

**DAILY
CURRENT
AFFAIRS
ANALYSIS**



LAKSHYA ACADEMY®

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1 - Global Poverty Measurement:

GS II

Poverty related issues

- **Context:**
- The World Poverty Clock's most recent data indicates that India has successfully lowered the percentage of its population living in "extreme poverty" to less than 3%.
- It represents a significant advancement towards the first of the 17 Sustainable Development Goals (SDGs) that the United Nations has set, with 2030 as the goal year.
- **What are the World Poverty Clock's Principal Findings?**
- The World Poverty Clock monitors progress towards eradicating severe poverty by tracking real-time poverty estimates for almost all nations through 2030.
- The Clock captures both those leaving poverty and those sliding into it every second by classifying the number of people living in extreme poverty worldwide by age, gender, and place of residence—rural or urban.
- The world's current rate of poverty reduction is calculated using the escape rate.
- The Federal Ministry for Economic Cooperation and Development of Germany and the International Fund for Agricultural Development (IFAD) support it.
- **Techniques and Main Results:**
- It uses income levels to calculate poverty rates, with USD 2.15 per day serving as the threshold for poverty.
- The extreme poverty line is the USD 2.15 per day threshold that represents national poverty lines in some of the world's poorest nations.
- It is employed to track advancements made towards the World Bank's target of having less than 3% of the population living in severe poverty by the year 2030.
- The number of people living in extreme poverty in India fell from 4.69 crore in 2022 to roughly 3.44 crore in 2024, representing 2.4% of the country's entire population.
- These numbers support the CEO of NITI Aayog's assertion that, according to the Household Consumption Expenditure Survey (HCES), 2022–2023—less than 5% of Indians are expected to live in poverty and that extreme destitution is almost completely eliminated.
- **Additional Worldwide Goals:**

- With the ambitious objective of achieving zero poverty at the same international poverty line for all nations, regions, and groups, SDG target 1.1 seeks to eradicate global poverty by 2030.
- According to a recent NITI Aayog discussion paper, multidimensional poverty in India has significantly decreased, going from 29.17% in 2013–14 to 11.28% in 2022–23. During the course of those nine years, 24.82 crore people were able to escape multidimensional poverty.
- The study used projection techniques for years without NFHS data and data from the National Family Health Survey (NFHS) to evaluate multidimensional poverty patterns in India from 2005–06 to 2022–23.

Source → The Hindu

2 – About the Project Genome India:

GS II

Government Policies and Interventions

- **Context:**
- The Department of Biotechnology (DBT), which funds and oversees the Genome India Project, declared that it has completed sequencing 10,000 Indian genomes.
- **The Genome India Project: What Is It?**
- On January 3, 2020, DBT launched the massive Genome India Project (GIP). It involves cooperation with 20 institutions and is headed by the Centre for Brain Research at the Indian Institute of Science, Bengaluru.
- The goal of the research is to build predictive diagnostic markers and comprehend the nature of diseases in the Indian population by whole-genome sequencing and data analysis on 10,000 individuals.
- Over 4,600 population groupings make up India's 1.3 billion people, many of which practise endogamy (marriage in close ethnic groups), which increases genetic diversity and the risk of disease-causing mutations.
- The Indian Biological Data Centre (IBDC) in Faridabad will house this enormous dataset, which spans eight petabytes.
- The IBDC, India's first national repository for life science data, opened for business in 2022.

- **Importance:**

- Since 4.5% of Indians are affected by variants like MYBPC3, which are linked to early cardiac arrest, these mutations are more common in India than anywhere else in the world, making an India-specific genetic database essential.
- India, which is home to the largest genetic laboratory in the world, is a key player in the rapidly expanding biology sector, which is expected to shape the country's future and rise from USD 10 billion in 2014 to over USD 130 billion in 2024.
- An international team worked together to sequence the first complete human genome. Completed in 2003, it cost \$3 billion and took 13 years to construct. In 2009, India declared the completion of the first human genome.
- All the quality tests and sequencing of an entire human genome may now be completed in around 5 days.

