DAILY CURRENT AFFAIRS 25-02-2025

GS-1

1. **Global Sea Ice Cover**

GS-2

2. **Three-Language Formula**

GS-3

3. **Quality of Public Expenditure**
4. **Demand for Legalising MSP**
5. **Stubble Burning in Punjab**

Global Sea Ice Cover

Syllabus: GS-1: Geographical features - water-bodies and ice-caps

Context:

- As of February 13, 2025, global sea ice cover dropped to **15.76 million sq km**, the lowest recorded extent.
- The previous record low was **15.93 million sq km** in January-February 2023.
- Data sourced from the **US National Snow and Ice Data Center (NSIDC)** and analyzed by the **BBC**.

Understanding Sea Ice

- **Sea Ice:** Free-floating ice in polar regions, expands in winter and melts in summer.
- **Difference from Other Ice Forms:**
  - **Icebergs, glaciers, ice sheets, and ice shelves** originate from land, unlike sea ice.
- **Role in Climate Regulation:**
  - Reflects sunlight, cooling the planet.
  - Prevents ocean heat from warming the air.
  - Loss of sea ice contributes to climate change and rising global temperatures.

Long-Term Trends in Sea Ice Decline

- **Arctic Sea Ice Decline:**
  - Since the **late 1970s**, the Arctic has lost **77,800 sq km of ice annually**.
  - Between **1981-2010**, Arctic sea ice shrank at a rate of **12.2% per decade** in September (minimum extent).
- **Antarctic Sea Ice Trends:**
  - Until **2015**, sea ice showed a slight increase.
  - From **2014-2017**, the Antarctic lost **2 million sq km of sea ice** (four times Spain's size).
  - In **2023**, maximum Antarctic sea ice was **2 million sq km lower than usual** (10 times the UK's size).
  - In **2024**, sea ice cover improved but was still **1.55 million sq km below the 1981-2010 average**.

Factors Behind the Decline

- **Warm Air and Water:**
  - Rising **air temperatures** contribute to melting ice.
  - **Warmer ocean waters** delay sea ice formation and accelerate melting.
- **Ice-Breaking Winds:**
  - Antarctic ice is more mobile and thinner, making it vulnerable to **strong winds**.
- **Storms and Ice Fragmentation:**
  - Arctic storms broke apart sea ice in regions like **Barents Sea (Norway-Russia)** and **Bering Sea (Alaska-Russia)**.
- **Delayed Freezing in Arctic:**
  - **Hudson Bay (Canada)** experienced delayed freezing due to **unusually warm ocean temperatures**.
- **Loss of Ice Shelves:**
  - Melting edges of **Antarctic ice shelves** worsened due to high summer temperatures.

Consequences of Declining Sea Ice

- **Increased Global Temperatures:**
  - **Less sea ice → more ocean exposed → higher heat absorption → global warming acceleration**.
- **Polar Amplification:**
  - Polar regions warming **faster** than the rest of the world due to reduced ice reflectivity (albedo effect).
- **Disruption of Ocean Currents:**
  - **Freshwater from melting ice** lowers ocean salinity, slowing **ocean circulation**.
  - Weakening of **global ocean overturning circulation** can disrupt marine ecosystems and climate patterns.
- **Impact on Marine Food Chains:**
  - Changes in ocean currents affect **nutrient distribution**, harming marine biodiversity.
- **Threat to Ice Shelves Stability:**

- Weakened ocean currents may **destabilize** ice shelves, leading to **more glacier melt and sea-level rise**.

Conclusion

- The rapid decline in global sea ice has severe environmental consequences, impacting global temperatures, ocean currents, and marine life.
- Urgent climate action is required to mitigate further losses and stabilize the Earth's climate system.

Three-Language Formula

Syllabus: GS-2: Centre-State Relations.

Context:

- The Centre withheld ₹2,152 crore from Tamil Nadu under the Samagra Shiksha scheme due to its refusal to implement the **Three-Language Formula** under **NEP 2020**.
- **Tamil Nadu's Stand:** It follows a **two-language policy (Tamil & English)** and views the three-language formula as an **imposition of Hindi** and a **threat to linguistic identity**.

