

● POLITY

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INTERNAL SECURITY

WILL SCRAP FREE MOVEMENT REGIME ON MYANMAR BORDER, SAYS AMIT SHAH

CONTEXT: The Union Government has decided to scrap the Free Movement Regime (FMR) along the Myanmar border for the sake of the country's internal security and to maintain the demographics of north-eastern States.



The Home Ministry has recommended the immediate suspension of the regime, which allowed tribal people living along the border on both sides to cross with few restrictions. The Union Ministry of Home Affairs has recommended the immediate suspension of the Free Movement Regime (FMR).

Under the FMR, any member of a hill tribe, who is a citizen of either India or Myanmar, and who resides within 16 km of the border on either side, can cross on the production of a border pass, usually valid for a year, and can stay up to two weeks per visit.

India and Myanmar share an unfenced 1,643-km-long border. A 1968 government notification limited the free movement of people up to 40 km on either side of the border, which was further reduced to 16 km in 2004. The FMR's provisions were last revised in 2016.

The Union Government had initially planned to fence a 10 km stretch along the border at Moreh in Manipur in 2010 and 4.07 km of fencing had been put up till 2013-14 while the Congress-led United Progressive Alliance (UPA) government was in power. The Home Ministry's latest annual report for 2022-23 says that 6.81 km of fencing has been completed, which means that the BJP-led National Democratic Alliance (NDA) government has added less than three km of fencing over a nine-year period. Out of 1,643 km, the demarcation of 1,472 km has been completed. On February 6, Mr. Shah had announced that a fence would be constructed along the

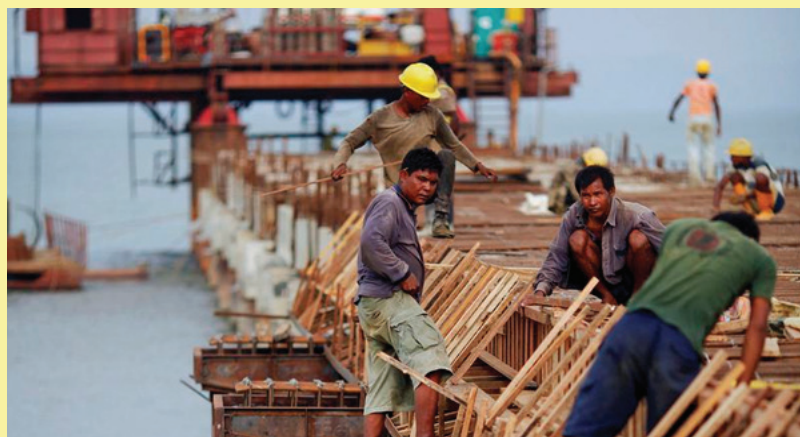
entire 1,643-km border with Myanmar.

Officials pointed out that the FMR had several drawbacks. "There is no standard document or border pass recognised by both the countries. Though Assam Rifles, a central force, is deployed along the Myanmar border, the implementation of FMR through border passes is done by the State government officials," one official said. The official added that though the FMR allows each cross-border visit to last only two weeks, there is no mechanism to check when a person entered the country.

INTERNATIONAL RELATIONS

'INDIA'S KALADAN PROJECT IN MYANMAR IN LIMBO AS REBELS CONTROL KEY TOWN'

CONTEXT: The Kaladan Multi-Modal Transit Transport Project (KMTTP) has "almost died" after the rebel Arakan Army (AA) captured the Paletwa township near Mizoram border in January.



The Arakan Army (AA) has established control in almost all the major towns and supply routes in Rakhine State. The Kaladan Multi-Modal Transit Transport Project (KMTTP) has almost died as Paletwa, essential for this project and Paletwa is no longer in control of the military junta.

\$500-million project

The Kaladan Multi-Modal Transit Transport Project (KMTTP) was aimed at connecting the port of Kolkata with the port of Sittwe in Rakhine or Arakan State which would then be connected to Mizoram by road and the Kaladan river which flows by Paletwa. Kaladan project, estimated to cost around \$ 500 million has been delayed for multiple reasons, including the Rohingya crisis that erupted in 2017. India's flagship connectivity project aims at enhancing road and maritime connection with Southeast Asia has faced a definite setback after an important town in Myanmar was captured recently by a rebel Arakan Army (AA).

The Rakhine State has witnessed serious clashes between the Myanmar military and the rebel AA. The AA has established

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control over Mrauk-U, Kyauktaw, Minbya, Thandwe, and major roads connecting these towns. AA has also captured Ann township which has Myanmar Army's Western Command headquarters.

