

Today's Prelims Topics

Banks bad loans at 13 year low

Context

According to a recently released RBI Report gross non-performing assets (GNPAs) ratio of scheduled commercial banks (SCBs) declined to the lowest in more than 13 years at 2.5 per cent at the end of September 2024.

Key highlights of RBI Report

- **Gross NPA Ratio:** Declined to **2.5%** at the end of September 2024, the lowest in over 13 years.
- **Secoral analysis:**
 - **Highest GNPA Ratio:** Agriculture sector - 6.2% (Sep,2024)
 - **Lowest GNPA Ratio:** Retail loans - 1.2% (Sep,2024)
- **Slippage Ratio:** Improved for the third consecutive year (FY24). **Private Sector Banks (PVBs)** showed a higher slippage ratio than **Public Sector Banks (PSBs)** due to larger fresh accretions to NPAs.

About Non-Performing Assets (NPA)

- It is a loan or advance for which the **principal or interest payment** remains **overdue** for a period of **90 days**.
- **Classification (as per the RBI guidelines):**
 - **Substandard assets:** Assets which have **remained NPA for a period less than or equal to 12 months**.
 - **Doubtful assets:** An asset that has remained in the **substandard category for a period of 12 months**.
 - **Loss assets:** It is considered "**uncollectible**" or of **such little value** that its continuance as a bankable asset is not warranted, although there may be some recovery value.
- **Metrics that help us to understand the NPA situation of any bank:**
 - **Gross NPA:** It refers to the total NPAs of the banks.
 - **Net NPA:** Net NPA is calculated as Gross NPA - Provisioning Amount.
 - **i.e.** Net NPA gives the exact value of NPAs after the bank has made specific provisions for it.

Special Mention Accounts (SMA)

- These are the accounts that have **not-yet turned NPAs** but rather these accounts can **potentially become NPAs in future** if no suitable action is taken.
- **Categories:**
 - **SMA-0:** Principal or interest payment not overdue for more than 30 days but account showing signs of incipient stress.
 - **SMA-1:** Principal or interest payment overdue between 31-60 days.
 - **SMA-2:** Principal or interest payment overdue between 61-90 days.

What is Provisioning?

- Provisioning is a mechanism to counter bad assets.
- Under provisioning, banks have to set aside or provide funds to a prescribed percentage of their bad assets.
- The percentage of bad assets that has to be 'provided for' is called **provisioning coverage ratio**.

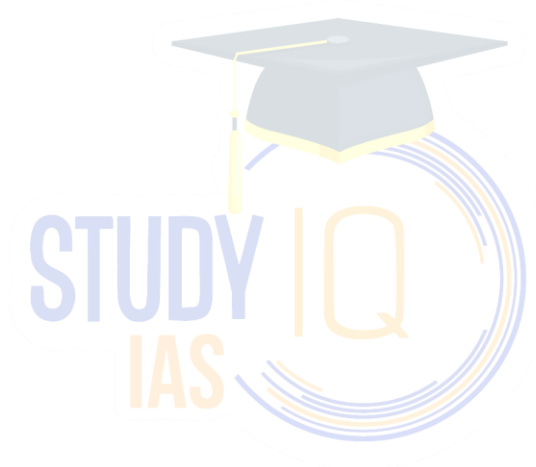


Related Information

- **Written Off Assets:** Assets which are not counted by the lender or Banks for balance sheet purposes. Loan write off does not mean loan waive off. It is majorly a balance sheet correction activity carried out by banks.
- **Slippage Ratio:** It is the rate at which good loans are turning bad.
- **Provisioning Coverage Ratio (PCR):** A certain percentage of a bank's profits to cover risk arising from NPAs.

Source:

- [Indian Express - Bad loans ratio at 13 year low](#)



Global Polio Resurgence

Context

According to WHO, a resurgence of polio is being witnessed globally, with both wild poliovirus (WPV) and vaccine-derived poliovirus detected in environmental samples and human cases. Poliovirus was detected in wastewater systems in some European countries but no confirmed human cases were found.

