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Quantitative Dimensions of Viksit Bharat

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Abstract

As India aims to become a developed nation by 2047, there is a significant lack of clarity/consensus regarding the definition of a developed country, specific targets to be reached, and projections related to inflation, exchange rate, and population. This study addresses these critical issues, including regional growth dimensions. It uses appropriate quantitative procedures to determine the growth rates needed for India, as well as its states and union territories, to meet the goal of "developed country" status under various scenarios. The time taken to reach this status depends critically on the per capita income to be achieved. The results reveal that approximately 40% of states/union territories will fall short of this target. Generally, only if the target is set at the per capita income of a developed country as of 2023, is it possible to achieve that status. All other scenarios will demand a much higher growth rate. These findings will help policy makers to ensure suitable strategies for achieving their goal.

Keywords: Indian economy, Indian states, Union territories, exchange rate, inflation, ICOR

JEL Codes: C34, E17, E66

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1. Introduction

India has pursued market liberalization, greater openness in foreign trade, increased investment in infrastructure etc. These have helped India in achieving considerable progress. India is currently the fastest-growing economy globally. It is the third-largest economy in purchasing power parity (PPP) terms. Its share in world GDP (based on PPP) is 7.86% (IMF website). It is one of the destinations receiving larger amounts of FDI in the country. [1] Its market capitalization has crossed $5 trillion ($ refers to USD) recently.

Beyond financial metrics, India has one of the most modern 'open' digital infrastructures in the world (EY, 2023). It has emerged as global leader in renewable energy.[2] It has improved its space technology and sent spacecrafts to the Moon and Mars. However, India's per capita income – at $ 2,485 – ranks 141st out of 187 countries.

In 2022, the Prime Minister of India in his 75th Independence Day Speech mentioned that India will become a developed country by 2047, the centenary of Indian Independence. While this is an aspirational goal, realizing this goal will have profound implications for more than 1.4 billion Indians, particularly the youth seeking job-led growth and people living in extreme poverty.

However, the Indian economy faces several challenges in reaching this target, including overcoming regional disparities in growth, and environmental issues. Moreover, there remains a lack of clarity or consensus on (i) the definition of a developed country, (ii) specific targets to be reached to become a developed country, and (iii) projections for future inflation, exchange rate, and population, which are critical in determining when we will reach the overall target.

Evidence also indicates that while there are a few signs of convergence, the economic and social outcomes across the Indian states are indeed highly heterogeneous. More than half of India's GDP (52%) is generated by just 6 states: Maharashtra, Tamil Nadu, Karnataka, Uttar Pradesh, Gujarat, and West Bengal. In contrast, the remaining 27 states and union territories together account for only about 48 percent of GDP. Notably, Goa boasts the highest per capita income, which is ten times greater than that of Bihar. A handful of states also dominate in exports and innovation.[3]

While several studies have examined India's potential to achieve developed country status by 2047 (Rangarajan, 2023; Behara et al., 2023; Subramanian, 2024), there is a significant gap in research regarding the regional aspects of this issue, specifically how many states and union territories are likely to reach the per capita income benchmarks associated with developed nations by 2047.

This study aims to address several key questions: What specific targets must India achieve to become a developed country by 2047-48? What challenges does the Indian economy face in realizing this vision? How much growth is necessary to reach this target? Considering past growth trends, when is India likely to achieve this goal? Additionally, what is the regional dimension of the issue? Specifically, how much growth is required for all 33 Indian states and union territories to meet the

per capita income standards of a developed economy? Lastly, based on historical growth trends, how many states and union territories are projected to reach this goal by 2047?

2. Definition of a "Developed Country"

There are several definitions used by different international agencies to identify a developed country. According to Business Development Bank of Canada, "Developed countries have advanced technological infrastructure and have diverse industrial and services sectors, Their citizens typically enjoy access to quality health care and higher education". The United Nations (UN) says, "A developed country—also called an industrialized country—has a mature and sophisticated economy, usually measured by Gross Domestic Product (GDP) and/or average income per resident. Developed countries have advanced technological infrastructure as well as diverse industrial and service sectors".

UNDP's Human Development Index (HDI) considers three standard criteria: life expectancy at birth (representing a long and healthy life); educational attainment (representing knowledge, measured by combining two components – adult literacy, weighted at one-third, and the combined gross enrolment ratios for primary, secondary, and tertiary education, weighted at two-thirds); and real per capita income in PPP$ (representing a decent standard of living). Most developed countries have an HDI value above 0.8. India's score is 0.64 in 2023-24 report.

According to the World Bank (using the Atlas method), a country is classified as developed in 2023 if its per capita income exceeds $14,005. Countries with a per capita income between $4,515 and $14,005 are categorized as upper-middle-income, while those with incomes ranging from $1,146 to $4,515 fall into the lower-middle-income category. Countries with incomes below $1,145 are classified as low-income. While there is no single criterion for defining a developed country, the World Bank's per capita income thresholds are widely accepted by most international agencies.

3. Views on India@2047

Experts and studies present varying perspectives on the aspirational goal of Viksit Bharat.

- EY (2023) contends that even with a modest average real growth rate of 6% per annum, India could evolve into a $26 trillion economy (in market exchange rate terms) by 2047-48, giving a per capita income of $15,000.
- Rangarajan (2023) indicates that India's nominal GDP must grow at 10.18% (or a real growth rate of 6.1%) over the next twenty-five years to achieve a per capita income of $13,205. Alternatively, to reach a per capita income of $15,000, India's nominal GDP would need to grow at 10.74%.

- Behera et al. (2023) suggest that for India to become a developed country by 2047, its real GDP must grow at an annual rate of 7.6% over the next 25 years, increasing its current per capita GDP from $2,500 to $22,000. [4]
- Banerjee (2024) posits that if India's nominal GDP grows at 12%, with a population deceleration of 0.01% every five years and the Indian rupee depreciating by 2% annually against the US dollar until 2025 (followed by a 0.5% appreciation every five years), per capita income could exceed $26,000 by 2047.
- Shanmugam and Mathew (2024) estimate that the Indian economy will grow at an average rate of 6.02% from 2023-24 to 2047-48, resulting in a per capita income of $15,237 in 2047-48, assuming an inflation rate of 4.5% and a 2% annual depreciation of the exchange rate.
- Subramanian (2024) argues that India could emerge as a $55 trillion economy by 2047 if it achieves an 8% growth rate, along with a 0.5% depreciation of the Indian rupee against the US dollar.
- At the Vibrant Gujarat Summit in Gandhinagar, the Finance Minister of India said that India would be a $30 trillion economy by 2047 based on a conservative estimate (The Economic Times, 2024).
- Deloitte South Asia CEO Romal Shetty said that India needs to grow at 8-9% to become a developed country by 2047 (The Hindu, 2023).

According to Dr. Raghuram Rajan, "*India will not be a developed economy by 2047. It would be non-sense to talk of that goal if so many of your kids don't have a high school education and drop-out rates remain high. The biggest challenge is improving education and skills of workforce.*" (Hindustan Times, 2024). These views and estimates given in earlier studies are based on different assumptions about the norm of developed nation, exchange rate depreciation, inflation, and estimation procedure.

Some studies further analyze the 5 trillion-dollar economy and 7 trillion-dollar economy targets for India. In 2018, the Government of India announced its ambition to achieve a $5 trillion economy by 2024-25, with goals of generating $1 trillion from agriculture and allied activities, $1 trillion from manufacturing, and $3 trillion from services. However, research by Sony and Subrahmanya (2020) and Srikant (2022) indicate that this target is more likely to be reached by 2027-28.

Acknowledging the challenges posed by the COVID-19 pandemic, the Finance Minister later revised the target, stating that India would become a $5 trillion economy by 2027-28. Similarly, in its report titled "Indian Economy: A Review" (January 2024), the Government of India announced a goal of reaching a $7 trillion economy by 2030. Shanmugam and Mathew (2024) project that this milestone will not be achieved until 2032-33.

4. Towards a Developed Country

In 2022-23, India's nominal GDP was ₹2,69,49,646 crore, equivalent to ₹269.50 trillion or approximately $3.30 trillion (using the September 2022 exchange rate of ₹81.55 per US dollar). Based on the projected population of 138.82 crore from the Reports of the Technical Group on Population Projection (July 2020), the per capita GDP was calculated at ₹1,94,139 (approximately $2,381).

To achieve the aspirational goal of becoming a developed nation with a per capita income of $14,006 by 2047-48, it is necessary to determine the required nominal and real growth rates over the next 25 years, starting from 2023-24, based on reliable assumptions regarding exchange rates, inflation, and population.

Assumption on Inflation:

Regarding inflation rate, which is needed to derive the real growth rate, the annual CPI (consumer price index) inflation and GDP deflator-based inflation from 2011-12 to 2023-24 are compared. They usually exhibit year-on-year fluctuations. The average CPI inflation for India was 5.84% and the average GDP deflator-based inflation was 4.54%. [5]

In general, while the CPI-based inflation is considered for economic analyses, the GDP deflator-based inflation is relevant for GDP estimates. However, the target inflation rate used by the Monetary Policy Framework is CPI at 4% (+/-2%). In the long run, the average inflation could be around 4%. Therefore, this study assumes 4 percent inflation. A similar study by EY (2019) also uses a 4% inflation projection.

Assumption on Exchange Rate:

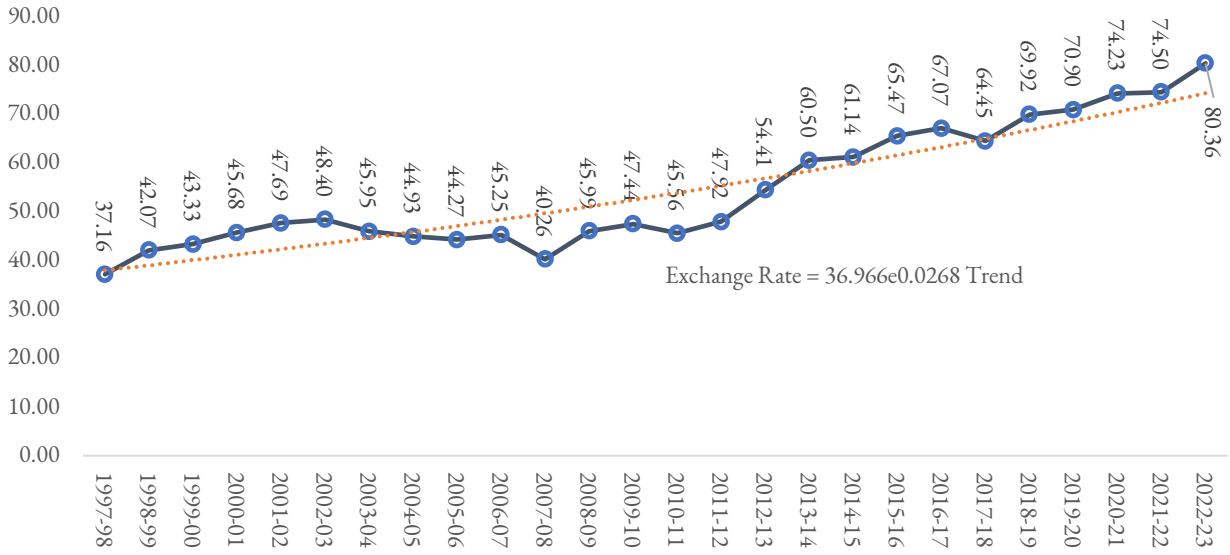
The market exchange rate between two currencies is determined in the global foreign exchange market by the supply and demand of currencies. Many economic factors like inflation, interest rates, balance of trade and services, geopolitical events, etc. can influence these market forces.

The interrelations between these factors are complex. For instances, inflation and exchange rates are interrelated. When inflation is high, it makes currency weaker. When it is low, the currency is stronger, improving the exchange rate. On the other hand, the exchange rate movements can also affect inflation. When the currency depreciates, it will increase the cost of imports, boosting domestic inflation. Inflation is also closely related to interest rates, which can influence the exchange rates. Therefore, it is a difficult task to predict future exchange rates.

However, the history of average annual exchange rate movement (Figure 1) indicates that the exchange rate increased from ₹37.16 per $ in 1997-98 to ₹80.36 per $ in 2022-23, registering an average rise of 2.68% per year. Over shorter periods, the average rise rate of $ has been less than 2%. For instance, from 2017-18 to 2019-20, the average rise was 1.99%. Additionally, from 2002-03 to

2006-07, it was rise of -1.01%, and from 2002-03 to 2007-08, it was -2.68%. Given these variations, this study assumes 2% rise in the value of $ against the rupee per annum.

Figure 1: Exchange Rate movement (₹ per $)



Source: RBI's Hand Book of Statistics on Indian Economy

Assumption on Population:

The actual population data are available in census reports only till 2011. After that projected population figures are used. The Report of the Technical Group on Population Projection provides projected population for India and all the Indian states/union territories until 2036 (based on census data available up to 2011). We project the future population beyond 2036 using the exponential smoothing method. We will be adding about 27 crores to the population by 2050.

Deriving Required Nominal Growth Rate:

Based on these assumptions, we derive the nominal growth rate required for India to attain developed country status (per capita income of $14,006) by 2047-48 using a simple arithmetic procedure. Multiplying the derived exchange rate of ₹133.79 per dollar and projected population of 162.87 crore, with the target per capita income of $14,006, the nominal GDP in 2047-48 is computed at ₹30,51,95,286 crore. (i.e., ₹3,051.95 trillion). Using the compound interest rate formula, the required nominal growth rate is determined to be 10.19% (Table 1).[6]

That is, the Indian economy needs to grow at a real growth rate of 6.19% per annum for 25 consecutive years from 2023-24 to 2047-48 to become a developed nation, assuming that the per capita income of a developed country is $ 14,006.

India's GDP recorded an average nominal growth rate of 10.89% from 2012-13 to 2022-23. Real growth was only 5.77%. However, India's average nominal rate of growth was 15.51% (and real growth

was 6.89%) from 2005-06 to 2011-12, indicating that India has the potential to achieve this target if it maintains its inflation rate around its target rate of 4%.

Table 1: India's Growth Required to Achieve Per Capita Income of $14,006 by 2047-48 (Dollar value increases 2% per annum and Inflation 4%)

Year	Nominal GDP (₹ Crore)	Nominal GDP (₹ Trillion)	Derived Nominal Growth (%)	Real Growth Rate (%)	Exchange Rate (₹/$)	Nominal GDP ($ Trillion)	Popu-lation ('000s)	Per Capita GDP (₹)	Per Capita GDP ($)
2022-23	26949646	269.50	-	-	81.55*	3.30	1388163	194139	2381
2023-24	29697101	296.97	10.19	6.19	83.18	3.57	1400744	212009	2549
2024-25	32724653	327.25	10.19	6.19	84.84	3.86	1413324	231544	2729
2025-26	36060856	360.61	10.19	6.19	86.54	4.17	1425908	252897	2922
2026-27	39737178	397.37	10.19	6.19	88.27	4.50	1436478	276629	3134
2027-28	43788293	437.88	10.19	6.19	90.04	4.86	1447051	302604	3361
2028-29	48252410	482.52	10.19	6.19	91.84	5.25	1457628	331034	3605
2029-30	53171633	531.72	10.19	6.19	93.68	5.68	1468194	362157	3866
2030-31	58592359	585.92	10.19	6.19	95.55	6.13	1478775	396222	4147
2031-32	64565717	645.66	10.19	6.19	97.46	6.62	1487471	434064	4454
2032-33	71148044	711.48	10.19	6.19	99.41	7.16	1496175	475533	4784
2033-34	78401425	784.01	10.19	6.19	101.40	7.73	1504878	520982	5138
2034-35	86394272	863.94	10.19	6.19	103.43	8.35	1513578	570795	5519
2035-36	95201971	952.02	10.19	6.19	105.49	9.02	1522288	625387	5928
2036-37	104907594	1049.08	10.19	6.19	107.60	9.75	1532195	684688	6363
2037-38	115602684	1156.03	10.19	6.19	109.76	10.53	1540966	750196	6835
2038-39	127388114	1273.88	10.19	6.19	111.95	11.38	1549737	821998	7343
2039-40	140375042	1403.75	10.19	6.19	114.19	12.29	1558509	900701	7888
2040-41	154685957	1546.86	10.19	6.19	116.47	13.28	1567280	986971	8474
2041-42	170455838	1704.56	10.19	6.19	118.80	14.35	1576051	1081538	9104
2042-43	187833422	1878.33	10.19	6.19	121.18	15.50	1584822	1185202	9781
2043-44	206982611	2069.83	10.19	6.19	123.60	16.75	1593594	1298842	10508
2044-45	228084016	2280.84	10.19	6.19	126.07	18.09	1602365	1423421	11290
2045-46	251336661	2513.37	10.19	6.19	128.60	19.54	1611136	1559996	12131
2046-47	276959860	2769.60	10.19	6.19	131.17	21.11	1619908	1709726	13035
2047-48	**305195286**	**3051.95**	**10.19**	**6.19**	**133.79**	**22.81**	**1628679**	**1873883**	**14006**
2048-49	336309250	3363.09	10.19	6.19	136.47	24.64	1637450	2053860	15050
2049-50	370595211	3705.95	10.19	6.19	139.20	26.62	1646221	2251187	16173
2050-51	408376547	4083.77	10.19	6.19	141.98	28.76	1654993	2467543	17379
2051-52	**450009604**	**4500.10**	**10.19**	**6.19**	**144.82**	**31.07**	**1663764**	**2704768**	**18677**

Source: Computed by authors. * Exchange Rate as on September 2022

Other Targets

As indicated above, the Government of India announced the target of achieving a $5 trillion economy by 2024-25 and $7 trillion economy by 2030-31. Results in Table 1 indicate that in the given Scenario (s1), where the average nominal rate of growth of 10.19% is required to achieve developed country status by 2047-48, the Indian economy will reach the 5 trillion-dollar mark in 2028-29 and 7 trillion-dollar mark in 2032-33, paving the way for India's transition into the per capita income level of an upper middle-income country of $ 4,784 in 2032-33.

It is also noted that the nominal GDP in 2047-48 will be $22.81 trillion – not $26 trillion as indicated in EY (2023), or $ 30 trillion as mentioned by the Finance Minister. India will reach the $26 trillion mark only in 2049-50, and $30 trillion level in 2051-52 (see Table 1). India will attain a $55 trillion economy only in 2059-60 in this scenario (not shown in Table 1).

Adjusting the Per Capita Income Norm of a Developed Country

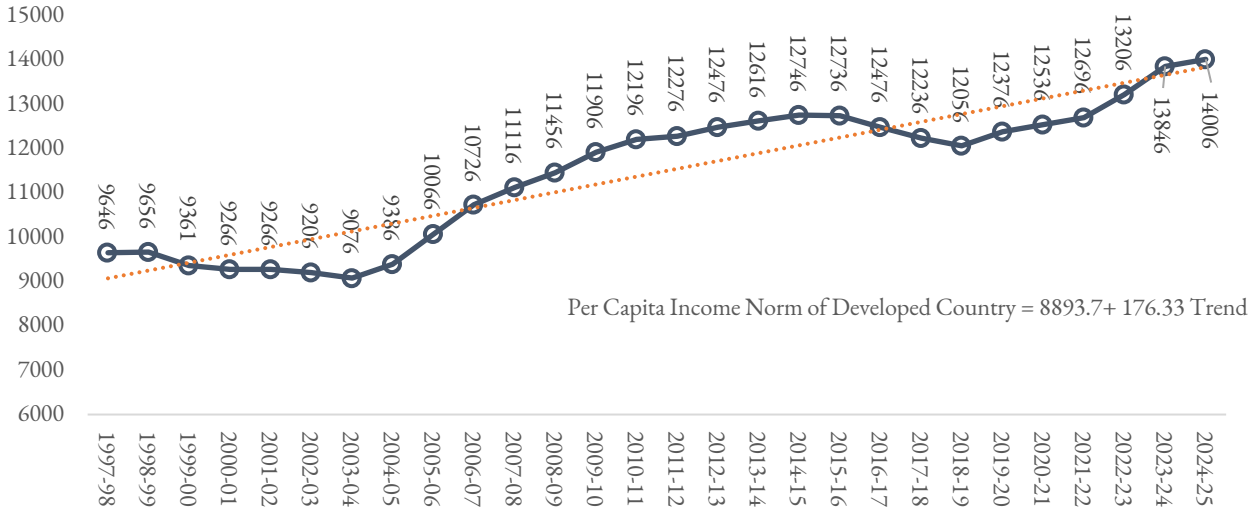
World Bank Norm of per capita income of a developed country is $14,006 for 2023 (2022-23). This figure is likely to change by 2047-48, as it has evolved from $9,646 in 1997-98 to $14,006 in 2024-25 (Figure 2). It is important to note that the World Bank's announcement for the year 2023 was made in 2024-25. The estimated linear trend annual increase is 176.33. This suggests that over the next 25 years, the total change in the norm will be approximately $4,408. Therefore, the per capita income norm of developed country in 2047-48 may be US $18,414, which is the target used in Scenario 2 (s2) / Figure 3.

To reach the target of $18,414 in 2047-48, India's nominal GDP would need to grow at 11.41% per annum (not shown), compared to 10.19% indicated in Table 1. With the latter, if the real income grows only at 6.19%, India will reach only 76% of target by 2047-48. In Scenario s2, India will become a $30 trillion economy by 2048-49, with per capita income crossing $14,006 by 2044-45. $5 trillion and $7 trillion milestones are expected to be achieved in 2027-28 and 2031-32 respectively. In this case, the implicit required average real growth rate is 7.41%, which is about 1.22 percentage points higher than the current required average rate of 6.19%. While achievement of a 6.12% average annual real growth may appear to be within reach, the achievement of 7.41% per annum may not be so.

Average Growth Scenario:

If India's nominal GDP continues to grow at 10.89% (the average rate from 2012-13 to 2022-23) in the next 25 years, India's per capita income will become $14,019 in 2045-46, and cross $18,414 in 2049-50; the $30 trillion economy mark will also be reached in 2049-50. India will become a $5 trillion economy in 2027-28, and reach $7 trillion in 2031-32 in this Scenario (s3).

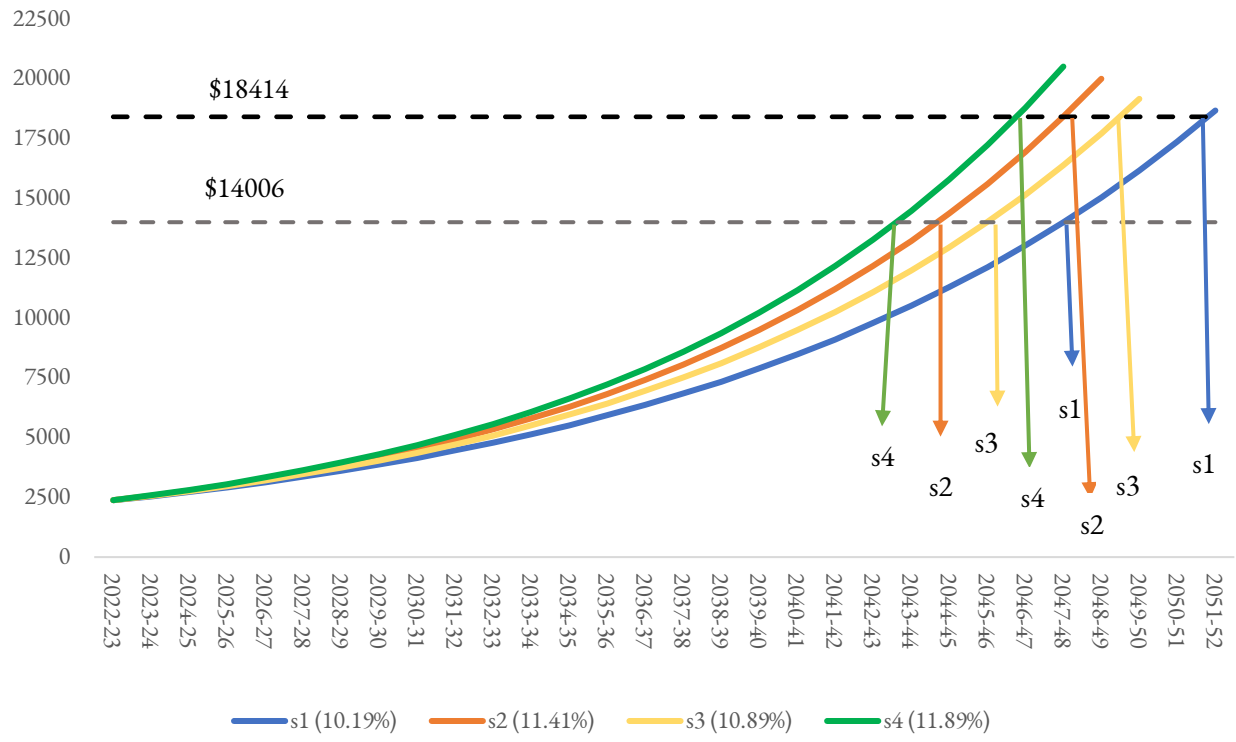
Figure 2: Movement in Per Capita Income Norm of Developed Country by World Bank



Source: World Bank

Optimistic Scenario:

If India's average nominal growth rate in the next 25 years increases by 1 percent (with the expectation that future technological advancements and initiatives of the governments' growth-induced policies will result in higher growth), from 10.89% to 11.89% (i.e., real growth of 7.89%), India's per capita income will reach the $14,006 mark in 2043-44 and $18,414 mark in 2046-47 (not shown). Under this optimistic scenario (s4), $30 trillion economy mark will be reached in 2046-47. $5 trillion and $7 trillion marks will be achieved in 2027-28 and 2031-32 respectively. Figure 3 shows these simulation results in four different scenarios. Any scenario which requires a real growth rate of above 6% will demand extraordinary effort.



Sources: Computed by authors.

