

ECONOMY

PRE-CONTEXT

GDP & ECONOMIC GROWTH

THE HINDU, PG.NO: 6.

News: "India's real growth rate and the forecast."

- In India, economic growth is measured using Real GDP.
- **Real GDP:** calculation of prices of goods and services produced in an economy adjusted for inflation.
- Economic growth and Real GDP are directly proportional.
- **Nominal GDP** is calculated at current price (includes inflation).

Base Year:

- A specific year chosen as a benchmark for measuring and comparing economic data over time.
- It helps in distinguishing between **nominal GDP (current prices)** and **real GDP (constant prices)**.
- Facilitate accurate analysis of growth rates by **removing the effects of price changes**.
- **Real GDP** = Quantity of Goods or Services x Base Year prices.
- Current base year in Indian GDP calculations: **2011-12**.
- Recently, **2021-22 was proposed** for a new base year.
- **National Statistical Office (NSO)** is tasked with revision of base-year.

GDP calculation methods

- **GDP calculation at Market Prices** includes all taxes, subsidies.
- **GDP calculation at factor cost** excludes indirect taxes.

3 methods of calculation: Expenditure, Income, Value added.

Expenditure method:

- Sum of all spending's, investment, govt. purchases, exports.
 - **GDP** = $c + i + g + X - M$;
 - **C** = Domestically produced consumption goods.
 - **i** = Expenditure/ investment by Pvt sector.
 - **g** = expenditure/ investment by govt.
 - **X** = Exports of goods and services.
 - **M** = Imports of goods and services.

Production or Value added method:

- By adding value added by all firms or sectors.
- **Eg.** If a factory produces goods worth ₹1 crore and uses inputs worth ₹60 lakhs, the value added is ₹40 lakhs which contributes to GDP.
- Gross Value Addition (GVA) **shows economic productivity**.
- **GDP (market price)** = GVA + taxes on product - subsidies.
- Currently, India follows this method for calculation of GDP.
- **Note:** growth rate of GVA can outperform the GDP growth rate.

Income method:

- Sum of all wages, Interest earned, Rent etc.

Economic Growth

- Economic growth refers to an increasing production of goods and services in an economy over a period of time.
- In India economic growth is measured using Real GDP.
- **Real GDP:** Calculation of prices of goods and services produced in an economy **adjusted for inflation**.
 - Economic growth and Real GDP are directly proportional.
- **Nominal GDP** is calculation at **current price** (includes inflation).
- **Slowdown:** When rate of change of Real GDP is **decreasing** but not negative.
- **Recession:** When rate of change of Real GDP is **negative**.
- **Melt down:** steep fall of stock markets.

- **Economic growth can happen even without generation of employment.** Eg. Jobless growth, increased labour productivity, better technology, outsourcing etc.

Core Industries

- **8 core Industries of Indian economy:** they collectively represent 40% of total items included in the Index of Industrial Production(IIP).
- **Cement, Electricity, Coal, Crude Oil, Refinery products, Natural gas, Fertilisers, Steel.**
- **Highest weight in IIP** assigned to Petroleum Refinery products followed by Electricity and Steel.
- **Index of Industrial Production** released by **NSO**.

Gross Capital Formation

- This **gives details about Savings in the economy**.
- Savings include Household, Private, Public sector.
- **Higher GCF = Higher Savings.**
 - Higher Savings = higher money to borrow from market.
 - Higher money in market = higher rates of production.
- **Despite India being a high saving economy (high Capital formation) but its GDP output is low why:** this is due to High-capital-to-output Ratio.
- **Capital-to-Output Ratio** shows how much capital you have invested and how much you get back.
- **High capital-to-output ratio means** one who has invested is not able to get back enough-returns of what they invested.
- **Low capital-to-output ratio means,** despite investing less capital, gets more in return.

National Statistical Organisation

- Works under **Ministry of Statistics & Program Implementation**.
- **Indices Published by NSO:** GDP, SGDP, Inflation (CPI, WPI), Employment Reports(PLFS).
- Statistics is under **concurrent list**.

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GS III

SYLLABUS: ENVIRONMENTAL POLLUTION AND DEGRADATION.

E-MOBILITY

THE HINDU, PG.NO: 8.