About Polio

- Polio is a viral infectious disease that can cause irreversible paralysis and even death by affecting the nervous system.
- **Transmission:** The virus primarily spreads through the faecal-oral route and can multiply in the intestine, where it can invade the nervous system.
- **Target Group:** mainly affects children under five.
- **Vaccines:**
 - **Oral Polio Vaccine (OPV):** Administered as a birth dose, followed by three primary doses at 6, 10, and 14 weeks, and a booster dose at 16-24 months.
 - **Injectable Polio Vaccine (IPV):** This vaccine is given as an additional dose along with the third DPT (Diphtheria, Pertussis, and Tetanus) vaccine under the Universal Immunization Programme (UIP).
- India was declared **polio-free** by the World Health Organization (WHO) in **2014**, with the last wild poliovirus case reported in 2011.
- **Difference between Wild Polio virus & Inactivated Polio virus**
 - **Wild poliovirus** is the naturally occurring strain of the poliovirus that causes the disease polio:
 - **Inactivated poliovirus** is a safe, dead version used in polio vaccines to prevent the disease.
- **Vaccine Derived Polio Virus (VDPV)**
 - It is an uncommon condition that can happen when the weakened virus in the oral polio vaccine changes and becomes strong enough to cause polio again.
 - The oral polio vaccine (OPV) contains a live, weakened virus that helps the body build immunity to protect against polio.
 - After vaccination, the weakened virus is excreted in the stool. But in areas with poor sanitation and low immunisation coverage, this virus can spread to others in the community.

Source:

- [The Hindu - A global polio resurgence and the need to reevaluate the basics](#)

PM Rashtriya Bal Puruskar

Context

The President of India has conferred the Pradhan Mantri Rashtriya Bal Puraskar 2024 on 17 children.

About PM Rashtriya Bal Puruskar

- This is the **highest civilian honor for children** in India **organised by The Union Ministry of Women and Child Development**.
- It is awarded annually to children in the **age group of 5-18 years** for their exceptional abilities **and outstanding achievements** in seven categories:
- It is awarded in **7 categories: Bravery, Art & culture, Environment, Innovation, Science & technology, Social Service and Sports**.

Notable Awardees

- **Art and Culture:**
 - **Keya Hatkar:** An author and disability advocate excelling in art and culture.
 - **Ayaan Sajad:** A Sufi singer from Kashmir contributing to Kashmiri music.
 - **Vyas Om Jignesh:** A cerebral palsy-affected Sanskrit scholar who memorized over 5,000 slokas.
- **Bravery:**
 - **Saurav Kumar:** Saved three girls from drowning.
 - **Loanna Thapa:** Rescued 36 residents from a fire.
- **Innovation:**
 - **Sindhoora Raja:** Developed self-stabilizing devices for Parkinson's patients.
 - **Risheek Kumar:** Founded Kashmir's first cybersecurity firm.
- **Sports:**
 - **Hembati Nag:** A judo player from a Naxal-affected area who won silver at the Khelo India National Games.
 - **Anish Sarkar:** Youngest FIDE-ranked chess player at the age of 3.

Veer Bal Diwas

- It is celebrated annually on December 26 in remembrance of the unmatched bravery and sacrifice of **Baba Zorawar Singh and Baba Fateh Singh**, the younger sons of **Guru Gobind Singh Ji**.

Source:

- [The Hindu - 17 children receive award for exceptional achievements](#)

China approves world's largest dam on Brahmaputra

Context

China has approved the construction of the **world's largest hydropower dam** on the lower reaches of the **Yarlung Zangbo River**, the Tibetan name for the Brahmaputra.

About the Dam

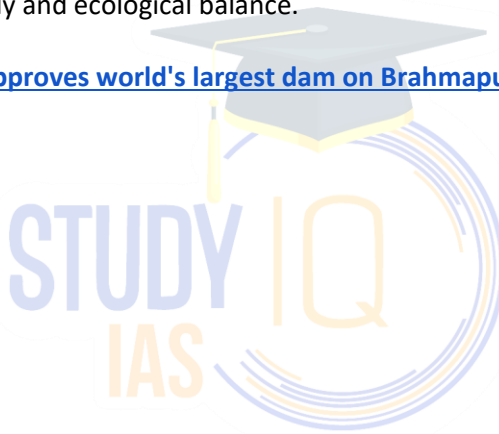
- **Location:** Medog County, Tibet Autonomous Region. At a massive gorge near the Indian border, where the river makes a U-turn to enter **Arunachal Pradesh**.
- **Features of the project:**
 - **Massive Infrastructure:** It will be the world's biggest infrastructure project.
 - **Expected annual electricity generation:** 300 billion kWh.
 - It will surpass **China's Three Gorges Dam**, currently the largest in the world.

