction, and earthquakes.

A man points to cracks on the walls of his home in Bageshwar. Express

The report to the HC states that mining operations in the lower parts of the slopes has led to the loss of their structural integrity, and increased the vulnerability to mass movement. "In all regions where land subsidence is occurring, the mines are located on the lower slopes or at bottom of the terrain, directly impacting the stability of upper slope areas where villages are situated," the report says.

This is more so because the soil in the region is loamy and loose, and thus highly prone to erosion and destabilisation, particularly during the monsoon.

The report points to a lack of green belts and retaining walls around the mine boundaries, coupled with a dearth of safety protocols such as buffer zones, slope monitoring, and protective structures — all of which continue to accelerate erosion. The report also found mining and related activities to be responsible for water scarcity, and water and air pollution.

Cultural concerns

The adverse consequences of unmitigated soapstone mining is evident in how the region's traditional houses — Kumaoni *bakhlis* — have fared in recent times.

These traditional structures have demonstrated remarkable resilience over generations, even in the most seismically active zones, with no recorded evidence of widespread structural failure due to quakes. But not any more. Land subsidence and downward mass movement has shifted and damaged the foundation of many *bakhlis*, the report found.

According to a report by the regional office of the Ministry of Environment, Forest, and Climate Change submitted to the National Green Tribunal in 2024, the Kanda tehsil is also culturally significant with a strong tradition of folk music, dance, and handicrafts.

The Kalika Temple in Kanda, located in the Bageshwar district of Uttarakhand, is a significant religious site believed to have been established in the 10th century. It is known for its historical and cultural importance, particularly in the context of local beliefs regarding the protection against malevolent forces." The MoEFCC report said. Due to land subsidence, cracks have emerged in the temple floors.

Authorities in the dock

The report submitted to the Uttarakhand HC said that the administration was complicit in the matter. "The usage of heavy earth-moving equipment in mining operations without defined policy limits can lead to various negative consequences," the report said.

The report said that the sub-district magistrate was allegedly trying to "suppress the voice of the villagers", and interfered in their interaction with the commissioners. It also alleged that revenue officials were in the know about the encroachment of Van Panchayat lands and the illegal felling of trees for mining, and that the district administration and the mining department was handholding with some owners.

The Bench has scheduled the next hearing for Thursday.

    - The court took suo motu cognizance of a November 7, 2024 news article highlighting rampant mining in Kanda tehsil, leaving poor residents vulnerable to natural calamities.
    - The report submitted to the Uttarakhand HC highlighted the absence of a clear definition for "semi-mechanised mining" by both the State of Uttarakhand and the Union of India.
    - Environmental clearances are being granted without defined policy limits, enabling the use of heavy earth-moving equipment, which leads to severe environmental and operational challenges.

- **What is Soapstone?**
  - **About**
    - Soapstone, also known as steatite, is a **soft metamorphic rock** composed primarily of talc with varying amounts of chlorite, dolomite, and magnesite.
    - Its smooth, soapy texture and heat-resistant properties make it a versatile material.
  - **Uses**
    - **Industrial Uses**: Soapstone is widely used in industries for making sculptures, countertops, sinks, and tiles due to its durability and aesthetic appeal.
    - **Heat Resistance**: It is used in stoves, fireplaces, and laboratory countertops because of its excellent heat resistance.
    - **Cosmetics and Paper**: Ground soapstone serves as a filler in paper, cosmetics, and paints.
    - **Traditional Uses**: In India, soapstone is used for making utensils, handicrafts, and idols.
  - **Availability in India**
    - **Rajasthan**: The largest producer, particularly in the Udaipur, Dungarpur, and Bhilwara regions.
    - **Uttarakhand**: Notable deposits in Bageshwar, Pithoragarh, and Almora districts.
    - **Tamil Nadu and Karnataka**: Smaller reserves also exist.
  - **Mining**
    - Soapstone mining involves extracting talc-rich rock from open-pit or underground mines.
- **Various concerns associated with Soapstone mining**
  - **Environmental Concerns**
    - **Land Subsidence in Uttarakhand**
      - Land subsidence is a significant issue, with notable cases like Joshimath in 2022 and vulnerable areas like Kanda-Kanyal and Kanda in Bageshwar district.
      - Subsidence, defined by NOAA as the "sinking of the ground due to underground material movement," can result from mining, water/oil extraction, soil erosion, compaction, and earthquakes.
      - Mining in lower slope areas destabilizes upper slopes, increasing vulnerability to mass movement.
      - Loamy, loose soil in the region exacerbates erosion, especially during monsoons.
    - **Mining Impacts on Stability and Ecosystems**
      - Mining operations lack essential safeguards like green belts, retaining walls, buffer zones, and slope monitoring.
      - These deficiencies accelerate soil erosion, destabilization, and slope failure.
      - Mining and associated activities cause water scarcity, pollution, and air pollution.
  - **Cultural Concerns**
    - **Impact on Traditional Structures**
      - The **Kumaoni Bakhli**, traditional houses resilient to seismic activity, are now damaged due to subsidence and mass movement, undermining their foundations.
      - These structures are a testament to local environmental and cultural adaptation over centuries.
    - **Damage to Cultural Sites**
      - The Kanda tehsil is culturally rich, with traditions of folk music, dance, and handicrafts.
      - The Kalika Temple, a significant 10th-century religious site in Kanda, has developed cracks due to subsidence, threatening its historical and cultural integrity.