5. Regional Dimension of Viksit Bharat

Regionally-imbalanced growth is a significant challenge faced by India and to address this issue, it is imperative to determine the growth rates required by different regions (i.e., states and union territories) to achieve the World bank's per capita income norm of an advanced economy. For each of 33 Indian states and union territories, we compute the required nominal GSDP growth for the next 25 years to achieve the per capita income of an advanced economy by 2047-48, using the same assumptions on exchange rate and inflation as in Table 1.

Scenario 1:

Column 1 of Table 2 shows the required rate to reach $14,006 by 2047-48, using the assumptions from Scenario 1.

- Goa and Sikkim require only about 5.3% nominal growth to reach this milestone, while Chandigarh needs 6.6%.
- The required rate will be between 7-8% for Telangana, Delhi, Tamil Nadu, Karnataka, and Andaman & Nicobar Islands.
- It will be between 8-9% for Kerala, Haryana, Maharashtra, Gujarat, Andhra Pradesh, and Himachal Pradesh.
- For Uttarakhand, Mizoram, Punjab, and Arunachal Pradesh, the required rate ranges between 9-10%

- Puducherry, Odisha, West Bengal, Tripura and Jammu & Kashmir require 10-11% rate of growth.

Table 2: Growth Rates Required to Reach Per Capita Income Norm of Developed Economy by Indian States and Union Territories

States/UTs.	Required Nominal Growth Rate (%) to reach $14,006 by 2047-48	Required Nominal Growth Rate (%) to reach $18,414 by 2047-48	Avg. Nominal Growth Rate (%) (2012-13 to 2022-23)	With Avg. Rate		1% Extra Growth Over Avg. Growth	
				Year of Reaching $14,006	Year of Reaching $18,414	Year of Reaching $14,006	Year of Reaching $18,414
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	8.55	9.75	11.93	2039-40	2042-43	2038-39	2040-41
Arunachal Pradesh	9.70	10.91	11.25	2043-44	2046-47	2041-42	2044-45
Assam	12.04	13.09	11.74	2048-49	2051-52	2045-46	2048-49
Bihar	16.12	17.40	10.68	2064-65	2068-69	2059-60	2063-64
Chhattisgarh	11.45	12.68	10.43	2051-52	2054-55	2048-49	2051-52
Goa	5.30	6.46	7.55	2037-38	2042-43	2035-36	2039-40
Gujarat	8.44	9.63	12.40	2037-38	2041-42	2036-37	2039-40
Haryana	8.24	9.43	11.62	2038-39	2041-42	2037-38	2040-41
Himachal Pradesh	8.57	9.76	9.34	2045-46	2049-50	2042-43	2046-47
Jharkhand	13.24	14.48	10.08	2058-89	2062-63	2054-55	2057-58
Karnataka	7.59	8.77	12.86	2035-36	2038-39	2034-35	2037-38
Kerala	8.03	9.22	10.03	2041-42	2045-46	2039-40	2043-44
Madhya Pradesh	11.74	12.97	13.41	2044-45	2047-48	2042-43	2045-46
Maharashtra	8.34	9.53	10.13	2042-43	2046-47	2040-41	2043-44
Manipur	12.31	13.55	11.05	2051-52	2055-56	2048-49	2051-52
Meghalaya	11.83	13.06	8.18	2063-64	2069-70	2057-58	2062-63
Mizoram	9.27	10.48	14.30	2037-38	2040-41	2036-37	2038-39
Nagaland	11.03	12.25	10.77	2048-49	2052-53	2046-47	2049-50
Odisha	10.65	11.87	11.67	2045-46	2048-49	2043-44	2046-47
Punjab	9.37	10.57	8.97	2049-50	2053-54	2046-47	2049-50
Rajasthan	11.01	12.24	10.97	2048-49	2051-52	2045-46	2048-49
Sikkim	5.34	6.50	13.07	2029-30	2032-33	2028-29	2031-32
Tamil Nadu	7.53	8.71	11.17	2038-39	2041-42	2036-37	2039-40
Telangana	7.20	8.38	12.60	2035-36	2038-39	2034-35	2037-38
Tripura	10.82	12.04	12.97	2042-43	2045-46	2041-42	2043-44
Uttar Pradesh	13.31	14.56	11.04	2054-55	2057-58	2051-52	2054-55
Uttarakhand	9.00	10.20	9.39	2046-47	2050-51	2043-44	2047-48
West Bengal	10.75	11.97	10.44	2048-49	2052-53	2046-47	2049-50
Andaman& Nicobar	7.91	9.10	10.41	2040-41	2044-45	2038-39	2042-43
Chandigarh	6.60	7.78	10.52	2035-36	2039-40	2034-35	2037-38
Delhi	7.30	8.48	10.51	2036-37	2041-42	2035-36	2038-39
Jammu & Kashmir	10.92	12.14	10.00	2050-51	2054-55	2047-48	2051-52
Puducherry	10.22	11.43	9.43	2051-52	2056-57	2047-48	2051-52
India (GDP)	10.19	11.41	10.89	2045-46	2049-50	2043-44	2046-47

Source: Computed by authors.

- The required rate will be between 11-12% for Rajasthan, Nagaland, Chhattisgarh, Madhya Pradesh, and Meghalaya
- It will be 12-13.3% for Assam, Manipur, Jharkhand and Uttar Pradesh.
- Bihar's economy will need to grow at 16.12% to reach the target of $14,006 by 2047-48.

Thus, in 15 states/union territories, the required rate is higher than the national average of 10.19%. It is also observed that only in 13 states/union territories, the required growth rates are higher than their 11-year average nominal growth rate from 2012-13 to 2022-23 (see Column 3, Table 2). Among these 13, the gap between existing average rate and required rate is closer to 1% in Punjab, Puducherry, West Bengal, Jammu & Kashmir, Rajasthan, Nagaland, Chhattisgarh, and Assam; conversely, in Manipur, Uttar Pradesh, Jharkhand, Meghalaya, and Bihar the gap is greater than 1%.

These 13 states/union territories will reach the target of $ 14,006 after 2047-48 if they continue to grow at their existing average growth rate. In particular, Meghalaya will reach this target only in 2063-64, and Bihar in 2064-65. Therefore, these 13 states/union territories need special attention to improve their average growth performance.

With adjusted norm:

Column 2 of Table 2 shows the required rate to reach the per capita income target of $18,414 by 2047-48.

- The required growth rate is about 6.5% for Goa and for Sikkim. That is, they have to grow about 1.2 percentage points higher than the rate required to achieve $14,006.
- Almost all other states and union territories require 1.0-1.3 percentage points higher growth to achieve this target.

With this target, the 11-year average nominal growth rate from 2012-13 to 2022-23 (shown in Column 3) was less than the required growth rate in 16 states and union territories. This means that these 16 states will reach the target of US$18,414 after 2047-48 if they continue to grow at their existing rates. Of these 16 states and union territories, Bihar's average growth is 6.72% lower than the required rate, Meghalaya's rate is 4.88% lower, Jharkhand's rate is 4.4% lower, and Uttar Pradesh's rate is 3.53% lower. In Arunachal Pradesh, Himachal Pradesh, Odisha, and Uttarakhand, the gap is less than 1%.

In the remaining 17 states and union territories, the average rate was higher than required rate. They will achieve the target per capita income of US$18,414 on or before 2047-48 (Column 5, Table 2).

- Sikkim will reach the target in 2032-33
- Telangana and Karnataka in 2038-39.
- Chandigarh and Mizoram will reach in 2039-40 and 2040-41 respectively.

- Gujarat, Haryana, Tamil Nadu, and Delhi will attain in 2041-42.
- Andhra Pradesh and Goa will reach the target in 2042-43
- Andaman & Nicobar Islands will attain the target in 2044-45
- Tripura and Kerala in 2045-46.
- Arunachal Pradesh and Maharashtra will reach in 2046-47
- Madhya Pradesh in 2047-48.

Optimistic Scenario:

If we assume an optimistic scenario where all states and union territories will improve their growth performance by 1 percentage point above their respective average growth between 2012-13 to 2022-23, 3 more states/union territories (Himachal Pradesh, Odisha and Uttarakhand) will achieve the US$18,414 milestone on or before 2047-48 (Column 7, Table 2). [7]

Thus, 20 states/union territories will reach the target on or before 2047-48 if they improve their nominal growth rate by 1% over their average growth from 2012-13 to 2022-23. The remaining 13 states/union territories, even if they increase their average growth by 1 percentage point, will miss the bus. These regions need special attention. Notably, even in this optimistic scenario, Bihar will reach the target only by 2063-64, Meghalaya by 2062-63, Jharkhand by 2057-58, and Uttar Pradesh by 2054-55.

One Trillion Dollar Economy Target:

A few states set an ambitious target of achieving a one-trillion-dollar economy. Maharashtra and Uttar Pradesh set their target to achieve one trillion-dollar economy by 2027. Tamil Nadu and Gujarat set their target to become one trillion-dollar economy by 2030. Karnataka has a road map to achieve the status of US $1 trillion economy by 2032.

- If these states grow at the required rate to reach the per capita income target of US $14,006 by 2047-48, Uttar Pradesh will be the first state to reach the trillion-dollar economy mark in 2035-36, followed by Maharashtra in 2036-37 (not shown). Gujarat will reach the trillion-dollar mark in 2044-45. Tamil Nadu and Karnataka will reach this milestone in 2046-47.
- If these states grow at the required rate to reach the per capita income target of US $ 18,414 by 2047-48, Maharashtra and Uttar Pradesh will reach the trillion-dollar economy mark in 2034-35, Gujarat in 2041-42, and Tamil Nadu and Karnataka in 2042-43.
- If these states continue to grow at the existing average growth rate from 2012-13 to 2022-23, Maharashtra will be the first state to reach the target in 2033-34, followed by Karnataka in 2035-36, Gujarat in 2036-37, Tamil Nadu in 2037-38, and Uttar Pradesh in 2038-39.

- In the optimistic scenario, where states improve their average growth rate by 1%, Maharashtra will attain the one trillion-dollar economy mark in 2032-33, Karnataka in 2034-35, Gujarat and Tamil Nadu in 2035-36, and Uttar Pradesh in 2036-37.

These results clearly indicate that none of the five states are likely to reach the target on their own declared timelines.

6. Current Challenges Faced by the Indian Economy

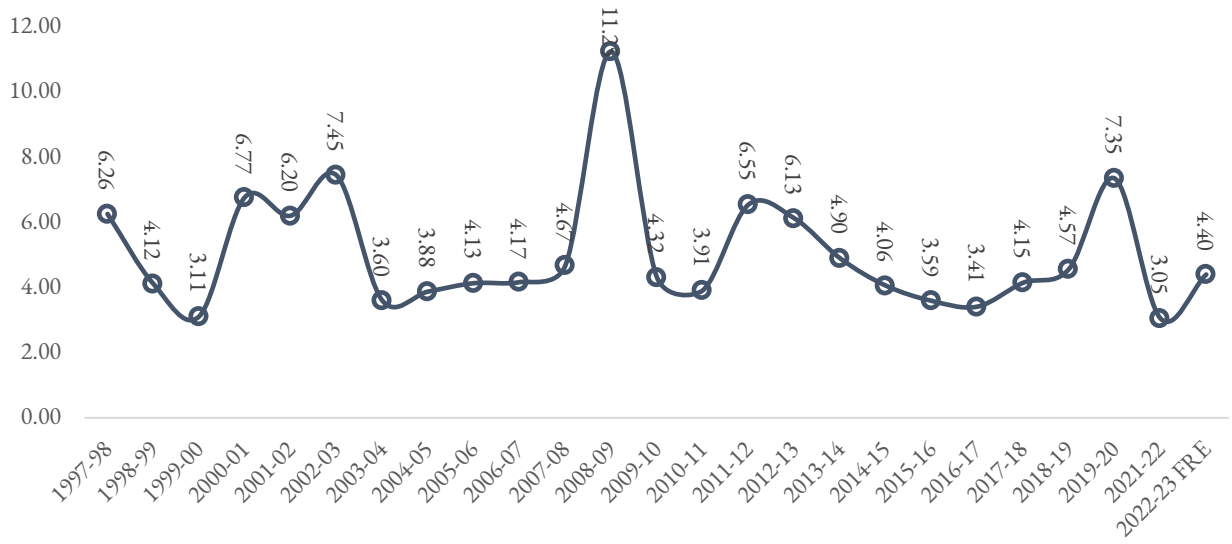
While India is the third-largest economy in PPP$ (after USA and China), it is the World's most populous country, with more than 1.4 billion people. As per the World Bank definition, it is a lower middle-income country with per capita income of only $2,390 (in 2022), as against USA's per capita income of $76,770, and China's of $12,850. It needs to multiply per capita income by about 7.4 times to reach US$18,414 (or 5.86 times to reach $14,006), the minimum threshold for developed country status by 2047-48. The required average growth rate for the next 25 years to achieve this aspirational goal is 7.41%, which is about 1.4 percentage points higher than the current average rate of 6%. Certain challenges continue to hinder efforts to elevate growth potential to the necessary level.

Following the Harrod-Domar equation, the growth rate is equal to the investment rate divided by the incremental capital-output ratio (ICOR), which is the additional unit of capital required to produce an additional unit of output (Rangarajan 2017). The ICOR is derived by dividing investment rate by growth rate. Figure 4 presents the ICOR for India from 1997-98 to 2022-23. (ICOR for 2020-21 is not included, as due to the GOVID 19 pandemic, India registered a negative growth rate).

During this period, the average ICOR for India is 5.04. To grow at 7.41%, we need to raise the investment rate to 37.4% of GDP, from a current level of close to 30% only. After 2015-16, the investment rate has stabilized around 28%; with the recent increase in growth primarily attributed to a rise in the central government's capital expenditure, an unsustainable trend due to the accompanying high fiscal deficit.

To address this, we must boost private investments—both corporate and non-corporate—since they are a major component of overall investment. This, in turn, relies on a stable financial and fiscal system. We must also remember in 2007-08, the Gross Fixed Capital Formation rate of India was 35.8% of GDP.

Figure 4: Incremental Capital Output Ratio in India



Source: Computed by authors using the Gross Fixed Capital Formation and GDP data from MoSPI.

According to the Economic Survey (2022-23), the General Government Debt to GDP ratio increased to 89.6% at the end of the pandemic year 2020-21, and the combined fixed deficit was 13.1%. Although these figures have slightly declined in recent years, the debt-GDP ratio is significantly higher than the 60% sustained level suggested in New FRBM Committee Report. Many studies, including Shanmugam and Renjith (2023), show that the current levels of public debt of both the Centre and all States are unsustainable and hindering growth. Therefore, both the Central and State Governments need to bring their debt down to sustainable levels.

While headline employment indicators have improved in recent years (according to the Periodic Labour Force Survey, which is being questioned), concerns persist over the quality of the jobs created, real growth in wages, and low female labour force participation rate (39.8% in 2022-23 as against male LFPR of 83.2%) (Rangarajan and Babu, 2024). Further, the sectoral transformation from agriculture to industry has been relatively slow, especially in terms of employment.

While large firms have driven productivity growth, there has not been appreciable job creation. The majority of employees are employed in small firms characterized by low productivity and limited growth, creating a significant "missing middle" (IFC, 2022).

India needs to strengthen its industrial sector, which has backward and forward linkages with other sectors, and will provide more employment opportunities. In particular, MSMEs can increase employment opportunities and industrial GDP. In advanced nations, MSMEs contribute 40-50% of GDP and 70% of employment. In India, these figures are 30% and 24% respectively. Special attention is required in this regard.

India faces a shifting external environment with rising geopolitical tensions and changing patterns of globalization, climate change and policies to achieve the transition to net zero, digital transformation and other technological changes[8], all embedded in a complex macroeconomic context

(IFC, 2022). Growth-oriented reforms need to create more job opportunities, particularly quality jobs to meet the high aspirations of youth entering the labour market.

In the context of fast-moving technological advancements, the future contribution of labour force will depend on the skill set available to them. However, currently about 90% of the Indian labour force is in the unorganized sector. According to Patra (2022), employability and process of the existing labour force is only 50%. UNDP's HDI report also indicates poor quality of human capital in India, as India ranked 134 out of 193 nations. Efforts are needed to improve the presence of employable skills among the workforce.

India also faces regional imbalances in growth; nearly half of its states/union territories, including Bihar, Meghalaya, Jharkhand, and Uttar Pradesh, are lagging far behind the other states. Special drives to improve the growth performance of these laggard states will improve the overall growth of the country.

7. Summary and Conclusions

Our analyses above indicate that 10.19% growth of nominal GDP from 2023-24 onwards will enable India to attain the World Bank's current norm of per capita income of an advanced nation of $14,006 by 2047-48. However, after adjusting for the trend in dollar value and exchange rates, the target is $18,414 by 2047-48. To achieve this, the required nominal growth rate is 11.41%. Given the current trend growth rate, obtaining 7.41% real growth rate till 2047-48 will be hard to achieve.

The rate of growth derived under various scenarios gives the average growth rate required to achieve these targets over the period. Given that the growth rate will not be uniform over the period, in the initial years, the rate of growth will have to be even higher, then coming down as the base rises.

Since what is required is a rise in nominal growth, one may think it is easily achieved by raising prices. This is not correct; if the general price level keeps on rising, this will lead to a depreciation of the currency. This is what purchasing power parity theory said. This may be blocked for a time because of capital flows. But this higher depreciation cannot be indefinitely postponed. Higher depreciation will demand even higher nominal growth. A moderate inflation is implicit in all these calculations.

Due to significant regional disparities, states and union territories require varying levels of nominal economic growth to achieve the per capita income target of $14,006 by 2047-48, ranging from 5.3% for Goa to 16.12% for Bihar. Similarly, the necessary growth rates to reach the target income level of $18,414 by 2047-48 range from Goa needing 6.46% to Bihar requiring 17.9%.

If all the 33 states and union territories grow at their existing average growth rates, only 17 of them will reach $18,414 target by 2047-48; 20 of them will reach $14,006 target by 2047-48. If all regions improve their growth performance by 1% over their existing average rate, 27 will reach the target of

$14,006 by 2047-48, and 20 will attain the target of $18,414 by 2047-48. Thus, about 40% of them will miss the bus. Bihar, Meghalaya, Jharkhand, and Uttar Pradesh need special attention.

In this paper, we have outlined the quantitative dimensions of the vision of a Viksit Bharat. We have set out the required growth rates under various assumptions. However, the outcomes over the next 25 years will depend on multiple factors, making any long-term projections inherently conditional. As already mentioned, any scenario with an assumption of real growth rate higher than 6% will demand efforts in multiple directions, such as increasing the investment rate and reducing ICOR. Quantitative dimension of the aspirational goal is just the beginning. A strategy of development must follow.

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Notes

[1]The FDI influx of $596 billion from 2014 to 2023 almost doubled the figure of $298 billion from 2005 to 2014.

[2]According to International Renewable Energy Statistics-2023 released by International Renewable Energy Agency, India has the fourth-largest installed capacity of renewable energy.

[3] Maharashtra and Gujarat alone accounted for 50 percent of total exports. Gujarat alone accounted for about 25 percent of India's total gross fixed capital formation, followed by Maharashtra and Tamil Nadu.

[4] They assume India's inflation differential vis-à-vis advanced economies at 2 percent. Accordingly, the rupee is expected to depreciate by 2% per annum. Population growth is assumed at 0.6%, as used by the United Nation for calculating per capita GDP.

[5]

Table: CPI and GDP Deflator Based Inflation (%) for India

Inflation	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Avg
CPI	9.86	9.46	5.97	4.88	4.49	3.61	3.41	4.80	6.15	5.47	6.65	5.38	5.84
GDP def. based	7.93	6.19	3.33	2.28	3.24	3.97	3.88	2.41	4.81	8.35	6.75	1.33	4.54

Sources (Basic Data): RBI's Hand Book of Statistics on Indian Economy and MoSPI, Government of India.

[6]From the compound interest formula: $Y_t = Y_0 (1+r)^t$, (where Y_t – the nominal GDP in 2047-48, Y_0 – the nominal GDP in 2022-23, t -25 years), the required nominal rate of growth is computed as r % = {Exp [Ln (Y_t/Y_0) / t]-1} x 100.

[7]In this optimistic scenario, 27 states/union territories out of 33 will reach the per capita income target of $14,006 on or before 2047-48. Only 6 states/union territories – Chhattisgarh, Meghalaya, Manipur, Jharkhand, Uttar Pradesh, and Bihar – will not achieve the target in 2047-48.

[8] New technologies will improve productivity, but they may have adverse implications for employment

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Private Investment: Intentions versus Realization

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Abstract

This note examines the growing mismatch between intended private capex and actual fixed assets creation, shedding a fresh light on the longstanding weakness of private investment in India. Using the RBI's data on projects financed by bank and non-bank financial entities, which is collected annually to gauge the private investment outlook each year, we analyse the significant drop in the extent of planned capex that materialized into actual investment (as measured in the national accounts). We find successive drops in the percentages, especially after the global financial crisis, and thereafter in 2011-12, since when it has remained in the 10% region. We examine a number of potential reasons, like the shift to alternate funding sources – external and internal - not captured in the data, and inflated expectations or over-optimism of private agents, who may subsequently be shedding or scaling back planned projects. We speculate if the planned-to-realized capex ratio or survey-based business expectations are accurate lead indicators as compared to, for example, bank credit, to identify which is a better gauge of demand.

Keywords: Private Investment intentions, Gross Fixed Capital Formation, Business Expectations, Over-optimism, Corporate Profits, Actual Fixed Assets Creation

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1. Introduction

A slack in private investment has persisted for over a decade in India. Reviving it has been a central macroeconomic concern and challenge, eliciting significant policy attention. Efforts have ranged from the removal of policy uncertainties and kickstarting stalled projects to resolving bad loans with repair, recapitalization, and consolidation of bank balance sheets; structural reforms like harmonizing the indirect tax system with a national goods and services tax (GST), an insolvency and bankruptcy code for corporate resolutions, the extensive easing of business rules and procedures, and overhaul of labour legislation; and numerous regulatory changes to increase flexibility, economic formalization and digitalization. The fundamental changes have been supported by scaling up public capex to encourage enterprise and crowd-in private capital.

Despite the wide-ranging endeavours, however, aggregate nominal investment shares in relation to the gross domestic product (GDP) trend well below their past peak – 35.8% in 2007-08 – by ~5 percentage points. The challenge therefore persists. Without reclaiming its former vigour, maintaining present growth rates or rising to a higher path could be difficult, given also transformed settings abroad and the domestic fiscal pressures to consolidate public balances and lower public debt. The looming retreat of public investment, which upheld demand so far, must be balanced with stronger private investments to avoid a drag upon growth.

Against this backdrop, an improved near-term outlook of private capital expenditure has been successively projected by the Reserve Bank of India (RBI) in its regular annual exercise (Gupta et al., 2024; Bhan et al., 2023). These assessments are based upon information on project financing secured by the RBI from major banks and financial institutions. A longstanding exercise, such data is obtained by the RBI to gauge the investment outlook, serving as a forward-looking indicator of private investment activity. The exercise assesses the capex intentions of private firms from project costs sanctioned by banks, national financial institutions engaged in project funding, equity issuances (initial and follow-on public offers, rights), and foreign borrowings for capital expenditure.

According to the latest round, the envisaged total cost of projects funded only by banks and financial institutions significantly increased, from Rs.2.6 trillion a year ago to Rs. 3.9 trillion in 2023-24, the highest level since 2014-15. Including all financial sources, project costs rose 60% to Rs. 5.6 trillion in 2023-24. Finally, planned investments in 2024-25 are anticipated to increase ~55% to Rs. 2.45 trillion.

Relative to national GDP however, the intended capex from all financing sources displays a significant fall. At 0.8% of GDP in 2024-25, it is a steep drop from 1.4% last year, which itself only matched up to 2015-16 levels. It is noteworthy that between 2004-05 and 2012-13, the intended investments were in the region of 3-6% of GDP, averaging 4.5% a year. Put differently, the planned investment pipeline in this year is not even a fifth of the past magnitudes, testifying to the extent of the deficit that remains after the post-pandemic demand surge has tapered.

A longer look, to gauge the extent of loss or recoupment after the pandemic, shows that in 2022-23, the level of projected investment cost was ~15% below than what it would have been if the five-year average growth rate before the pandemic (14.8%) had sustained. That the latter period itself saw markedly lower rates of investment only accentuates the deficit. From this standpoint, the observed recovery in the intended private investments has more distance to travel to overcome the pandemic-related shortfalls. Even in terms of envisaged capex, the level in 2024-25 is 12% below than what it would have been if the pre-pandemic average rate of 3.6% had maintained. Business spending plans must enlarge much more for a meaningful uplift.

A more interesting feature was identified last year by the central bank (Bhan et al., 2023:119) highlighting a steep decline in the proportion of visualized capex maturing into measured gross investments. The study reported a progressively diminishing fraction of envisaged investments by private corporates matched gross fixed capital formation (GFCF) in the national accounts. In percentage terms, total intended capex sanctioned by different financial institutions declined from an average 40.5% of private GFCF (1971-72 to 2010-11) to only 15.5% in the subsequent decade (2011-12 to 2021-22).

The drop in the rate of conversion elicits two concerns:

- First, as these projects are financially secured from a diverse set of lenders, domestic and overseas, including equity issuances, they are likely at an advanced stage in the investment process. Presumably, the conceptualization, detailed planning, viability study, and other relevant details for screening, risk assessment, and credit appraisal by prospective lenders are completed. Therefore, the revelation that even late-stage investments are failing to mature into real assets is a startling indication of the investment malaise. Clearly, business risk, finance, and such factors are not an impediment to investing decisions; the reasons for retreat lie elsewhere.
- Second, it further confirms that wide-ranging policy efforts have neither manoeuvred a turnaround nor meaningfully impacted private agents' tendencies to delay, stay, or abandon intended or pre-committed projects. The unavoidable inference is that financial approvals may not be an assured indicator of investment activity in the economy.