- **What is sequencing of a genome?**

- Gene and DNA: Deoxyribonucleic acid, or DNA, is the molecule that contains the genetic instructions necessary for the growth, development, and reproduction of all known living things as well as a large number of viruses.
- Specific DNA segments known as genes have the instructions needed to produce proteins, which are necessary for a variety of biological processes.
- The genome is an organism's complete set of genetic information that is inherited from parents. It functions as a biological instruction manual.
- The human genome is made up of four nucleotide bases: adenine (A), cytosine (C), guanine (G), and thymine (T). Approximately 3 billion base pairs make up the human genome.
- This intricate sequence stores crucial data determining a person's physical attributes, illness susceptibility, and other biological aspects.
- The process of figuring out the exact nucleotide order within an organism's genome is known as genome sequencing.
- A laboratory technique called whole genome sequencing can ascertain an organism's genome's base-by-base ordering all at once.

- **The genome sequencing process:**

- First, the scientists take DNA samples, usually drawn from blood, and analyse them.
- Subsequently, the DNA is broken up into more manageable, smaller fragments, and these are marked with fluorescent markers.
- DNA sequencers, specialised devices that read nucleotide base sequences, are used to sequence these tagged fragments.
- Ultimately, from the obtained data, computational methods are used to reconstruct the entire genetic sequence, offering important insights into the genetic composition of the individual.

- **Uses:**
- **Biomedical Research:** Identification of disease-causing mutations, understanding the genetic basis of disorders, and identification of putative therapeutic targets are all made possible by genome sequencing.
- It facilitates the investigation of genetic variants linked to complicated illnesses like cancer, diabetes, and neurological conditions.
- **Pharmacogenomics:** Based on a person's genetic composition, genome sequencing aids in the prediction of how they will react to certain medications.
- With the help of this data, medication choices, dosages, and treatment plans can be optimised for more individualised and successful treatments.
- **Agricultural genomics:** To find the genes causing desired characteristics like yield, disease resistance, and nutritional value, crop enhancement programmes use genome sequencing.
- It supports breeding initiatives aimed at creating better crop varieties with more advantageous agronomic features.
- **Evolutionary biology:** The sequencing of genomes sheds light on the links between different species and their evolutionary histories.
- It is useful for researching population dynamics, genetic diversity, and evolutionary adaptations in various organisms.
- **Conservation Biology:** By evaluating genetic diversity, identifying endangered species, and creating plans for the management and preservation of species, genome sequencing contributes to conservation efforts.

Source → The Hindu

3 – Details of the PM-JANMAN PVTG Housing:

GS II

Government Policies and Interventions

- **Context:**
- Significant obstacles stand in the way of the effective execution of PM-JANMAN, the housing component of the programme designed to provide homes for Particularly Vulnerable Tribal Groups (PVTGs).

