

CONTEXT: According to a new study by CEEW, India generated about 100 kt of solar waste in the financial year 2022-2023. The amount of solar waste produced by the country is expected to reach 600 kt by 2030, the study said.

SOLAR ENERGY:

- **Captured through** - Photovoltaics & Solar Thermal Energy processes.
- **Photovoltaics** i.e. Solar Power Systems - **Components:**
 - Solar Panels
 - PV Cells
 - Inverter
 - Balance of System

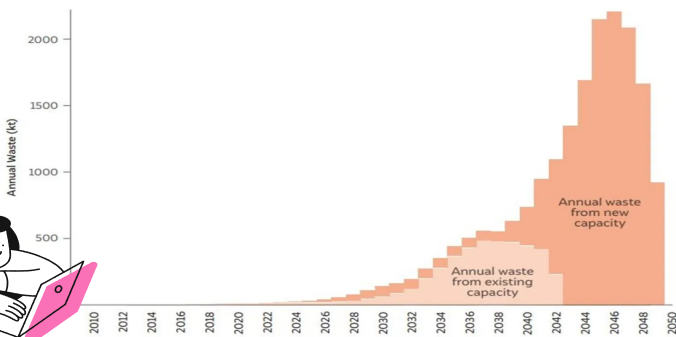
Solar Power in India:

- Installed Capacity - 73.31 GW (December 2023)
- **Prospects:**
 - Abundant Sunshine
 - Ambitious Target
 - Job Creation
- **Challenges:**
 - Lack of Domestic Manufacturing
 - Land Acquisition
 - Grid Integration

SOLAR WASTE:

- Study by MNRE & CEEW
- Solar Capacity:
 - Current
 - Expected
- **Study:**
 - In FY 2022-23
 - By 2030
 - By 2050

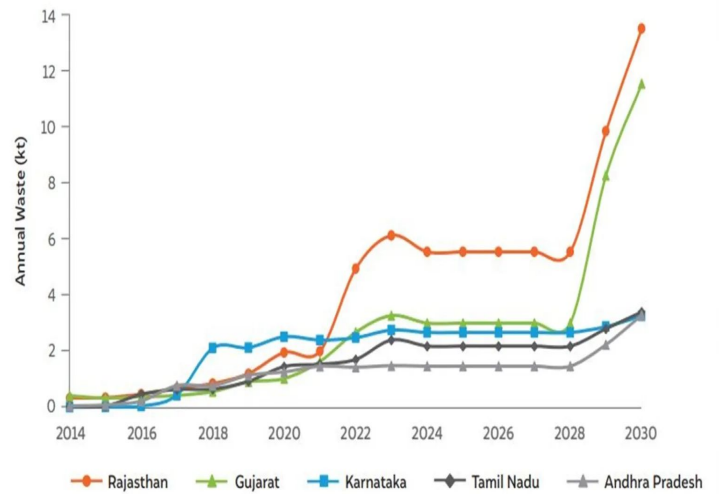
Figure 5 India's cumulative solar waste would increase about 32 times between 2030 and 2050



SOLAR WASTE:

- India's Current Installed Solar Capacity - Waste
- 5 States - to produce 67% of this waste by 2030
- Discarded Modules - contain 'Critical Minerals':
 - Silicon
 - Silver
 - Cadmium & Tellurium

Figure 4 Rajasthan and Gujarat will lead the solar waste generation in 2030



How to deal with solar waste?

- Maintain a **comprehensive database** of the installed solar capacity
- **Incentivising recyclers** and concerned stakeholders
- Focus on **creating a market for solar recycling**
- Two broad ways of recycling solar panels:
 - ➔ **Conventional recycling** or bulk material recycling
 - ➔ **High-value recycling**



21st March 2024

CONTEXT: Top 1% Indians' income share is higher now than under British-rule - says recently released 'Income and Wealth Inequality in India' report published by the World Inequality Lab.