This note is prompted by these observations. As the average conversion rate over a decade may mask inflections or other noteworthy trends in a period of continuous fall in the aggregate investment rate (as well as many policy adjustments and economic improvements), an annual series is constructed for 1991-92 to 2022-23 for finer assessment. We examine if the growing disconnect between intended capex and final capital creation is attributable to alternate funding sources not captured in the survey, e.g., foreign direct investments (FDI), corporate bonds, or internal funds. We also explore if visualized capex magnitudes might be inflated, i.e., over-optimistic, wherein initial investment announcements and follow-up plans are shaped by overtly positive beliefs that may be dissonant and eventually end up in disappointing real outcomes.

The note is organized as follows: Section 2 profiles and discusses the conversion of envisaged capex into actual GFCF; Section 3 considers if alternate financial sources explain the decline; Section 4 corroborates the findings by examining separate data sources and asks if over-optimistic expectations underlie the low translation of planned capex into actual fixed capital formation by private sector; Section 5 concludes.

2. How much of the intended private capex converts to actual fixed asset creation?

As a first step, we examine the association of intended and actual investments on an annual basis, using the same data that consists of the number of sanctioned projects, their total costs, and the expected completion period, phased out over several years. The institutional coverage is major banks and financial institutions (FIs), foreign borrowings (ECBs), and new equity issues (IPOs). Annual envisaged capex is the sum of planned spending on all projects irrespective of the year of sanction. The data does not indicate completion. Table 1, reproduced from the RBI Bulletin 2024 (Gupta et al., 2024:156), illustrates this better. To elaborate, the planned capex spending in 2023-24 adds up to Rs. 4 trillion and is the sanctioned cost of all projects contributing to investment flows that year.

Table 1: Phasing of Capex of Projects Funded through Banks/FIs/IPOs/ECBs/FCCBs/RDBs

Year of sanction ↓	No of Companies or Banks/FIs/ ECBs/FCCBs / RDBs /IPOs	Project Cost (₹ crore)	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
	1	2	3	4	5	6	7	8
upto 2013-14			2,49,961	1,21,526	39,138	14421	4722	1472
2014-15	828	1,45,658	14920	71,569	43,128	13,018	1821	164
2015-16	700	1,35,177	3787	7445	67,159	38,692	11,500	5151
2016-17	916	2,02,562	1352	3952	25402	86,610	47,448	22,998
2017-18	955	2,07,673		620	15184	12445	81,242	54,817
2018-19	963	2,32,288			569	6862	11000	1,06,700
2019-20	827	2,71,374					4049	14526
2020-21	594	1,16,785						2491
2021-22	791	1,96,445						
2022-23	982	3,51,276						
2023-24	1,505	5,65,684						
Grand Total[a]			**2,70,020**	**2,05,112**	**1,90,580**	**1,72,048**	**1,61,782**	**2,08,319**
Percentage change				**-24.0**	**-7.1**	**-9.7**	**-6.0**	**28.8**

Source: RBI Bulletin: Private Corporate Investment: Growth in 2023-24 and Outlook for 2024-25, Pg. No. 156 (Gupta et al., (2024))

Table 1: Phasing of Capex of Projects Funded through Banks/FIs/IPOs/ECBs/FCCBs/RDBs *(Contd.)*

Year of sanction ↓	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	Beyond 2024-25
	9	10	11	12	13	14	15
upto 2013-14							
2014-15	1038						
2015-16	1223	220					
2016-17	8711	4003	2086				
2017-18	30,038	10736	2349	242			
2018-19	64,895	22,497	15,157	4,507	101		
2019-20	1,19,394	75,715	39,833	15079	2584	194	
2020-21	3709	51,017	40,161	13,014	5,561	832	
2021-22	3610	10566	89,694	62,034	24,470	4030	2,042
2022-23	1127	2150	16663	1,23,096	1,26,505	62,626	19,108
2023-24		2,235	6,783	39,545	2,43,965	1,77,531	95,624
Grand Total[a]	**2,33,745**	**1,79,139**	**2,12,726**	**2,57,518**	**4,03,186**	**2,45,212**	**1,16,774**
Percentage change	**12.2**	**-23.4**	**18.7**	**21.1**	**56.6**	**#**	

Source: RBI Bulletin: Private Corporate Investment: Growth in 2023-24 and Outlook for 2024-25, Pg. No. 156 (Gupta et al., (2024))

For computing the conversion rate of the planned capital expenditure into actual capital expenditure, we use the historical data on projects sanctioned by banks/FIs/ECBs/IPOs from successive issues of the RBI Bulletin (Table 1 above). The data on private GFCF is extracted from the National Accounts (2011-12 series). The conversion ratio is simply the envisaged capex as a fraction of private GFCF (nominal values). Intuitively, this captures the extent to which intended capex by private agents matches actual investment.

Using the same methodology (Bhan et al., 2023:119), our estimates for 2011-12 to 2021-22 match the decline in planned projects converting to tangible fixed assets creation to an average of 15.4%. This average falls further to 14.8% when extended to 2022-23. We next extend the ratios back to 1991-92 to construct a three-decade annual series until 2022-23. This allows the identification of any breaks and associations if any with macroeconomic shocks, and other unique developments that potentially bear upon the investment environment, and business cycles (details in **Appendix 1**). Figure 1 plots the calculated annual series.

Fig 1: Envisaged Capex: Ratio to private GFCF

Source: RBI Bulletin, National Accounts Statistics, MoSPI, with authors' calculations

The average realization rates are seen to be weaker each decade, starting from 47.4% in the nineties to 33.4% in the 2000s. The slippage to sub-20% levels occurred only from 2014-15, no matter contemporaneous or lagged. There is a clear cyclical pattern, with two peaks in 1994-95 and 2008-09, identified with real GDP growth peaks. The declines are also matched by subsequent financial crises, e.g., 1996-97 (*East Asia*) and 2008-09 (*Global*) respectively. The translation into actual capex continued weakening after 2011-12 to 2016-17, stabilizing thereafter in the 10% region.

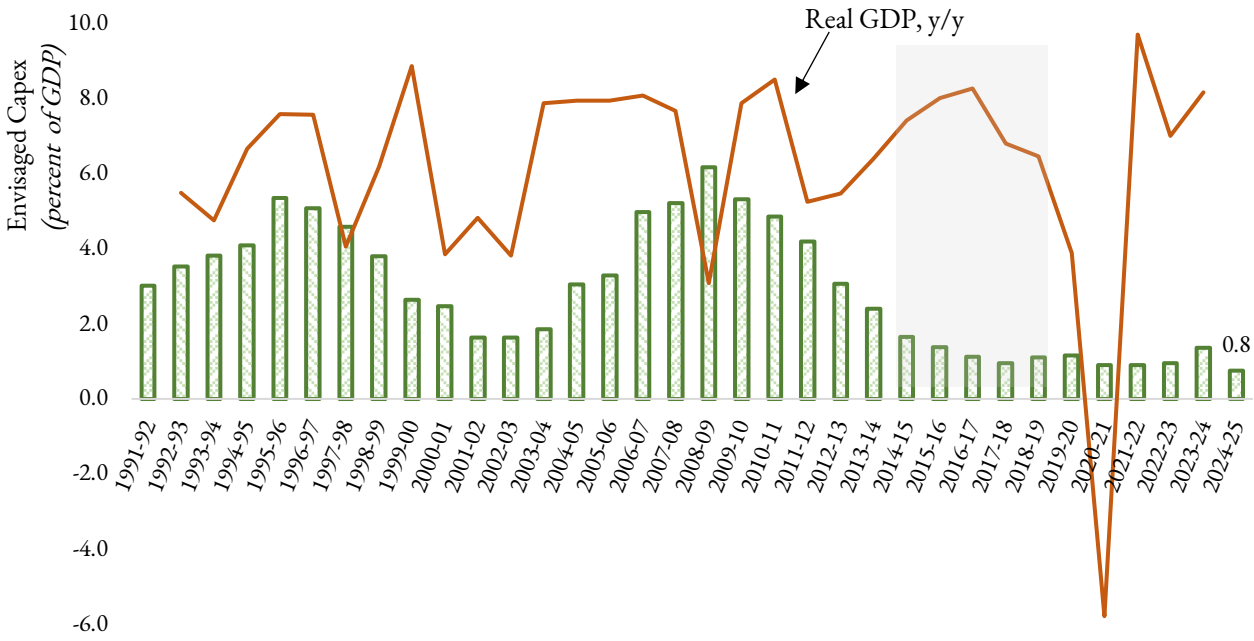
A noteworthy feature is the decoupling or dissociation from the growth cycle after 2015-16. For example, the acceleration in real GDP from 5.5% (2012-13) to a high of 8.3% in 2016-17 is not accompanied by any improvement or strengthening of the conversion rate, which remains sticky at minimal levels, notwithstanding minor lift. In the last seven years, only 9.6% of the sanctioned projects associate with actual fixed capital formation observed in the national accounts. From the standpoint of forecasting investment outlook, this low maturity rate may reflect the weakening predictive ability of the indicator.

The pattern is similar when anticipated private capex is scaled to GDP (Figure 2):

- The peaks are identical, synchronized with the business cycle;
- falling steeply and continuously after 2011-12, settling in the 1% region since 2017-18, compared to a high of 6.2% in 2008-09; and
- altogether dissociated from the growth cycle.

Even with robust GDP growth projections for 2024-25 from both the government and the RBI, the planned capital expenditure has significantly decreased, reaching one of its lowest levels in recent decades. This suggests a concerning decline in investment relative to the economy's growth potential.

Fig 2: Envisaged Capex & Growth Cycles



Source: RBI Bulletin, National Accounts Statistics, MoSPI, with authors' calculations

3. Is it because of the shift to alternative funding sources?

It is possible that a widening funding pool, including internal resources, has diluted the correspondence in intended and realized capex as speculated (Gupta et al., 2024:150). For example, market-based funds have emerged with financial market development over the years, whereas the above financing set covers banks, other financial institutions, equity issues, and external borrowings.

To shine a light on this aspect, Table 2 profiles the overall flow of financial resources to the commercial sector. This data starts from 2007-08, and although it does not strictly correspond to actual projects financed by the surveyed financial entities above, it does reveal the trends in financing shares of banks, nonbanks, and other domestic and foreign segments. The evolution indirectly illuminates shifts, if any, to alternate financing patterns (to which the above weakening association could be attributed).

The dominant role of bank financing in commerce is evident throughout the period, averaging ~47% share, lowering at specific shocks, e.g., demonetization (2016-17) that severely constricted credit availability and lending operations. Foreign direct investment (FDI) flows and corporate bond financing averaged 15% and 9% respectively.

After 2015-16, bank credit shares marginally reduced, including during the pandemic, while corresponding shares of corporate bonds and FDI – not captured in the RBI's project-financing data – increased. Such shifts are influenced by interest rate and exchange rate movements, and are visibly temporary as firms exploit cheaper rates. Altogether, these magnitudes are not large enough to explain the extent of decline in committed capex relative to actual GFCF.

Table 2: Bank and Non-Bank resource flows *(percent share)*

	Bank Credit	FDI	Corporate Bonds
2007-08	42.5	13.7	6.7
2008-09	44.1	20.4	8.3
2009-10	44.6	15.1	12.1
2010-11	52.9	10.3	5.2
2011-12	54.2	12.9	4.6
2012-13	44.1	10.2	7.4
2013-14	53.1	13.5	9.5
2014-15	40.1	15.8	9.4
2015-16	46.2	19.4	7.5
2016-17	28.1	20.5	14.5
2017-18	37.1	11.8	6.8
2018-19	48.4	12.8	6.6
2019-20	38.2	25.8	15.5
2020-21	28.1	24.5	17.5
2021-22	45.9	18.3	7.3
2022-23	61.5	11.3	5.5
2023-24	78.5	6.3	6.4
Average	46.3	15.4	8.9

Source: Flow of resources to commercial sector in India, RBI, with authors' calculations (All figures are percentage to total flows)

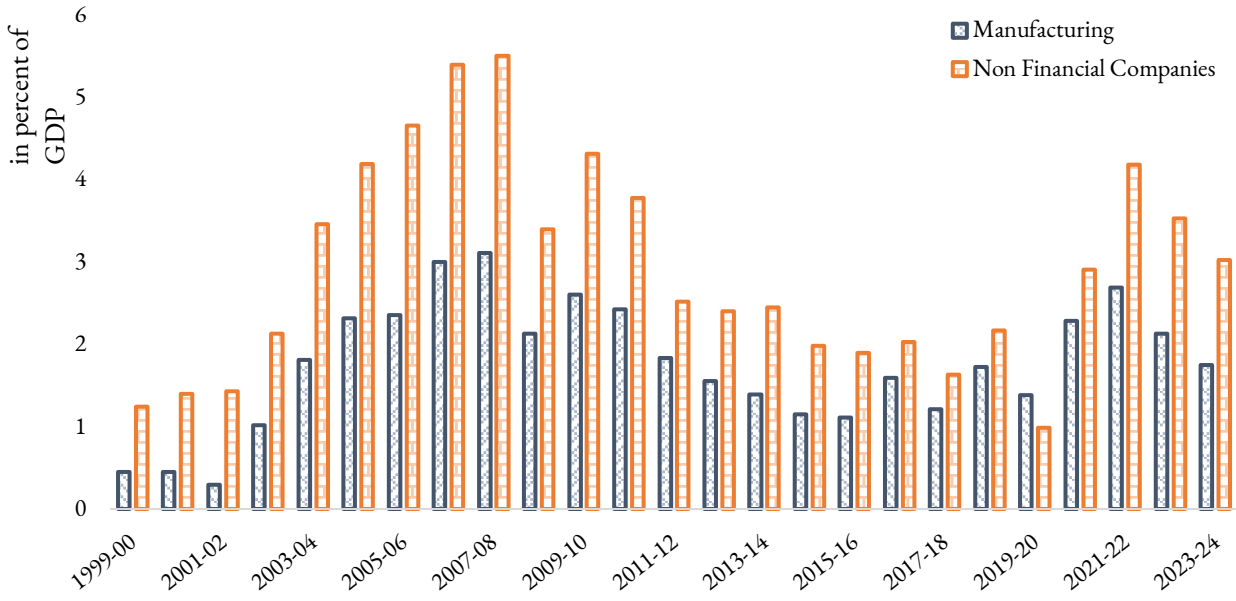
Could internal funds be increasingly deployed for capex? There are indications that the tendency to not pursue intended capital expenditures may be due to lower expected returns or profitability, a key determinant of investment demand. For example, companies have increasingly bought back shares – these rose very sharply from 16 issues in 2015-16 to 49 in 2016-17, averaging around 51 since then.[1]

Dividend payouts have also been higher, suggesting firms are not choosing to invest afresh. The average equity dividend rate of ~40,000 non-financial companies, as per the Centre for Monitoring Indian Economy (CMIE) (*Prowess* database, CMIE) increased to 10% in 2018-19 from 7% the preceding year, reaching ~23% in 2023-24. In the six years up to 2017-18, the dividend rate averaged ~8.4%; it stands at 13.4% in the most recent six-year period. This possibly indicates that companies do

not foresee significant improvement in demand prospects to justify expansions, and hence prefer prioritizing immediate shareholder returns.

This turns the spotlight on corporate profitability, a key investment determinant. Figure 3 plots the post-tax profit-GDP ratio of these non-financial companies, using the same database. Corporate profitability declined steeply after the 2008 crisis, from 5.5% to 1.0% of GDP by 2019-20. The restoration after the 2019-20 collapse in corporate profits is enabled by sharp cuts in corporate tax rates and lower interest rates, even as real GDP growth dropped to 3.9% that year. Similarly, manufacturing firms, comprising of ~17000 companies, display a comparable trend - the profit-GDP ratio peaked in 2007-08 at 3.1%, and fell to 1.4% in 2019-2020.

Fig 3: Profit after tax: Non Financial and Manufacturing companies



Source: CMIE Prowess, National Accounts Statistics, MoSPI, with authors' calculations

Both groups recovered profitability after 2020 with a combination of lower taxes and input costs, and price-led profit growth in the post-pandemic period. Profitability moderated in 2022-23 and continued to decline in 2023-24. This digression into broader aspects surrounding internal resource financing, viz., generation of surpluses and firm behaviour observed from resource allocation choices, points to the small role of earnings in relation to investment in the last decade, and indeed from 2007-08 onward.

4. Have expectations been over-optimistic?

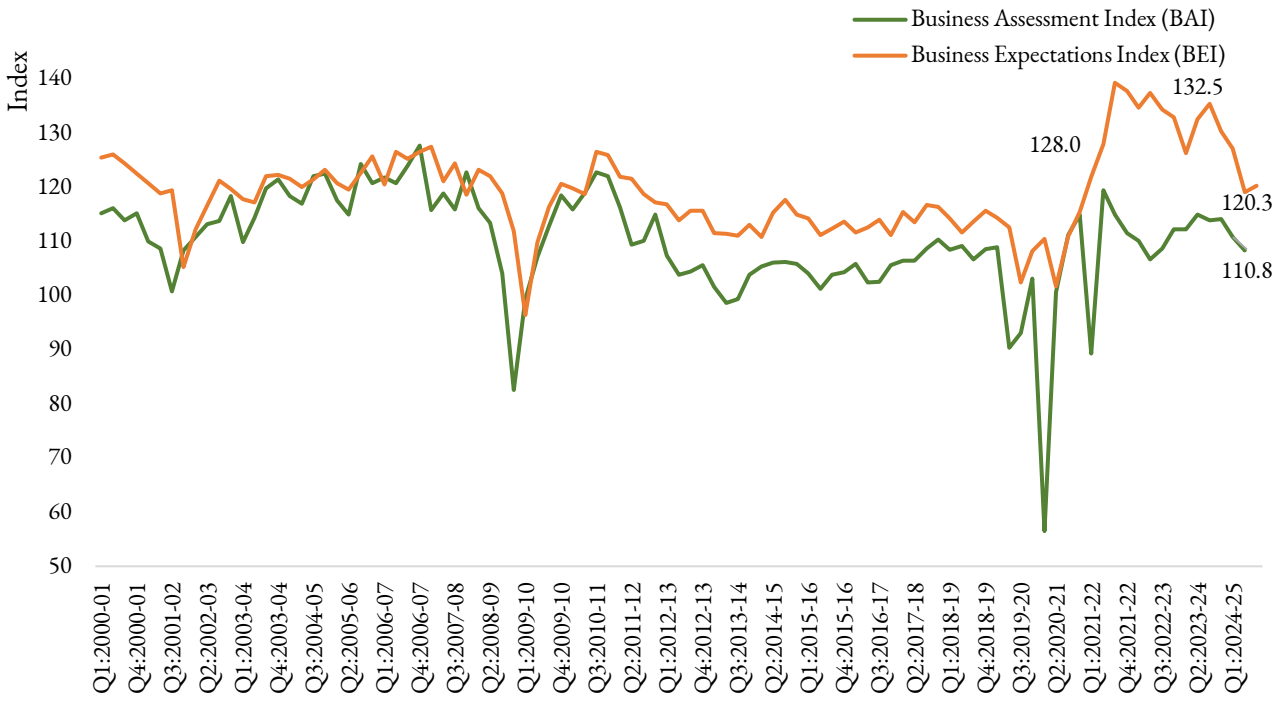
There is some indication that an expectation-driven enlarging numerator may be underlying the low translation of investment plans into real assets. Especially after 2008, from which point growth

upswings are not matched by rising investment rates. The RBI's *Industrial Outlook Survey* (RBI - Quarterly IOS, 2024) compiles two indices – the Business Expectations Index (BEI) and Business Assessment Index (BAI) – from quarterly surveys of manufacturing firms, offering insights on these dimensions. While the BEI is a forward-looking indicator, reflecting business sentiments and expectations for the forthcoming quarters, the BAI assesses current business conditions through specific parameters.[2]

Figure 4 plots both the indices. These show a successively wider gap with each other, viz., between current conditions assessments and future expectations, after 2012-13. Curiously, expectations and the assessment of economic conditions of the surveyed firms were quite closely aligned in the decade before that.

A similar disparity is observed in the quarters leading to 2002-03, when growth was weak, including abroad following the dot-com bust. It can only be speculated if this reveals an enduring optimism about future growth prospects, overriding downturns or adverse shocks that might be perceived temporary. At the initial emergence from the pandemic (first quarter of 2021-22), the expectations-assessment wedge enlarged to as much as thirty points, as business optimism surged from the pandemic lows. The disparity has narrowed since but remains significantly larger compared to the past.

Fig 4: Industrial Outlook Survey



Source: RBI

Given this initial observation, we probe the possibility of firms imagining bigger and bigger projects in anticipation of sustained high growth and further strengthening ahead, improving economic prospects from structural reforms, better infrastructure, etc. In summary, the likelihood of

optimistic beliefs and expectations bordering on excessive exuberance, i.e., over-optimism misaligned from economic realities cannot be ruled out.

It is well known for example, that public declarations of fresh spending play an important role in the formation of an economic narrative, which often reflects resurgence of enterprise or animal spirits identified by Keynes (1936). The role of narratives and their influence upon economic fluctuations is also elaborated by Shiller (2017), who highlights how human brains are inclined towards stories to justify actions like spending and investing.

Mutual interactions between big pronouncements, positive feelings, and confidence can also blur distinctions between feelings or claims and reality, expected and actual demand, thus blowing up funding needs that are linked to investment plans. If subsequent economic outcomes end in disappointment, belying the prospects hoped for, firms could scale down or not pursue projects any further.

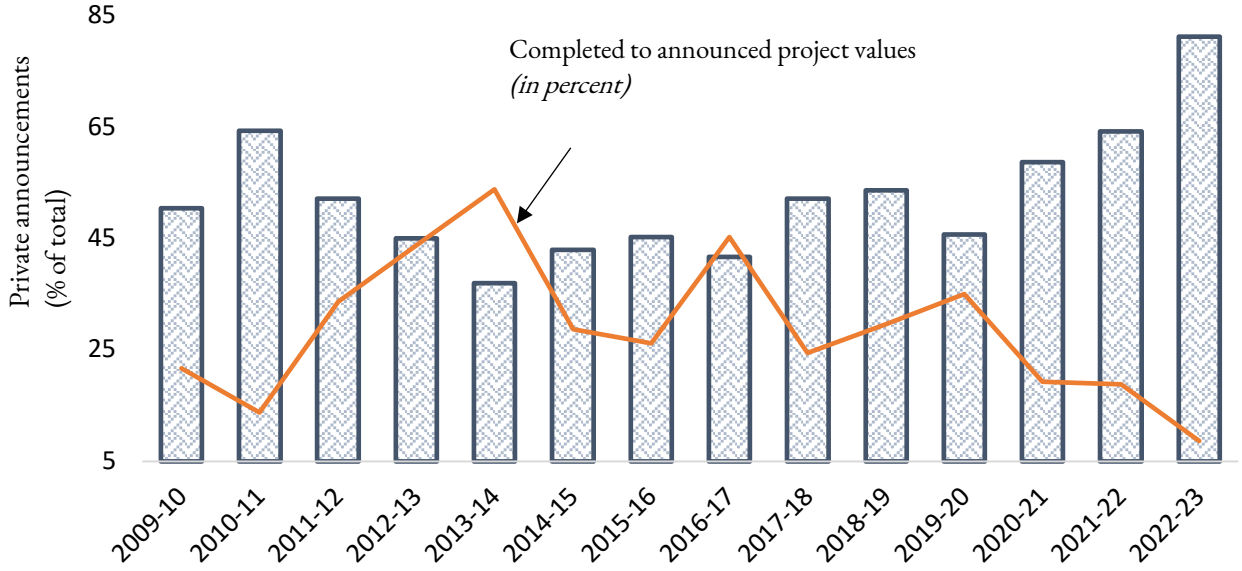
Two separate data sources are used for examining this. The first is from the private agency *CMIE*'s new project announcements by private corporations, that are drawn from news reports, company statements, and regulatory filings since 2009 (CapEx, 2024). Although this is not strictly comparable to the data measuring intended-actual investment gaps used in Section 2, it serves as a useful counterfactual for validation and additional insights. The other is the RBI's *Industrial Outlook Survey* (RBI - Quarterly IOS), which allows us to analyse the drivers of business confidence and sentiments.

Figure 5 plots private project announcement values as a fraction of the total, including government ones. The former's share ranged from 50-60% from 2009-10 till 2011-12, fell thereafter, and did not recover to past levels until well into 2017-18. During and after the pandemic, 2021-23, private project announcement shares have leapt to 81.3% in 2022-23. Interestingly, the rebound in private announcement shares is far sharper in the current round. Possibly, this resurgence reflects greater business optimism, driven by demand improvements or prospects thereof.

Less encouraging is the path of completion, where the proportion of finished projects lag the announced project values with a systematic decline from its highest in 2014. This closely mimics the pattern of sanctioned capex-to-actual GFCF ratio, a longer series. Moreover, the trend is not dissimilar for the post-2008 period, in which barely 10% of planned capex has ever matched actual values of fixed asset.

What drives business expectations? To find out the underlying forces of changes in business expectations, the proportionate contribution of each of the nine sub-components of the BEI is shown in Figure 6. Over the entire sample period (2000-01: Q1 to 2024-25: Q3), the most prominent driver of the volatility in BEI is the changes in expectations of employment, or hiring, with a cumulative contribution of 1.8 points. Following this, order books (which include new, backlog, and pending orders and are key for evaluating demand conditions) and production—had cumulative contributions of -1.5 and -1.4 points, respectively.