Strategic Concerns and Risks

- **Downstream Implications:** India and Bangladesh have raised concerns about the dam's potential to **Control water flow downstream & Release floods during hostilities**.
- **Seismic Risks:** The site lies on a tectonic plate boundary, making it prone to earthquakes.
- **Regional Tensions:** India is particularly concerned about the project's potential to disrupt downstream water supply and ecological balance.

Source:

- [Indian Express - China approves world's largest dam on Brahmaputra](#)



PM Matsya Sampada Yojna

Context

India has experienced significant growth in fish production, with an 83% increase since 2013-14, reaching a record 175 lakh tons in 2022-23.

About PM Matsya Sampada Yojna (PMSSY)

- PMSSY launched in 2020 is a 5-year (FY 2020-25) scheme aimed at boosting fish production and productivity.
- It is the flagship scheme of the Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying.
- It is an umbrella scheme with two separate components (a) Central Sector Scheme (CS) and (b) Centrally Sponsored Scheme (CSS).
- **Beneficiaries:** Fishers, farmers, workers, vendors, SHGs, JLGs, cooperatives, entrepreneurs and private firms.
- **Objectives:**
 - Increase fish production from 13.75 million metric tons to 22 million metric tons by 2024-25.
 - Improve post-harvest management and reduce losses.
 - Enhance fishers' incomes and generate employment (15 lakh direct jobs).
- **Matsya Seva Kendra (MSKs):**
 - MSKs are extension centers that provide a range of services to the fisheries sector under PMSSY.
 - **Services provided:**
 - Provide disease testing and water/soil analysis.
 - Train fishers on seed/feed technology and sustainable practices.
 - Mobilize startups, cooperatives, self-help groups, and Fish Farmer Producer Organizations (FFPOs) to share best practices.
 - **E.g. MSK in Thrissur, Kerala:** Equipped with a laboratory for water, soil and microbial analysis, offering request-based disease testing.

Facts

- India is the **world's third largest fish-producing country**, accounting for 8% of global output.
- India is the **4 largest exporter** of fish and fishery goods in the world. It contributes about **4.2%** of the world's total fish exports by value.
- **Andhra Pradesh is the largest fish producer** in the country followed by **West Bengal and Gujarat**.

Source:

- [The Hindu - Why is strengthening fisheries extension services crucial?](#)

Local clinical trial waiver for selected drugs is a double-edged sword

Context

India has recently waived local clinical trials for certain categories of drugs to enhance their availability and expedite access to life-saving medicines. However, some experts have raised concerns about this decision.

Key Provisions of the New Rule

- The Central Licensing Authority (CLA) notified a waiver of local clinical trials for five drug categories under **Rule 101 of the New Drugs and Clinical Trials Rules (NDCTR), 2019**.
 - **Rule 101** allows the Central Licensing Authority i.e. **Drug Controller General of India (DCGI)** to specify countries for which local clinical trials may be waived for new drug approval.
- Waiver applies to new drugs approved in **six specified regions**: USA, UK, Japan, Australia, Canada, and European Union.
- **Eligible Drug Categories:**
 - **Orphan drugs for rare diseases.**
 - **Gene and cellular therapy products.**
 - Drugs used during **pandemics**.
 - Drugs for **special defense purposes**.
 - Drugs offering **significant therapeutic advantages** over existing treatments.
- **Benefits:**
 - **Faster Decision-Making:** Simplifies the regulatory process and accelerates drug availability for rare diseases and emergency situations like pandemics.
 - Drugs manufactured outside India will be more accessible and affordable in the local market.
 - Reduce costs of public procurement by governments under various schemes like Ayushman Bharat etc.
- **Concerns:**
 - **Patients safety risk:** Local trials are critical to assessing drug interactions with India's diverse genetic population.
 - **Impact on Research & Development (R&D):** Local trials contribute to **scientific validation** and safety assurances, which might be undermined by the waiver.