However, while the Rohingya crisis is rooted in religious and ethnic differences between the junta in Naypyidaw and Muslim Rohingyas, the conflict between the AA and the Myanmar military junta is not based on religious differences but fuelled by a nationalist aspiration of the Buddhist Arakanese population of the region which has been demanding a confederated or independent status. The population of Rakhine State is divided among the Buddhist Arakanese, Rohingyas and non-Rohingya Muslims, Christians, and other communities.

The fight between the AA and the junta's forces took a crucial turn on January 15 when the rebel forces captured Paletwa. This move has also roused concern of a tripartite conflict involving the junta's forces, the AA, and rebels of the Chin State as Paletwa has been traditionally a Chin-majority township.

The Myanmar source said that the AA is in an advantageous position and it is a matter of time before they establish control over the entire State of Rakhine, an unprecedented situation. They are now aiming for capturing the Sittwe port, which is one of the oldest ports and airports of Myanmar and they can do that as early as summer of this year.

INTERNATIONAL RELATIONS

CENTRE REJECTS ACCUSATION BY CANADA OF INDIAN INTERFERENCE IN ITS ELECTIONS

CONTEXT: CONTEXT: Randhir Jaiswal, Ministry of External Affairs (MEA) spokesperson flipped the Ottawa's allegation of Indian interference in the Canadian election process, claiming Canada to meddle in India's internal affairs at a press briefing on Thursday.



India has termed Ottawa's allegation of Indian interference in the Canadian election process as "baseless". India's relationship with Canada has been in a nosedive since last September when Canadian Prime Minister Justin Trudeau accused Indian agents of being involved in the murder of a pro-Khalistan figure in the province of British Columbia. Mr. Trudeau had set up an independent commission last year to look into instances of Indian interference in previous Canadian

elections.

Subsequently, the commission has urged the Canadian government to share information about Indian interference in the 2019 and 2021 federal elections. The Federal Commission alleged that foreign powers have the resources to interfere in the political process in Canada, and asked for supporting materials from Ottawa.

POLITY AND GOVERNANCE

UNION CABINET APPROVES NEW FISHERIES SCHEME

CONTEXT: The Union Cabinet approved the Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana, a sub scheme under the Pradhan Mantri Matsya Sampada Yojana, for the micro and small enterprises operating in the fisheries sector.

The meeting, chaired by Prime Minister Narendra Modi, approved the extension of Fisheries and Aquaculture Infrastructure Development Fund (FIDF) till 2026. The Fisheries and Aquaculture Infrastructure Development Fund (FIDF) is expected to have investment of ₹ 6,000 crore in the next four years. The extension of the fund would intensify development of various infrastructure such as fishing harbours, fish landing centres, ice plants, cold storage, and fish transport facilities.

FACTS AND FIGURES: India is the **SECOND MAJOR PRODUCER** of fish through aquaculture in the world. India, the **FOURTH LARGEST EXPORTER** of fish in the world contributes 7.7 % to global fish production. Fisheries sector **DIRECTLY EMPLOYS 1.6 Cr.** and **INDIRECTLY EMPLOYS 3.2 Cr.** along the value chain.

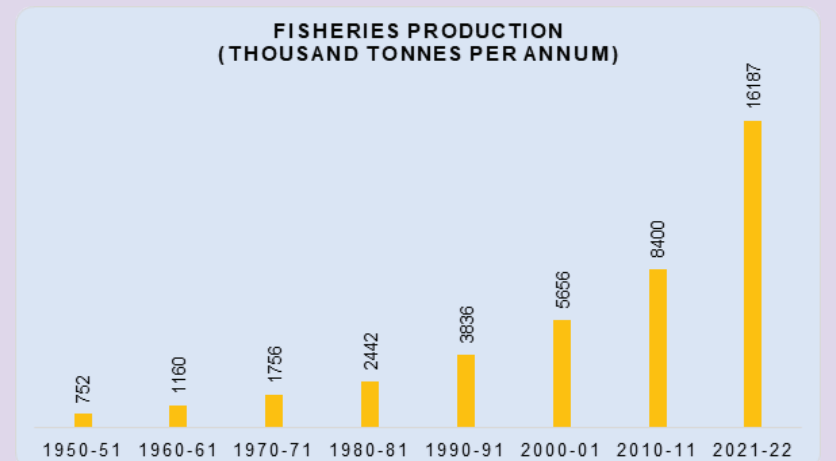


FIGURE: Bar chart representation of the domestic fisheries production (Thousand tonnes per annum).


