

GS III

SYLLABUS: ISSUES RELATING TO GROWTH.

CURRENT ACCOUNT DEFICIT

THE HINDU, PG.NO: 11.

News: "Govt. unfazed by high import bills and trade deficit spikes."

"India's CAD reflects our heavy reliance on imports like crude oil and gold, but also underscore the untapped potential of our export sectors."

Factors affecting Current Account Deficit

Merchandise Trade Deficit:

• Impact of oil prices:

- India is **third largest oil importer(2023)**. In 2018, India's CAD widened to 2.1% of GDP primarily due to surge in global crude oil prices.

• Domestic economic growth and rising imports:

- During **2008-10 Indian economy expanded rapidly**, which increased demand for capital goods leading to CAD to 4% of GDP in 2011.

• Gold imports:

- India is one of the largest importer of gold. Any reduction in import duties on gold will surge its imports widening CAD— **2024 August**.

Remittances or Private Transfers:

- India is **world's largest recipient of remittances**, their significant contribution in 2019, reduced CAD to 1% of GDP.

Services and Tourism exports:

- During periods of 2005-10**, services exports from India's IT sector helped balance the CAD. Even merchandise trade deficits were high.

Foreign investments:

- During period of 2014-16**, India became one of the top investment destination for FDI globally. Helped CAD to stand at 1% of GDP in 2015.

Exchange Rate depreciation:

- During **Taper Tantrum 2013**, Indian rupee depreciated significantly losing 15% of its value against USD. This widened CAD to almost 5% in 2013.

Geopolitical risks impact on exports:

- Due to COVID-19**, India experienced **first CAD surplus in over a decade**, due to sharp drop in both Indian exports and imports in 2020.
- Slowdown of major economies** Eg. China, USA etc.
- Adoption of tariffs and non tariffs barriers** by countries adopting 'active industrial policies' after pandemic.
- New trade walls like:** EU's Carbon Border Adjustment Mechanism and Deforestation rules.

"Trade Deficit should not be a matter of concern for a developing economy with high growth and to the extent there are no foreign exchange reserves issue."

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HEALTH

PRE-CONTEXT

DIABETES

THE HINDU, PG.NO: 13.

News: "How should India tackle diabetes load?"

About Diabetes:

• Type 1: Insulin-Dependent Diabetes.

- Usually develops in **children and young adults**.
- Cause:** **Auto immune destruction** (Immune system mistakenly attacks and destroys the insulin producing beta cells in the pancreas).
- Management:** requires **lifelong insulin therapy**.

• Type 2: Non-Insulin-Dependent Diabetes.

- Cause:** **body's ineffective use of insulin** (insulin resistance) combined with relative insulin deficiency.
- More common in adults; associated with obesity, sedentary lifestyle.
- Management:** **Lifestyle modifications**, oral medication etc.

• World Diabetes Day: Observed on 14th November each year.

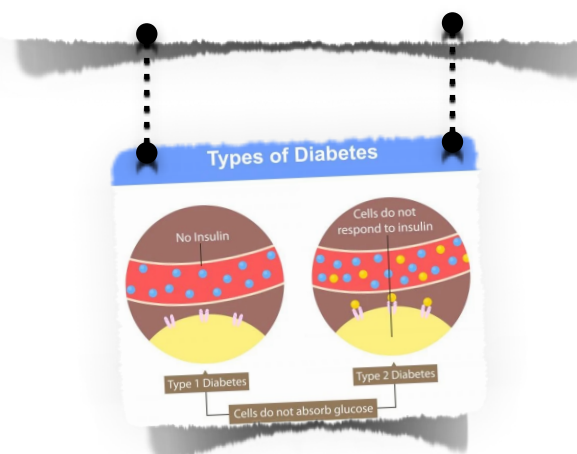
About Insulin:

- Hormone produced by the **beta cells in the pancreas**.
- Function:**
 - Regulates blood glucose levels** by facilitating cellular uptake of glucose.
 - Promotes glucose storage as glycogen** in the liver and muscles.
- Discovered in 1921 by Frederick Banting and C. Best; **Nobel Prize awarded in 1923**.
- HbA1c Test:** Measures average blood glucose levels over the past 2-3 months.