News: "Govt. plans to make India hub for mobility sector: PM."

Need for e-mobility:

- **Paris Agreement:** India has pledged to reduce its emissions intensity by 33-35% by 2030 from 2005 levels.
- **India aims to replace 8,00,000 diesel buses** with electric ones by 2030.
- **World's third largest emitter of carbon dioxide** and transport sector accounts for 15% of India's total CO₂ emissions—**IEA 2021 report**.
- **Air Pollution in major cities:** 10 times more than WHO limits. Eg. Delhi, Mumbai.
- **India imports 80% of its crude oil** needs leading to substantial foreign exchange outflows.
- E-mobility contributes to **SDG 7** (Affordable and Clean Energy) and **SDG 13** (Climate Action)

Schemes

PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) scheme:

- Promotes electric mobility with an outlay of ₹10,900 crore over two years.
- Implemented by **Ministry of Heavy Industries**.
- **Components of PM e-DRIVE:**
 - **Subsidies and Incentives:** provided to e-2Ws, e-3Ws, e-ambulances, e-trucks, and other EVs.
 - ₹4000 crore of subsidies to support **procurement of 14,000 electric buses** in nine cities.
 - **E-Voucher System:** Aadhaar-authenticated e-vouchers for EV buyers to avail incentives.
 - **Charging Infrastructure:** Installation of ~70,000 fast chargers across selected cities and highways.
 - **Modernisation** of Testing facilities.
 - **Promoting Aatmanirbhar Bharat:** boosts domestic manufacturing and employment.
- **Private bus operators are left out of the subsidy** framework, private buses representing 93% of the buses in India.

Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles in India (FAME India) scheme:

- As part of the **National Electric Mobility Mission Plan (NEMMP) 2020**, **Department of Heavy Industry formulated a Scheme viz.** Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme in the year 2015 to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.
- **FAME I, 2015-19:** total 500 buses received approval for purchase subsidies, which rose to 7000 buses under FAME II, which ran from 2019-24.
- The 1st Phase of FAME India Scheme was implemented through **four focus areas namely (i) Demand Creation, (ii) Technology Platform, (iii) Pilot Project and (iv) Charging Infrastructure**.

Production-Linked Incentive (PLI) Scheme:

- Approved in 2021 with an outlay of ₹18,000 crore to boost domestic manufacturing of Advanced Chemistry Cell (ACC) batteries.

Challenges to Private sector to procure EVs:

- Higher perceived risk-return profiles.

- **High upfront costs and low perceived resale value** of electric buses as collateral.
- **Uncertainty regarding battery life** increases the perceived risk.
- **Charge infrastructure:** FAME-funded facilities are limited to the depots of State transport units.
- **Battery Manufacturing:** Limited domestic production of lithium-ion batteries leads to reliance on imports, primarily from China.
- **Grid Capacity:** Integrating EV charging demands may strain the existing power grid infrastructure—**Electricity Demand Forecast 2019**.

Suggestions:

- **Battery-as-a-Service (BaaS):** an emerging business model in China and Kenya, where battery ownership is separated from vehicle ownership to reduce the upfront cost of electric buses.
- **Design-build-operate-transfer (DBOT):** ensures viability by guaranteeing minimum daily energy consumption per charger.

"These scheme address urgent issues of pollution and fuel security by advancing sustainable transportation solutions."

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MAPS PRE-CONTEXT GULF OF ADEN THE HINDU, PG.NO: 8.

News: "Threats in Gulf of Aden and Red Sea could increase, says Defence Minister."

About Gulf of Aden:

- **Bordering countries:** Yemen to the North, Somalia and Somaliland to the South, Djibouti and Eritrea to the West.
- It connects the **Red sea and the Arabian Sea**.
- **Major Ports:** Aden and Mukalla in Yemen, and Berbera in Somaliland, Bosaso in Somalia, **Djibouti City:** A major port in Djibouti.

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GS II

SYLLABUS: PROBITY IN GOVERNANCE: CODES OF CONDUCT.

LOKPAL

THE HINDU, PG.NO: 8.

News: "Lokpal ordered probe in 24 cases in 5 years, granted nod for prosecution in 6 of them."