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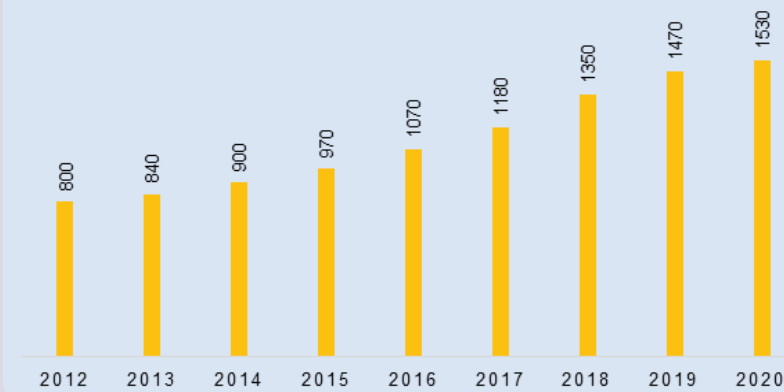


FIGURE: Bar chart representation of the Gross value added from the fishing and aquaculture industry in India from financial year 2012 to 2020 (in billion Indian rupees)

PRADHAN MANTRI MATSYA SAMPADA YOJANA

The Centre launched the Pradhan Mantri Matsya Sampada Yojana for a period of 5 years from FY 2020-21 to FY 2024-25 with a total estimated investment of ₹ 20,050 Cr. The components of the Pradhan Mantri Matsya Sampada Yojana include

~ ENHANCEMENT OF PRODUCTION AND PRODUCTIVITY:

Address critical gaps to ensure expansion, intensification, diversification and productive utilization of land and water to increase the fish production and productivity.

~ INFRASTRUCTURE AND POST-HARVEST MANAGEMENT:

Modernising and strengthening of value chain post-harvest infrastructure and management to enhance quality.

~ FISHERIES MANAGEMENT AND REGULATORY FRAMEWORK:

Establish a robust fisheries management framework for traceability and welfare of fishermen.

AIMS AND OBJECTIVES

- ~ Harness potential of fisheries sector in a sustainable, responsible, inclusive and equitable manner
- ~ Doubling fishers and fish farmers' incomes and generation of employment
- ~ Enhancing contribution to Agriculture GVA and exports
- ~ Social, physical and economic security for fishers and fish farmers

CONCLUSION: Fisheries and aquaculture are an important source of food, nutrition, employment and income in India. Fish being an affordable and rich source of animal protein, is one of the healthiest options to mitigate hunger and malnutrition. The sector has immense potential to double the fishers and fish farmers' incomes as envisioned by government and usher in economic prosperity.

BENEFICIARIES

- Fishers
- Fish farmers
- Fish workers and Fish vendors
- Fisheries Development corporations
- SHGs/JLGs in fisheries sector
- Fisheries cooperatives
- Fisheries Federations
- Entrepreneurs and private firms
- Fish FFPOs / Cs

POLITY AND GOVERNANCE

LOK SABHA CLEARS BILLS TO MAKE ADDITIONS TO ST LISTS OF ODISHA, A.P.

CONTEXT: The Lok Sabha passed the Constitution (Scheduled Tribes) Order Amendment Bill, 2024 and Constitution (Scheduled Castes and Scheduled Tribes) Order Amendment Bill, 2024.

The Bills will allow addition of several new communities to the Scheduled Tribes list of Odisha and for the inclusion of synonyms and phonetic variations of existing tribes in the ST lists of both Andhra Pradesh and Odisha.

Both Bills received support from MPs across party lines. With Rajya Sabha having passed these Bills earlier on Tuesday, the changes can now be sealed by the office of the President, whenever it notifies the revised lists.

Among the additions are notably seven Particularly Vulnerable Tribal Groups (PVTGs) (a subset of STs) — four in Odisha and three in Andhra Pradesh — whose independent names had been specifically added as synonyms or sub-tribes of communities already in the ST lists of these States.

The Bill to amend Odisha's ST list also shifted two entries — Tamadia and Tamudia — from the Scheduled Castes list to the Scheduled Tribes list.

POLITY AND GOVERNANCE

UNION CABINET GIVES NOD FOR SPECTRUM AUCTION

CONTEXT: The Cabinet approved an auction of telecom spectrum for airwaves amounting to a cumulative reserve price of ₹ 96,317.65 crore.

The spectrum will be in the 800; 900; 1,800; 2,100; 2,300; 2,500; 3,300 megahertz, and 26 gigahertz bands. The reserve pricing is the minimum telcos will have to pay for acquiring this spectrum, as they will have to bid with the reserve pricing as the minimum price.