India & Diabetes:

- India is known as the "**Diabetes Capital of the World**".
- National Programme for Prevention and Control of Diabetes etc **under National Health Mission**.
- 2030 WHO target for diabetes:**
 - 80% of people with diabetes are diagnosed.
 - 80% of people with diagnosed diabetes have good control of glycaemia.

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GS III

SYLLABUS: CONSERVATION, ENVIRONMENTAL POLLUTION AND DEGRADATION.

CLIMATE FINANCING

THE HINDU, PG.NO: 13.

News: "Why is there a row over climate finance?"

"Developed countries account for 57% of cumulative global emissions since 1850 despite hosting smaller populations than the developing world"—**IPCC 6th Assessment Report.**

Baku COP 29 Summit: Climate Finance:

- **New Collective Quantified Goal (NCQG):**
 - Which refers to **developed countries give money to developing countries to help them meet their goals of transitioning away from fossil fuels and reducing GHGs.**
 - Developing countries had stated that **at least a trillion dollars per year from 2025-35** would be necessary to meet emission targets.

Why are developing countries more vulnerable to climate change?

- **Small island developing states (SIDS)** like the Maldives and Tuvalu face existential threats from sea-level rise.
- **Coastal nations** like India, Bangladesh are highly susceptible to flooding and cyclones.
- **Mostly agriculture based nations** (contributing more than 25% of GDP), any extreme weather events affect crop yields leading to food insecurity.
- **Smaller GDPs and higher debt burdens** (above 50% of GDP) compromise the adoption of new renewable energy technologies — **UNEP reports.**
- **Loss of infrastructure** (USD 18 billion annually) in low-and-Middle income countries due to natural disasters — **World Bank report.**
- **Urbanisation challenges:** by 2050, 70% of the global population is expected to live in cities, with a significant increase in developing nations.
- **Vicious cycle** of extreme poverty, rising inequalities, weak health care systems and climate change on top, making developing countries more vulnerable.

Climate Financing:

- **UNFCCC defines climate finances** as "local, national, or transnational financing — drawn from public, private, and alternative sources — that seeks to support mitigation and adaptation actions addressing climate change."

India and Climate Financing:

- India has both short-term and long-term climate targets.
- **By 2030:**
 - India aims to **install 500 GW** of generating capacity from **non-fossil-fuel sources.**
 - It is estimated **India will require an additional ₹17 lakh crore investment to achieve 450GW** of renewable energy by 2030.
 - Five million metric tonnes per annum of **green hydrogen** (GH2) production capacity.
 - Here, **India will need ₹8 lakh crore.**
 - Penetration for various **Electric Vehicle (EV)** categories.
 - Consumers **need to spend around ₹16 lakh crore to achieve this vision.**

P.T.O

- **By 2070:**
 - **₹850 lakh crore in investments** between 2020 and 2070 to achieve **net-zero emissions.**

Measures taken:

- **Copenhagen Accord 2009 (Green Climate Fund):** developed countries **committed to provide \$100 billion a year in climate finance** to developing countries by 2020.
- Now deadline extended to 2025, which created a sense of distrust with developed countries.
- **Developing countries insist on equitable climate finance,** emphasizing the responsibility of developed countries to provide support.

Issues with Developed countries:

- **Developed countries try to avoid common but differentiated responsibilities** by demanding expansion of finance contributions. Eg. They argue to include China and other developing nations in the climate finance mechanism.
- **Ambiguity in Climate Finance definition:** They claim bilateral aid, private investments, and loans should be considered part of their climate finance contributions.
- **Economic Challenges:** In 2022, the EU's energy crisis led many countries to prioritise domestic energy subsidies over international commitments.
- **Climate finance commitments:** under the Paris Agreement and the Copenhagen Accord (2009) are voluntary, not legally binding.
- **Lack of technology transfer and capacity building** efforts to developing countries.
- **Developing countries losing faith in multilateralism:** Eg. The \$100 billion annual climate finance pledge (2009), its deadline extended to 2025.