Three-Language Formula

Definition

- A language policy introduced in **NEP 1968** to standardize language education across India.

Objective

- To **promote multilingualism, national unity, and administrative efficiency**.

Structure

- **Hindi-speaking States:Hindi, English, and a modern Indian language** (preferably a South Indian language).
- **Non-Hindi-speaking States:Regional language, Hindi, and English**.

Origin and Evolution

- **1968:** First introduced in **NEP 1968** under **PM Indira Gandhi**.

- **1986:** Reiterated in **NPE 1986** without major changes.
- **2020:** Retained in **NEP 2020** with greater **flexibility**, allowing states to choose languages.
- **Tamil Nadu's Resistance:** Adopted a **two-language policy (Tamil & English) in 1968** and consistently rejected Hindi.

Provisions in NEP 2020 on Three-Language Formula

- **Flexibility:** States/students can **choose the three languages**, with at least **two being native to India**.
- **No Imposition:** No specific language is **mandated** for any state.
- **Mother Tongue Emphasis:** Encourages **teaching in the home language** until **Grade 5**, preferably till **Grade 8**.
- **Sanskrit Promotion:** Offered as an **optional** language.

Significance of the Three-Language Policy

- **Multilingualism:** Encourages **learning multiple languages** for better **communication & cultural integration**.
- **National Integration:** Bridges **linguistic divides** and fosters unity.
- **Global Competence:** Retains **English** as a global link language while promoting Indian languages.
- **Cognitive Benefits:** Learning in **mother tongue** enhances **cognitive development** (supported by research).

Issues Surrounding the Three-Language Policy

- **Perceived Hindi Imposition:** Non-Hindi-speaking states (especially **Tamil Nadu**) see it as an attempt to impose Hindi.
- **Resource Constraints:** Lack of **teachers & materials** for additional languages.
- **Cultural Resistance:** Viewed as a **threat to regional languages and identity**.
- **Political Tensions:** Opposition from **regional parties** fearing loss of linguistic autonomy.
- **Implementation Challenges:** Varied adoption across states; **Sanskrit** often prioritized over modern Indian languages.

Way Forward

- **Constructive Dialogue:** Centre & states should engage in **discussions** to address concerns.
- **Flexible Implementation:** Allow **state-specific adaptations** based on local preferences.
- **Resource Allocation:** Invest in **language teachers & educational materials**.
- **Focus on Multilingualism:** Promote **Indian languages** without undermining **regional identities**.
- **Decentralized Approach:** Respect **state autonomy** while aligning with **national educational goals**.

Conclusion

A **balanced approach** is needed to **respect regional identities** while ensuring **multilingual education**. Constructive **dialogue** and **resource allocation** can help **bridge the divide** and implement the policy **without compromising federal principles**.

Quality of Public Expenditure

Syllabus: GS-3: Indian Economy – Fiscal Policy – Public Expenditure Management.

Context:

- How India improved the quality of its govt expenditure — and why that matters: RBI latest report.

Public Expenditure Latest News: RBI's Quality of Public Expenditure (QPE) Index

In India, the **Reserve Bank of India (RBI)** has developed the **Quality of Public Expenditure (QPE) Index** to evaluate how effectively the central and state governments utilize public funds.

About the Quality of Public Expenditure (QPE) Index

The QPE Index is a framework designed by the RBI to assess the efficiency of government spending. Unlike traditional metrics that focus solely on the total expenditure, the QPE Index evaluates the **composition of spending** and its long-term impact on economic growth. Key indicators of the QPE Index include:

- **Capital Outlay to GDP Ratio**: Measures the proportion of government spending on infrastructure and development projects relative to GDP. A higher ratio indicates better quality expenditure.