If sold, the spectrum will be valid for 20 years. Spectrum has also been approved for use by the Railways for the deployment of Kavach, the automatic train protection (ATP) system used for preventing accidents in the rail network.

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"Education is the ability to listen to almost anything without losing your temper or your self-confidence." - Robert Frost

ECONOMICS AND DEVELOPMENT

MPC HOLDS RATES; SEES FY25 INFLATION EASING TO 4.5%, GROWTH AT 7%

CONTEXT: The Monetary Policy Committee (MPC) on Thursday voted 5-1 to keep interest rates unchanged as it vowed to stay focussed on achieving 4 % inflation on a durable basis. The MPC also projected inflation to moderate to 4.5 % in FY25, from 5.4 % for this fiscal, and forecast real GDP growth for the 12 months from April 1 at 7 %.

Price stability in focus

RBI's MPC decides by a 5-1 majority to keep benchmark interest rates unchanged as it vows to ensure durable disinflation

- Large and repetitive food price shocks are interrupting the pace of disinflation, says Governor Das
- MPC assumes a normal monsoon while making its 4.5% retail inflation projection for 2024-25
- External sector of economy remains resilient, CAD to be eminently manageable, says Das



The Consumer Price Index (CPI) inflation is moderating with intermittent interruptions and spikes at a post-policy press conference. The Monetary Policy Committee (MPC) seeks to achieve 4 % inflation on a durable basis.

'Normal monsoon key'

The MPC assumed "a normal monsoon" in making its inflation forecast for 2024-25. The RBI noted that large and repetitive food price shocks interrupting the pace of disinflation led by the moderation of core inflation. Geopolitical events and their impact on supply chains, and volatility in international financial markets and commodity prices are key sources of upside risks to inflation. The cumulative effect of policy repo rate increases is still working its way through the economy.

As per the first advance estimates (FAE) released by the National Statistical Office, real gross domestic product (GDP) is expected to grow by 7.3 %, year-on-year in 2023-24, underpinned by strong investment activity.

The recovery in rabi sowing, sustained profitability in manufacturing and underlying resilience of services should support economic activity in 2024-25. The MPC had opted to keep the policy repo rate unchanged at 6.5 % and remain focused on withdrawal of accommodation to ensure that inflation progressively aligns to the target, while supporting growth.

The current account deficit (CAD) for FY24 and FY25 would be eminently manageable in the wake of Q2 CAD easing to 1 % of GDP, from 3.8 % a year-earlier. The net balance under services and remittances in FY24 would remain in large surplus, partly offsetting the trade deficit. The external sector remained resilient.

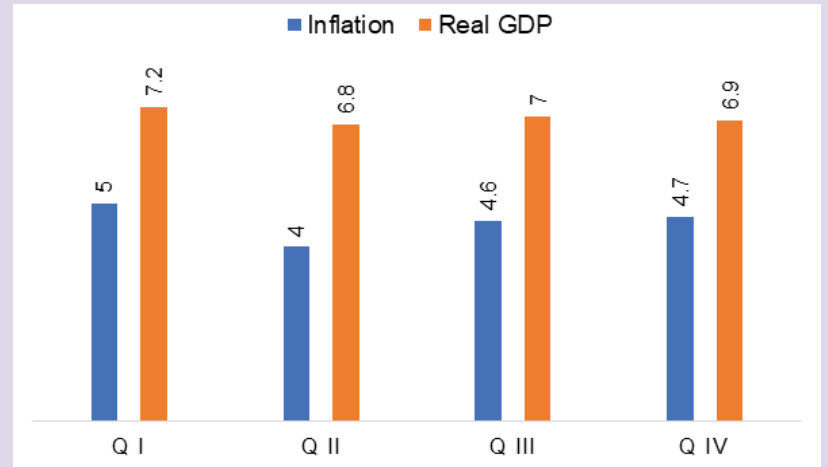


FIGURE: Column chart representation of quarter-wise inflation and Real GDP growth projections for 2024-25.

INTERNATIONAL RELATIONS

MEXICO BEATS CHINA AS LEADING SOURCE OF U.S. GOODS IMPORTS

CONTEXT: : Mexico last year surpassed China as the leading source of goods imported by the U.S. since 2002. The shift reflects the growing tensions between Washington and Beijing as well as U.S. efforts to import from countries friendlier and closer to home.