- **What are the obstacles preventing PM-JANMAN from being implemented?**
- **Contradictions in the Data:**
 - There have been differences found between the figures determined by the states and the data supplied by the Centre. Accurately identifying potential recipients is severely hampered by this data mismatch.
 - The Centre estimated the overall population of 75 PVTG using the PM Gati Shakti portal, which led to inconsistent numbers.
 - The estimates quickly increased from 28 lakh to 44.64 lakhs, pointing to irregularities in the data collection process.
 - Due to the short time allotted to state governments for conducting surveys, data collection procedures were hurried and insufficient.
 - Concerns have been expressed by states including Kerala, Madhya Pradesh, and Tripura over recipients being excluded as a result of data inconsistencies.
 - Madhya Pradesh, for instance, has discovered 50,000 more qualifying households outside of the villages that the Centre had informed.
- **Gradual Advancement:**
 - The PM-JANMAN housing component is running behind schedule due to the beneficiary data collecting and project implementation going on at the same time. Just 1.59 lakh of the 5 lakh dwellings that were intended have been sanctioned, falling well short of the original goal.
- **Election-Year Stress:**
 - The plan is being carried out quickly, particularly in light of the 2024 general elections. The need to demonstrate success could jeopardise careful planning and implementation, which could have an impact on the standard and inclusivity of the housing distribution.
- **Geographical Difficulties:**
 - Logistical obstacles arise when identifying eligible clients in remote and inaccessible places. Tribal areas' lack of infrastructure and communication networks could make it more difficult to gather data and postpone the housing scheme's implementation.
 - **Adaptive Population Dynamics:**
 - Tribal populations, particularly PVTGs, frequently move in pursuit of work and other sources of income.
 - Because of the dynamic nature of population migration, it is more difficult to precisely estimate and identify eligible beneficiaries, necessitating the use of adaptive techniques to guarantee complete coverage.

- **PM-JANMAN: What is it?**

- Launched on Janjatiya Gaurav Diwas, November 15, 2023, PM-JANMAN focuses on 11 crucial actions through 9 ministries to enhance the socioeconomic welfare of PVTGs.
- The goal of PM-JANMAN is to enhance the socioeconomic circumstances of PVTGs through Central Sector and Centrally Sponsored Schemes.
- Almost 80% of the Rs 24,104 crore total spending for the programme will go into building homes and roads over a three-year period.
- For the next three years, Rs 15,000 crore would be made available to implement PM-JANMAN's housing component through the Development Action Plan for the Scheduled Tribes (DAPST).
- PM-JANMAN aims to close gaps in livelihoods, education, and health in order to improve the socioeconomic standing of PVTGs.
- The goal is to improve the fundamental infrastructure of PVTG villages, dwellings, and families in accordance with the current plans of nine Ministries/Departments.

- **Range:**

- The main goal of the mission is to guarantee that PVTG residents have access to basic facilities and services in order to improve their living conditions as much as possible. This comprises:

- **Fundamental Elements of PM-JANMAN:**

- **Cross-Ministerial Alignment:**

- Nine Ministries of the Indian government work together in a novel way, with the Ministry of Tribal Affairs serving as their leader.
- While working together to ensure comprehensive coverage and the welfare of the most vulnerable tribal people, each Ministry supervises the execution of its own programmes.

- **Alignment of Plans and Initiatives:**

- Tribal communities' unique demands are taken into account when modifying the standard operating procedures of relevant Ministries' schemes.
- To guarantee that the goals of PM-JANMAN are successfully incorporated into ongoing programmes, revised guidelines have been released.

- **Scheme Coverage:**

- PM-JANMAN seeks to assist 75 PVTGs who continue to fall behind in socioeconomic indicators related to livelihood, health, and education. These PVTGs are spread over 18 states and 1 UT.
- The goal is to support tribal communities holistically in a number of areas, such as livelihoods, education, and health.

- Gaps in each area of action are discovered by state governments through physical assessments.
- The PM Gati-shakti Portal is updated with data, allowing pertinent Ministries and State Departments to cross-verify the information to guarantee correctness and completeness.
- **Availability of Funds:**
 - Each of the 11 interventions' funding sources is the DAPST grants given to the corresponding Ministries or Departments under the PM-JANMAN-covered programmes.
 - The DAPST mechanism allows for flexibility in order to guarantee the availability of specific finances necessary for the mission's successful execution.
- **Mechanism of Reward:**
 - Districts are ranked according to monthly incremental changes in performance metrics, which is how performance is evaluated.
 - District teams are encouraged to compete with one another, and the top three districts and Ministries will be honoured and awarded for their exceptional work.
- **The Way Ahead:**
 - Adopt a uniform approach for gathering data in order to guarantee data accuracy.
 - Streamline procedures to accelerate project execution and data collecting without sacrificing quality.
 - Involve tribal people in the design and implementation of the programme to increase its efficacy and inclusion.
 - To make data collecting and plan implementation easier, invest in tribal territories' infrastructure and communication networks.
 - Create flexible plans to take into consideration the unpredictable demographic shifts within tribal communities and guarantee that all qualified recipients are covered.
 - To improve efficiency and effectiveness, offer training and capacity-building programmes to stakeholders involved in data gathering and scheme implementation.