- **Revenue Expenditure to Capital Outlay Ratio**: Assesses the balance between operational expenses and long-term investments. A lower ratio is preferred, as excessive revenue expenditure weakens fiscal sustainability.
- **Development Expenditure to GDP Ratio**: Tracks public spending in healthcare, education, research, infrastructure, and social welfare. Higher investment in these sectors improves human capital and economic productivity.
- **Development Expenditure as a Percentage of Total Expenditure**: Evaluates the share of productive investments in overall government spending. A higher proportion is better.
- **Interest Payments to Total Government Expenditure Ratio**: Reflects the burden of government debt. A lower percentage indicates better fiscal management and reduced reliance on borrowed funds.

How India Improved the Quality of Public Expenditure

- **Shift Toward Capital Expenditure**: Over the past two decades, India has prioritized capital investment (e.g., infrastructure, roads, energy, and digital connectivity) over routine administrative costs, boosting long-term economic growth.
- **Implementation of the FRBM Act**: The **Fiscal Responsibility and Budget Management (FRBM) Act, 2003**, limited the fiscal deficit to 3% of GDP, ensuring borrowing was primarily used for capital projects.
- **Managing Fiscal Deficit and Debt Levels**: India shifted focus from annual fiscal deficits to managing overall debt levels as a percentage of GDP, ensuring long-term fiscal sustainability.
- **Rising Development Expenditure**: Increased investment in education, healthcare, and social programs has improved human capital development and economic productivity.
- **Reduction in Interest Payment Burden**: Better debt management and controlled borrowing have reduced the interest payment burden, freeing up funds for productive sectors.

Challenges to Maintaining High-Quality Public Expenditure

Despite improvements, several challenges remain:

- **Crisis-Driven Fiscal Stimulus**: Events like the 2008 Global Financial Crisis and COVID-19 lockdowns forced the government to increase spending beyond fiscal limits, impacting expenditure quality.
- **Political Pressures for Loan Waivers and Freebies**: Populist measures like loan waivers, direct cash transfers, and free electricity schemes strain government finances.

- **Balancing Revenue and Capital Expenditure**: While capital investment has grown, high revenue expenditure on salaries, subsidies, and interest payments reduces fiscal flexibility.

Key Findings from RBI's QPE Index Analysis

The RBI study divided India's fiscal performance since 1991 into six phases:

- **1991-2003**: Fiscal consolidation took priority, reducing public investment in infrastructure.
- **2003-2008**: Fiscal discipline and economic growth boosted capital spending, and state revenues improved.
- **2008-2013**: The Global Financial Crisis (GFC) led to countercyclical spending, increasing deficits but supporting economic recovery.
- **2013-2017**: The 14th Finance Commission gave states more fiscal autonomy, improving state-level development expenditure.
- **2017-2020**: The introduction of GST led to initial revenue challenges for the Centre, while states benefited from higher tax shares.
- **2020-Present**: Post-COVID recovery, driven by record-high capital expenditure, has improved public expenditure quality.

Future Outlook: Strengthening India's Public Expenditure Strategy

- **Sustaining Capital Expenditure Growth**: Continued investment in infrastructure, renewable energy, and digital transformation.
- **Balancing Welfare and Development Spending**: Ensuring social schemes do not outweigh productive investments.
- **Enhancing Fiscal Federalism**: Strengthening Centre-state financial coordination for balanced economic development.
- **Maintaining Fiscal Discipline**: Keeping borrowing under control while ensuring growth-oriented public spending.
- **Strengthening Transparency and Monitoring**: Using data-driven governance models to track expenditure efficiency.

Conclusion

India has made significant progress in improving the quality of public expenditure, with the RBI's QPE Index showing its best performance since 1991. A focus on capital investment, fiscal discipline, and effective debt management has enhanced economic growth and public welfare. However, challenges like political populism and fiscal pressures remain. To sustain these gains, **policy continuity, efficient resource allocation, and financial discipline** will be crucial in the years ahead.