The value of goods imported by the U.S. from Mexico rose nearly 5% from 2022 to 2023, to more than \$ 475 billion. At the same time, the value of Chinese imports tumbled 20 % to \$ 427 billion. The last time that Mexican goods imported by the U.S. exceeded value of China's imports was in 2002. Economic relations between the U.S. and China had severely deteriorated in the recent years as Beijing fought aggressively on trade and made military gestures in the Far East.

Common ground

The Trump administration began imposing tariffs on Chinese imports in 2018, arguing that Beijing's trade practices violated global trade rules. President Joe Biden retained those tariffs after taking office in 2021, making clear that antagonism towards China would be a rare area of common ground for Democrats and Republicans.

As an alternative to offshoring production to China, which U.S. corporations had long engaged in, the Biden administration has urged companies to seek suppliers in allied countries ("friend-shoring") or to return manufacturing to the U.S. ("reshoring"). Supply-chain disruptions related to the COVID-19 pandemic also led U.S. firms to seek supplies closer to the U.S. ("near-shoring").

Mexico has been among the beneficiaries of the growing shift away from reliance on Chinese factories. But the picture is more complicated than it might seem. Some Chinese manufacturers have established factories in Mexico to exploit the benefits of the three-year-old U.S.-Mexico-Canada Trade Agreement, which allows duty-free trade in North America for many products. Overall, the U.S. deficit in the trade of goods with the rest of the world — the gap between the value of what the United States sells and what it buys abroad — narrowed 10 % last year to \$ 1.06 trillion.

SCIENCE AND TECHNOLOGY

WITH CRISPR POISED TO REVOLUTIONISE THERAPY, A PAUSE TO CONSIDER ETHICS

CONTEXT: Casgevy and Lyfgenia, the two cell-based gene therapies approved by the Food and Drug Administration (FDA) for sickle cell anaemia treatment and beta-thalassemia utilise the Nobel-winning CRISPR/Cas 9 genome editing technology.



In a nutshell, the system in bacteria serves as a warehouse for past infections by storing a part of the viral genetic material and incorporating it into its own. The bacteria is capable of recognising the virus and destroying it during subsequent attacks. The bacteria, in short, is immunised when it employs the CRISPR system. The CRISPR-Cas system is effective and easy to manipulate. Researchers have adapted Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR), a feature of the bacterial immune system as a tool to cut, delete, or add DNA sequences at precise locations, opening different windows to treat genetic disorders, develop drought-resistant plants, modify food crops, or experiment with

de-extinction projects involving the woolly mammoth and the dodo.

Sickle-cell anaemia (SCA) is an inherited disorder where red blood cells contort to a sickle or crescent shape because of defective haemoglobin, restricting its ability to carry oxygen. Over 20 million people live with SCA in India and it is predominantly seen in the scheduled tribes (ST) and scheduled caste (SC) populations where the majority are economically backward.

The tribal population which is affected the most has limited healthcare access for various reasons: one being that they live in remote areas where there is a scarcity of healthcare professionals. There is a need to provide primary care to deal with this debilitating disease that the community is suffering from.

The Sickle Cell Anaemia Elimination Mission launched in India on 1st July 2023 aims to strengthen the existing healthcare system and improve primary, secondary, and tertiary healthcare teams. Equitability is a factor which has to be accessed both at the local and global level. The government has a lot of power and we have seen how they can actually make things accessible to everyone like they did for vaccines.

Casgevy costs \$ 2.2 million per patient to treat sickle-cell anaemia. Indian researchers are working on indigenous treatment involving CRISPR genome editing to reduce the cost.

For many people living with the disease accessing even hydroxyurea, a medicine used as a first-line therapy for SCD, is a challenge in India. While researchers are doing their best to find a cost-effective treatment, there are chances of it still being beyond reach for most of them.

Indian regulation

The New Drugs and Clinical Trials Rules (2019) classify Gene Therapy Products (GTPs), including those developed through CRISPR, as new drugs, subjecting them to a thorough approval process by the Central Drugs Standard Control Organization (CDSCO). Additional requirements will be determined following the ICMR-DBT National guidelines for GTPs and oversight by bodies such as the Review Committee on Genetic Manipulation (RCGM) and the Genetic Engineering Approval Committee (GEAC) as applicable. Moreover, all biomedical and health research in India must adhere to the ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human Participants, 2017.

Germline editing and CRISPR

Apart from the health equity and disparities associated with CRISPR, one of the biggest controversies has been about germline editing. Most of the scientific community supports the use of CRISPR to treat monogenic diseases. Germline editing is heritable and more complex and begs the question if it is even moral to subject an individual to heritable changes, even if it is to treat debilitating genetic conditions.