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LIVESTOCK

PRE-CONTEXT

H5N1 VIRUS

THE HINDU, PG.NO: 12.

News: "Study shows fatal spread of H5N1 from ferrets to suckling kits."

H5N1 virus:

- **Highly Pathogenic Avian Influenza** but can **occasionally infect humans** and other animals.
- **Caused widespread global outbreak,** carried by migratory birds.
- The outbreak is estimated to have **killed millions of birds** and the virus has infected over 200 mammalian species including humans.

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PRE-CONTEXT

CARBON MARKETS

THE HINDU, PG.NO: 13.

News: "New rules at COP29 allow carbon trading between nations."

• Baku COP29 Summit: Carbon Markets.

- **Accepted common global standards for carbon credit market.**
- Agreement on *carbon markets to be supervised by the UN.*
- Such a market would allow countries to trade **carbon credits** — **certified reductions of carbon emissions** — among themselves and whose *prices are determined as a consequence of emission caps imposed by countries.*

• About Carbon Markets:

- Carbon markets promote climate action by enabling the **trading of carbon credits**, which are earned through reducing or removing GHGs from the atmosphere.
- Credits are achieved by actions like shifting from *fossil fuels to renewable energy sources and enhancing or conserving carbon-rich ecosystems* such as **forests, planting trees, protecting existing carbon sinks.**

• Emission control mechanisms:

- **2 methods:**
 - Perform, Achieve, Trade (**PAT**) method, setting targets for efficient use of energy to reduce emissions.
 - Carbon Market System.
- **India currently follows PAT method.**
- **Now India is making its transition from PAT** to its own carbon market system similar to European Union Emission Trading System (ETS).

• PAT method:

- India launched this in 2012 as one of its eight missions comprising the **National Action Plan on Climate Change.**
- **Bureau of Energy Efficiency is the regulator** to reduce specific energy consumption in energy-intensive industries.
- It **uses market-based mechanism** where excess energy savings can be certified and traded.

• Emission Trading (Cap and Trade):

- Market based approach to controlling emissions by setting emission caps for polluters.
- **Focus solely on emission ceilings**, no energy efficiency standards are considered.
- **Provides economic incentives** for reduction of emissions to polluters.
- **Energy Conservation (Amendment) Act of 2022** provided a statutory mandate for such a **Carbon Credit Trading Scheme (CCTS).**
 - Through this, India aims to align its climate commitments under the Paris Agreement with broader economic goals.
- **United Nations Carbon Offset Platform:** e-commerce platform where a company, an organization or a regular citizen can purchase units (carbon credits) to compensate greenhouse gas emissions.

• Issues associated with Carbon Markets:

- **No common global standards** for carbon credit market.
- **Inadequate accountability in credit generation**, leading to instances of greenwashing.

- **Authenticity of generated carbon credits concern** Eg. Double counting of carbon credits.
- **Absence of independent third-party verifiers** to assess the quality of carbon reduction projects.
- **High costs of establishing monitoring**, reporting, and verification systems.
- **Carbon Leakage:** product is cheaper in nature due to its country owing to less strict emission norms. This hurts the other nations export competitiveness for following strict emission norms.

• Clean Development Mechanism:

- One of the flexible mechanisms **Kyoto Protocol.**
- CDM allows **industrialised (Developed) countries** to carry out **climate-friendly projects in developing countries.**
- **Certified Emission Reduction (CER) units** are awarded in return to industrialised nations.
- These **CER units can be traded** or used to meet their own emission reduction goals.
- By 2011, **India had become the world's second-largest supplier of these CER units**, following China.

• India Nationally Determined Contributions: related to energy

- **Reduce emissions intensity** by 45% by 2030 from 2005 level.
- Generation of **50% of total electricity from non-fossil fuel sources** by 2030.