Demand for Legalising MSP

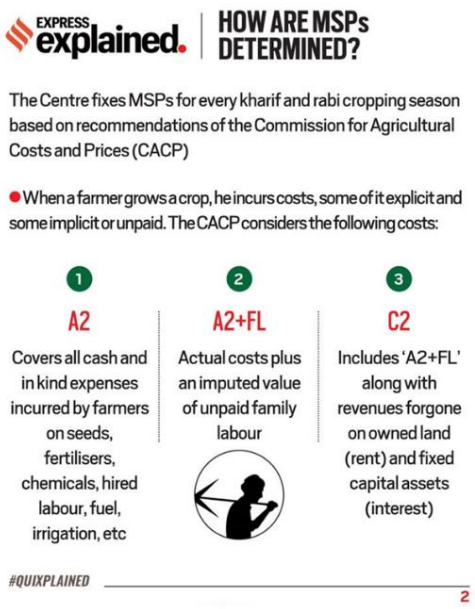
Syllabus: GS-3: Indian Economy – Agricultural Price Policy – MSP.

Context:

- The renewed farmers' agitation at the Khanauri border between Punjab and Haryana has reignited the debate on the necessity of a legal guarantee for MSP.

Background

- **MSP Definition:** A government-set price at which crops are procured from farmers to ensure a minimum income, irrespective of market fluctuations.
- **Current Coverage:** MSP is announced for 22 crops, but procurement is largely confined to wheat and paddy.
- **Farmers' Concerns:** Lack of legal backing exposes them to market volatility, exploitative intermediaries, and agribusiness firms.
- **Government's Stand:** Successive governments have resisted legalizing MSP, citing:
  - Market distortions
  - Fiscal burden
  - WTO compliance issues



Demand for Legalising MSP

Rising Support for Legal MSP

- Political parties and the **Parliamentary Standing Committee on Agriculture** have voiced support.

- Some state governments (e.g., Maharashtra, Karnataka) have attempted state-level MSP enforcement.
- **Andhra Pradesh Farmers' Produce Support Price Act, 2023** provides a model where no transactions occur below MSP while ensuring barrier-free trade.
- Farmers demand implementation of **Swaminathan Commission's recommendation** of fixing MSP at **1.5 times the cost of production**.

The Role of Intermediaries in Agrarian Markets

- Trader-intermediary systems benefit from price fluctuations, reducing farmers' share in final consumer prices.
- **Retail markups over wholesale prices:**
  - **Rice (Karnataka):** 120% markup
  - **Gram (Tamil Nadu):** 130% markup
  - **Onion (Madhya Pradesh):** 210% markup
- **Solution:** Enhancing direct market access for farmers to eliminate unnecessary intermediaries.

Challenges in Legalising MSP

1. Financial Constraints

- A legal MSP would require **massive financial outlays** for procurement, storage, and distribution.

2. Inflationary Pressures

- Increased procurement at MSP could push up **food inflation**, impacting consumers, especially the poor and middle class.

3. WTO Compliance Issues

- WTO allows agricultural subsidies up to **10% of total agricultural production value**. A legal MSP may exceed this, leading to trade disputes.

4. Market Distortions & Overproduction

- A legal MSP may encourage farmers to overproduce certain crops, disrupting supply-demand equilibrium.
- Horticulture, pulses, and oilseeds may be neglected in favor of MSP-backed crops, affecting **agricultural diversity**.

5. Unequal Benefit Distribution

- Large landholders with better resources can benefit more from MSP.

- **Small and marginal farmers (86% of all farmers)** may struggle due to limited access to procurement infrastructure.

Way Forward

1. Strengthening the Agricultural Produce Market Committee (APMC) Act

- Amend state **APMC Acts** to ensure no crop is purchased below MSP.
- Introduce **penalties** for private traders violating MSP norms.
- Expand **e-NAM (National Agricultural Market)** for transparent pricing mechanisms.

2. Government Procurement and Price Stabilisation

- Ensure procurement of at least **25% of total crop production** under the **Price Support Scheme (PSS)**.
- Establish **Price Stabilisation Revolving Funds (PSRF)** in states, backed by the Centre.
- Expand procurement beyond wheat and rice to **21 MSP-covered crops** and key vegetables (potato, tomato, onion).

3. Revisiting Food Security Policies

- **National Food Security Act (NFSA), 2013** should include a broader procurement basket.
- **Public Distribution System (PDS)** should integrate pulses, millets, and oilseeds along with rice and wheat.
- Utilize procurement for **mid-day meal schemes, Anganwadis, and ration shops** to ensure nutritional security.