As of now, genome editing is restricted to somatic cells and there is a moratorium on germline editing. But when the advantages surpass the drawbacks, where will science draw the line with genome editing?

Chinese scientist He Jiankui IN 2018 edited healthy embryos in an attempt to minimise girls' predisposition to HIV

infection. Guidelines, laws, and dialogues around ethical, societal, and safety issues need to evolve parallelly as technology evolves. "Most countries including India have forbidden genome editing in human embryos through legal instruments or through guidelines. In India every Institution involved in biomedical research is required to follow ICMR National Ethical Guidelines and register with the ethics committee which monitors research (including around gene editing)".

The gene editing technology has also raised concerns regarding it becoming a commodity that wealthy parents will exploit to improve the fate of their children not only for therapeutic purposes but for genetic enhancement. "There is a chance that if we do not have a way to distribute these therapies to different parts of the world where it is needed through whatever mechanism, then you would have a division in the world because the therapy is there but the affordability isn't there", Dr. Chakraborty added.

POLITY AND GOVERNANCE

CHARTING A PATH FOR THE POPULATION COMMITTEE

CONTEXT: The interim Budget announced a "High-Powered Committee" to extensively consider the challenges arising from rapid population growth and demographic changes is ground-breaking.

The "High-Powered Committee" seek to make "recommendations on how to address these challenges in line with the goal of 'Viksit Bharat'", the anticipation is that there will be a formulation of policies and strategies to manage population growth. This will mean addressing issues such as family planning, maternal and child health, education, employment, and socio-economic development.

The population committee must adopt an interdisciplinary approach, drawing on expertise from fields such as demography, public health, economics, sociology, and governance. The committee should identify emerging issues and evaluate the effectiveness of existing interventions through rigorous research, data analysis, and a monitoring of demographic trends. Collaboration with various stakeholders, including government agencies, non-governmental organisations, civil society groups, academia, and the private sector, is essential to fostering partnerships and enabling collective action to carry out population-related policies and programmes at the national and grass-root levels. In addition to policy formulation and implementation, the committee should lay emphasis on public awareness and education campaigns. By empowering individuals and communities with accurate information and resources, it should promote responsible family planning practices and improve health outcomes. The population committee should also facilitate international collaboration and the exchange of best practices in population management.

Past, present and future

With women having fewer children, the working-age population increasing, and the elderly population rising steadily, there has been a decrease in the dependency ratio,

leading to economic growth. However, navigating the opportunities and challenges presented by these demographic changes will significantly shape India's future economic and demographic landscape.

According to the latest projections by the United Nations, India's population is expected to reach 1.46 billion by 2030, comprising 17 % of the world's projected population. While India experienced phenomenal population growth until the 1970s, growth rates have slowed since then, with fertility levels in steady decline. This decline, which is reflected in the Total Fertility Rate (TFR), has been instrumental in shaping India's demographic trajectory. With the TFR projected to touch 1.73 in 2031-35 from 2.5 in 2009-11. India will witness a demographic transition characterised by a decreasing proportion of the child population and an increasing proportion of the working-age population.

The demographic dividend, resulting from a sustained drop in fertility rates and an increased concentration of the population in the working age group, presents an opportunity for accelerated economic growth per capita. However, realising this potential necessitates investments in health, education, and skill development to harness the demographic dividend effectively. Projections for life expectancy in India also show positive trends, with female and male life expectancies expected to rise. Moreover, the proportion of the working age population is projected to increase, giving India an opportunity to capitalise on its demographic advantage.

To maximise the benefits of a favourable age distribution, India must invest in greater development of its human capital. This includes initiatives to create new jobs, integrate the informal sector with the formal sector, and empower the female labour force to increase their participation rate. Additionally, efforts to address gender disparities, improve access to education and health care, and promote family planning practices are crucial in ensuring inclusive and sustainable development.

Health, education, employment challenge

One of the key challenges in India's demographic landscape is ensuring access to quality health care and education for every segment of the population. Public spending on health has remained around 1% of GDP, underscoring the need for policies that prioritise health promotion and allocate greater finances to health infrastructure. Initiatives to strengthen primary health care, particularly in the rural areas, have yielded results which include improved child and maternal health care and higher life expectancy rates. However, challenges persist, especially regarding nutritional deprivation among children, leading to hunger insecurity and impairing physical and cognitive development. Addressing these challenges requires concerted efforts to ensure access to essential commodities, nutrition programmes targeting vulnerable populations, and interventions to improve water availability and sanitation.