About Central Drugs Standard Control Organisation (CDSCO)

- It is India's National Regulatory Authority (NRA) for drugs and cosmetics.
- It is headed by **Drugs Controller General of India (DCGI)**.
- It releases a monthly list of drugs that fail quality checks.
- **Nodal Ministry:** Ministry of health and Family welfare.
- Functions of CDSCO under **Drugs & Cosmetics Act (1940):**
 - Controlling the import of drugs and their quality.
 - Approval of new drugs
 - Conduct of Clinical Trials
 - Laying down the standards for Drugs
 - Coordination of activities of the State Drug Control Organizations

Source:

- [The Hindu - Local clinical trial waiver for selected drugs is a double-edged sword: experts](#)

News in Shorts

Chillai Kalan/ Chill-i-Kalan

- On December 20, Kashmir recorded its coldest winter night in the **last 50 years**, with temperatures plunging to a frigid **minus 8.5 degrees Celsius**.
- It is a local name given to the harshest **40 day period** of winter in Kashmir (starting from 21 December to January 29 every year).
- Kashmiris adapt to the cold by wearing traditional attire, such as the **pheran**, a long woolen cloak. They also use traditional heating methods, such as **woo-fired hearths**.
- After Chillai Kalan, Kashmir experiences a **milder 20-day period called Chillai Khurd**, and then a **10-day period** of even more moderate weather called **Chillai Bacha**.

Source:

- [The Hindu - Life in deep freeze](#)

Pawan Hans seeks Centre's approval to acquire 23 more helicopters

- Pawan Hans Limited (PHL) is India's largest helicopter company and the country's only government-owned helicopter service provider.
- It is a Central Public Sector Enterprise (CPSE) under the **Union Ministry of Civil Aviation**.
- PHL is a joint venture of **Government of India (GOI) and Oil and Natural Gas Corporation Limited (ONGC)**. GoI holds 51% of shares in the company and ONGC holds the remaining 49%.
- The government had started its **privatisation process but it was unsuccessful** due to a number of legal cases against the winning bidder

Source:

- [The Hindu - Pawan Hans](#)

RBI panel to set AI ethical framework for financial firms

- RBI has announced the setting up of an **8-member committee** to develop a **framework for responsible and ethical enablement of artificial intelligence (FREE-AI)** in the financial sector.
- The committee will be headed by **Pushpak Bhattacharya** (IIT Bombay professor)
- It will recommend a framework assessing the current level of adoption of AI in financial services, identifying potential risks associated with AI etc.
- **Benefits of AI in financial services:** Operational efficiency, enhanced decision making,
- 24/7 AI-powered chatbots etc.

Source:

- [The Hindu - RBI panel to set AI ethical framework for financial firms](#)

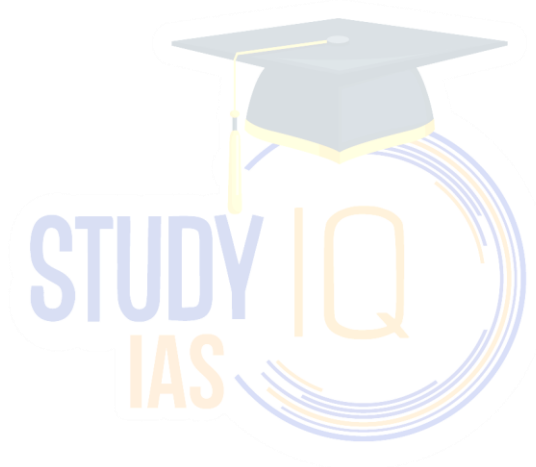
Gangadhar Deshpande Memorial Bhavan

- A memorial of **Gangadhar Deshpande** was inaugurated in Belagavi, Karnataka as part of **centenary celebrations of Belagavi session**.
- He was a prominent Indian freedom fighter and social reformer. He was referred to as the **"Lion of Karnataka"**.
- He was born in **Belgaum (present-day Karnataka) in 1871**.
- He was a close associate of prominent leaders like Mahatma Gandhi and Bal Gangadhar Tilak.
- He played an important role in organizing the **Non-Cooperation Movement in Karnataka**.

- He was the main organizer of the **39th session** of the Indian National Congress held in Belgaum, the only session presided over by Mahatma Gandhi.