Fig 5: Investment Projects: Announcements vs Completion



Source: CMIE CaPex, with authors' calculations

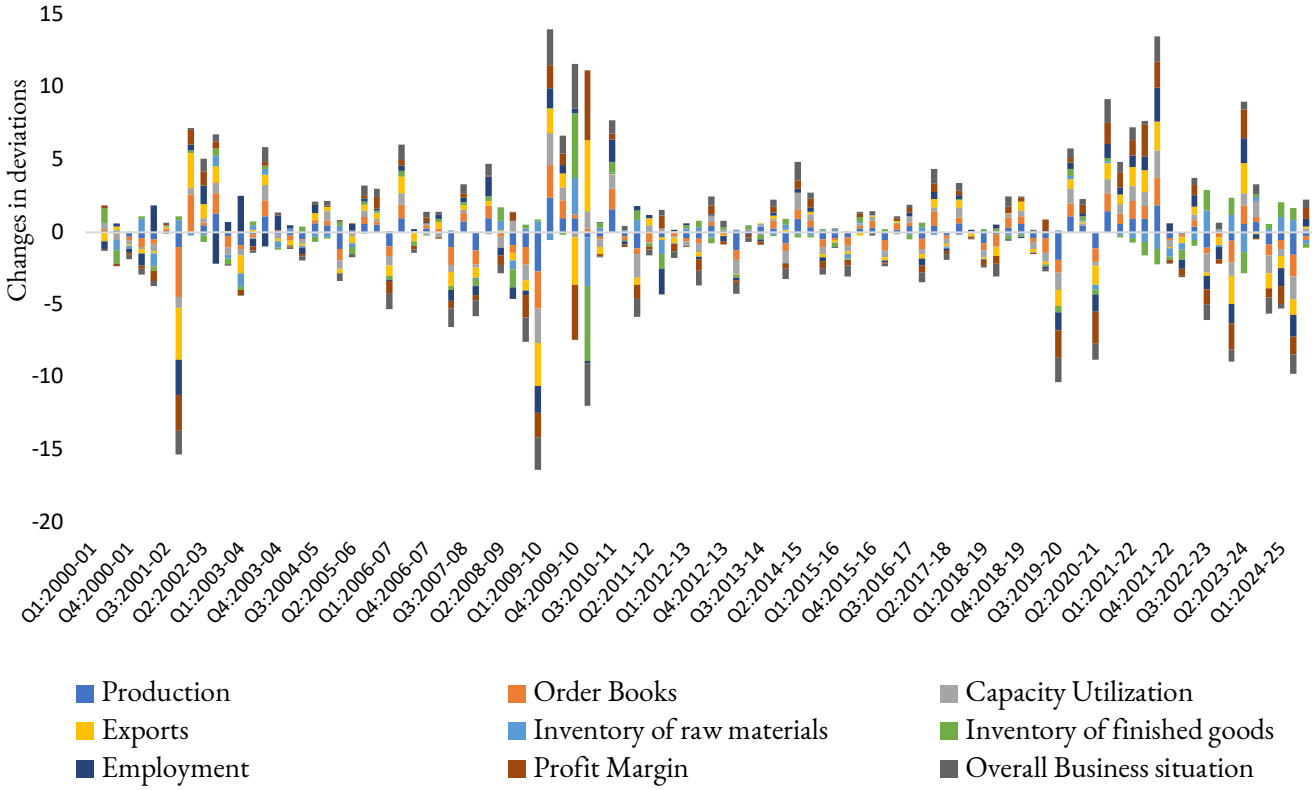
As the primary interest is to explain the increased divergence in the last decade, which also saw the biggest drop in private investment, we focus on this period. Unlike the entire sample, expectations about profit margins are the primary driver of fluctuations in the BEI in the last decade, adding as much as 5.4 points, followed closely by inventory of finished goods (-5.1 points) and exports (4.5 points). Inventory of raw materials has also remained a steady driver at -3.3 points. Overall business sentiments and fluctuations in slack or capacity utilisation are other important drivers of changes in business expectations in recent years.

However, in the most recent period where the maximum divergence in assessment and expectations is seen, the most prominent drivers of changes in the latter are the fluctuations in profit margins, stock of finished goods, and exports. Notably, the Business Expectations Index (BEI) of manufacturing firms and nominal export growth (measured as a three-quarter moving average with a six-month lag) correlate strongly at 0.48 from 2012-13 until the present. This underscores the substantial impact that export growth has had on shaping business expectations in the last decade.

There have been significant shifts, therefore, in the primary contributing factors of firms' expectations over time, with profit margin and export expectations climbing to the top. For the manufacturing sector, these are primary drivers.

Overall, the casual evidence presented here suggests a mismatch between expectations and actual economic outcomes. That, however, does not resolve or clear the picture of why investment plans increasingly do not translate into real investments. These aspects are discussed in the next or concluding section.

Fig 6: Drivers of Business Expectations



Source: RBI Industrial Outlook survey with authors' calculations

5. Conclusion

This note documents the conversion of intended private capex *with secured financing* into actual gross fixed capital formation (GFCF) measured in the national accounts. It further examines a few potential reasons for its progressive weakening over time, focusing upon the last decade that saw consecutive fall in India's aggregate investment rates, attributable mostly to the retreat of the private sector. Using the sanctioned project funds data from successive RBI surveys, annual estimates are calculated to see the evolution of the intended-realized capex ratio.

Significant takeaways from this exercise are as follows. One, from 2016-17 to 2022-23, the ratio has been flat in the 10% region, a historically low rate of transformation of envisioned into actual investments. Two, this weakening is hard to credit to substitution of financial resources recorded in the survey by that from the bond market, foreign direct investments, or internal funds.

hree, while banks retained their historical primacy in funding commercial activities, validating bank credit as a leading indicator of economic activity, the continuous decline in corporate profit (non-financial and manufacturing firms) shares in GDP after 2008 reversed only after 2019-20, while the dividend payouts and share buybacks have increased. The weakening association matches a similar decline in completion rates, buttressed by similar observations from another data set.

Four, in light of optimistic business sentiments consistently outweighing their corresponding economic assessments, a disaggregation of factors underlying the fluctuations in business expectations yields interesting insights. *Inter alia*, the most prominent drivers in the past decade are found to be the changes in expectations of profit margins and exports, suggesting that firms' over-optimism may not only explain the divergence from real economic calculations but also underpin the higher investments planned for, resulting in their subsequent shelving as expectation were unmet.

It is hoped these insights inspire a deeper examination of the reasons underlying the prolonged shortfall in private investment. Such reasons may well be sound economic ones, e.g., *inter alia,* a persisting demand deficit (including overseas), in combination with excess capacities, over-optimistic expectations. The dormant conversion ratio does offer support, although only correspondence and not causation, for demand side underpinnings of non-response to the many policy cues.

Illustratively, the plunge in world trade volumes in 2011-12 – from 19.8% to 0.9% – was a quick shock succeeding the 2008 crisis. Growth in trade volumes steadily decelerated, to a contraction of -12.9% in 2015. A recent study (Ghosh et al., 2023) offers some empirical proof by disentangling the demand-supply influences upon bank credit in the post-2008 period. Demand is found to be the major contributor to the credit slowdown in the lead-up to the pandemic; in turn, this is largely attributable to depressed investment. Demand side factors outweigh the balance sheet effects upon credit supply; while even the asset quality review (2015, 2016) is found to have had transitory impact.

Finally, in the early years, the drop in private investment rates was credited to policy uncertainty and diminished business confidence that were found to outweigh the cost of capital or real interest rate effects (e.g. Anand and Tulin, 2014). Subsequent studies identified the following as the key causes of investment slowdown- depressed credit growth after 2014, reluctance of banks to lend, the revelation of worse asset qualities in 2015-16, a prolonged growth slowdown after 2016-17 (with deceleration to 3.9% growth rate of real GDP in 2019-20), the NBFC crisis in 2018 leading to balance sheet damages and broader financial sector vulnerabilities, economic uncertainties, and other stringent environmental regulations (e.g., IMF, 2019; Priyaranjan & Pratap, 2020; Agarwal R, 2023;)

Against this, the widening gap in intended and realized investments shines a different light on India's investment malaise. Seen collectively, multiple factors – the abundance of policy efforts like recapitalisation, restructuring, and consolidation of banks; interventions like lender-of-last-resort to impart confidence and restore trust; increased corporate savings from productivity improvements, tax cuts, and deleveraging (either held as cash or share buybacks and dividend payouts) – all lend more credence to demand factors as the drivers of unchanging attitudes of private corporates to investments, despite secured capex financing.

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Appendix 1: Conversion rates: Full Annual Series

Year	Contemporaneous	One-year lag	Two- years lag
1991-92	44.3		
1992-93	49.9	37.1	
1993-94	51.4	41.2	30.6
1994-95	55.3	44.0	35.3
1995-96	52.0	33.9	27.0
1996-97	46.8	42.5	27.7
1997-98	45.7	45.7	41.6
1998-99	45.7	48.2	48.1
1999-00	35.7	45.7	48.1
2000-01	38.1	38.0	48.6
2001-02	25.3	35.3	35.2
2002-03	26.1	24.4	34.0
2003-04	26.1	20.5	19.2
2004-05	28.5	15.1	11.9
2005-06	23.6	19.3	10.2
2006-07	34.1	19.3	15.7
2007-08	31.1	25.7	14.5
2008-09	50.6	38.0	31.5
2009-10	44.4	44.6	33.5
2010-11	39.5	36.1	36.2
2011-12	37.3	37.8	34.5
2012-13	26.0	31.2	31.6
2013-14	20.6	23.3	27.9
2014-15	14.9	19.6	22.2
2015-16	11.7	12.5	16.5
2016-17	10.2	11.3	12.1
2017-18	9.3	9.9	10.9
2018-19	10.7	8.3	8.9
2019-20	10.8	9.6	7.5
2020-21	9.0	11.8	10.5
2021-22	8.6	7.3	9.5
2022-23	8.7	7.2	6.1

Source: RBI Bulletin, National Accounts Statistics, MoSPI, with authors' calculations

NOTES

[1] Although there has been a slight decline to 39 buybacks in 2024-25, this figure only includes data up to November 2024 and doesn't represent as significant a drop as the earlier increases (PRIME Database).

[2] These are production, order books, capacity utilization, exports, employment, inventory of raw materials, inventory of finished goods, profit margin, and overall business conditions. The threshold value is 100, with exceeding values indicating optimism or expansion, while those below 100 indicate pessimism or contraction.

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IPPR

Evolution of the Healthcare Policy Framework in India

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Abstract

This paper traces the history of the evolution of India's healthcare policy framework, focussing on its major objectives, challenges faced, and outcomes emerged. Though the groundwork for the healthcare framework was laid down by the Bhore Committee's well-thought-out report in 1946, it was only in 1983 that the country framed the first National Health Policy (NHP), followed by NHP -2002 and NHP-2017. Several other policy initiatives were also concurrently undertaken. The key themes prevalent across most of these policies and specific initiatives included: (i) increasing public health spending and reducing out-of-pocket or catastrophic health spending; (ii) addressing rural-urban inequalities in healthcare; (iii) developing primary healthcare; and (iv) achieving universal health coverage. Though the country has made a good progress in healthcare facilities post-independence, overall health has remained a low priority, with public health spending at one per cent of GDP - much lower than many of its peers. The rural-urban divide in healthcare services remains wide, with the relative neglect of primary healthcare. The goal of universal health coverage (UHC) is nowhere in sight mainly because of inadequate public health spending. UHC will require public health spending to rise to five per cent of GDP. Therefore, the central and state governments need to commit to raise public health spending to five per cent of GDP in a time-bound manner.

Keywords: Healthcare Policy Framework, Universal Health Coverage, National Health Policy, Public Health Spending, Primary Healthcare

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Abbreviations

ABDM	Ayushman Bharat Digital Mission
ABHA	Ayushman Bharat Health Accounts
AIDS	Acquired Immune Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy
BCG	Bacillus Calmette-Guerin
BE	Budget Estimate
BPL	Below Poverty Line
CAG	Comptroller and Auditor General
CGHS	Central Government Health Scheme
CHC	Community Health Centre
CPHC	Comprehensive Primary Health Care
CPSU	Central Public Sector Undertaking
CRD	Chronic Respiratory Diseases
CSS	Centrally Sponsored Scheme
CVD	Cardiovascular Diseases
DCP	Disease Commodity Package
DH	District Hospital
DHSC	Department of Health and Social Care
ECRP	Emergency Covid Response Plan
EPI	Expanded Programme on Immunization
ESIS	Employee State Insurance Scheme
FC	Finance Commission
FYP	Five Year Plans
GBS	Gross Budgetary Support
GDP	Gross Domestic Product
GMCI	Government Medical College/Institution
GMSD	Government Medical Store Depot
GOI	Government of India
HCO	Health Care Organisations
HFR	Health Facility Registry
HIV	Human immunodeficiency viruses
HLEG	High-Level Expert Group
HPR	Health Professional Registry
HSS	Health System Strengthening
HWC	Health and Wellness Centre
IC	Insurance Company
ICMR	Indian Council of Medical Research
IMR	Infant Mortality Rate
IPHS	Indian Public Health Standards
ISA	Implementation Support Agencies

MMR	Maternal Mortality Rate
MNP	Minimum Needs Programme
MoHFW	Ministry of Health and Family Welfare
MSO	Management Services Organisation
NACP	National AIDS Control Programme
NCD	Non-Communicable Diseases
NCMH	National Commission on Macroeconomics and Health
NDC	National Development Council
NDCP	National Disease Control Programme
NDHB	National Digital Health Blueprint
NDHM	National Digital Health Mission
NFHS	National Family Health Survey
NHA	National Health Authority
NHM	National Health Mission
NHP	National Health Policy
NHS	National Health Service
NMHP	National Mental Health Programme
NMPU	National Programme Management Unit
NOHP	National Oral Health Programme
NOTTO	National Organ Tissue and Transplant Organisation
NPCBVI	National Programme for Control of Blindness & Visual Impairment
NPCDCS	National Programme for prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke
NPHCE	National Programme for Healthcare of the Elderly
NPPC	National Programme for Palliative care
NPPCD	National Programme for the Prevention & Control of Deafness
NPPCF	National Programme for Prevention and Control of Fluorosis
NPPMBI	National Programme for Prevention & Management of Burn Injuries
NRHM	National Rural Health Mission
NSSO	National Sample Survey Office
NTCP	National Tobacco Control Programme
NUHM	National Urban Health Mission
OOPE	Out-of-Pocket Expenditure
OPD	Outpatient Department
PIP	Programme Implementation Plan
PM-ABHIM	Pradhan Mantri Ayushman Bharat Health Infrastructure Mission
PMASBY	Prime Minister Atmanirbhar Swasth Bharat Yojana
PMC	Primary Health Centre
PM-JAY	Pradhan Mantri Jan Arogya Yojana
PMSSN	Pradhan Mantri Swasthya Suraksha Nidhi
PMSSY	Pradhan Mantri Swasthya Suraksha Yojana
RE	Revenue Estimate
RKS	Rogi Kalyan Samitis
RMNCH+A/RCH	Reproductive-Maternal- Neonatal-Child and Adolescent Health

RSBY	Rashtriya Swasthya Bima Yojana
SC	Sub Centre
SDGs	Sustainable Development Goals
SECC	Socio-Economic Caste Census
SHA	State Health Agencies
SHC	Sub Health Centre
SRS	Sample Registration System
STD	Sexually Transmitted Diseases
TB	Tuberculosis
TFR	Total Fertility Rate
TPA	Third-party administrator
UHC	Universal Health Coverage
UIP	Universal Immunization Programme
UK	United Kingdom
UT	Union Territory
VPD	Vaccine Preventable Diseases
WHO	World Health Organization

1. Introduction

The healthcare policy framework in India has evolved in response to various challenges faced at different points in time. Health is a state subject, with major responsibilities for creating, maintaining, and managing health institutions resting with the States. The role of the Central Government in health was initially limited to family planning, health policy making, and research. This genesis can be traced back to 1914, when the colonial government announced through a resolution its intention to keep control of research under itself but to decentralise other branches of public health administration. This principle was incorporated in the Government of India Act, 1919. The position was clarified in the new Government of India Act, 1935, which maintained the *status quo* with respect to health subjects transferred to the provinces in 1919 and conferred on them a measure of autonomy not provided in the earlier Act (GOI,1946). The control of medical education, public health, sanitation, and the collection of data was left in the hands of provincial governments (Carballido-Coria, 2022). The outcome was a healthcare system without a central authority and financial resources, and with a very limited outreach (Amrith, 2007). Though health is a state subject, it has been mainly the Centre that has driven policy initiatives and provided a framework for improving healthcare services in the country. The Central Government played an increasingly important role in healthcare financing as it has more resources at its command than the States. It is significant that economically weaker states depend more on transfers from the Centre than their own revenues for health spending (Raj et al, 2024). However, it is also a fact that States have not paid adequate attention to health. As such, intervention by the Central Government through NHM has helped the States to pay greater attention to health by providing strategy, goals, finances, and healthcare infrastructure. In the absence of intervention by the Central Government, it perhaps would not have happened (Kapur et al, 2024). Also, while States have the capacity to analyse the needs of the people, the fact is not much is happening on the ground. NHM helped ensure increased level of participation in healthcare by states (Kapur et al, 2024).

The history of the healthcare policy framework can be traced back to pre-independent India when the first committee on health called the "Health Survey and Development Committee" (Chairman: Sir Joseph Bhore), was appointed in 1943. The committee's report was a detailed account of the then-prevailing health scenario in the country (GOI, 1946). The report painted a dismal picture of the health status in terms of mortality rate, life expectancy, and health infrastructure, and made wide-ranging recommendations to remedy the situation. Though the healthcare system in India post-independence has roots in the Bhore Committee's report, it is also a fact that many of its recommendations were either diluted or not implemented.

In the early years of independence, the entire focus of the health sector in India was on controlling and eradicating epidemics, with the country facing a high burden of a number of communicable diseases such as malaria, tuberculosis, cholera, plague, leprosy, and smallpox. Even amidst this, discussions also continued about the overall healthcare based on the Bhore Committee's report.

In the international sphere, the Declaration of Alma-Ata in 1978, co-sponsored by the World Health Organization (WHO), was the first international declaration emphasising the importance of primary health care (PHC) model for achieving "Health for All by 2000 AD" (WHO, 1978). India also ratified the Declaration.

The Alma-Ata Declaration was also endorsed in the first National Health Policy (NHP) 1983, which also marked the beginning of a systematic approach to health policymaking in India. Prior to that, health policy and planning in India were shaped by the Central Government through successive Five-Year Plans (FYP) and recommendations of various committees (Duggal, 2011). The frameworks within which States developed their health services infrastructure and facilities for medical education, research, etc., were provided by successive Five-Year Plans. Similar guidance was also underpinned by discussions and conclusions arrived at the Joint Conferences of the Central Councils of Health and Family Welfare and the National Development Council (NDC). For the FYPs, the health sector included schemes that had targets to be met. Each plan period introduced several schemes, and every subsequent plan added some new schemes and dropped a few (Duggal, 2001).

The thrust of the NHP-1983 was on integrated health services through the PHC model mentioned in the Alma-Ata Declaration. Though some progress was made in developing health infrastructure in the country in the form of primary healthcare centres, hospitals, dispensaries, doctors, and nursing staff, the overall health infrastructure remained woefully inadequate. The goal of 'health for all by the year 2000' remained a dream as India could not marshal the resources and develop administrative capabilities to pursue such an ambitious goal (GOI, 2002). Even after 22 years when the goal was to be first achieved, we are nowhere close to achieving it any time in the foreseeable future.

As the focus of developing health infrastructure was in urban areas, disparities between rural and urban India also widened in the 19 years after NHP-1983 was framed. It was against this background that the NHP-2002 was rolled out. Its main objective was "to achieve an acceptable standard of good health amongst the general population of the country." Following this policy, the *Pradhan Mantri Swasthya Suraksha Yojana* (PMSSY) was launched in August 2003. Shortly thereafter, in 2005, a major health initiative for rural masses, in the form of the National Rural Health Mission (NRHM), was announced by the Central Government in April 2005 in partnership with States to provide accessible, affordable, and quality healthcare to the rural population across the country, with a special focus on 18 states that had weak public health indicators and/or weak infrastructure. NRHM/NHP, 2002 helped reverse the declining trend in health spending by the state governments. Despite this, however, public health spending remained low, because of which out-of-pocket expenditure (OOPE) continued to be one of the highest in the world (Economic Survey, 2020-21). Out-of-pocket expenditure is the direct payment made by individuals at the point of service where the full cost of the health service is not covered by any financial protection scheme (Demand for Grants Report, PRS 2022-23). Increasing healthcare needs, combined with high OOPE, have been one of the leading causes of poverty in India. Not only it keeps people poor, but it also pushes nearly 60 million Indians back into poverty each year[1]. Health insurance was recognised as one of the ways to provide protection to poor households against the risk of health spending leading to poverty. Keeping that in mind, the

Central Government announced a health insurance scheme called *Rashtriya Swasthya Bima Yojana* (RSBY) in 2008 to cover below-poverty-line (BPL) beneficiaries. However, the response to the scheme was not encouraging due to its complex design and lack of awareness.

In October 2010, the then Planning Commission of India established the High-Level Expert Group (HLEG) on Universal Health Coverage (UHC) (Chairman: Prof. K. Srinath Reddy). The report of the HLEG on UHC, submitted in October 2010, made key recommendations in six areas crucial for the achievement of UHC: (i) health financing and financial protection; (ii) health service norms; (iii) human resources for health; (iv) community participation and citizen engagement; (v) access to medicines, vaccines, and technology; and (vi) management and institutional norms. The HLEG recommended that public expenditure on health be increased to 2.5 per cent of the GDP by 2017 and to 3 per cent by 2022. It also recommended improving primary healthcare by ensuring that it accounts for 70 per cent of health expenditures. The HLEG proposed the development of a National Health Package offering essential health services to citizens and advised that each citizen be issued a National Health Entitlement Card to provide cashless transactions, allow for mobility, and contain personal health information.

In 2015, the National Health Mission, a centrally sponsored scheme (CSS), and a flagship programme of the Centre was launched, with NRHM and National Urban Health Mission (NUHM) as its two constituents. Since then, it has become a major instrument of the Central Government to intervene in healthcare. Many initiatives were taken under the programme, mainly aimed at addressing concerns related to maternal and child health.

In 2017, a new National Health Policy was announced, replacing NHP-2002. Since NHP-2017 was announced just two years after NHM, many of the targets set under NHM were also targets under NHP-2017, though the latter had a much broader canvas. The key objective of NHP-2017 was to inform, clarify, strengthen, and prioritise the role of the government in shaping health systems in all its dimensions. Under these two health initiatives, further progress was made in demographic trends such as the reduction in child and maternal mortality, but epidemiological effects in terms of control of communicable diseases lagged behind the targets. A major disappointment with NHP-2017, and even earlier policies/programmes, has been their failure to step up public health spending, which in turn impacted healthcare infrastructure and human resources engaged in healthcare.

India's healthcare system came under siege during the unprecedented Covid-19 pandemic, which began in January 2020. It seriously exposed India's poor healthcare infrastructure, especially in terms of hospital beds, beds with oxygen support, and critical medicines, especially after the second wave in April/May 2021. It was a wake-up call to strengthen India's health infrastructure. Consequently, the India Covid-19 Emergency Response and Health Systems Preparedness Package (ECRP) I and II were launched to build resilient health systems that could address not just the Covid-19 pandemic but also future outbreaks in the country.

Overall, the Central Government has played a key role in shaping health policies/programmes in India. With the launch of NHM, the Centre has expanded its footprint in healthcare, a subject that

is in the domain of the States. However, on a positive side, NHM has helped reverse the declining trend of health spending by States.

Three key points emerge from the evolution of health history in India. One, health has all along been a low priority in India, which is reflected in low spending on health, despite policy after policy articulating to raise it. Second, the primary healthcare infrastructure continues to be grossly deficient. Consequently, universal health coverage, which, in some form, was first articulated by the Bhore Committee even before Independence and its reiteration in many subsequent committees/national health policies 1983 and 2017, has remained elusive. Third, large imbalances continue to exist in healthcare infrastructure in rural and urban India.

In the above backdrop, this paper traces the history of the evolution of the healthcare policy framework in India. Though the paper goes back to history even before independence, its focus is on NHP-1983 and onwards. Some state governments have also been taking some health initiatives. However, the paper focuses only on initiatives at the Central Government level, which has been the main driving force of the health policy framework in India. It explores the development of policies, expansion of healthcare facilities/infrastructure, investments in the health sector, and the outcomes in terms of demographic and epidemiological targets set. It is important to note, however, that this study does not focus on medical education, healthcare workforce, pharmaceutical policies, and the political economy of healthcare.

The remainder of the paper is divided into seven sections. Section 2 briefly traces the healthcare policy that existed on the eve of independence. Section 3 outlines the evolution of history from the early years of independence until the early 1980s. Section 4 details the key elements of various national health policies beginning from the first NHP in 1983 and other major policy initiatives in the health sector, including the management of the Covid-19 pandemic. Section 5 delineates the major features of health insurance policies. Section 6 presents the evolution of health spending after 2005-06. Section 7 reflects on the major issues facing the country in the healthcare sector. Section 8 sums up the main points emerging from the paper.

2. Healthcare Policy—On the Eve of Independence

The healthcare system that existed in India before independence was designed by the British rulers and was primarily intended to serve army personnel and colonial administrators. The healthcare system was broadly urban-based, elite-centric, and curative-oriented, and neglected the healthcare needs of the masses (Sapru, 2021).

The genesis of the present healthcare system in India can largely be traced to the recommendations of the Health Survey and Development Committee (Chairman: Sir Joseph Bhore), appointed in 1943, which submitted its report in 1946 (GOI, 1946). Interestingly, the committee, comprising 24 members, was primarily made up of health experts, and, a year after its constitution, was also assisted by international advisers. A three-volume in-depth report examined almost all important aspects

relating to health and identified the challenges the country's health system faced at the time. The committee presented a poor state of public health in India in terms of high mortality and morbidity, low life expectancy, inadequate health infrastructure, shortage of health personnel, and a lack of coordination.