Definition:

- Income Inequality
- Wealth Inequality

Causes of Income and Wealth

Inequality in India:

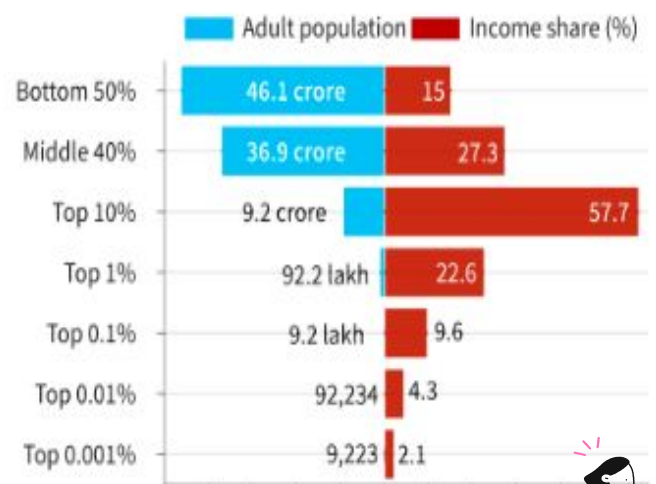
- Unequal Access to Education and Skills
- Labor Market Rigidities
- Gender Pay Gap
- Informal Sector Dominance
- Caste System and Social Exclusion
- Inheritance and Wealth Accumulation
- Asset Price Inflation

'Income and Wealth Inequality in India' Report:

- Published by **World Inequality Lab**
- In **2022, 22.6% of the national income** went to the **top 1% of Indians**.
- In **1951**, their share was only **11.5%** and in the **1980s** – just before India opened-up its economy – at **6%**.
- Share of the **top 10% of Indians** increased – from **36.7%** of national income in **1951** to **57.7%** in **2022**.
- The bottom 50% of Indians **earned only 15%** of the national income in **2022**, compared with **20.6%** in **1951**.
- The **middle 40%** of Indians also **recorded a sharp fall** in their share of income **from 42.8% to 27.3%** in the period.
- The **gap between the rich and the poor** has **widened rapidly** in the **last two decades**.

- In **2022**, the **share of national income** that went to the **wealthiest 1% of Indians** recorded a historic peak, **higher than** the levels seen in **developed countries such as the United States and the United Kingdom**.
- Close to **one crore adults were in the top 1%**, 10 crore in the top 10%, **36 crore in the middle 40%** and **46 crore** were there in the **bottom 50%** of the income pyramid.
 - Notably, about **10,000 richest Indians** – the top 0.001% of the income pyramid – **earned 2.1%** of the national income.
- While **income disparity has always existed** in India, in recent years, that **the gap widened** at a reckless pace.
- **Post-liberalisation**, in the 1990s, the **income share of the top 10%** skyrocketed, with the **other two group's share** recording a **steady fall**.

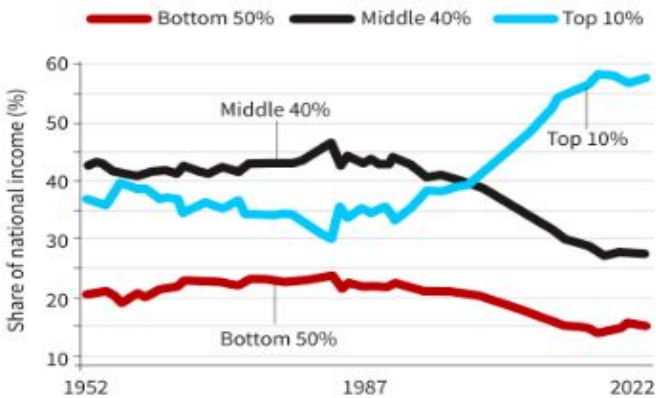
Chart 1: The chart shows the income group-wise share in national income, and the adult population in each bracket as of 2022-23



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Chart 2: The chart shows the year-wise share of national income for the top 10%, bottom 50% and that middle 40% of the population