4. Post-Harvest Infrastructure & Financial Support

- Invest in **cold storage, warehouses, and logistics** to minimize post-harvest losses.
- Provide **pledge loans** to farmers to prevent distress sales.
- Expand **PM Fasal Bima Yojana** to cover price fluctuations.

5. Strengthening Market Assurance Schemes

- Revive and improve the **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)**:
    - **Price Support Scheme (PSS):** Direct government procurement at MSP.
    - **BhavantarBhugtan Yojana (BBY):** Compensation for price differentials.
    - **Market Assurance Scheme (MAS):** State-led procurement during price crashes.

6. Fiscal Feasibility of Legal MSP

- A **₹5 lakh crore** fund can sustain MSP at **Swaminathan Commission levels**.
- Redirecting **subsidies from inefficient schemes** can offset costs.

Conclusion

- The ongoing farmers' agitation underscores the need for a **structural overhaul** of India's agrarian economy.
- A **legal MSP** is not just about price guarantees—it ensures **food security, rural stability, and economic justice**.

Stubble Burning in Punjab

Syllabus: GS-3: Environment - Air Pollution

Context:

- A study published in *Climate and Atmospheric Science* (January 2025) found no **linear correlation** between stubble-burning events in Punjab and Haryana and fine particulate matter (PM2.5) concentration in Delhi-NCR.
- **Crop residue burning contributes only about 14% of PM2.5** in Delhi-NCR, indicating that it is not the primary source of pollution.
- Despite a **50% decline in stubble-burning events (2015-2023),** PM2.5 levels in Delhi-NCR remained stable.

Declining Stubble-Burning Events (ISRO Data)

- **Punjab:**
  - 2022: **48,489** events
  - 2023: **33,719** events (↓31%)
  - 2024: **9,655** events
- **Haryana:**
  - 2022: **3,380** events
  - 2023: **2,052** events (↓37%)
  - 2024: **1,118** events

Observations on PM2.5 Levels

- **U.S. Embassy New Delhi data (2015-present):**

- 2023: Despite a **decline in stubble burning**, **PM2.5 increased by 20%** compared to 2022.
- **Network of 30 sensors (August 2022) in Punjab, Haryana, and Delhi** confirmed these findings.

Role of Meteorological Conditions

- **Air stagnation (December-February):**
  - Lower mixing heights and **temperature inversion** trap pollutants, keeping air quality in the **"very poor" to "severe"** category.
- **Wind patterns affect pollution transport** but are not the sole factor influencing PM2.5 levels.
- **Western disturbances (February onwards)** help clear pollutants.

Night-Time Emissions and Local Sources

- PM2.5 and **carbon monoxide (CO) measurements** suggest major pollution sources are local rather than from stubble burning.
- **Day-night differences:**
  - **Delhi-NCR:** CO levels **67% higher at night (2023), 48% higher (2022)**, indicating **local emissions** (fossil fuels, industrial activity, waste burning).
  - **Punjab-Haryana:** Clear day-night variation seen only during **intense stubble-burning periods**.

Major Contributors to PM2.5 in Delhi-NCR

According to **Dr. Sachchida N. Tripathi (IIT Kanpur):**

- **Transport sector:30%**
- **Local biomass burning:23%**
- **Construction industry & road dust:10%**
- **Cooking & industry:5-7%**
- **Unaccounted sources:10%**
- **Stubble burning:13% (only in October-November)**

Impact of Pollution Control Measures

- **Graded Response Action Plan (GRAP) Stage III & IV:**
  - Strict restrictions on **transport, construction, and industry** significantly reduced PM2.5 levels.

- Once **GRAP-IV was lifted, PM2.5 surged back**, indicating local emissions as a major source.

Conclusion

- **Stubble burning is not the dominant factor** in Delhi-NCR's air pollution.
- **Local sources (transport, industry, waste burning) contribute significantly** to PM2.5 levels.
- **Mitigation measures targeting these local sources** are crucial for air quality improvement.