The committee was ahead of its time in emphasising the positive impact of good health on economic growth, observing:

> "Apart from the intrinsic importance of maintaining individual and community health at its highest level, we strongly hold the view that the carrying out of the health measures we propose is one of the most effective ways of ensuring the economic prosperity of the country and of materially raising the level of the national income. It is obviously impossible to assess accurately, in terms of money the effects of ill-health on the community." (Vol. II, pp 35).

In addition to recommending certain principles for the future development of the healthcare sector, it underlined the integration of curative and preventive medicine at all levels and made several recommendations for remodelling health services in India. The underlying approach of the committee was based on some form of universal health coverage, as evidenced when, after studying the then cross-country experiences, it observed:

> "...the modern trend is towards provision by the state of as complete health service as possible and the inclusion, within its scope, of the largest possible proportion of the community. The need for assuring the distribution of medical benefits to all, irrespective of their ability to pay, has also received recognition." (1946, Vol. II, pp 12).

Taking a holistic view of the healthcare system in the country, the committee made wide-ranging recommendations relating to areas such as setting up primary and secondary healthcare infrastructure, health services for school children, occupational health, services for all kinds of diseases, health education, environmental health, malnutrition, unsanitary conditions, professional education, and medical research. The committee also provided a special focus on the provision of safe drinking water, sanitation, and housing.

The committee recommended a programme to be developed in 10 years, as well as over a longer period (over 40 years). It recommended the development of PHCs in two stages. In the near term, with a development timeline of 10 years, it was planned to establish one PHC for every 40,000 individuals. Each PHC would be equipped with a team comprising 2 doctors, one nurse, four public health nurses, four midwives, four trained dais (traditional birth attendants), two sanitary inspectors, two health assistants, one pharmacist, and fifteen other class IV employees. Secondary health centres were designed to offer support to the PHCs, coordinating and overseeing their operations. In the long run (to be put in place over a period of 40 years), primary health units with 75-bedded hospitals for every 10,000 to 20,000 population and secondary units with 650-bedded hospitals were recommended. The report faced criticism for not planning for the immediate present. However, this was a conscious decision of the committee, as observed in the following statement:

> "In outlining this programme, we have tried to bear in mind the necessity for tempering enthusiasm with a sense of reality. In the earlier years the lack of sufficient trained staff and of adequate financial resources will inevitably limit the scope of practical achievement. With the initial impediments overcome or reduced, however, the pace of advance should be materially quickened...." (GOI, 1946, Vol. II)

The present healthcare system in India has its roots in the report of the Bhore Committee, with many of the committee's recommendations becoming the foundation stone for the healthcare system in the first few years of India's independent life (Carballido-Coria, 2022). However, it is also significant that many of committee's recommendations were diluted (Duggal, 2001). The recommendations of the committee were partially implemented for only a certain category of government employees as a test case. The costs and administrative work for implementing the committee's recommendations proved too much for the British and the rulers of independent India (Murthy, *et al.* 2013). In this context, it is important to understand the thought process of colonial rulers, which was clear from what the then Viceroy, when confronted with a National Health Service (NHS) in 1944, wrote, as quoted in Murthy *et al.* (2013):

"[P]roductive items such as electrification, industrial development, irrigation projects and agricultural improvement should come before unproductive items such as health and education."

The Bhore Committee was perhaps also not oblivious to such a mindset, when it observed:

> "...to shut our eyes to the consequences which a halting, ineffective and timid health policy imposes on the country can only result in perpetuating a tragedy which is as poignant on the national as on the individual side." (Vol. II, pp 35).

Even as many of its recommendations were never implemented, the Bhore Committee's Report remains the most enduring in developing the health services in India (Bajpai and Saraya, 2015).

3. Early years of Independence—Managing Epidemics and Ensuring Immunisation

In the early years of independence, the country faced a widespread burden of communicable diseases and an acutely deficient healthcare infrastructure and medical personnel, some aspects of which were covered in the Bhore Committee's report. However, in the 1st FYP, it was recognised that the resources for implementing the Bhore Committee's recommendation relating to setting up primary and secondary healthcare during the following five years were not likely to be available (GOI, 1956 pp 197). The entire focus of the health sector in India was on controlling/eradicating epidemics, with the control of malaria standing very high in the order of priorities. The burden of tuberculosis (TB) disease was also alarming, causing 0.5 million deaths every year, with 2.5 million suffering from TB and another 2.5 million suffering from active TB disease (GOI, 1951). Leprosy was another disease that assumed serious proportions, affecting more than 1.5 million people. India reported the

largest number of smallpox cases in the world. The country also faced cholera and plague epidemics. Various mass programmes were launched to control or eradicate these diseases. A programme for TB control, based, among others things, on BCG vaccination, was launched in the 1st FYP. National Leprosy Control Programme was launched in 1954-55.

Even as the country was engaged in the control or eradication of many communicable diseases, discussions about the overall healthcare based on the Bhore Committee Report continued. The Mudaliar Committee was constituted in 1959 to review the developments that had taken place after the release of the Bhore Committee's report with a view to formulating further health programmes for the country. The Mudaliar Committee, which submitted its report in October 1961, lamented that the increase in the number of hospitals, dispensaries, and hospital beds were outpaced by the growth in population. Therefore, by 1960, the actual progress in terms of hospital beds, doctors, and nurses was below the target set by the Bhore Committee (Table 1). The committee also found many organisational defects such as overcrowding of hospitals, inadequate staff, and non-availability of essential medicines and drugs. These defects, the committee recommended, should be remedied without any delay. The Mudaliar Committee admitted that the overall picture of health did not enable them to take an overly optimistic view of the then state of healthcare in the country and of future health protection of the citizens.

Table 1: Health Infrastructure Position – 1960 versus 1946

Indicator	**1946**		**Bhore Committee Targets**	**1960**	
	No.	Ratio	Ratio	No.	Ratio
Hospitals and Dispensaries	7,400	1:40,000***	-	12,000	1:35,800
Beds	1,13,000	0.24 per 1,000	2 per 1,000 *	1,85,000	0.40 per 1,000
Doctors	47,524	1:6,300	1:2000 **	88,000	1:4850
Nurses	7,000	1:43,000	1:500 **	30,000	1:14300
Primary Health Centres	Nil	Nil	-	2,800	1:70,000^

* Goals to be achieved by 1961,
** Goals to be achieved by 1971
*** Population served by a hospital/dispensary
^ Population Actually Served by a PHC
Source: Mudaliar Committee, Vol. I

One of the key recommendations of the Bhore committee was to set up PHCs based on population norms. As this recommendation could not be implemented due to a lack of finance and a shortage of medical and paramedical personnel, the Mudaliar Committee felt that establishing PHCs without adequate facilities, resources, and personnel would not serve any useful purpose. Therefore, the committee recommended discontinuing the PHC programme until it could be implemented on the

scale recommended by the Bhore Committee, even though it accepted that the idea of a PHC was an excellent one. It also argued that, in course of time, when facilities regarding personnel, finance, and other requirements were sufficiently enlarged, the Bhore Committee formula of PHCs could be adopted.

However, PHCs continued to expand, even against the recommendation of the Mudaliar committee. In fact, the Fourth FYP expressed its dissatisfaction with the tardy progress of the PHC programme and stressed the need to strengthen it. It aimed to set up primary health centres in 351 community blocks, which could not be completed under the Third FYP. It was also decided to strengthen PHCs with staff, equipment, medicine, and buildings to provide basic health services in rural areas (GOI, 1969). For the first time, the Fourth FYP made a separate allocation for PHCs (17.5 per cent of the total health outlay). Separate allocations were also made for water supply under the sector of housing and regional development (Duggal, 2011).

The epidemiological trend reversed with malaria cases beginning to rise again from the early 1960s[2] (Sharma, 1996; Kumar *et al.*, 2007). The Fifth FYP recognised that, despite improvements in the infant mortality rate and life expectancy, the number of medical institutions, functionaries, beds, healthcare facilities were still inadequate in rural areas. Thus, it recognised that the urban health structure had expanded at the cost of rural sectors (GOI, 1974). Therefore, increasing the accessibility of health services to rural areas through the Minimum Needs Programme (MNP) and correcting regional imbalances was made one of the objectives of the Fifth FYP. It was also articulated that the MNP would receive higher priority and be the first charge on development outlays in the health sector (*ibid,* pp 234). One of the important objectives in the MNP was to provide adequate drinking water to all villages (*ibid*, pp 264).

A National Smallpox Eradication Programme was launched in 1962-63. The programme was expected to end after three years. However, the expectation was not realised, as a large proportion of the population remained unprotected from re-vaccination (GOI, 1969). In 1967-1968, the smallpox eradication strategy was reframed with a greater focus on surveillance, epidemiological investigation of outbreaks and their rapid containment drives (Lahariya, 2014).

The broad objectives of the health programmes during 1961-69 continued to be to control and eradicate communicable diseases, and a sizable health budget (29.0 per cent of total health budget) in the Fourth FYP was earmarked for the control of communicable diseases (GOI, 1969). The National Malaria Eradication programme, originally scheduled to end in 1967-68, was later expected to be completed by 1975.

3.1 Immunisation Programme—1978-1983

By mid-1973, efforts were broadly successful in containing smallpox mainly to Uttar Pradesh, Bihar, West Bengal, and a few other states (Lahariya, 2014). In 1974, the WHO launched the Expanded Programme on Immunization (EPI) to develop and expand immunisation programmes throughout the world. As soon as India was declared smallpox-free in 1977, the country decided to

launch the National Immunisation programme, also called the Expanded Programme on Immunisation (EPI), in 1978 with the objective of reducing morbidity and mortality from diphtheria, pertussis, tetanus, poliomyelitis, and childhood tuberculosis. This was to be achieved by providing immunisation services to all eligible children and pregnant women by 1990 (Sokhey, *et al,* 1989). The target of EPI was to achieve at least 80 per cent coverage in infancy[3]. The typhoid-paratyphoid vaccine was dropped from EPI in 1981, while Tetanus toxoid vaccine for pregnant women was added in EPI in 1983[4]. The EPI was rechristened and accelerated with some major changes in focus as the Universal Immunization Programme (UIP) in November 1985[5]. The measles vaccine was included in UIP. The key objective of UIP was to quickly expand the immunisation coverage and reduce mortality and morbidity due to six vaccine-preventable diseases (VPDs).

In 1983, the National Leprosy Eradication Programme was introduced as a continuation of the National Leprosy Control Programme. Health experts argued that it was one of the largest leprosy eradication programmes in the world.

3.2 Health for All by 2000 AD

In September 1978, the International Conference on Primary Health Care was held in Alma-Ata, then in the USSR (now Almaty, Kazakhstan), and recommended "Health for All by 2000 AD." The Alma-Ata Declaration, co-sponsored by the WHO, identified primary healthcare[6] as key to the attainment of the goal of 'Health for All'. The Declaration of Alma-Ata exhorted all governments "to formulate national policies, strategies, and plans of action to launch and sustain primary health care as part of a comprehensive national health system and in coordination with another sector." It also called for "urgent and effective national and international action to develop and implement primary health care throughout the world and particularly in developing countries."

India also signed the Alma-Ata Declaration, following which health moved into the mainstream of issues that concerned the entire community (Sapru, 1986).

The Sixth FYP, influenced by the Alma-Ata Declaration, reiterated the neglect of public health and the rising disparities between urban and rural areas. It therefore emphasised the creation of a comprehensive and well-structured rural health service and increased the allocation for this purpose.

By the early 1980s, the burden of major communicable diseases had declined sharply, though they were still not fully under control (Table 2). This afforded an opportunity for the authorities to shift the focus from managing communicable diseases to providing healthcare for the public, which was attempted to be done within the overall framework of healthcare policies, as explained in the following sections.

Table 2: Communicable Diseases: Status in the Early 1980s vis-à-vis 1950s

Diseases	Status around Independence	Status
Tuberculosis	Active cases: 4/1000 population (1955-58)	1.13/1000 (1981)
Smallpox	Cases: 410,819 (1950) Deaths: 105,781 (1950)	Cases: 188,000 (1974) Deaths: 31,000 (1950)
Malaria	Cases: 75million (21.8% of the population in 1947)	Cases: 2.9 million (1980)
Polio	2,00,000-4,00,000 annual cases during the 1950s	1,50,000 cases in 1980 (43% of worldwide cases)

Source: NHP-1983, Report.

4. Healthcare Policies—1983 onwards

The period from the early 1980s onwards saw some major initiatives in the health sector. However, these lacked the appropriate thrust, financial resources, and any concrete strategy or roadmap, leading to outcomes that fell well short of expectations, as explained in this and the following sections. The period from 1983 onwards can be further divided into three sub-periods: (i) 1983-2002; (ii) 2003-2017; and (iii) 2018 onwards.

4.1 Sub-period I: 1983-2002

This period was marked by two healthcare policy initiatives, which led to some improvement in healthcare indicators, though the overall performance fell far short of expectations. A major failure in this period was the continuing rural-urban imbalances in healthcare services.

National Health Policy (NHP), 1983

NHP-1983 was framed in the context of the Government of India's commitment to the Alma-Ata Declaration to achieve "Health for All by 2000." This policy expressed dissatisfaction with the disproportionate emphasis on the establishment of curative centres, largely concentrated in urban areas. The key focus of the policy was on restructuring health services to provide, in a time-bound programme, a well-dispersed network of comprehensive primary healthcare services. Other noteworthy elements of restructuring health services included: (i) large-scale transfer of knowledge, simple skills, and technologies to health volunteers, selected by the communities themselves (GOI, 1983); (ii) establishment of a well-worked-out referral system; (iii) establishing a nationwide chain of sanitary and epidemiological stations with well-equipped staff to provide preventive, promotive, and mental healthcare services; (iv) locating curative centres near the population to ensure maximum utilisation; and (v) establishing centres equipped to provide speciality and super-speciality services.

NHP-1983 intended to reduce government spending on health, suggesting increased investment by non-governmental agencies in establishing curative centres and offering organised logistical, financial, and technical support to voluntary agencies active in the field of health.

The policy also emphasised other important inputs required for improved healthcare, such as (i) adequate nutrition for all segments of the population; (ii) prevention of food adulteration and maintenance of the quality of drugs; (iii) provision of safe drinking water and adequate sanitation; (iv) environmental protection; (v) organised, nationwide immunisation programme; (vi) launch of special programmes to improve maternal and child health, with a special focus on the less privileged sections of society; (vii) school health services; and (viii) launching schemes to prevent and treat diseases and injuries arising from occupational hazards (GOI, 1983).

NHP-1983 provided a long-term framework to steer healthcare services in India for the first time. However, it did not give an account of the then-prevailing health status in the country or the rationale for the goals it set. Its key focus of UHC access through primary healthcare was laudable. However, the policy did not lay down a roadmap for reaching the goal of UHC for all by 2000. The most intriguing part of the policy was its silence on the public health expenditure required to meet the ambitious goal of UHC.

Though the policy mentioned a time-bound programme for setting up a well-dispersed network of comprehensive primary healthcare services, it specified neither the timeframe nor the roadmap for achieving this. Between 1981 and 2000, the country expanded its network of health infrastructure in the form of primary healthcare. However, at the same time, the curative health infrastructure in the form of hospital/dispensaries and hospital beds also expanded, against which the policy had argued (Table 3).

Table 3: Health Infrastructure – 1981 versus 2000

Indicator	1981	2000	Percentage variations (2000 over 1981)
SC/PHC/CHC	57,363	1,63,181	184.5
Dispensaries &Hospitals(all)	23,555	43,322	83.9
Beds (Pvt & Public)	569,495	8,70,161	52.8
Doctors (Allopathy)	2,68,700	5,03,900	87.5
Nursing Personnel	1,43,887	7,37,000	412.2

Note: SC: Sub-Centres, PHC: Primary Health Centre, CHC: Community Health Centre.
Source: NHP-2002, Report.

The policy also set several demographic and epidemiological goals, along with a time path for their achievements (Table 4). However, the policy did not detail the measures or the action plan needed to achieve those goals. Consequently, by the end of 2000, many health indicators fell short of the targets (Table 4). The levels of morbidity and mortality in the country remained at an unacceptably high level (NHP, 2002). It is significant that the share of health outlay in the total plan outlay gradually declined

from 4.7 per cent in the First FYP to 1.9 per cent by the Sixth FYP. However, from the Sixth FYP onward, the outlay for health and family planning was combined, with the allocation to health gradually increasing. The share allocated for health in the total plan outlay under the 7th FYP and 8th FYP was 1.7 per cent (Annex I).

Table 4: Goals of NHP-1983

Sr. No.	Indicator		Goals			Status in 2000
	Year	Position in 1981	1985	1990	2000	
1.	Infant mortality rate (per 1000)	110	106	87	below 60	70
2.	Maternal mortality rate	4-5(1976)	3-4	2-3	below 2	7[7]
3.	Life expectancy at birth (yrs.)	54 (Total)	55.1 (Male) 54.3 (Female)	57.6 (Male) 57.1 (Female)	64 (Male) 64 (Female)	62 (male) 64 (Female)
4.	Deliveries by trained birth attendants (%)	30-35	50	80	100	43

Source: NHP-1983 report (for position and goals).

National AIDS and STD Control Programme

The first case of HIV in India was detected in April 1986. India's initial response to the HIV pandemic involved servo-surveillance, awareness generation, and screening of blood units for HIV infection. In 1992, an institutionalised response to the HIV/AIDS epidemic was established in India with the launch of the National Acquired Immune Deficiency Syndrome (AIDS) and Sexually Transmitted Diseases (STD) Control Programme (NACP). It has evolved into one of the largest programmes of the world across the prevention-detection-treatment continuum. Since 1992, five NACPs have been launched as detailed in Annex II.

National Health Policy, 2002

NHP-2002 was formulated against the backdrop of the admission of three major weaknesses in the then health scenario: (i) limited success of the public health system; (ii) low public health investment; and (iii) uneven health status between rural and urban areas. NHP-2002 acknowledged that the financial resources and administrative capacity marshalled by NHP-1983 were far short of what was necessary to achieve an ambitious and holistic goal of health for all by the year 2000 AD.

The main objective of the NHP-2002 was "*...to achieve an acceptable standard of good health amongst the general population of the country.*" The approach of the policy focused on increasing access to the decentralised public health system by establishing new infrastructure in deficient areas and upgrading the infrastructure in the existing institutions.

The key focus of NHP-2002 was to ensure more equitable access to health services across the social and geographical expanse of the country. In fact, it stated that any future evaluation of its success or failure should be measured against this equity norm. Other key elements of the policy included: (i) increasing health sector expenditure to 6 per cent of GDP, with 2 per cent of GDP contributed by public health investment by 2010; (ii) exhorting state governments to allocate 7 per cent of their budget to the health sector in the first phase by 2005, and 8 per cent in the second phase by 2010; (iii) reducing various types of inequities and imbalances, and facilitating preventive and early-stage curative initiative; (iv) allocating 55 per cent of total public health expenditure to the primary health sector, with the secondary sector receiving 35 percent and the tertiary sector 10 percent; (iv) gradually converging all health programmes under a single field administration; (v) kick-starting the revival of the primary health system by providing some essential drugs; (vi) enforcing a mandatory two-year rural posting before awarding graduate degrees; and (vii) increasing government-funded health research to 1 percent of total health expenditure by 2005, and thereafter to 2 per cent by 2010.

NHP-2002 acknowledged some of the serious deficiencies from which the healthcare system suffered. However, it lacked clarity about the role of the Central Government versus States in health, emphasising that public health was the responsibility of States and that the principal contribution for funding public health services should come from state resources, with some supplementary input from central resources. However, the policy then advocated for an increased role of the Centre, citing reduced allocations for health from state budgets. It argued that to significantly improve centralised public health services in the country, there was a need for substantial resource injection into the health sector from the Central Government's budget. Despite this muddled approach, NHP-2002 did well to articulate the need to raise public health expenditure and government-funded health research. It also emphasised the need to address inequities and imbalances and suggested kick-starting the revival of primary health centres. However, like NHP-1983 policy, it did not provide a roadmap for achieving the objectives/targets it set.

The policy failed to address the problems or offer solutions to many of the issues it pointed out. Public investment in health was 0.9 per cent of GDP (0.6 per cent by States and 0.3 per cent by the Centre) in 2010, against the target of 2.0 per cent of GDP, which were far lower than the target of 5.0 per cent recommended by the WHO. In 2019-20, public investment in health was 1.0 per cent of GDP. In 2021-22, public health expenditure shot up to 2.1 per cent of the GDP, but this was due to Covid-related healthcare packages, *viz.,* Emergency Covid Response Plan-I (ECRP-I) and ECRP-II[8] (Table 5). However, it remains to be seen whether this level of expenditure will be sustained.

Table 5: Expenditure on Covid-19 management under ECRP (in Rs. Crore)

	Centre's share	State's share	Total
ECRP-I	*	-	15,000
ECRP-II	15,000	8,132	23,132[9]

*ECRP-I was funded by the Centre and some multilateral financial institutions such as the World Bank and ADB. However, the breakup is not available.

Source: PIB Report dated 4th Jan, 2022: Covid-19 – Myths vs. Facts

Table 6: NHP-2002 Goals and Status

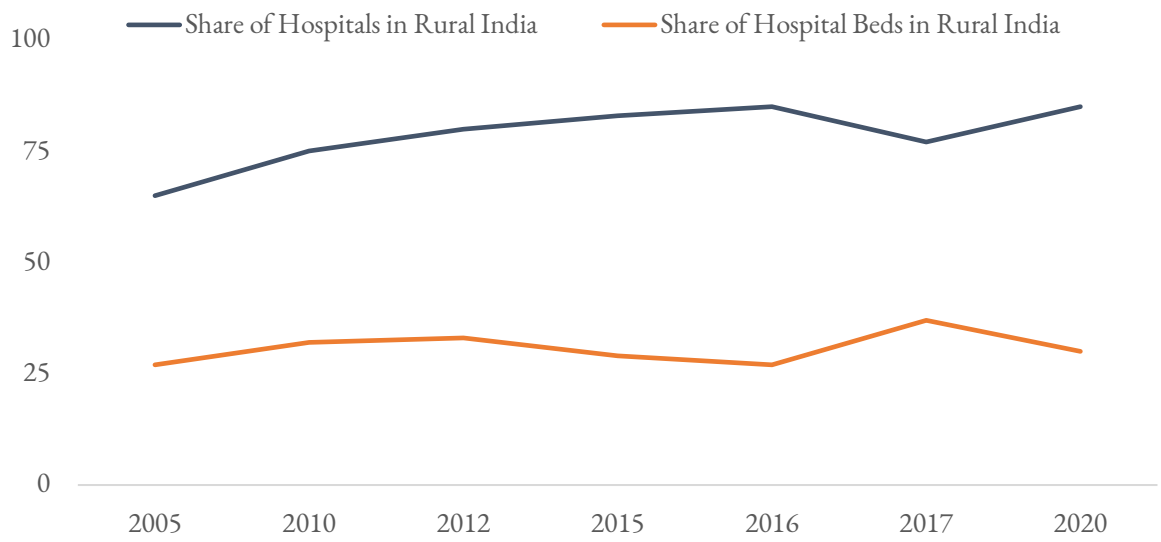
Goal	Target year	Status	Remarks
Eradicate Polio and Yaws	2005	Achieved, but with a lag	Yaws was eradicated in 2015, and polio in 2011. India achieved the lowest ever polio transmission levels in 2010, especially during the high transmission season. Also, a sharp decline was seen in number of polio cases, with only 42 polio cases reported in 2010 compared to 741 cases in 2009.
Eliminate Leprosy	2005	Yes	Leprosy prevalence rate was reduced to 0.71/10,000 by 2010 from 57.8/10,000 in 1983. 32 States/UT's (except Bihar, Chhattisgarh and Dadra & Nagar Haveli) eliminated leprosy by March 2010. In all, 81% of districts and 77% of Block PHC eliminated leprosy by 2010 in the country.
Eliminate Kala-azar	2010	No	Kala-azar has still not been eliminated. Of the 633 kala-azar endemic blocks, kala-azar was eradicated in 625 blocks by 2021.
Eliminate Lymphatic Filariasis	2015	No	The goal was extended till 2021, but it still has not been achieved so far.
Achieve zero level of growth HIV/AIDS	2007	No	Adult HIV prevalence at the national level declined from 0.41% in 2000 to 0.31% by 2009. The estimated number of new annual HIV infections declined by more than 50% over the decade ended 2010.
Reduce Mortality by 50% on account of T.B., Malaria and other vector and water borne diseases	2010	-	TB mortality in the country was reduced from over 420/million population in 1990 to 230/million population in 2009. The prevalence of TB in the country was reduced from 3380/million population in 1990 to 2490/million population by the year 2009 as per the WHO global TB report, 2010.
Reduce IMR to 30/1000 and MMR to 1000/million	2010	Achieved, but with a lag	Achieved in 2020, when the IMR declined to 28/1000 and MMR declined to 97 per lakh.
Establish an integrated system of surveillance, National Health Accounts and Health Statistics	2005	Achieved, but with a lag.	National Health Accounts was established in 2006-07.

Source: Reports published by National Health Mission

As against the target of 8 per cent, state government spending on health was at 5 per cent of their total spending even in 2019-20, *i.e.,* even after 10 years of the deadline. In fact, many States spent less than 5 per cent. Only Delhi and Puducherry spent more than 8 per cent of their budget on health. Many targets set under the policy were not achieved, even after many years, while others were met but with a considerable delay (Table 6).

The key question is how effectively it was able to address inequities and imbalances, against which NHP-2002 itself stated its success or failure should be judged. The share of hospital beds in rural areas as a percentage of total hospital beds in the country hardly changed between 2005 and 2017. The share of rural hospital beds was only 28.9 per cent, even though more than 70 per cent of India's population lives in rural areas (Chart 1).