Source:

- [The Hindu - Deshpande memorial](#)



Editorial Summary

OpenAI A.I. Risk Perceptions Study: AI in Education

Context

The OpenAI conducted an A.I. risk perceptions study in 5 countries including India, the U.S., U.K., Japan, and Taiwan.

Findings of the OpenAI Study on AI in Education (India-specific)

Positive Findings

- **Improved Learning Outcomes:** Generative AI tools can make learning interactive and engaging (e.g., Socratic models), particularly for students with low academic interest or participation.
 - AI-based systems can act as brainstorming and knowledge co-creation tools.

Socratic Models of AI refer to a conceptual approach where AI systems engage in a **conversational, question-and-answer-based methodology**, akin to the Socratic method of teaching.

- **Enhanced Accessibility:** Potential to democratize access to world-class educational resources, including for students in underprivileged areas and poorly equipped schools.
- **Alternative to Social Media:** AI tools provide productive alternatives for students' screen time compared to platforms like Instagram.
- **Digital and Evidence-Based Learning:** AI tools promote a structured and evidence-based approach to education.
 - They can help students articulate and refine their understanding through prompts and queries.

Negative Findings

- **Perceived Risks to Critical Thinking:** Indian policymakers highlighted that over-reliance on AI tools could hinder students' critical thinking and problem-solving skills.
 - Generative AI tools might provide instant answers, reducing the need for independent reasoning.
- **Challenges in Assessment:** Concerns over how to test students' abilities if generative AI is used for completing assignments or exams.
 - Shift in focus from testing students to testing machine intelligence.
- **Biases in AI Outputs:** Existing biases in datasets could lead to flawed or misleading AI outputs.
 - Risk of students blindly accepting AI-generated responses without verification.
- **Low AI Awareness:** Limited understanding and usage of AI in India compared to other surveyed countries contributed to higher risk perception.
- **Data Privacy and Appropriateness:** Concerns over how data collected to train AI systems are sourced, especially in India's context with significant informal sector contributions.
- **Potential Misuse:** Broader fears of AI misuse in education, similar to risks identified in other domains like job displacement and economic disruptions.

AI in Education for Students with Disabilities

- **Assistive Technologies for Dyslexia:** AI-powered tools, like chatbots and word prediction programs, help students with dyslexia spell, read, and comprehend text better.
 - These tools make the learning process less daunting and help students keep up with their peers.

Dyslexia is a learning disability that makes it **difficult to read, write, and spell**.

- **Support for Visual and Hearing Impairments:** Computer-generated voices are becoming more natural and can read passages for visually impaired and dyslexic students.
 - AI tools also assist in speech-to-text conversions, making learning accessible for hearing-impaired students.
- **Task Simplification:** AI tools can summarize complicated information into simpler forms, such as creating outlines or translating complex language into plain English (e.g. Shakespeare Poems).
 - These features help students understand and engage with learning materials more easily.
- **Personalized Learning:** AI adapts to the unique needs of each student, providing tailored support for their disabilities.
 - This approach helps students learn at their own pace and address specific challenges.
- **Reducing Stigma and Encouraging Participation:** By enabling students to perform tasks effectively, AI fosters a sense of accomplishment and helps them integrate better with their classmates.
 - AI ensures students feel capable rather than left out.

Indian Government Initiatives in Promoting Usage of AI for Educational Purposes

- **Youth for Unnati & Vikas with AI (YUVAI) Initiative:** Launched by the National e-Governance Division in collaboration with Intel India.
 - It focuses on empowering school students with AI skills.
 - This initiative aims to democratize access to relevant tools that can lead to meaningful social impact solutions.
- **INDIAai FutureSkills Initiative:** This initiative aims to develop an AI-centric education framework from the 8th standard to tertiary levels, equipping students with essential AI knowledge.
 - It recognizes the importance of a symbiotic relationship between human intelligence and AI.
- **AI For All Program:** This self-learning online initiative is designed to raise public awareness about AI.
 - It clarifies AI concepts for individuals from all walks of life, including students, parents, professionals, and senior citizens, fostering a 'Digital First Mindset'.