Source → The Hindu

4 – Details of the Increased Copper Demand:

GS III

Economy related issues

- **Context:**

- Because of the 16% annual growth in copper demand in FY23, firms and policymakers are paying more attention to the vital role copper plays in promoting economic growth.

- **What Are the Important Copper-Related Points?**

- **About:** Due to its superior heat and electrical conductivity, copper is a ductile, malleable metal. It has antibacterial and resistant to corrosion qualities.
- The term "malleability" describes a material's capacity to be compressed or rolled into thin sheets without shattering or cracking.
- A material's ability to be stretched or drawn out into a thin wire without breaking or losing strength is known as its ductility.
- **Applications:** It is extensively used in industrial manufacturing, consumer durables, transportation, and construction.
- Additionally, it is essential to clean energy technologies including energy-efficient motors, electric vehicles (EVs), and solar panels.
- Because it is entirely recyclable, the metal promotes a circular economy.
- **Occurrence and Composition:** The Earth's crust naturally contains it in a variety of forms.
- It can be found as pure native copper, in carbonate deposits as azurite and malachite, in silicate deposits as chrysocolla and diopside, and in sulphide deposits as chalcopyrite, bornite, chalcocite, and covellite.
- While the average grade of copper in most commercial copper ore deposits is 0.8%, the average copper content of copper ore in India is approximately 1%.
- **Mining Techniques:** Open-pit and underground mining are the two main techniques used to extract copper.
- Approximately 80% of copper mining activities worldwide are conducted through open-pit mining.
- India's copper deposits are primarily found in the districts of Jhunjhunu and Alwar (Rajasthan), Balaghat (Madhya Pradesh), and Singhbhum (Jharkhand).
- Districts in South Arcot (Tamil Nadu), Hasan and Chitradurg (Karnataka), and Agnigundala (Andhra Pradesh) have minor deposits.
- **India's Copper Appetite:** As a result of growing urbanisation, renewable energy programmes, and infrastructure developments, India's copper demand is skyrocketing.
- Despite this, the nation's small internal reserves of copper force it to rely largely on imports.

- In response, the government is encouraging investments in refineries and smelters, while Indian businesses are buying up copper mines overseas in order to assure a steady supply and lessen reliance on foreign markets.
- The Ministry of Mines recently suggested that an Indian business group visit Zambia, a copper-rich nation in southern Africa, to talk about possible copper exploration and mining projects
- The government has listed copper on its list of important minerals in recognition of the metal's criticality, underscoring the necessity of lowering reliance on imports.
- Hindustan Copper Limited (HCL) is a Miniratna Category-I enterprise that was founded in 1967 under the Companies Act and is managed by the Indian government's Ministry of Mines.
- It was established in order to combine all of the National Mineral Development Corporation Ltd.'s copper exploration and exploitation initiatives.
- The only vertically integrated copper production business in India is HCL.
- **The Significance of Copper:**
 - Copper as a Global Economic Barometer: Copper prices are a reflection of monetary markets, supply and demand dynamics, and speculation.
 - Copper is essential to every economic sector, in contrast to commodities that are industry-specific.
 - Copper for Energy Efficiency: Copper is essential for fostering building energy efficiency.
 - Because of its superior electrical and thermal conductivity, it can be used for wiring, heat exchangers, and roofing, which will save energy for lighting, heating, and cooling.
 - Copper helps create a more sustainable future by reducing energy losses over a building's lifetime.

Source → The Hindu