• Bureau of Energy Efficiency (BEE)

- Statutory body under **Energy Conservation Act 2001.**
- Works under **Ministry of Power.**
- Primary objective of reducing energy intensity of the Indian economy.
- **Assigns Energy codes for Commercial buildings.**
- Develops **minimum energy performance standards** for equipment and appliances under Standards and Labelling.

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PRE-CONTEXT

EU'S CARBON BORDER ADJUSTMENT

MECHANISM

THE HINDU, PG.NO: 13.

News: "Why is there a row over climate finance?"

About EU-CBAM:

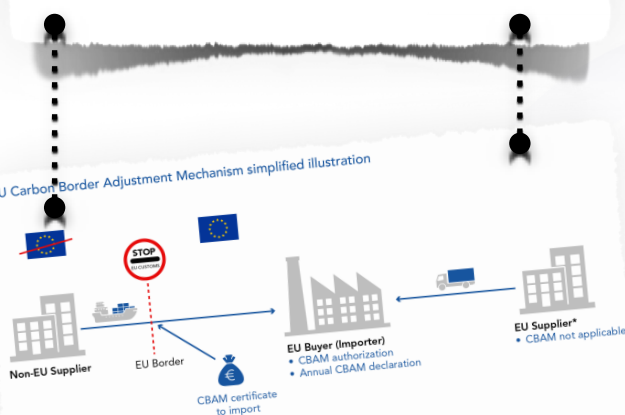
- The CBAM is like a **carbon tax for imported goods**, making sure they cost the same as EU-made products.
 - **EU industries invest in technology to maintain high environmental standards**, leading to higher production costs compared to countries with less stringent emission norms.
 - **This reduces the demand for EU-made products** in markets due to their high cost.
 - **CBAM ensures level playing field by imposing tax** on imported goods, making sure they cost the same as EU-made products.
- CBAM is **not applicable to goods originating from the EU**.
- **Exporters must disclose the quantity and emissions of their goods** and purchase corresponding certificates.

Significant risks to India's international trade.

- The **EU accounts for 20% of India's total merchandise exports**, with 25% affected by CBAM.
- **India, at COP29 Baku, opined CBAM is 'discriminatory'**.
- **BASIC countries** (Brazil, South Africa, India, and China), opined **CBAM overlooks the "differentiated responsibility"** under climate architecture
 - i.e., Common But Differentiated Responsibilities.

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EU Carbon Border Adjustment Mechanism simplified illustration



* Including goods originating from Iceland, Liechtenstein, Norway, and Switzerland
Source: The Conference Board, 2023

ENVIRONMENT

PRE-CONTEXT

AIR POLLUTION IN DELHI NCR

THE HINDU, PG.NO: 13.

News: "What can CAQM do to improve Delhi air?"

Commission on Air Quality Management in NCR (CAQM):

- **CAQM replaced the EPCA** (Environmental Pollution (Prevention and Control) Authority) and **established under the NCR & Adjoining Areas Act 2021**.
- **This body frames GRAP** (Graded Response Action Plan).
- CAQM is **constituted by Central Govt.** by notification in NCR and adjoining areas.
- Chairperson appointed by **Central govt.**
- **No powers to punish** violation activities related pollution.
- CAQM **can initiate stringent actions against officers** for not following its orders.

Multiple reasons for winter Air pollution in Delhi:

- Slow wind speed, **temperature inversion** (traps pollutants).
- Bursting of firecrackers, **Stubble burning**.
- **Emissions from vehicles (contribute 60%)**, coal-based power plants, brick kilns etc.
- Household sources, **dust (Roads, construction activities)**.
- Of all, **stubble burning** in Punjab and Haryana is **responsible for ~40% of the pollution** during **October and November**.
- In November 2024, **Air pollution in Delhi was 17 times WHO's limit**. Few areas in NCR **reached an AQI of 1700**.
- **Partially unburned exhaust of automobiles** with nitrogen oxides leading to ozone formation.

Case study: Beijing's approach to controlling air pollution.