Future Directions

- **Optimism for Change:** Experts argued that risks in India are overstated and that increased adoption and familiarity with AI would reduce these perceptions over time.
- **Policy and Regulation Needs:** Emphasis on thoughtful guardrails to ensure AI tools remain accurate, unbiased, and student-friendly.
- **Potential for Global Expertise:** Future AI systems could simulate teaching styles of intellectuals like Einstein or Aristotle, enabling students to interact with "genius teacher avatars."

Sources:

- [The Hindu: OpenAI finds AI in education a major risk in India but experts disagree](#)
- [The Hindu: 'AI can improve school learning outcomes'](#)
- [The Hindu: AI is transforming education for students with disabilities](#)

Wealth Tax Policy in India

Context

Thomas Piketty, a French economist, recently proposed a 2% wealth tax on net assets exceeding Rs 10 crore to reduce inequality in India.

What Is Wealth Tax?

- It refers to a type of direct tax imposed on the net wealth or assets owned by an individual, Hindu Undivided Family (HUF), or company.
- It is based on the value of certain assets owned as of a specific valuation date.
- India had a wealth tax system under the **Wealth Tax Act, 1957**.
 - However, the government abolished it in 2016, due to low revenue collection (collections were less than 1% of the gross tax collections) and high administrative costs.

Global Models of Wealth Taxation:

- **Norway:** Tax ranges from **0.85% to 1.1%** on net wealth.
- **Switzerland:**
 - **Decentralized Taxation**, with **individual cantons** setting their respective tax rates.
 - **Revenue Contribution: 3.6% to 3.8%** of Switzerland's **total state revenue**.

Arguments for Introducing Wealth Tax in India

- **Increased Public Spending:** Essential to meet the minimum requirements for delivering social and economic rights, such as access to nutritious food, quality healthcare, education, housing, and amenities like electricity and fuel.
 - Crucial for public investments to help vulnerable populations adapt to climate change and enable a green transition.
- **Addressing Inequalities:** India is among the most unequal countries globally in terms of income and wealth distribution.
 - **E.g.,** In India, the top 1% controls over **40% of the nation's total wealth (World Inequality Report)**.
- **Economic Benefits:** Extreme inequality hinders mass consumption demand, deterring private investment and slowing economic dynamism.
 - Fair taxation of the rich could mobilize resources to stimulate demand and investments.
- **Progressive Fiscal Policy:** India's tax-to-GDP ratio is low compared to other middle-income and G20 countries.
 - The current tax system is regressive, disproportionately burdening the poor and middle classes through indirect taxes while benefiting the wealthy.
- **Global Precedents and Coordination:** The G20 Summit emphasized the need for effectively taxing ultra-high-net-worth individuals (UHNWIs).
 - Global proposals, like the 2% annual minimum tax on billionaires' wealth, aim to curb tax avoidance and ensure fairness.
- **Technological Feasibility:** Increased digitization of financial records and tracking mechanisms (e.g., for real estate ownership) makes wealth taxation administratively feasible in India.
 - Global agreements on exchanging financial and tax information support implementation.
- **Deterring Capital Flight:** Countries like Colombia tax wealth regardless of where it is held, and nations like the US and France impose exit taxes to prevent capital flight.
 - Similar measures can mitigate concerns about the rich shifting wealth abroad.
- **Revenue Generation:** Fair taxation of the wealthy would generate significant revenue, enabling the government to address inequalities and fund critical public services and infrastructure.

- **Moral and Social Justification:** Taxing the rich fairly ensures they contribute to the economy just as other income groups do.
 - This can reduce the widening economic gap and promote greater social harmony and political stability.
- **International Viability:** Global efforts to implement a minimum wealth tax, supported by financial information-sharing agreements, make it easier to coordinate and enforce wealth taxation in India.