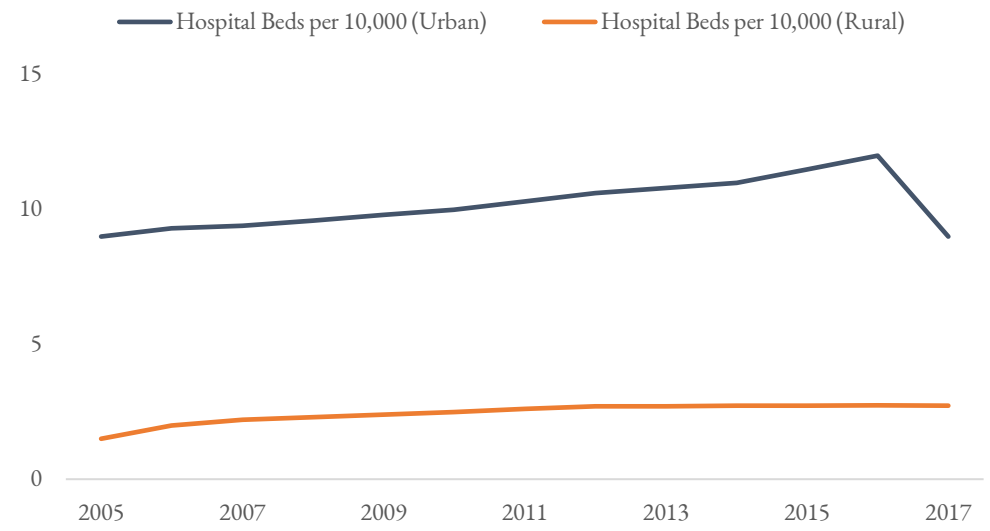
Chart 1: Share of Rural Hospitals and Hospital Beds in India



Source: Rural Health Statistics 2016-17 and World Bank

However, large disparities exist between hospital beds when normalised to population, considering that a large proportion of the population resides in rural India. In 2017, there were 9.36 hospital beds per 10,000 population in urban areas, compared to only 2.32 hospital beds per 10,000 population in rural areas. What is even more distressing is that the gap in health infrastructure between rural and urban areas, particularly in terms of hospital beds, widened from 2005 and 2016, before narrowing down somewhat in 2017 (Chart 2).

Chart 2: Hospitals Beds in Urban and Rural areas per 10,000 population (2005-2017)



Source: Rural Health Statistics 2016-17 and World Bank

By 2017, the primary health sector infrastructure in the country continued to be deficient based on population norms (Table 7).

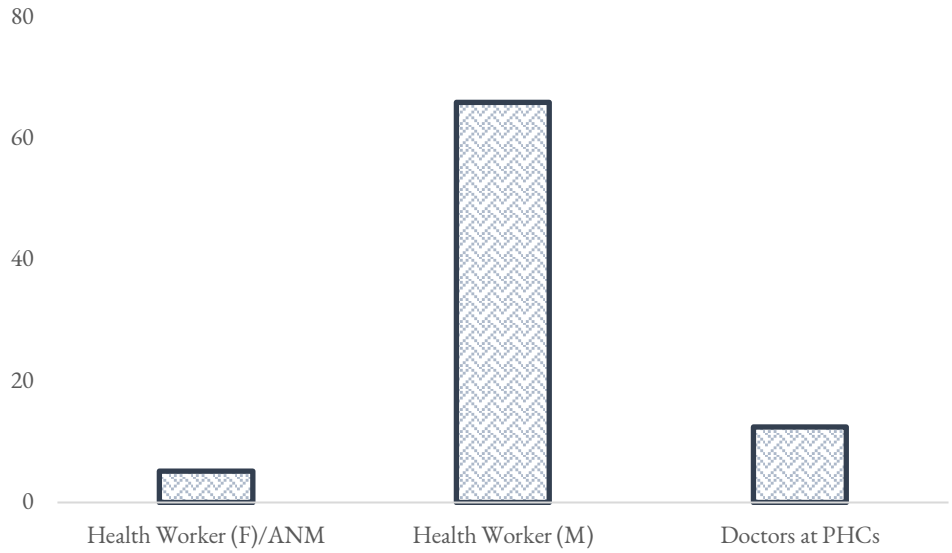
Table 7: Primary Healthcare System – 2017

Indicator	National Norm*		Status (End-2017)	
Population covered by:	Rural	Tribal Area	Rural Area	Tribal Area
Sub Centre	5,000	3,000	5,337	3,327
Primary Health Centre	30,000	20,000	32,505	23,315
Community Health Centre	120,000	80,000	148,248	91,264

*National norms set under the NRHM by Directorate General of Health Services, in 2011. Source: Rural Health Statistics 2016-17.

However, more than the lack of physical infrastructure, the large-scale shortage of human resources (relative to the positions already sanctioned) managing the primary healthcare system is even more distressing. There was a 66 per cent shortage of health workers and more than 10 percentage shortage of doctors in rural sub-centres (SC) and Primary Health Centre (PHC) (Chart 3). The expansion of PHC infrastructure does not serve much purpose if it is not adequately equipped with necessary facilities and resources.

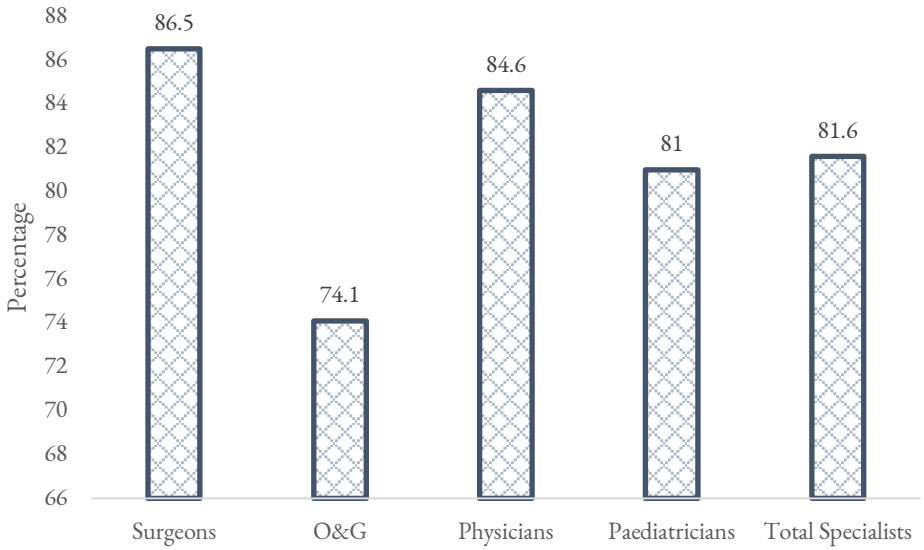
Chart 3: Shortfall in Rural SCs and PHCs



Source: Rural Health Statistics 2016-17

There was a significant shortage of specialists such as surgeons, obstetricians and gynaecologists, physicians, and paediatricians in rural CHCs (Chart 4).

Chart 4: Shortfall of Specialists in Rural CHCs



Source: Rural Health Statistics 2016-17

Thus, the provision of healthcare infrastructure in India is skewed in favour of urban areas. While some imbalances in healthcare services between rural and urban areas are to be expected, the scale of these imbalances remains a matter of concern.

4.2 Sub-period II: 2003-2017

The thrust of the healthcare policy framework in this period was on addressing regional imbalances by providing affordable and reliable tertiary healthcare services and improving the quality of medical education in the country.

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

The *Pradhan Mantri Swasthya Suraksha Yojana* (PMSSY/Scheme) is a central sector scheme announced in August 2003 to augment facilities for quality medical education in the country. This included establishing institutions like the All India Institute of Medical Sciences (AIIMS) and upgrading certain state government hospitals (Demand for Grants Report, PRS 2022-23). In March 2006, the government sanctioned Phase-I of the Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), comprising two main components: (i) the establishment of six institutions akin to the All-India Institute of Medical Sciences (AIIMS), which were later referred to as new AIIMS; and (ii) the enhancement of 13 existing State Government Medical Colleges/Institutions (GMCIs). The enhancement of GMCIs was aimed at bolstering health infrastructure through the construction of super-speciality blocks/trauma centres and acquiring medical equipment for certain GMCIs.

The Government of India has been setting up new AIIMS to create advanced tertiary healthcare infrastructure, medical education, and research facilities in different parts of the country. To facilitate creation of these important institutions, the Government of India legislated the AIIMS Act, under which these AIIMS are established. As per the provisions of the Act, these new AIIMS are called Institutes of National Importance and function as autonomous institutions under the Ministry of Health and Family Welfare (MoHFW). Over the years, the scheme has expanded to cover 20 new AIIMS and 71 GMCIs in six phases.

Though well-intentioned, the implementation of the scheme was tardy. First, there were considerable time and cost overruns in setting up the new AIIMS. In 2018, the Comptroller and Despite good intentions, the execution of the initiative encountered significant delays. Notably, the establishment of new AIIMS experienced extensive time and financial overruns. The Comptroller and Auditor General (CAG) highlighted in its 2018 Report (no.10) that the completion timeline for all new AIIMS exceeded the initial estimates by approximately five years. Similar postponements were noted in the enhancement of state government hospitals, accompanied by financial overruns. Specifically, the Ministry of Health and Family Welfare (MoHFW) initially projected the capital expenditure for constructing six new AIIMS under Phase 1 at Rs. 332 crore per institution. This estimate was later adjusted to Rs. 820 crore per institution after four years, attributed to deficiencies in planning and evaluating necessities (Government of India, 2018). The Standing Committee on Health and Family Welfare, in its 2017 and 2018 reports, observed inadequate assessment of time and costs, resulting in the non-utilization of allocated funds and significant delays in the construction activities of Government Medical College Institutions (GMCIs) in the initial three phases of the PMSSY.

Auditor General (CAG) noted that all new AIIMS overshot their completion time by almost five years (CAG Report no.10). Similar delays were observed in the upgradation of state government hospitals. There were also cost overruns. For instance, the MoHFW initially estimated the capital cost for setting up six new AIIMS in Phase 1 to be Rs. 332 crore per institute. After four years, this cost was revised to Rs. 820 crore per institute due to shortcomings in planning and assessment of requirements (GOI, 2018). The Standing Committee on Health and Family Welfare (2017 and 2018) noted poor assessment of time and cost, leading to unutilised allocated funds and inordinate delays in completion of construction work of GMCIs in the first three phases of PMSSY.

Secondly, the new AIIMS faced significant human resource shortages, with vacancies in various faculty and non-faculty positions ranging from 55 to 83 percent and 77 to 97 percent, respectively. These shortages hindered the operation of several departments, led to an increased reliance on contracted staff, placed additional burdens on doctors during outpatient department (OPD) hours, and ultimately compromised the quality of patient care. Delays in filling these positions were linked to challenges such as establishing recruitment guidelines, legal disputes, the scarcity of qualified candidates, and a lack of coordination between recruitment processes and infrastructure development (GOI, 2018).

Thirdly, an essential aspect of delivering adequate service and ensuring quality care for patients is the availability of sufficient beds. Nonetheless, the shortfall in bed availability across the new AIIMS was between 43 and 84 percent, a situation exacerbated by construction delays of hospital complexes and the aforementioned faculty shortages (GOI, 2018).

National Rural Health Mission (2005)

The National Rural Health Mission (NRHM) was launched in 2005 against the backdrop of the poor state of primary healthcare in rural areas and the decline in public investments in health, which had severe consequences on the health and economic outcomes of the population. The National Commission on Macroeconomics and Health (NCMH), which submitted its report in August 2005, identified three broad factors responsible for the failure of the public health system: (i) poor governance and the dysfunctional role of the state; (ii) lack of a strategic vision; and (iii) weak management. The NCMH emphasised five core elements for improving health in India: (i) promoting equity by reducing household health expenditure; (ii) increasing the accountability of the primary healthcare system; (iii) reducing disease burden; (iv) establishing institutional frameworks to improve governance of health; and (v) investing in technology and human resources (MoHFW, 2005). The findings of the NCMH report played a significant role in the development of the NRHM.

The key focus of the NRHM was to provide accessible, affordable, and quality healthcare to the rural population, especially the vulnerable sections. Though the scheme was launched throughout the country, it focused on 18 states with weak public health infrastructure. These were Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand Jammu and Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Odisha, Rajasthan, Sikkim Tripura, Uttaranchal,

and Uttar Pradesh. The major objectives of the scheme were: (i) reduction in child and maternal mortality; (ii) universal access to public services for food and nutrition, sanitation and hygiene and universal access to public healthcare services with emphasis on services addressing women's and children's health and universal immunisation; (iii) prevention and control of communicable and non-communicable diseases, including locally endemic diseases; (iv) access to integrated comprehensive primary health care; (v) population stabilisation, gender and demographic balance; (vi) revitalisation of local health traditions and mainstream Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH); and (vii) promotion of healthy lifestyles.

Key elements focused on in the scheme were (i) strengthening the public health delivery system by revitalising existing infrastructure and correcting manpower planning; (ii) integrating drinking water, nutrition, sanitation, female literacy, and women's empowerment as they also significantly impact health indicators as much as functional health facilities; (iii) ensuring accountability at every level through community-based monitoring, external surveys, and stringent internal monitoring. The scheme aimed to push the public health expenditure to nearly 3 per cent of GDP. The NRHM comprised four sub-schemes (Annex III). Human resources provided and other activities undertaken by the NRHM during the period 2005-2013 are detailed in Annex IV.

NRHM was the first comprehensive initiative targeted at the healthcare needs of the rural population. However, it suffered from some deficiencies. NRHM did not create an institutional mechanism to meet the demand of training a large number of public health professionals that such a programme required (Bajpai and Sarya, 2015). As a result, the overall progress of the NRHM in achieving its targets was mixed (Table 8). The programme successfully reduced the malaria mortality rate, made significant progress in eliminating leprosy, and maintained the TB cure rate above the target. The programme also increased human resources such as ANMs, staff nurses, medical officers, and specialists, though their numbers remained below the targets. However, the programme fell considerably short of its IMR and MMR targets, among others (Table 8). One area where it exceeded the target was in the deployment of ASHAs, as explained subsequently.

Table 8: Physical Outcomes: Targets & Achievements under NRHM

Sr. No.	Targets (2005-12)	Achievements (up to 2012)
1	To reduce IMR to 30/1000 live births	IMR reduced from 58 in 2005 (SRS) to 42 in 2012 (SRS).
2	To reduce maternal mortality to 100/100,000 live births	MMR reduced from 254 in 2004-06 to 178 in 2010-12 (SRS).
3	Reduce TFR to 2.1	TFR reduced from 2.9 in 2005 (SRS) to 2.4 in 2012 (SRS).

4	Reduce Malaria mortality to 60% relative to 2005	Malaria mortality reduced by 70% (from 1707 deaths in 2006 to 519 deaths in 2012).
5	Reduce Kala-azar mortality to 100% relative to 2005	Kala-azar mortality reduced to 85% (from 187 deaths in 2006 to 29 deaths in 2012).
6	Reduce Filaria/Microfilaria rate to 80% relative to 2005	Filaria/Microfilaria rate reduced by 60% (from 1.02 in 2005 to 0.41 in 2012)
7	Reduce Dengue mortality by 50% relative to 2005	Dengue mortality reduced by just 8% (from 184 deaths in 2006 to 169 deaths in 2011).
8	Cataract operations - Increase to 4.6 million per year	Cataract operations of more than 6.4 million were reported in 2012.
9	Reduce Leprosy prevalence rate to less than 1 per 10,000	Leprosy prevalence rate reduced from 1.34 per 10,000 in 2005 to 0.68 per 10,000 in 2012.
10	Tuberculosis Control - Over 70% case detection & 85% cure rate	The case detection rate of Tuberculosis was 71% in 2012 and the cure rate was 88%.

Source: Report of July 24, 2015, PIB.

National Health Mission

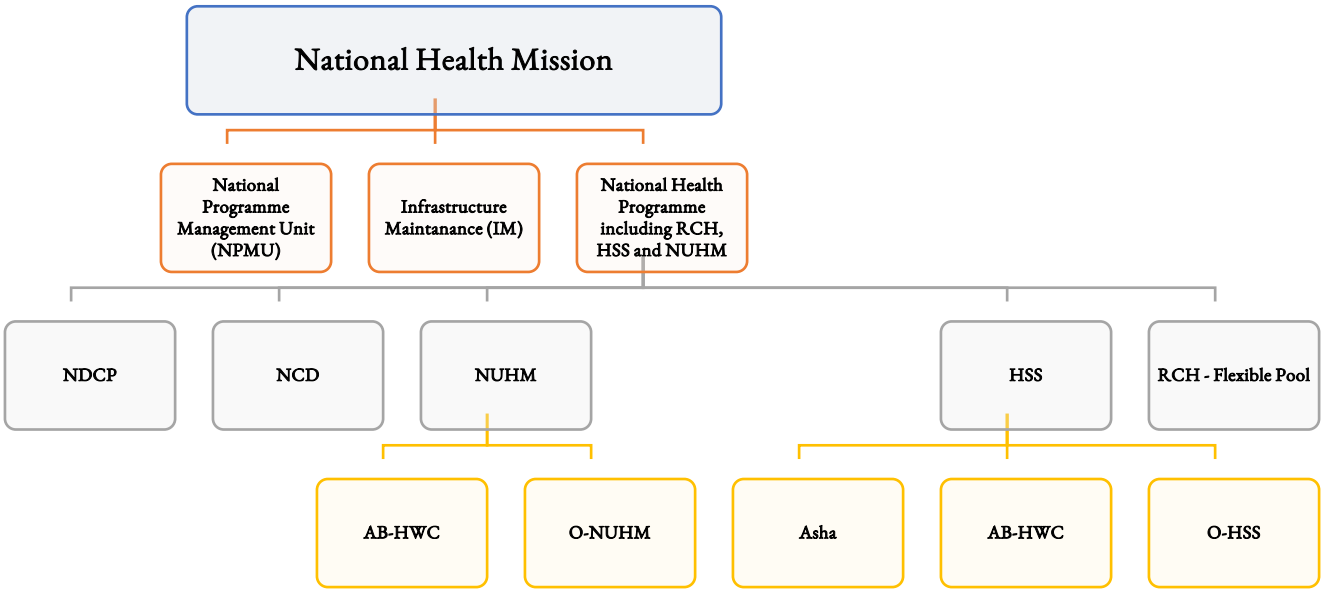
In response to the stagnation and even worsening of key health indicators in urban areas, the National Urban Health Mission (NUHM) was launched on May 1, 2013. It functions as a sub-mission of the overarching National Health Mission (NHM), with National Rural Health Mission (NRHM) as the other sub-mission of NHM.

The NUHM aimed to provide comprehensive primary healthcare services to the urban population in general, particularly the poor and other disadvantaged sections. It sought to facilitate equitable access to quality healthcare through a revamped primary public healthcare system, targeted outreach services, and involvement of the community and urban local bodies. NUHM covered all state capitals, district headquarters, and other cities/ towns with a population of 50,000 and above (as per census 2011) in a phased manner. Cities and towns with populations below 50,000 continued to be covered under NRHM. NRHM was implemented in 779 cities and towns, covering about 77.5 million people.

The NHM aims to attain universal access to equitable, affordable, and quality healthcare services that are accountable and responsive to people's needs. Under the NHM, support is provided to States/Union Territories (UTs) to facilitate the delivery of effective healthcare services up to the district hospital (DH) level, especially for the poor and vulnerable sections of the population. The

interventions under the NHM also aim to bridge the gap in rural healthcare services by improving health infrastructure, augmenting human resources, enhancing service delivery, and decentralising planning. NHM comprises three broad components with sub-components (Chart 5).

Chart 5: National Health Mission



Notes: O-HSS – Other health system strengthening, AB-HWC: Ayushman Bharat Health and Wellness Centre, ASHA-Accredited Social Health Activist, O-NUHM- Other National Urban Health Mission, NDCP- National Disease Control Programme, NCD- Non-Communicable Diseases
Source: Rajya Sabha report 134, Dated: 24th March 2022

Reproductive-maternal-neonatal-child and adolescent health (RMNCH+A or RCH): This programme aims to improve maternal and child health, as their survival is central to the achievement of national health goals. It provides a strong platform for delivering services across the entire continuum of care, ranging from the community level to various levels of the healthcare system. It includes the Routine Immunisation Programme, Pulse Polio Immunisation Programme, and National Iodine Deficiency Disorders Control Programme.

Communicable Disease Control Programme (NDCP): This programme comprises: (i) the National Vector Borne Disease Control Programme; (ii) the Revised National Tuberculosis Control Programme; (iii) the National Leprosy Control Programme; and (iv) the Integrated Disease Surveillance Programme.

Non Communicable Disease (NCD) Control Programme: This programme includes: (i) the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS); (ii) the National Programme for Control of Blindness & Visual Impairment (NPCBVI); (iii) the National Mental Health Programme (NMHP); (iv) the National Programme for

Healthcare of the Elderly (NPHCE); (v) the National Programme for the Prevention & Control of Deafness (NPPCD); (vi) the National Tobacco Control Programme (NTCP); (vii) the National Oral Health Programme (NOHP); (viii) the National Programme for Palliative Care (NPPC); (ix) the National Programme for Prevention & Management of Burn Injuries (NPPMBI); (x) the National Organ Tissue and Transplant Organisation (NOTTO); (xi) the National Programme for Prevention and Control of Fluorosis (NPPCF); and (xii) the National Iodine Deficiency Disorder Control Programme.

Health System Strengthening (HSS): This includes (i) the adoption of the Indian Public Health Standards (IPHS); (ii) quality standards; (iii) addressing skill gaps and standard treatment protocols; (iv) Hospital Management Societies (also referred to as Rogi Kalyan Samiti—this committee acts as a group of trustees who look after the functioning of the hospital affairs) and untied funds; and (v) Quality Improvement Programmes.

Accredited Social Health Activists (ASHAs): As a key component of the National Rural Health Mission, ASHAs also play a key role in NHM, as alluded to before. The ASHA Programme has been particularly successful in bringing people back to the public health system for outpatient services, diagnostic facilities, institutional deliveries, and inpatient care. There are over one million ASHAs across the country in rural and urban areas under the NHM, acting as a link between the community and the public health system.

Ayushman Bharat Health and wellness centre (AB-HWC): This initiative aims to ensure the delivery of comprehensive primary health care (CPHC) services. Existing sub-centres (SCs) covering populations of 3000-5000 were to be converted into Health and Wellness Centres (HWCs), with the principle that "time to care" should be no more than 30 minutes. PHCs in rural and urban areas were also to be converted to HWCs, with care also provided/complemented through outreach services.

National Urban Health Mission (NUHM): This aim was to provide comprehensive primary healthcare services to the urban population, particularly the poor and other disadvantaged sections, by facilitating equitable access to quality healthcare through a revamped primary public healthcare system, targeted outreach services, and the involvement of the community and urban local bodies. Infrastructure maintenance component has been supported over several plan periods. Support under this component is provided to States to meet salary requirements of schemes.

National Programme Management Unit (NMPU): Up to 0.5 per cent of the total NHM outlay is earmarked for Programme Management and Activities for Policy support at the national level through a NPMU.

Funding Pattern under the National Health Mission

The NHM is a major instrument of financing and support to the States to strengthen public health systems and healthcare delivery. The funding arrangement for NHM involves a 60:40 split between the Central Government and most State Governments and Union Territories (UTs) with a

legislative assembly, specifically Delhi and Puducherry (Annual Report, MoHFW, 2019-20). In the case of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, and the North-Eastern States, including Sikkim, the funding distribution is adjusted to a 90:10 ratio, favouring the states. For UTs without a legislative assembly, the Central Government assumes full financial responsibility, providing 100 percent of the funds. The allocation of funds to states is determined by their respective Programme Implementation Plans (PIP).

Until 2022-23, NHM had five financing components: (i) RCH-HSS Flexi pool; (ii) NUHM Flexi pool; (iii) Flexible pool for Communicable diseases (DCP). (iv) Flexible pool for Non-communicable disease (NCD); and (v) Infrastructure Maintenance. The Central Government allocated a certain proportion of the total allocation of the fund to each component with a definitive basis for allocation to States (Annex V). However, from 2022-23 onwards, RCH-HSS, DCP, NCD, and NUHM pools under NHM were merged to provide greater flexibility to States/UTs. This was done to improve administrative efficiency; minimise the human interface involved in multiple instances of funds withdrawal; and improve financial utilisation of the States/UTs (GOI, 2022) (Annex VI).

Major Initiatives undertaken under NHM are mentioned in Annex VII, while the progress made in terms of some of the above referred initiatives is outlined in Annex VIII.

As NHM has been extended up to 2026, the targets set under the NHM have also been revised (Table 9).

Table 9: NHM – Initial and Revised Targets

S.no	Targets of NHM (2012-17)	Targets of NHM by 2025
1	Reduce IMR to 25/1000 live births	Reduce IMR to 23 per thousand from 32 per thousand
2	Reduce MMR to 100/100,000 live births	Reduce MMR to 90 per 100,000 from 113 per 100,000
3	Reduce TFR to 2.1	Sustain a TFR of 2.1
4	Reduce annual prevalence and mortality from Tuberculosis by half	Ending the TB epidemic from the country by 2025
5	Reduce prevalence rate of Leprosy to <1/10,000 population in all districts.	Reduce prevalence of Leprosy to <1/10,000 population and incidence to zero in all districts
6	Annual Malaria Incidence to be <1/1000	Annual Malaria Incidence to be <1/1000
7	**	Reduce U5MR to 23 per 1000 from 36 per thousand
8	Less than 1 per cent microfilaria prevalence in all districts	*
9	Kala-Azar Elimination by 2015, <1 case per 10000 population in all blocks	*

* There was no mention of leprosy and kala-azar in the NHM 2025 targets.

** There was no mention of U5MR in NHM 2017 targets.

Source: Report dated September 28, 2022, PIB.