- Beijing was once notorious for its **yellow and thick smog, especially during the winter months**.
- **Now in Beijing, its current AQI is around 60** standing well below global. Recommendations.
- **Approach:**
 - **Targeting primary pollutants**, with the govt playing the main role.
 - **Later, the focus shifts to secondary pollutants**, or particulate matter leading to toxic smog, primarily PM2.5, which requires a regional mechanism.
 - **Beijing's techno-political management system**, which builds public awareness to deal with toxicity.
 - **First**, forecasting severe smog levels through warnings issued at least 24 hours in advance with over 1000 PM 2.5 sensors throughout the city.
 - **Second**, Beijing has **over 30,000 low-floor buses**, five times the number operated by Delhi Transport Corporation.
 - **Third**, both Beijing and Delhi, as transit centres with no peak-hour traffic, require additional measures to manage regional transportation.

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SYLLABUS: ENVIRONMENTAL POLLUTION AND DEGRADATION.

GRAP

THE HINDU, PG.NO: 13.

News: "What can CAQM do to improve Delhi air?"

Graded Response Action Plan (GRAP)

- GRAP is an **emergency response mechanism** based on Delhi's Air Quality Index level.
- Plan is framed as per **Supreme Court's order of 2016**.
- GRAP is being **implemented by the CAQM**.
- Under GRAP NCR air quality has been classified as **four different stages**: Poor, Very Poor, Severe, Severe+.

Stage in GRAP:

Stage 1: 'Poor' AQI: 201-300.

- Strictly enforce NGT / Hon'ble SC's order** on overaged diesel / petrol vehicles and as per extant statutes.
- Implementing rules on **dust mitigation measures** in construction and demolition activities.
- Regular lifting of **Municipal Solid Waste, hazardous waste** etc.
- intensify use of anti-smog guns, water sprinkling** and dust suppression measures.

Stage 2: 'Very Poor' AQI: 301-400.

- Ensure focused action** to reduce air pollution in **all identified hotspots in NCR**.
- Strengthen remedial measures** for the sectors causing the most adverse air quality in each hotspot.
- Ensure water **sprinkling along with the use of dust suppressants** (at least every alternate day).

Stage 3: 'Severe' AQI: 401-450.

- Strictly restrict** the use of **BS III petrol and BS IV diesel 4-wheelers in Delhi** and nearby districts like Gurugram, Faridabad, etc.
- Switch from **physical to online classes for children up to Class V**.
- Strict ban** on the various categories of **dust generating/ air pollution**.

Stage 4: 'Severe +' AQI: >450.

- Only EVs, CNG, or BS-VI diesel registered outside Delhi may enter Delhi**, except for essentials or services.
- Switch from **physical to online classes up to Class XI**.
- Emergency measures** include **closing colleges and educational institutions, and non-emergency commercial activities**.
- Permitting **vehicles to run on odd-even registration number** basis.

Major Implementing agencies:

- State Governments in NCR and GNCTD.
- Central and State pollution control agencies CPCB, SPCB.
- Local bodies.
- Land and construction owing agencies.

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ANCIENT HISTORY

PRE-CONTEXT

RAJA RAJA CHOLA I

THE HINDU, PG.NO: 19.

News: "A mighty king remembered, birth anniversary of the legendary Chola emperor Raja Raja Chola I."

About Raja Raja Chola I:

- Born as **Arulmozhi Varman** in 947 CE, he is revered as **Raja Raja the Great**.
- Raja Raja's reign, from 985 to 1014 CE**, was marked by military prowess and profound administrative vision.
 - Battles against** Cheras, Pandyas, Gangas (Mysore), Chalukyas (western), Chodas (Telugu).
 - Invasion of Sri Lanka, Maldives**.

Brihadeeswarar Temple:

- A magnificent structure built by Raja Raja Chola as a grand tribute to **Lord Shiva**.
- Dravidian style** of architecture.
- World Heritage site**.
- It consists of the **Vimana, Ardhamandapa, Mahamandapa and a large pavilion** in the front known as the **Nandimandapa**.

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Thank you!