Arguments Against Introducing Wealth Tax in India

- **Questionable Claims on Inequality:** Piketty asserts that India has the second-highest income inequality globally, but critics argue this is unfounded due to the lack of an official income distribution survey in India, making it difficult to validate such claims.
- **Already High Tax-to-GDP Ratio:** Contrary to Piketty's assertion of a 13% tax-to-GDP ratio, recent data (2019-20) shows India's tax-to-GDP ratio at 16.7%, higher than predicted values for countries with similar economic structures.
 - In 2023, this ratio is estimated to have reached 18-19%, which is higher than countries like China (16%) and Vietnam (13.3%).
- **Redistribution Claims Lack Nuance:** The suggestion that taxing the rich more will automatically lead to higher growth through redistribution oversimplifies complex economic dynamics.
 - Growth requires multiple factors, such as infrastructure development, investment incentives, and institutional reforms, not merely wealth redistribution.
- **Limited Revenue from Wealth Tax:** A 2% wealth tax would only raise revenue equivalent to 0.5% of GDP, which is unlikely to make a significant impact on redistribution or public spending.
 - The administrative costs and challenges of implementing a wealth tax may outweigh the benefits.
- **Piketty's Approach Relies on Outdated Data:** Many researchers, including Piketty, continue to use central tax collection data, which underestimates India's total tax-to-GDP ratio by ignoring state and local tax collections.
 - Updated data from the IMF and World Bank reveals a more favorable tax-to-GDP performance for India than Piketty's analysis suggests.
- **Potential Disincentives for Investment:** High taxation on the wealthy may deter entrepreneurship and investment, impacting overall economic dynamism.
 - It could also lead to capital flight, as wealthy individuals may move their assets abroad to avoid higher taxes.
- **Need for Broader Policy Framework:** Focusing solely on wealth taxation ignores other critical areas like improving public service delivery, reducing tax evasion, and enhancing administrative efficiency.
 - Economic growth and social equity require a combination of structural reforms and targeted policy interventions, not just increased taxation on the rich.

Sources:

- [Indian Express: The Rich Exploit Loopholes in System](#)
- [Indian Express: Piketty is wrong, India is not that unequal](#)
- [The Print: What India should learn from global Wealth Tax Models](#)

Tapping into Kazakhstan's rare earths potential

Context

- India is navigating a critical juncture in its energy transition, focusing on renewable sources while grappling with the increasing demand for rare earth elements (REEs).
- Despite being the fifth-largest holder of REEs, India imports about 60% of its rare earths from China due to inadequate domestic extraction technologies.

Kazakhstan: A Strategic Alternative for India

- Kazakhstan, rich in REEs, is emerging as a promising partner for India to mitigate dependency on China.
- Key aspects of Kazakhstan's REE industry:
 - Hosts 15 of the 17 known rare earth elements.
 - Advanced extraction technologies and partnerships with Japan, Germany, the U.S., South Korea, and the European Union.
 - Growth in dysprosium production (essential for clean energy) is expected between 2024 and 2029.
 - Known as one of the world's largest producers of tantalum and niobium, critical for nuclear reactors and clean energy.
 - Holds a significant role in manufacturing beryllium, scandium, tungsten, and battery materials.
 - Extracts strategic minerals like bismuth, selenium, and tellurium and uses imported technologies to produce gallium and indium, crucial for renewable energy.
- Kazakhstan's President Kassym-Jomart Tokayev has called rare earths the **"new oil" of the country's economy**.

India-Kazakhstan Collaboration: Potential and Challenges

- India's renewable energy pledge at COP29 includes achieving 500 GW of capacity by 2030, requiring rare earths like dysprosium.
- A planned 400% increase in domestic REE mining output over the next decade is insufficient to meet current and future needs.
- **Challenges:**
 - Lack of necessary extraction technologies in both India and Kazakhstan.
 - Connectivity issues between the two nations.
- **Opportunities:** The 'India-Central Asia Rare Earths Forum,' proposed during the second India-Central Asia Summit, aims to enhance partnerships through:
 - Bilateral training programs.
 - Joint mining ventures and shared geological data.
 - Private sector investment and sustainable extraction practices.
 - Development of a regional REE market to reduce reliance on China.
 - India's engagement with Kazakhstan through the 'Connect Central Asia' policy and the International North-South Transport (INSTC) Corridor strengthens the foundation for collaboration.

Strategic Implications

- Diversification through Kazakhstan can help India reduce its reliance on China and strengthen resource security.
- By leveraging Kazakhstan's advanced technologies and mining potential, India can create a more sustainable and robust supply chain for rare earths.
- A strategic partnership can foster economic growth for both nations while supporting global clean energy goals.

Source: [The Hindu: Tapping into Kazakhstan's rare earths potential](#)