The NRHM/NHM (hereinafter referred to as NHM, which also includes NRHM) has been one of the most significant public health initiatives so far in India. NHM played a role in reversing the trend of health spending by States to 0.70 per cent of GDP in 2022, up from 0.47 per cent of GDP in 2004-05 (health spending of States was 0.70 per cent of GDP in 1990-91). However, NHM has often been criticised for 'one-size-fits-all' approach as it does not consider inter-state variations, limiting States' ability to adapt to local conditions and innovate. Additionally, several concerns have been raised regarding the actual operations of the scheme. Rao (2017) in his assessment of select centrally sponsored schemes, including NHM, found that the actual release of funds was significantly below the allocations. A study conducted for 29 states for years 2015-16 and 2016-17 found limited flexibilities in NHM's flexi-pools, restricting States from maximising fund utilisation (Choudhary and Mohanty, 2018). Incidentally, the Central Government eliminated the allocation for each pool from 2022-23 onwards, as previously mentioned. Some researchers reported that NHM failed to achieve inter-state parity and provide health equity within states such as Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh (Husain, 2011; Jeffery, 2021), defeating its basic assumption that people in all states would receive at least basic meritorious public services (Rao, 2018).

The 14th Common Review Mission report also highlighted some deficiencies in the scheme's implementation. First, while ASHAs play a crucial role at the community level, gaps in critical programme components affect ASHA functionality, such as variable training equality, inadequate supportive supervision, delays in payments, and insufficient attention to grievance redressal and safe working conditions. Second, there are gaps in the availability of human resources across the six major service delivery cadres universally across the states. Third, although secondary care services, including emergency care, are being provided, their performance monitoring is not adequate to assess the types and quality of services being provided at the public healthcare facilities. Most of the facilities visited across the 13 states were also not compliant to IPHS norms (GOI, 2022). Fourth, the Clinical Establishments (Registration and Regulation) Act, 2010, was enacted by the Central Government to facilitate the registration and regulation of all clinical establishments across the country, ensuring they meet the minimum standards of facilities and services. However, the enforcement of the Act remains weak in almost all States. Fifth, the framework of NHM envisions a health system which is accountable and responsive to people's needs of the population. This is also one of the key core principles of NHP framed in 2017. Although States have reported functional *Rogi Kalyan Samitis* (RKS) at facility level, the role of RKS in improving quality and patient amenities was found to be limited (GOI, 2022).

While there has been good progress in the targets fixed under the programme, in most cases, the progress has fallen well short of these targets. Some targets were not achieved even three years after the programme's initiation. For instance, the IMR is currently 26.6 per 1000 live births, compared to the target of 25 per 1000. The incidence and mortality from TB has risen over the years. Kala-azar disease has not been eliminated, despite the target to do so by 2015. One of the primary goals of NHM has been to reduce out-of-pocket expenditure. Numerous initiatives to decrease OOPE under NHM, such as providing free essential drugs and diagnostics, have been implemented. However, a major

failure of the programme is that health expenditure continues to be low, showing only a marginal improvement (0.05 per cent of GDP) in the last 10 years. As a result, OOPE has remained quite high, accounting for 62.7 per cent of current health expenditure (Table 10).

Table 10: NHM Targets and Achievements

Baseline Indicator	Baseline (2012)	NHM Target	Latest Position	% Improvement over baseline	Remarks
Demographic Changes					
MMR	1.78/1000(2010-12)	1/1000 live births.	0.97/1000(2018-20)	45.5%	The target achieved and India is now reportedly on the track to achieve the Sustainable Development Goals (SDG) target of MMR less than 700/ million live births by 2030.
IMR	42/1000	25/1000 live births.	28/1000	33.3%	From 2019-2020 **Annual Decline Rate: 6.7%. The IMR target was not achieved as of 2023; IMR stood at 26.62.**
TFR	2.4	2.1	2	16.6%	The target was achieved.
Epidemiological Effects					
Prevention and reduction of anaemia in women aged 15–49 years	53.1% of all women aged 15-49 years were anaemic (NFHS-4 2015-16)		57% of all women aged 15-49 years were anaemic (NFHS-5 2019-21)		Even after the government's efforts, prevalence of anaemia among women has risen over time.
Reduce annual incidence and mortality from Tuberculosis by half	Incidence (rate per 100,000) -176 Mortality (rate per 100,000) - 22	Reduce both the indicators by half their original amount.	Incidence (rate per 100,000) - 188 Mortality (rate per 100,000) - 37	Incidence - 6.2% Mortality - 6.8%	The incidence as well as the mortality from TB have risen over the years.
Annual Malaria Incidence	Total Malaria Cases (million)- 1.06	<1/1000	Total Malaria Cases (million)- 0.19	82%	Malaria cases fell to 0.7 per 1000 of population. Malaria deaths also declined sharply by 82% between 2012 and 2020.

Microfilaria (MF) prevalence in all districts	0.43% of district population (national prevalence average)	Less than 1% microfilaria prevalence in all districts.	-		The target achieved. 222 districts reported MF rate less than 1% in 2016.
Baseline Indicator	**Baseline (2012)**	**NHM Target**	**Latest Position**	**% Improvement over baseline**	**Remarks**
Kala-azar Elimination by 2015	Cases - 19,068 Deaths - 23		Cases – 2052 Deaths - 6	89.2% 4.9%	The target has been extended up to 2023. Out of 633 kala-azar endemic blocks, 625 blocks successfully eliminated the kala-azar in 2021.
Reduce prevalence of Leprosy	Total New Cases – 127,295	<1/10000 population	Total New Cases – 464	99.6%	The NHM target was achieved in 2021.Prevalence rate of 0.4 per 10,000 of population (WHO ,2021)
Health Infrastructure					
PHCs	24,049		30,813	28.1%	-
CHCs	4,833		5,649	16.9%	-
Sub Centres	148,366		157,921	6.4%	-
AMN's	664,453		934,583	40%	-
Health Financing					
Public Health Expenditure as % of GDP	0.93%		0.98% (2019)	5.3%	It was the Covid 19 pandemic which helped reach the target of over 2% of GDP spent on health in 2021-22. Adjusted for Covid, health spending was less than one per cent.
Reduce household out-of-pocket expenditure in total healthcare expenditure	63% (of current health expenditure)		54.78% (2019) (of current health expenditure)	13%	-

*As on 31. March.2012;
**As on 31.03.2021.
Source: Report dated September 28, 2022, PIB.

The burden of most infectious and associated diseases has reduced in India. However, there has been a sharp rise in non-communicable diseases. It has been estimated that the proportion of deaths due to NCDs in India rose from 37.9 per cent in 1990 to 61.8 per cent in 2016 (ICMR, 2017). The four major NCDs are cardiovascular diseases (CVDs), cancers, chronic respiratory diseases (CRDs), and diabetes, which share four behavioural risk factors – unhealthy diet, lack of physical activity, and use of tobacco and alcohol.

National Health Policy, 2017

Fifteen years following the implementation of the 2002 health policy, the situation had evolved significantly in four major ways. First, though maternal and child mortality declined rapidly, the burden due to non-communicable diseases and some other infectious diseases increased. Second, the emergence of a robust healthcare industry was estimated to be growing in double digits. Third, the growing incidence of catastrophic expenditure due to healthcare costs was believed to be one of the major contributors to poverty. Fourth, accelerated economic growth provided enhanced fiscal capacity. In response to these changes, a new health policy was formulated in 2017, with its primary aim being "*to inform, clarify, strengthen and prioritise the role of the Government in shaping health systems in all its dimensions.*"

For the first time, NHP-2017 prescribed ten key policy principles: (i) professionalism, integrity, and ethics; (ii) equity; (iii) affordability; (iv) universality; (v) patient-centred and quality of care; (vi) accountability; (vii) inclusive partnerships; (viii) pluralism; (ix) decentralisation; and (x) dynamism and adaptiveness (GOI, 2017).

The specific key objectives of NHP-2017 included: (i) progressively achieving universal health coverage through (a) free, comprehensive primary health care services, (b) improved access and affordability of quality secondary and tertiary care services, (c) significant reduction in OOPE and reduction in proportion of households experiencing catastrophic health expenditures and consequent impoverishment; (ii) reinforcing public trust in the public healthcare system; and (iii) aligning private healthcare sector growth with public health goals. NHP-2017 also set specific quantitative goals, including raising public health expenditure to 2.5 per cent of GDP in a time-bound manner, with some goals aligned with those of the NHM.

Key elements of the policy included: (i) aligning state resource allocations with development indicators, absorptive capacity, and financial metrics; (ii) fostering inter-sectoral coordination at both national and sub-national levels to enhance health outcomes; (iii) adjusting healthcare service organization strategies, such as (a) transitioning primary care from selective to assured comprehensive care with connections to referral hospitals, (b) shifting secondary and tertiary care from input-driven to output-oriented strategic purchasing, (c) transforming public hospitals from user fee and cost recovery models to providing free drugs, diagnostics, and emergency services for everyone, (d) evolving infrastructure and human resource development from a norm-based to a targeted approach for underserved regions, (e) upgrading urban health from minimal to comprehensive assured

interventions, (f) integrating National Health Programs with health systems to improve program effectiveness, and (g) mainstreaming AYUSH services from stand-alone operations to an integrated three-dimensional approach.

NHP-2017 articulated allocating up to two-thirds or more of the budget to primary care, followed by secondary and tertiary care, the view which was also echoed by the Fifteenth Finance Commission (FC-XV). It (FC-XV) also recommended grants of Rs. 70,051 crore over the period of five years (2021-2026) through local governments for strengthening the primary healthcare system. These grants were provided for: (i) conversion of rural SCs and PHCs to HWCs; (ii) support for diagnostic infrastructure for primary healthcare activities; and (iii) support for urban HWCs, SCs, PHCs, and public health units at the block level[10] (Demand for Grants Report, PRS 2022-23).

NHP-2017 policy was a departure from NHP-2002 policy in at least two ways. First and foremost, it brought the focus back to UHC. Secondly, it proposed enhancing institutional frameworks for consultative decision-making and joint execution between the central and state governments as a progressive strategy, in contrast to the National Health Policy 2002 (NHP-2002), which explicitly designated public health as a state responsibility.

Like earlier policies, NHP-2017 failed to outline a road map to raise public spending on health. As a result, even five years after the rollout of NHP-2017, public expenditure on health remained broadly unchanged at around one per cent of GDP. Several other quantitative targets for 2020 have not been met, even though two more years have elapsed after the timeline set for the targets (Table 11).

Table 11: NHP-2017 Policy - Targets & Achievements

	Indicator	Latest Position	Remarks
Demographic Indicators			
1	Reduce MMR from current levels to 100 by 2020.	MMR was 97 in 2020	Achieved.
2	Reduce infant mortality rate to 28 by 2019.	IMR 30 in 2019, but reduced to 27 in 2020	Achieved with a lag.
3	Reduce Under Five Mortality to 23 by 2025	U5-MR was 32 in 2020	-
4	Reduce TFR to 2.1 at national and sub-national level by 2025.	TFR was 2 in 2020	-
5	Increase Life Expectancy at birth from 67.5 to 70 by 2025.	70 in 2020	Achieved ahead of time.
6	Reduce neonatal mortality to 16 and still birth rate to "single digit" by 2025.	Neo-natal mortality rate was 19.1 in 2021.	-
7	Antenatal care coverage to be sustained above 90% and skilled attendance at birth above 90% by 2025.	Antenatal care coverage was 58% according to NFHS 2019-21 and the births attended by skilled professionals was 89.4% in 2021.	-
8	More than 90% of the new-born to be fully immunised by one year of age by 2025.	67% of the total new-born were fully vaccinated in their first year in 2021.	-

9	Meet the need of family planning above 90% at national and sub national level by 2025.	Family planning was at 87.6% in 2021.	-
10	Access to safe water and sanitation to all by 2020 (Swachh Bharat Mission).	99% and 95% of urban and rural households have access to safe drinking water. 83% have access to a toilet.	Not achieved but significant improvement made.
11	Decrease in proportion of households facing catastrophic health expenditure from the current levels by 25%, by 2025.	OOPE was 59.7 per cent in 2021.	-
Epidemiological Effects			
12	Elimination of: (a) Leprosy by 2018,	(a) Prevalence rate of leprosy was at 0.4 per 10,000 of population in 2021.	Not achieved.
	(b) Kala-Azar by 2017 and	(b) The target of elimination of kala-azar was extended till 2023.	Not achieved in 2017, Deadline extended till 2023.
	(c) Lymphatic Filariasis in endemic pockets by 2017.	(c) Lymphatic Filariasis prevalence rate in endemic pockets declined to less than 1% prevalence by 2016.	Not achieved in 2017, the deadline was further extended twice—first till 2021 then till 2027.
13	A cure rate of >85% in new sputum positive patients for TB and reduce incidence of new cases, to reach elimination status by 2025.	TB incidence and mortality rose 6.2% & 6.8%, respectively, between 2012 and 2020.	-
14	Reduce the prevalence of blindness to 0.25/1000 by 2025	Prevalence of blindness reduced to 0.3% (2020).	-
Health Financing			
15	Increase health expenditure by Government as a percentage of GDP from the existing 1.15% to 2.5 % by 2025.	Increased from 1.15% in 2013-2014 to 1.28% in 2019.	-
16	Increase State sector health spending to > 8% of their budget by 2020.	Average spending on health was 5 per cent of state budgets.	Not achieved.

Source: Report dated September 28, 2022, PIB and NHP-2017 report.

4.3 Sub-period III: 2018 Onwards

The primary focus during this period was on managing the Covid-19 pandemic and addressing the inadequacies in public health infrastructure for any future pandemics and outbreaks.

National Digital Health Mission (2020)

Following the NHP's 2017 specific goals for adopting digital technologies, the MoHFW constituted a committee (Chairman: Shri J. Satyanarayana) to develop an implementation framework for the National Health Stack. This committee produced the National Digital Health Blueprint

(NDHB), laying out the building blocks and an action plan to implement digital health comprehensively and holistically. Since the implementation was envisioned to be in a mission mode, the initiative was referred to as the National Digital Health Mission (NDHM), which was later renamed as the Ayushman Bharat Digital Mission (ABDM).

Some of the key objectives of ABDM are: (i) establishing digital health systems for managing digital infrastructure; (ii) creating registries with credible data of clinical establishments, healthcare professionals, health workers, drugs, and pharmacies; (iii) standardising personal health records; and (iv) national portability of healthcare services. The goal is to create a holistic health ecosystem for all.

ABDM was piloted on August 15, 2020 in six Union Territories—Andaman & Nicobar, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, Ladakh, Lakshadweep, and Puducherry. Three key registries of NDHM—Health ID, Health Professional Registry (HPR), Health Facility Registry (HFR) and digital infrastructure for data exchange—were developed and implemented in these UTs. On September 27, 2021, the national rollout of the ABDM was announced. Over 290 million citizens have generated their unique Ayushman Bharat Health Accounts (ABHA) so far. Over 40 million digital health records have been linked to the ABHA accounts of individuals. ABHA, a 14-digit number, allows citizens to access and manage their medical records digitally. With their health records linked to their ABHA accounts digitally, citizens can access and manage these records based on their convenience. This enables citizens to create a comprehensive medical history across various healthcare providers, thereby improving clinical decision-making. Further, the citizens can also digitally share relevant health records with ABDM registered healthcare providers. However, ABDM faces challenges, particularly in ensuring data security and privacy of patient records.

Managing the Covid-19 Pandemic

The Covid -19 pandemic caught the world by surprise, challenging the healthcare system like never before in the recent human history. India was the second most affected country in the world, accounting for 1/7th of the world's Covid burden. With the emergence of the highly transmissible Delta variant (1.617.2), India registered over 0.5 million cases every day for consecutive three weeks (April–May 2021) (Dhar, et al. 2021). The surge in Covid cases of such a large magnitude required unprecedented policy responses on multiple fronts, including two lockdowns in the country to contain/suppress the transmission of the virus. The Government of India constituted 11 empowered groups in March 2020 on different aspects of Covid-19 management in the country to take informed decisions on issues such as medical emergency planning; availability of hospitals; isolation and quarantine facility; disease surveillance and testing; and ensuring availability of essential medical equipment. Location-enabled app Aarogya Setu was launched to help monitoring of Covid-19 cases and contact tracing of people who had tested positive or had been in contact with a Covid-19 positive individual.

The India Covid-19 Emergency Response and Health Systems Preparedness Package— ECRP I and II—were launched. ECRP-I, as a central sector scheme, was aimed at building resilient health

systems to support preparedness and prevention functions. This initiative was designed to address not only the current Covid-19 outbreak but also to prepare for similar future outbreaks within the country. The interventions in this package were implemented under the NHM, supplementing the available resources for health systems strengthening and ensuring complementarity.

The objectives of ECRP I, which was implemented from January 1, 2020 to March 31, 2024, were to (i) slow and limit the spread of Covid-19 in India as much as possible; (ii) strengthen national and state health systems to support prevention and preparedness; and (iii) enhance surveillance activities, including setting up of laboratories.

The total package of Rs. 15,000 crore was financed through support from the World Bank and other multilateral financial institutions, such as the Asian Development Bank. The package, sanctioned in April 2020, was required to be utilised in three phases. An amount of Rs. 7,774 crore was allocated for immediate Covid-19 emergency response, while the remainder was provided for medium-term support (1-4 years) under mission-mode approach.

The majority of the expenditure was required for mounting a robust emergency response and strengthening both national and state health systems. This was followed by enhancing pandemic research, and strengthening multi-sector national institutions and platforms for One-Health, community engagement, risk communication, implementation, management, capacity building, monitoring, and evaluation components.

In July 2021, Phase Two of the package (ECRP-Phase-II) was launched, amounting to Rs. 23,123 crore, spanning from July 2021 to March 2022. This scheme aimed to prevent, detect, and respond to the continuing threat posed by Covid-19 and strengthen national health systems for preparedness in India. This scheme is a centrally sponsored scheme (CSS) with some central sector (CS) components, comprising a central share at Rs.15,000 crore and a state share of Rs.8,123 crore. To ensure the implementation of critical activities at the state/district levels and strengthen the public healthcare system's preparedness in response to the evolving pandemic, 15 per cent of the central share of resources was released in advance to the states/UTs.

The Covid pandemic exposed serious deficiencies in India's health infrastructure. The country faced a huge shortage of hospital beds, especially oxygen-supported beds and isolation beds. Therefore, efforts were made to strengthen the health infrastructure (Table 12).

Table 12: Covid-19 Health Infrastructure Strengthening

Category	As on April 1, 2020	As on August 2, 2020	No. of Fold increase
Dedicated COVID Hospitals	163	4,416	27
Dedicated COVID Health Centres	0	8,485	-
Dedicated COVID Centre	0	10,150	-
Oxygen supported beds	50,583	435,077	9
Total isolation beds (excluding ICU beds)	41,000	1,808,040	44
Total ICU beds	2,500	124,755	50

Source: State/UT-wise and Hospital-wise Covid Beds/ICU Beds/ventilator Beds in ESIC Covid Dedicated Hospitals (in reply to Unstarred Question on 11 August, 2021)

About 2.2 million health workers, including ASHAs, were insured to fight Covid-19, and additional human resources were deployed in the States/UTs, including specialists (3,720), medical officers (7,030) and nursing staff (36,303). One of the highlights of Covid-19 pandemic management was the vaccination drive covering all age groups. In all, 2.2 billion doses were administered as of January 12, 2023 (Table 13). This was the largest ever vaccination drive in the world.

Table 13: Number of Persons Vaccinated in India (by age group)

(As on 12.01.2023)

	12-14 Years		15-18 Years		18+ Population		Precaution Dose		Total Doses
	1st Dose	2nd Dose	1st Dose	2nd Dose	1st Dose	2nd Dose	18-59 Years	60+ Years, HCW, FLW	
Doses (millions)	4.1	3.2	6.2	5.4	92.2	86.4	15.4	6.9	220.1

Source: WHO database.

Table 14: Number of Persons Vaccinated in India (Dose I, II and Booster)

(As on 27.06.2023)

Doses of vaccines	Persons Vaccinated 1Plus Dose*	Persons Last Dose**	Persons Booster Add Dose	Total Vaccinations
Number of doses (millions)	1026	952	229	2207

Source: WHO database.
*Note: *: Cumulative number of persons vaccinated with at least one dose; **: Cumulative number of persons vaccinated with a complete primary series.*

Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)

After the breakout of the Covid-19 pandemic, our public health infrastructure was found grossly inadequate to handle it. To strengthen the public health infrastructure and effectively manage any future pandemics and outbreaks, PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) was launched in October 2021 (renaming the Prime Minister Atmanirbhar Swasth Bharat Yojana (PMASBY) announced in February 2021). It is a centrally sponsored scheme (with some Central Sector component) spread over five years from 2021-22 to 2025-26. This mission aims to enhance the capabilities of health systems and institutions at primary, secondary, and tertiary levels of healthcare, preparing them to effectively address both current and prospective pandemics.

The scheme's centrally sponsored component is designed to promote the early detection of diseases through HWCs, which will offer medical consultations, testing facilities, and medicines at no cost. Additionally, it plans to augment the healthcare infrastructure by adding 35,000 new critical care beds across 600 districts and improving referral services in 125 districts to facilitate the transfer of patients between healthcare facilities. The total budgetary allocation for this mission during its operative period from 2021-2022 to 2025-2026 is Rs. 64,180 crore. Of this total investment, Rs. 54,205 crore (84 per cent) is dedicated to the execution of Centrally Sponsored Scheme components, while Rs. 9,340 crore (16 per cent) is reserved for the execution of Central Sector scheme components.

Two Centrally Sponsored Components of PM-ABHIM:

Rural Health and Wellness Centres: Under PM-ABHIM, there is a provision for necessary infrastructure support for the construction of 17,788 building-less Sub-Health Centre (SHC) level AB-HWCs in rural areas. This will be in seven high-focus states (Bihar, Jharkhand, Odisha, Punjab, Rajasthan, Uttar Pradesh and West Bengal) and three North-eastern states (Assam, Manipur and Meghalaya) cumulatively over a five-year duration from 2021-22 to 2025-26.

Urban Health and Wellness Centres: To ensure the provision of comprehensive primary health care to the urban population, 11,024 urban HWCs are envisaged to be established across all the States and UTs, cumulatively over a five-year duration from 2021-22 to 2025-26.

Centre Sector Component

Under the second component, integrated public health laboratories will be established in 730 districts. Block-level public health units will be created in 3,000 blocks. Additionally, the network for diagnostic facilities will be strengthened through five regional National Centres for Disease Control, 20 metropolitan units, and 15 bio- safety level labs (Demand for Grants Report, PRS 2022-23).

The Mission was allocated Rs. 5,846 crore for 2022-23, which is more than 5.5 times the allocation of Rs. 1,040 crore made in 2021-22 (RE).

Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN)

PMSSN was established in March 2021 as a single non-lapsable reserve fund, created by allocating a share of health from the proceeds of the Health and Education Cess levied under Section 136-B of Finance Act, 2007. Accruals into the PMSSN will be utilised for the flagship schemes of the MoHFW, *viz.*,

- Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PM-JAY)
- Ayushman Bharat - Health and Wellness Centres (AB-HWCs)
- National Health Mission (NHM)
- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)
- Emergency and disaster preparedness and responses during health emergencies
- Any future programme/scheme that aims to achieve progress towards SDGs and the targets set out in the NHP-2017.

The responsibility for the administration and upkeep of the PMSSN falls to the Ministry of Health and Family Welfare (MoHFW). In a given fiscal year, funding for the MoHFW's schemes will first be provided by the PMSSN, followed by support from the Gross Budgetary Support (GBS). A major benefit of this fund is that it enhances access to universal and affordable healthcare through the availability of earmarked resources, while also ensuring that the funds do not lapse at the end of the financial year.

5. Health Insurance Schemes in India

Despite the expansion of health facilities, illness remains one of the most prevalent causes of human deprivation in India. Health insurance is one way of providing protection to poor households against the risk of health spending that can lead to poverty. For Central Government employees, a health insurance scheme was launched as early as 1954. However, there was also a recognised need for health schemes for the underprivileged sections of society. From time to time, the Central Government has attempted to provide health insurance coverage to select beneficiaries. A noteworthy initiative in this regard was the *Rashtriya Swasthya Bima Yojana (*RSBY) in 2008, which was replaced by the Prime Minister Jan Arogya Yojana (PM-JAY) in 2018.

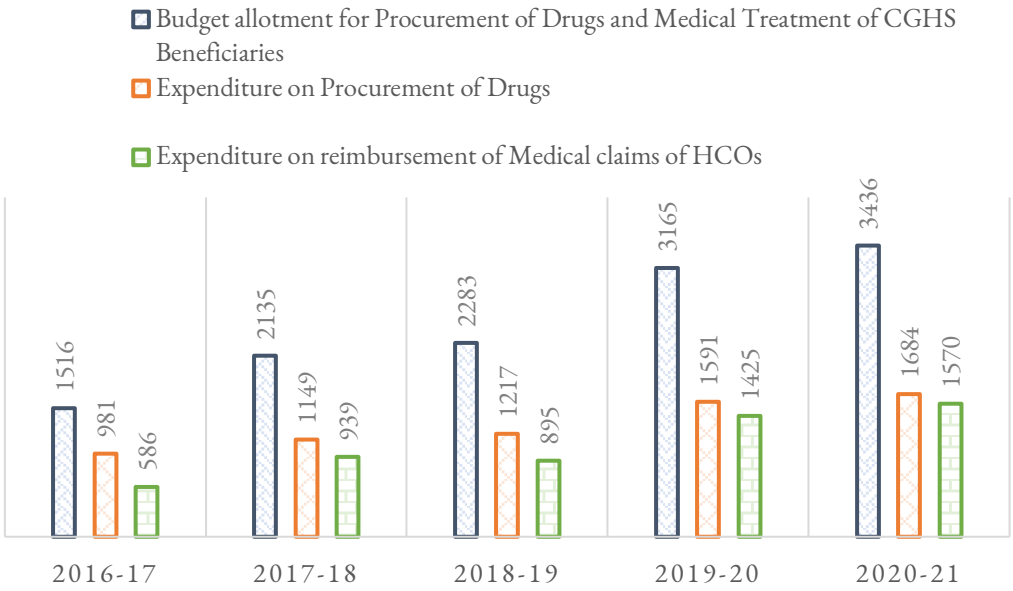
5.1 Central Government Health Scheme

The Central Government Health Scheme (CGHS) was initiated in 1954 for serving Central Government employees and their families, who faced difficulty in getting reimbursements for OPD medicines. Another reason for CGHS was that there were not many private hospitals then. However, the scheme was later extended to retired government employees and their families. The scheme started in Delhi, and it was not envisaged to be an all-India scheme. However, the scheme was gradually made operative at an all-India level. CGHS dispensaries now also provide OPD medicines.