6. Polar Vortex
GS 1 (Geography)

- **Why in News:** A winter storm,caused by the expansion of the polar vortex southwards, hit a large swathe of the country.

HOW THE POLAR VORTEX CAUSED A MASSIVE WINTER STORM IN THE US

ALIND CHAUHAN
NEW DELHI, JANUARY 8

THE UNITED STATES and Canada were hit with a massive winter storm over the weekend, leading to mass school closures, dangerous road conditions, and power cuts. At least five people died in the storm, which impacted some 60 million in 30 US states, and has sent temperatures plummeting across much of the continent.

Causing this extreme weather is the southward expansion of the polar vortex.

What is the polar vortex? When does it cause extreme cold?

The polar vortex is a large area of low pressure and cold air surrounding both of Earth's poles. The term "vortex" refers to the counterclockwise flow of air that helps keep the colder air near the poles.

North America, parts of Europe, and Asia experience chilly winds when the polar vortex over the North Pole weakens, and moves from its usual position. "As this system weakens, some of the cold, Arctic air can break off and migrate south, bringing plenty of cold air with it. Areas as far south as Florida may experience Arctic weather as a result," according to the National Oceanic and Atmospheric Administration (NOAA) website.

That happens because when the polar vortex is strong and stable, it keeps the jet stream travelling around the planet in a circular path. The jet stream is a narrow band of strong wind in the upper levels of the atmosphere which plays a key role in keeping cold air north and warm air south. "Without that strong low-pressure system, the jet stream does not have enough force to maintain its usual path. It becomes wavy and rambling. When high-pressure systems get in its way, a collection of cold air pushes south, along with the rest of the polar vortex system," the report added.

A person operating a snowplow in Souris, Prince Edward Island, Canada on Monday. *Reuters*

Is climate change impacting the polar vortex?

Scientists are still researching the precise impact of climate change on the polar vortex, and if rising temperatures are making the low-pressure system buckle more frequently.

Some researchers believe that since the poles are getting warmer at a faster rate than the rest of the Earth, the polar vortex and jet stream are becoming weaker. Warmer temperatures make it easier for the polar vortex and jet stream to get disrupted.

"It makes sense that the polar vortex tends not to be as strong due to global warming because the planet isn't warming uniformly. It's warming more at the pole, overall decreasing the strength of the polar vortex and the jet stream and making it more susceptible to being dislodged and sent our way," Steven Decker, the director of the Meteorology Undergraduate Program at Rutgers University, said last February in a press statement.

- **What is the Polar Vortex?**
  - The polar vortex is a large, rotating mass of cold, low-pressure air found around the North and South Poles. It keeps the cold air trapped at the poles. There are two types:
    - **Tropospheric Polar Vortex:** It is located in the lower atmosphere (10-15 km high), where most weather events occur.
    - **Stratospheric Polar Vortex:** It is found much higher (15-50 km), and is stronger in autumn, disappearing in summer.
- **Why Did the Winter Storm Happen?**
  - The winter storm in the US was caused by the expansion of the polar vortex southwards. Normally, the polar vortex stays near the poles, but sometimes, it weakens or shifts, allowing cold Arctic air to move southward. This can lead to extreme cold weather even in areas like Florida.
  - Under normal conditions, the jet stream—**a fast-moving air current in the upper atmosphere**—keeps cold air contained in the polar region. The polar vortex helps maintain this jet stream's position. However, when the vortex weakens:
    - The jet stream becomes wavy and unstable.
    - Cold air from the polar vortex can break off and move south, leading to extreme weather, including snowstorms and sub-zero temperatures.
  - In this case, the weakening of the vortex allowed extreme cold air to move over a large part of the US, causing dangerous weather conditions like snow, heavy winds, and school closures.