Similarly, investments in education and skill development are crucial in order to realise India's demographic dividend. According to UNICEF, nearly 47% of Indian youth may lack the necessary education and skills for employment by 2030. The disruptions caused by the COVID-19 pandemic have exacerbated these challenges,

with over 250 million children forced out of school, causing significant setbacks in learning outcomes. To address these issues, increased investment in nutrition and early childhood education is crucial. It is suggested that pre-primary education is included in the Right to Education Act. Designing play-based flexible curricula, and engaging parents, communities, and stakeholders to generate demand for early childhood education are other measures to improve outcomes. Additionally, efforts to bridge the gap between existing skill development initiatives and industry requirements are essential to reduce unemployment and increase productivity.

Evidence-based decision making

India faces significant challenges regarding the non-availability of current and reliable data on its population, which hampers evidence-based policymaking. It is crucial that the population committee includes improvements in data collection methodologies, technology adoption, capacity building, and collaboration with stakeholders. To address this challenge, India needs to invest in modernising its data infrastructure, which includes establishing robust systems for data collection, management, and analysis. This involves upgrading data collection methods, adopting digital technologies for data processing, and ensuring data security and privacy. Regular and comprehensive national censuses and surveys are crucial for collecting demographic data. India should prioritise the timely and accurate execution of these initiatives, ensuring coverage of all population segments, including marginalised and hard-to-reach populations.

Implementing rigorous validation and quality assurance mechanisms is essential to ensure the reliability and accuracy of population data. Independent audits, data validation exercises, and peer review processes can help identify and rectify data errors and inconsistencies. It would be vital for the committee to explore the feasibility of including such quality assurance methods within the statistical system. Another promising area is the promotion of open data initiatives and transparency in data sharing, which can facilitate access to population data for researchers, policymakers, and the public. Making population data freely available in standardised formats promotes data reuse, transparency, and accountability.

Finally, collaboration with international organisations such as the United Nations Population Division, World Bank, and academic institutions can provide access to global best practices, technical expertise, and funding opportunities for population data collection and analysis.

India's demographic landscape presents both opportunities and challenges for the country's socio-economic development. By adopting a holistic approach to population management, prioritising investments in health, education, employment, and statistical systems; and promoting gender equality and social inclusion, India can realise its demographic potential and achieve inclusive and sustainable development. With strategic planning, effective implementation, and international collaboration, India can navigate its demographic transition to emerge as a global leader in inclusive and sustainable development.

SCIENCE AND TECHNOLOGY

R&D SPEND — GOLDEN INTERVENTION OR SMOKE AND MIRRORS

CONTEXT: Union Finance Minister Nirmala Sitharaman in the interim Budget announced constitution of a corpus of ₹ 1 lakh Cr. with fifty-year interest free loans to provide “long-term financing or refinancing with long tenors and low or nil interest rates to encourage the private sector to scale up research and innovation significantly in sunrise domains”.

India's expenditure on R&D has been increasing in absolute terms, from more than ₹1.1 lakh crore in 2009-10 to ₹1.27 lakh crore in 2020-21, but as a fraction of GDP, it has been declining steadily in the same period, from an already sub-par 0.82 % to around 0.64 %. In the more technologically advanced countries, GERD accounts for at least 1 % of GDP. Even Brazil (1.16 %) and South Africa (0.83 %) have a higher GERD-to-GDP ratio.

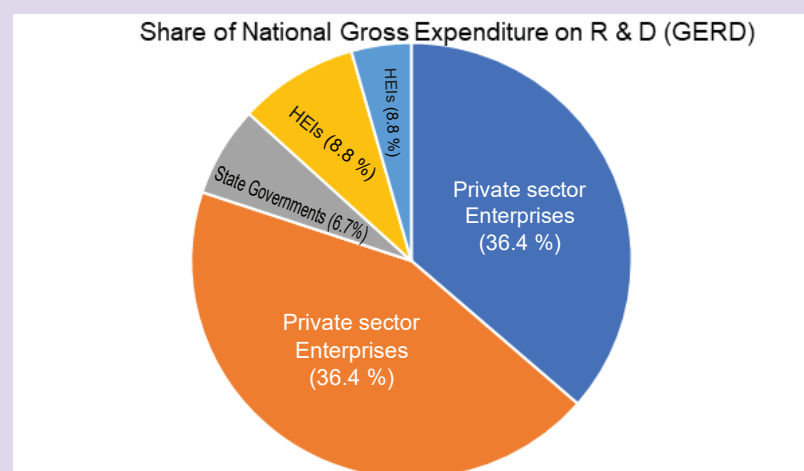


FIGURE: Pie chart representation of the share of national Gross Expenditures in Research & Development (GERD)

The world's extant science 'superpowers', such as the Germany, South Korea, and the United States, where the private sector contribution as a percentage of the national GERDs is 67%, 79% and 75%, respectively.