About Lokpal:

- **Central Vigilance Commission:** relies on CBI for investigation under **Prevention of Corruption Act 1988** and only oversees the bureaucracy, **Ministers. MPs are out of its purview.**
- Based on the **recommendations of the Administrative Reforms Commission**, Lokpal and Lokayukta were established as **independent statutory body** under the **Lokpal and Lokayukta Act 2013.**
 - It deals with complaints against **MPs, Ministers and Secretaries at Central level.**

Composition:

- Composed of a **chairperson and a maximum of eight members**, with **half of them being judicial members.**
 - 50% of members belong to Scheduled Castes, Scheduled Tribes, Other Backward Classes, minorities, and women.
- **Selection Committee:** which includes the Prime Minister as Chairperson, Speaker of Lok Sabha, Leader of Opposition in Lok Sabha, Chief Justice of India or a Judge nominated by him/her and one eminent jurist appointed by President.
- **The term of office for the Lokpal of India is five years, or until the member turns 70 years old.**

Powers of Lokpal:

- **Jurisdiction to inquire corruption cases:**
 - Against current & former Ministers(including PM).
 - Allegations on PM related to IR, Atomic energy etc exempted.
 - Current and former MPs.
 - Secretaries at central level, union govt officials under group A, B,C, D; All institutions receiving funds from govt.
- Can **recommend transfer or suspension** of official accused of corruption.
- Power to **Search and Seizure.**
- Powers to **take up preliminary Inquires under PCA 1988.**
- **Supervise and instruct any central investigating agencies** like CBI.

Issues in functioning:

- **As of 2025, Lokpal has ordered investigation in just 24 cases in 5 years** and granted prosecution sanction in six cases.
- **No Suo Motu powers** against any public servant.
- **Ineffective Whistle blower protection:** Anonymous complaints not allowed, heavy fines for false complaints.
- **Selection committee and the issue of Leader of Opposition.**
- **Limitations on investigations:** Eg. Investigation on PM need two-third support of lokpal bench.
- **2016 Amendment:** Public officials spouses and children are not needed to disclose assets public. This goes against anti corruption.
- **Rejection of complaints for incorrect format:** Nearly 90% of the complaints were rejected as they were not in correct format in 2024.
- **One cannot file complainants after 7 years of incident.**
- **Judiciary is out of its ambit.**

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ENERGY

PRE-CONTEXT

GREEN HYDROGEN

THE HINDU, PG.NO: 8.

News: "Govt. plans to make India hub for mobility sector: PM."

Green Hydrogen:

- Produced through **electrolysis (splitting water into hydrogen and oxygen)** using **renewable energy.**
- During the production process, **no CO2 or GHGs are emitted.**
- **Applications:**
 - Fuel for hydrogen fuel cells.
 - Decarbonisation of heavy industries Eg. Steel, cement, aviation etc.
 - Energy storage in renewable energy grids.
 - Raw material for industrial processes.

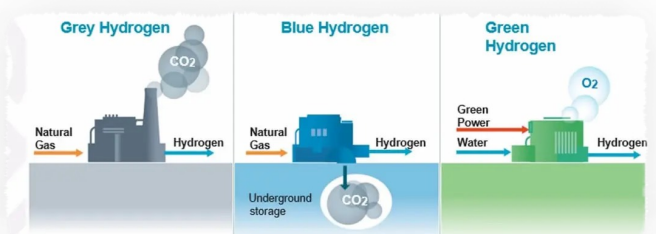
Note:

- **Brown Hydrogen:** made from coal through process called gasification.
- **Grey Hydrogen:** extracted from coal or methane but emit large amounts of CO2.
- **Blue Hydrogen:** Also made of coal or methane but CO2 is captured and stored.

National Hydrogen Mission:

- To promote Green Hydrogen and to become global hub for green hydrogen production and exports.
- **Implemented by Ministry of New and Renewable Energy.**
- Contribute India to become Atmanirbhar through clean energy production.
- Creation of Green Hydrogen Hubs.
- **BEE under Ministry of Power nodal authority** to accreditation of agencies for green hydrogen.
- Aim to **produce 5GW.**
- **VOC port in Chennai** became **1st hydrogen port.**

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Thank you!