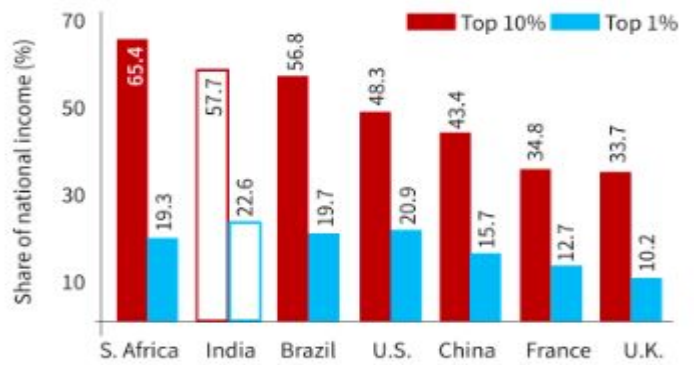


- Just before independence, in the **1930s**, the **top 1%'s share** of national income **crossed the 20% mark**. But **after independence**, the **share of the top 1% steadily declined**, reaching close to the **6% mark in the 1980s**.
- However, **post-liberalisation**, their **income share surged** again and is presently **hovering around the 22.5% mark**,
 - *much higher than their share under British-rule.*
- In 2022-23, the income shares of **India's top 1%** were **above the levels** recorded in the U.S., China, France, the U.K. and Brazil.

Chart 3: The chart shows the year-wise richest 1% Indians' share in the national income



Chart 4: The chart shows the income shares of India's top 10% and top 1%, compared with select countries in 2022-23



- **China and Vietnam's average incomes grew** at a much faster pace than India's trajectory.

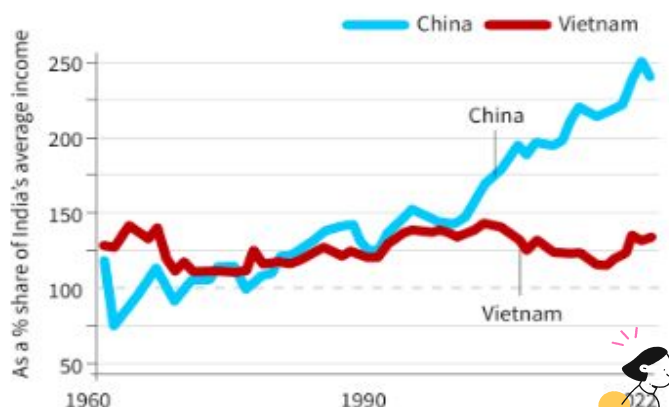
Impact of Inequality:

- Social Mobility
- Social Unrest
- Economic Stagnation

Addressing Inequality:

- Investment in Education
- Labour Market Reforms
- Social Safety Nets
- Taxation Policies

Chart 5: The chart shows the year-wise average income in China and Vietnam as a % share of India's average income



DISEASE ELIMINATION



CONTEXT: Ending the epidemics of malaria, tuberculosis and Neglected Tropical Diseases by 2030 is one of the Sustainable Development Goals set by the United Nations.

Burden of Diseases: In context of Developing and LDCs:

- The burden of disease is measured by a metric - **Disability-Adjusted Life Years (DALYs)**
- In 2019, **CMNN** diseases accounted for an average of **52% of DALYs** in developing countries, compared to **21% in developed countries**
- In 2019, **NCDs** accounted for **48% of DALYs in developing countries**, compared to **79% in developed countries**. This highlights the **ongoing burden of CMNNs** but also the **increasing trend of NCDs in Developing & LDCs**.
- **Neglected Tropical Diseases (NTDs)**

Disease Elimination, the first step in Disease Eradication:

- For Developing Countries & LDCs - **Disease Elimination - Highly desirable objective.**
- **Disease Elimination strategy - Challenging and Resource intensive** - needs:
 - Robust PHC, Diagnostics, Surveillance capacity.
 - Increased deployment of Health Professionals
 - International Support
 - Political and Bureaucratic commitment
 - Multi-sectoral collaboration
 - Public participation



CONTEXT: Union Minister for Petroleum and Natural Gas Hardeep Singh Puri this month dedicated to the nation India's first small-scale liquefied natural gas (SSLNG) unit at GAIL (India) Ltd's Vijaipur complex in Madhya Pradesh.

Natural Gas:

- Fossil Fuel - Primarily Methane
- Other HCs - Smaller Quantities
- Formed over millions of years ago

Benefits of Natural Gas over Conventional HCs like Coal or Oil:

- Cleaner Burning
- Cheaper than Oil
- Reduced Health Risks
- Transportation & Storage
- Fuel Efficiency

Considering the benefits over conventional HCs:

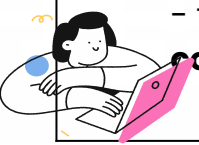
Gol has been **pushing adoption and use of natural gas** across sectors:

- Aim to **increase the share of natural gas** in the **primary energy mix to 15% by 2030** from around **6% at present**.
- **Major challenge in scaling up gas consumption** - Transportation of gas to places that are **not connected to the natural gas pipeline grid**.
 - Also hinders the **use of LNG as fuel for long-haul trucks and inter-city buses**
- Large-scale pipeline projects - **Long Gestation Periods**
- **Last-mile delivery challenges** - persist in many parts of the country
- Thus, **new-age solutions with fast turnaround times** - need of the hour - to **expand the reach, access, and consumption** of natural gas.