In the post-war U.S. famously adopted Vannevar Bush's “free play of free intellects” model in which fundamental research was expected to spur technological growth. On the other hand, Japan, South Korea, and some other economies tread a “techno-nationalist” path from the late 20th century, focused “on building interconnectedness among universities, research institutes, companies and governments” to bridge India's science-society gap”

Innovation's purpose has expanded

Today, the purpose of innovation has expanded from economic growth to include environmental justice and sustainability. Given widening income gaps, declining protections for environmental rights and resources, and increasing privatisation of education, health care, and other public goods, there need be no implicit virtue in private-sector contributions to R&D leading the way, especially in the absence of policy and regulatory guard rails that keep growth equitable. Innovation happens over decades and is risk-laden, both of which the state is designed to steward better.

In the same spirit, public sector R&D expenses need to increase especially at the State level, if only to improve the quality of research facilities at State universities that are in turn tied to the freedom researchers have to work on more locally relevant problems. Expenditure also needs to increase to the extent that, with suitable policies, it relieves the persistent bottleneck of research graduating from the lab bench to the factory floor. Innovation is of little value without this flow, and will be restricted to low-quality advancements.

A catch

Both private sector investment in R&D and its sluggish increase span multiple domains, including telecommunications, health care, finance, transport, and space flight.

As such, ₹1 lakh crore — or a little over \$2 billion — is likely to be a pittance if innovation in any sunrise domain is to be meaningful beyond surpassing some fraction of the national GERD. For example, according to the Indian BioEconomy Report 2023, prepared by the Biotechnology Industry Research Assistance Council, helping startups transition from bioeconomy research to biomanufacturing would require an infusion of \$2 billion.

ECONOMICS AND DEVELOPMENT

THE PAYTM PAYMENTS BANK DEBACLE

CONTEXT: The Reserve Bank of India (RBI) barred its payments bank subsidiary, Paytm Payments Bank Ltd (PPBL) from obtaining further deposits and top-ups in its accounts or wallets from February 29. Further, PPBL has been prohibited from carrying out any banking services (in the nature of services like AEPS, IMPS etc), bill payments and UPI.



What has the RBI instructed?

The RBI has disallowed the Paytm subsidiary from accepting further deposits, top ups or credit transactions into its operated wallet or accounts from February 29. This also

applies to its prepaid instruments for FASTags and National Common Mobility Cards (NCMC) cards. Present customers would, however, be allowed to use their existing balances to avail the services. Paytm Payments Bank Ltd (PPBL) houses the parent company One97 Communication (OCL)'s more than 330 million wallet accounts. In other words, transactional money is held in the wallets of the payments bank.

PPBL was barred from on-boarding new customers back in March 2022. The latest move was after an audit report had revealed "persistent non-compliances and continued material supervisory concerns in the bank". The Reserve Bank of India (RBI) has also been directed to "terminate at the earliest", or before February 29, nodal accounts of its parent company and Paytm Payments Services. Nodal accounts are a type of bank account opened by businesses (financial intermediaries) and are used for holding money from participating banks — from the consumer's side, and ultimately remitting to the specific merchant.

The parent company expects the latest action would have a "worst case impact" of ₹ 300 to ₹ 500 Cr on its annual EBITDA (earnings before interest, taxes, depreciation, and amortisation).

What are the concerns?

Paytm Payments Bank Ltd (PPBL) does not lend directly, but provides credit-dispensing products from third parties. RBI guidelines for licensing of payments banks prohibits such entities from undertaking lending activities.

The other issue relates to its governance structure and related party-transactions. Paytm owns 49 % of Paytm Payments Bank Ltd (PPBL), remainder being held by founder Vijay Shekhar Sharma. The RBI has casted doubt upon independent functioning of the Paytm Payments Bank Ltd (PPBL). One97 Communication (OCL) claims no outside interference on the subsidiary's operations other than as a minority board member or shareholder.

How is Paytm looking to transition?

The company informed that it would now be working with other banks and not with PPBL. The One97 Communication (OCL) would work with other banks and not with PPBL further intends to expand third-party bank partnerships for merchant acquiring services (providing essential infrastructure for acquiring merchants for helping them access payments) with other banks. The first of it would entail finding an interested partner bank to integrate with the necessary Paytm ecosystem. Second, assessing the ensuing commercial viability and finally, facilitating the account-to-account migration which could be time-consuming given, as he stated, "the time is short".





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