Promising Solution :SSLNG -

Small-Scale Liquefied Natural Gas:

- Globally **nascent industry** - Lacks Definition
- Refers to the **liquefaction of natural gas** and its **transportation using unconventional means** in a significantly **smaller-scale operation** than the **usual large-scale liquefaction, regasification, and transportation infrastructure and processes**.
- Simply put - **LNG**, in its **liquid or super-chilled form** - is **supplied in specialised trucks and small vessels** to **industrial and commercial consumers** in regions that are not connected by pipelines.
- Supplying **CNG for vehicles** and **piped gas for households/manufacturing units** - the buyer would **regasify the LNG** using **small vaporizers**, and then **supply it to end-users**.
- Where the **fuel is to be used directly** in its liquid form, it would be **supplied to end-users without regasification**.
- The SSLNG chain **can start from a large-scale LNG import terminal** from where the **LNG can be transported** to consumers by **cryogenic road tankers or small vessels**.



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- The chain **can also start at locations with natural gas supply** or production, where **small liquefaction plants** can be set up. The **SSLNG unit at Vijaipur**, which is GAIL's largest gas processing facility, is an example of the latter kind of location.
- **Petronet**, which is jointly promoted by GAIL, ONGC, IOC and BPCL, has been pushing for **greater adoption of LNG** as **automotive fuel, marine fuel**, and in regulation use cases such as **CGD networks** and **industries** that use natural gas as feedstock.

Use of LNG in long-haul trucks and buses:

- Compared with diesel, LNG is significantly cleaner — **reduced carbon dioxide emissions** and **negligible particulate matter, nitrogen oxide** and **sulphur dioxide emissions**.
- LNG offers **slightly longer range to vehicles than diesel** with similar-sized fuel tanks, and is **usually cheaper than crude oil**, from which diesel is derived.

- Replacing a major chunk of **India's diesel consumption by LNG** could lead to **substantial foreign exchange savings**.
- LNG has been used successfully in medium and heavy commercial vehicles in many countries, most notably in China.
- The **challenges in India**— a **lack of easy availability of LNG-powered vehicles**, the **higher initial cost of these vehicles** and the **absence of an LNG vehicle financing ecosystem**, and the **virtually non-existent LNG retail network**.
- Companies such as **GAIL and Petronet** are working to **build a viable ecosystem for transporters** to move from diesel vehicles to LNG e.g. building LNG dispensing stations along major highways.



CONTEXT: NCLAT directs banks not to take action against IL&FS, directors

NCLT & NCLAT:

- Quasi-Judicial bodies
- Established under the **Companies Act, 2013**
- **Regulate and Adjudicate** matters related to Indian Companies

NCLT:

- Serves as the **primary body for adjudicating company law** matters in India. It has **original jurisdiction**.
- The NCLT bench is **chaired by a Judicial member** who is supposed to be a retired or a serving High Court Judge and a **Technical member** who must be from the ICLS Cadre - has 16 Benches.
- It handles a **broad range of matters** including:
 - Company incorporation and registration
 - Increase or decrease in share capital
 - Mergers and acquisitions
 - Company restructuring
 - Oppression and mismanagement by Directors
 - Insolvency and bankruptcy proceedings (under the IBC, 2016)
 - Winding up of companies

NCLAT:

- It is the appellate tribunal for matters decided by the NCLT, IBBI, CCI, & NFRA.
- The NCLAT includes
 - Chairperson,
 - 3 judicial members, and
 - 2 technical members.
 - It consists of a total of not more than eleven members.
- The decisions of National Company Law Appellate Tribunal are appellable in Supreme Court of India.
- National Company Law Appellate Tribunal has principal bench in Delhi and other one in Chennai.