Through 331 wellness centres and an extensive network of wellness centres, polyclinics, and laboratories, medical services and medications are made available to 3.85 million beneficiaries in 74 cities. Additionally, the Central Government Health Scheme (CGHS) has included private hospitals and diagnostic centres across various cities to facilitate investigations and inpatient treatments. The facilities and eligibility for CHGS scheme can be found in Annex IX.

CGHS is fully funded by the Central Government. Budget allocations for CGHS have been raised over the years. However, within these allocations, the share dedicated to the reimbursement of medical claims for healthcare beneficiaries has gradually increased, while the portion allocated for the procurement of drugs has declined (Chart 6).

Chart 6: Budget Allocation and Expenditure (in Crore)



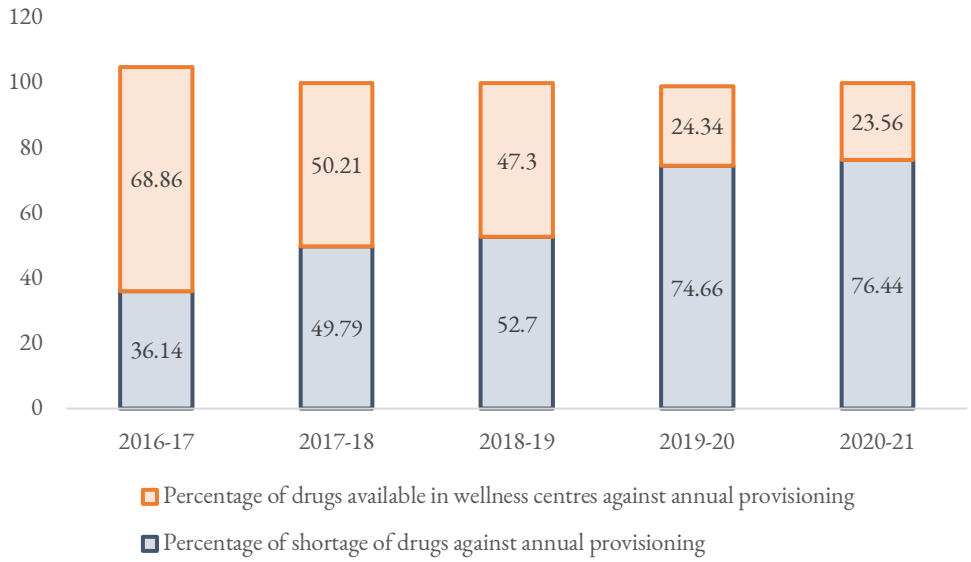
Source: CGHS Database

Although outpatient claims dominated in terms of the number from 2016 to 2021, inpatient claims were significantly higher than those of outpatient claims. About 87% of the total claims were for outpatient services, yet 85% of the total claim amount was attributed to inpatient claims.

Status of Drug Availability and quality of service provided at Wellness Centre

A significant shortage of drugs, as high as 76 per cent, was noticed against approved provisioning in 2020-21 at selected wellness centres in Delhi (Chart 7). The increase in drug shortages at select wellness centres in Delhi during 2019-20 and 2020-2021 was attributed to inadequate steps in purchasing the drugs through MSO/GMSDs and CPSUs. There was delay of six to nine months between the rate finalisation by MSO and the supply of the drugs.

Chart 7: Shortage of Drugs – Select Centres at Delhi



Source: CAG Audit Report no 17 (2022)

From 2016 to 2021, the Central Government Health Scheme (CGHS) settled a total of 7.5 million claims, with 4.3 million of these claims coming from the Delhi NCR region. Other cities with significant numbers of settled claims included Kolkata, Hyderabad, Chennai, and Pune, ranking highest in terms of hospital claims processed.

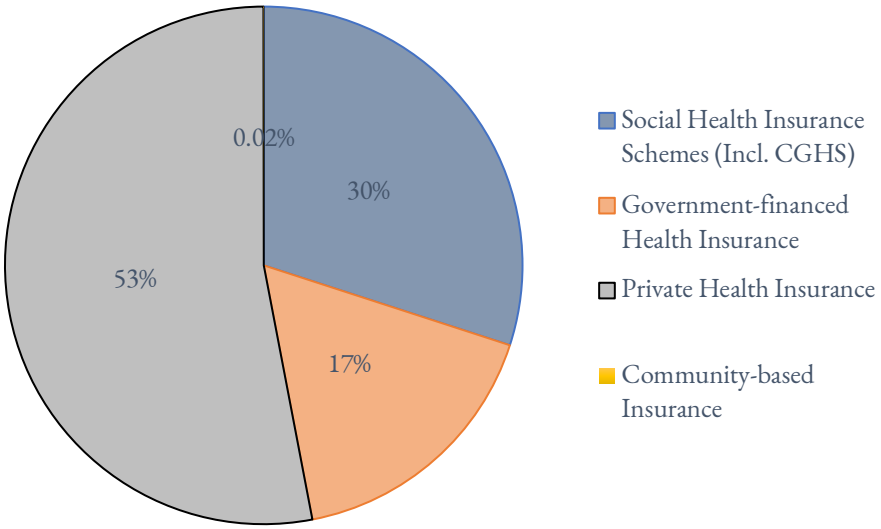
Issues were identified in procurement and supply chain management, such as the lack of regular updates to the drug formulary, delays and failures in finalizing rate contracts for drugs, leading to inefficiencies in drug supply chain management. A review of the claim reimbursement procedures for Health Care Organisations (HCOs) under CGHS highlighted problems including delayed submissions, processing, and approval of claims, excessive billing by HCOs, and overpayments made to them. As a result, CGHS's goal, as stated in its Vision Statement to become the preferred provider of quality healthcare services and ensure the comprehensive well-being of its clients throughout their lives, was not achieved (Government of India, 2022).

An audit of the procurement process uncovered significant flaws at each stage, such as the lack of defined timelines, failure to follow established timelines, deviations from standard procedures, and insufficient monitoring, adversely affecting the drug procurement process. This impacted the timely availability of services to beneficiaries and the quality of the drugs supplied.

In terms of drug distribution, 36 percent of patients experienced delays in receiving their medications, with 35 percent facing delays of three to seven days, and 1.4 percent waiting for more than seven days between 2016-17 and 2020-21. Besides CGHS, there are other social health insurance schemes such as the Employee State Insurance Scheme (ESIS) and the Ex-Serviceman Contributory Health Scheme, in addition to state government-financed health insurance schemes and private health insurance options. In terms of health insurance expenditure, private health insurance

constitutes the largest share, followed by social health insurance schemes and state-government financed health insurance schemes (Chart 8).

Chart 8: Health Insurance Schemes



Source: National Health Accounts

A recent press report suggests that the National Health Authority (NHA) is in the process of integrating the CGHS with Ayushman Bharat Digital Mission (ABDM), as explained before (Sharma, 2023). It is aimed at creating digital health identification of CGHS beneficiaries and storing their digital health records, thus ensuring quick treatment to the needy.

CGHS, a significant healthcare scheme for active/retired government officials and their dependents, caters to around 4 million beneficiaries in 74 cities. Though the budget allocations have increased over the years, the share of reimbursement of claims has increased, while that of procurement of drugs has declined. Major deficiencies in procurement and supply chain management have been identified, leading to delays in the issuance of drugs.

The strategic allocation of increased healthcare expenditure in India can effectively address the deficiencies in drug procurement and supply chain management, thus reducing delays in drug issuance. By investing in advanced procurement technologies and supply chain logistics, the process can be streamlined, ensuring efficient and transparent operations. Enhanced training for personnel, coupled with the adoption of public-private partnerships, can introduce best practices and innovations. Furthermore, regulatory reforms can minimise bureaucratic delays, while newer technologies can improve demand forecasting and traceability. Altogether, these measures can significantly improve the availability and timely delivery of essential medications, directly benefiting patient care. Additionally, with more financial resources, the government and healthcare institutions can focus on research by fostering collaboration between the government, pharmaceutical companies, and research institutions. Thus, strategically increasing healthcare expenditure in India can not only

strengthen the overall healthcare infrastructure but also specifically address and alleviate the delays in the drug issuance process, making critical medications more swiftly available to the population.

5.2 Rashtriya Swasthya Bima Yojana (RSBY)

RSBY was rolled out from April 1, 2008, after critically reviewing the existing and earlier health insurance schemes and other successful models of health insurance in the world in similar settings. The scheme was meant for the unorganised sector workers belonging to BPL category and their family members (a family unit of five). The beneficiary was eligible for such inpatient healthcare insurance benefits as would be designed by the respective State Governments based on the requirement of the people/geographical area. The unorganised sector worker and his family (unit of five) were covered. Total sum insured was Rs. 30,000/- per family per annum on a family floater basis. It was a centrally sponsored scheme with 75 per cent of the estimated annual premium of Rs. 750, subject to a maximum of Rs. 565 per family per annum, and cost of the smart card was also borne by the Central Government. State governments contributed 25 per cent of the annual premium, as well as any additional premium. The beneficiary paid Rs. 30 per annum as registration/renewal fee.

Table 15: Key Features of RSBY

Parameter	Description	Additional comments/caveats
Benefits covered	○ Cost of hospitalization for 725 + procedures at empanelled hospitals up to INR 30,000 per annum per household ○ INR 100 per admission up to INR 1000 for transport cost per annum per household.	Pre-existing conditions are covered; minimal exclusions; day surgeries covered; outpatient expenditure is not covered
Eligibility criteria	○ Must be on the official state BPL list ○ Limited to five members of the household including household head, spouse and three dependents	All enrolled members must be present at enrolment to be enrolled; infants are covered through mother
Premium and fees	INR 30 registration fee per household per annum paid by household	Average premium for participating districts is around INR 560, funded by the government
Financing	75%/25% Government of India/state government	The ratio is 90%/10% in Northeast states and Jammu & Kashmir
Policy period	One year from month of enrolment	Enrolment can take place over four months each year and can vary across states
Management	Both public and private insurance companies can bid to work in a district or more than a district recommended by state governments	In each district only one insurance company is finally selected for a particular tear
Service provider	Both public and private providers can apply to join the network of providers empanelled under the scheme.	Minimum eligibility criteria on quality of services have been laid down by the MoL&E

Source: Ministry of Labour and employment,2008b

The administrative and other related cost of administering the scheme were borne by the respective State Governments. The key features of the scheme are summed up in Table 15.

RSBY was a government initiative aimed at reducing OOPE and preventing catastrophic health expenditures among the poor. However, actual implementation of the scheme was not so encouraging because of its complex design. Out of 59 million eligible households, only 36.3 million (61 percent) were covered by RSBY. In Assam and Bihar, two states with notably poor health and educational outcomes, coverage of Below Poverty Line (BPL) households ranged from 50 to 60 percent, based on government statistics reported by India Spend on 17 October 2017. A significant barrier to higher enrollment was a lack of awareness about the policy among those eligible. A study by the Tata Institute of Social Sciences, Mumbai, in 2013 revealed that 35 percent of eligible households were unaware of the program. Among the 150 million registered, only about 14 million (9.94 percent) had utilized hospital services. Additionally, although beneficiaries received smart cards, many did not know how to use them, and hospitals were often hesitant to accept these cards, further complicating access to benefits.

The scheme's rigidity also posed challenges. The National Sample Survey Office's (NSSO) health survey for the first half of 2014 showed that the average hospitalization cost was Rs. 14,935 in rural areas and Rs. 24,435 in urban areas. From the decade up to 2014, hospitalization expenses rose by 10.1 percent in rural regions and 10.7 percent in urban areas. Despite these increases, the insurance coverage amount under the RSBY remained the same throughout its nine-year duration. A 2013 study in the British Medical Journal detailed the costs for common surgeries as ranging from Rs. 2,469 to Rs. 41,087 for a lower abdomen caesarean, Rs. 4,124 to Rs. 57,622 for a hysterectomy, and Rs. 2,421 to Rs. 3,616 for an appendectomy. The relatively low coverage limit of the scheme may have led some households to utilise hospital services beyond the RSBY cap. The survey data showed that in 2012, among households incurring inpatient out-of-pocket expenditure, approximately 9 per cent reported paying more than Rs. 30,000. The average annual expenditure ranged from Rs. 75,000 to Rs. 80,000 (Chatterjee and Laxminarayan, 2013).

5.3 Ayushman Bharat Yojana

The Rashtriya Swasthya Bima Yojana (RSBY) focused primarily on hospitalization for secondary care, while various state-level schemes provided coverage for tertiary care conditions. These schemes operated in isolation from the broader national healthcare system, contributing to the division of risk pools, and lacked any integration with Primary Health Centres (PHCs). In response, the Government of India adopted a dual strategy within the Ayushman Bharat, or "Healthy India," initiative launched in April 2018 as part of the National Health Policy 2017, aiming for Universal Health Coverage (UHC) in line with the Sustainable Development Goals (SDG) and the principle of leaving no one behind.

The initiative's first aspect involved disease prevention and health promotion to combat the rising tide of non-communicable diseases by transforming existing sub-centres and PHCs into Health and

Wellness Centres (HWCs). The plan was to establish approximately 150,000 HWCs nationwide in the ensuing years to lessen the disease burden and the need for hospitalization among the populace. These centres would offer comprehensive primary healthcare services, including maternal and child health, non-communicable diseases, and provision of free essential medicines and diagnostic services. The second aspect entailed the introduction of the Pradhan Mantri-Jan Arogya Yojana (PM-JAY). This scheme aimed to foster a demand-driven healthcare reform system that provides eligible families with immediate hospitalization coverage in a cashless manner, thereby protecting them from severe financial hardships due to health expenses.

PM-JAY is one significant step towards the achievement of UHC and Sustainable Development Goal 3 (SDG 3). The scheme subsumed two centrally sponsored schemes, namely, *Rashtriya Swasthya Bima Yojana* (RSBY) and the Senior Citizen Health Insurance Scheme. The key features of the scheme are mentioned in Table 16.

Table 16: Key Features of PM-JAY

Benefits & Coverage	o Health insurance coverage of Rs. 5,00,000 per family annually for secondary and tertiary care hospitalisation. o Covers 3 days of pre-hospitalisation and post hospitalisation charges up to 15 days. o Unlike RSBY, PM-JAY has been designed in such a way that there is no cap on family size or age of members. o Pre-existing diseases are covered from day one.
Eligible Beneficiaries	o Enrolled Population falling under the following categories: o Below the Poverty Line (BPL) in the Socio-Economic Caste Census (SECC) 2011. o Existing *Rashtriya Swasthya Bima Yojana* (RSBY) beneficiaries. o State notified categories.
Funding Pattern	o The existing sharing pattern is in the ratio of 60:40 for States and Union Territories with Legislature. o 90:10 for the North-eastern and Himalayan States. o 100% coverage may be provided to UTs without Legislature by the Central Government.
Service Providers	o Public- All public hospitals (including ESIC) equipped with inpatient facilities (Community Health Centre level and above) are empanelled by default. o Private and not for profit hospitals–Hospitals meeting the minimum criteria established by National Health Authority (NHA).

Source: Empanelment of healthcare facilities under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) in India

PM-JAY provides financial protection (S*wasthya Suraksha*) to 107 million poor, deprived rural families. PM-JAY has defined 1,350 medical packages covering surgery, medical, and day care treatments, including medicines, diagnostics and transport.

With a view to ensuring that nobody is left out (especially girl children, women, children, and elderly), there is no cap on family size and age. The scheme is cashless and paperless at public hospitals and empanelled private hospitals. The beneficiaries are not required to pay any charges for the hospitalisation expenses. The scheme provides coverage for 1,573 procedures, and pre- and post-hospitalisation expenses as well. When fully implemented, the PM-JAY will become the world's largest government-funded health protection mission. It is expected to significantly reduce out-of-pocket

expenditure for hospitalisation, mitigate the financial risk arising from catastrophic health episodes, and consequently prevent impoverishment for poor and vulnerable families.

Under PM-JAY, insurance cover has been provided to around 107 million poor and vulnerable families. For 2022-23, PM-JAY was allocated Rs. 6,412 crore, which is double the revised estimates of 2021-22 (Rs. 3,199 crore). A study by the FC-XV on Ayushman Bharat (2019) estimated the demand and expenditure on PM-JAY for the next five years. It stated that the total costs (centre and states) of PM-JAY for 2019 could range from Rs. 28,000 crore to Rs. 74,000 crore. This estimate considers: (i) the assumption that all targeted beneficiaries will be covered (approximately 500 million beneficiaries based on socio economic caste census 2011 data); (ii) hospitalisation rates over time; and (iii) average expenditure on hospitalisation. These costs could go up to between Rs. 66,000 crore and Rs. 1,60,089 crore in 2023 (accounting for inflation) (Demand for Grants Report, PRS 2022-23).

A snapshot of Progress of HWCs and PM-JAY is outlined in Table 17.

Table 17: Status of Implementation of HWCs and PM-JAY

(April 1, 2021 to November 28, 2021)

Indicator	All India
Total Footfalls	826 million*
Ayushman Cards Issued	172 million
Funds Dispersed to states /UTs for implementation	Rs. 2,544 Crore
Total Hospital admissions authorised	7.47 million
Claims paid towards authorised hospital admissions (Covid-19 and non-Covid-19)	Rs. 2,450 Crore*
Claims paid towards authorised hospital admissions for Covid-19 treatment	Rs. 1,056 Crore*
Health and Wellness Centres (HWCs)	1,50,000**

* denotes as on February 06, 2022

** denotes as on December 31, 2022.

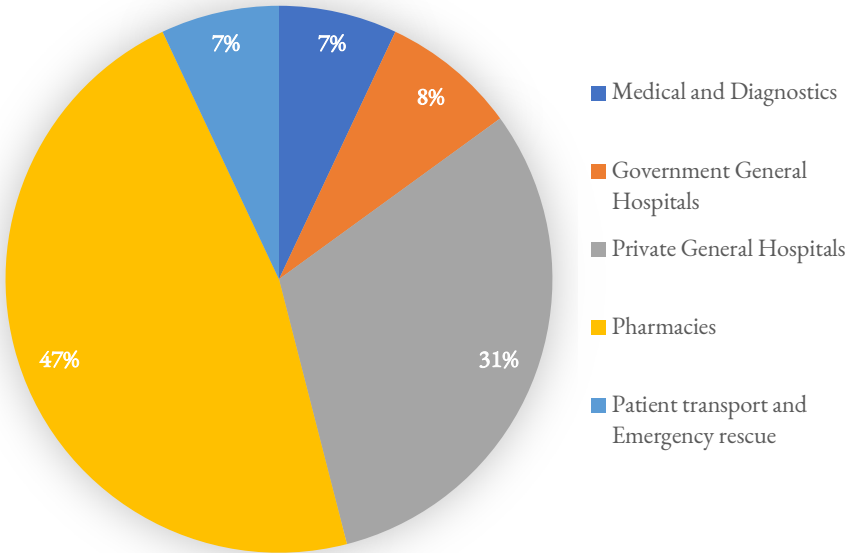
(https://pib.gov.in/Pressreleaseshare.aspx?PRID=1575549)

Source: Lok Sabha starred Question No. 95, answered on December 3, 2021; HWC Portal, Ayushman Bharat; PRS

The overall out-of-pocket expenses in India on healthcare is 60 per cent of the total expense on public health—one of the highest in the world. One of the objectives of the PM-JAY is to reduce OOPE. PM-JAY allows access to secondary and tertiary healthcare services. However, of the health expenditure in 2017-18, 47 per cent was towards primary care (pharmacies), 39 per cent towards secondary care (private and government hospitals), and 14 per cent towards tertiary care, with the remaining percentage allocated towards governance and supervision (Chart 9). This implies that about 50 per cent of the healthcare expenditure is not covered under the PM-JAY. Therefore, the PM-JAY has inherent limitations in reducing OOPE.

It is claimed that to offer comprehensive health coverage to beneficiaries, free essential drugs and diagnostic services are provided through AB-HWCs. However, specific details about these medicines and tests, including their likely costs, are not readily available.

Chart 9: Health Expenditure - Major Components



Source: NITI Aayog (May 1, 2020)

In several cases, OOPE is covered through borrowings. As per the NSS Survey on Health in India (2018), in rural areas, 13.4 per cent of the hospitalisation cases were financed by individuals through borrowings. In urban areas, this share was at 8.5 per cent. Between 3-4 per cent people in both rural and urban areas required support from friends and relatives. Large OOPE, therefore, have serious consequences, especially for the lower rung of society. The FC-XV noted that about 60 million Indians are pushed into poverty each year due to out-of-pocket payments for health. This implies that health insurance or any kind of financial protection measures must cover expenses at all levels of healthcare. Increasing government spending on public health from 1 per cent of the GDP to 2.5-3 per cent of GDP will help in reducing out-of-pocket expenditure from 60 to 30 per cent. It also noted that Indian states that have higher per capita spending on health have lower out-of-pocket expenditure, which is also true at the global level (Economic Survey, 2020-21).

The utilisation of the amount allocated to the scheme has also been poor. While 83 per cent of budget allocation was utilised in 2018-19, the utilisation decreased to 50 per cent in 2019-20, and to 42 per cent in 2020-21. In 2021-22, the allocation towards the scheme was halved at the revised stage. This could imply gaps in implementation of the scheme. The Rajya Sabha Committee (GOI, 2022), which went into the working of the PM-JAY, observed in its report that a large mismatch in allocation and actual expenditure reflected poor financial prudence and failure in judicious assessments of the needs of the programme. It also observed that the list of beneficiaries under AB-PM-JAY, which was based on the outdated SECC census 2011 data, may lead to the exclusion of many beneficiaries. The

committee reiterated its recommendation that the MoHFW must make efforts to expand the list of beneficiaries under AB-PM-JAY. It was of the view that there was a direct correlation between the number of verified beneficiaries and demand for healthcare services under the scheme.

Like the erstwhile RSBY, people also lack awareness about the PM-JAY. This was also noted by the Rajya Sabha Committee, and it exhorted the MoHFW to conduct large scale awareness campaigns, especially in rural areas for wider dissemination of the provisions under the scheme and work towards increasing the beneficiary base.

6. Evolution of Health Spending—2005-06 Onwards

Having discussed health policies and various health schemes, it will be insightful to know how health spending on various schemes evolved over the years. This assessment is based on the overall health budget of the MoHFW of the Central Government. Though a comparison of scheme-wise health spending is strictly not possible as schemes have changed over the years, still some useful inferences could be drawn.

In 2005-06, (i) medical education training and research (14 per cent); (ii) public health (9 per cent); and (iii) NRHM (63 per cent) constituted more than 80 per cent of health budget of the MoHFW. This pattern in 2010-11 was similar. By 2015-16, while the share of NHM (earlier NRHM) remained broadly the same, some other significant changes were observed. Autonomous bodies (13.1 per cent); establishment expenditure of the centre (9.4 per cent); PMSSY and National Aids and STD control (4 per cent each) constituted other major items. In 2023-24, some further changes were observed. The share of NHM declined sharply to 33.8 per cent (from 59.7 per cent in 2015-16) and the decline in the share of NHM was offset by PM-JAY (8.4 per cent) and PM-ABHIM (4.9 per cent). The share of autonomous bodies increased (to 20.1 per cent from 13.1) (Table 18).

Table 18: Health Budget Allocations – MoHFW (as % of Total Expenditure)[11]

Category	2005-06	2010-11	2015-16	2023-24
Hospitals & Dispensaries	**2.61**	**4.17**	**-**	**-**
Medical Education Training & Research	**13.59**	**11.38**	**-**	**-**
Of which:				
PMSSY	2.4	6.7	-	-
Public Health	**8.67**	**13.52**	**-**	**-**
Of which:				
National AIDS Control Programme	4.6	6.7	-	-
National Rural Health Mission	**63.30**	**59.12**	**-**	**-**
Establishment Expenditure of the Centre	**-**	**-**	**9.37**	**9.37**
Central Sector Schemes/Projects	**-**	**-**	**11.33**	**11.33**
Of which:				
PMSSY[12]			4.76	3.90
National AIDS and STD Control Programme[13]	-	-	4.80	3.57
Other Central Sector Expenditure	**-**	**-**	**19.56**	**19.56**
Of which:				
Autonomous Bodies			13.1	20.1
Centrally Sponsored Schemes	**-**	**-**	**59.73**	**59.73**
Of which:				
National Health Mission	-	-	59.73	33.75
PM-JAY	-	-	-	8.35
RSBY	-	*	*	-
PM-ABHIM	-	-	-	4.87
Others	**11.82**	**11.80**	**-**	**-**
Total	**100.0**	**100.0**	**100.0**	**100.0**
Grand Total (Amount in Rs. crore)	**10281**	**23530**	**33121**	**86175**

Note: Data in the table have been sourced from budget documents of the Central Government. The classification of healthcare data underwent changes as new schemes were introduced.
**Break-up not available.*
Source: Union Budget documents of various years.

7. Discussion

Health was an issue of intense discussion even before India's independence. The importance of health for the well-being of people and the economic growth of the country has also been well recognised by various committees, five-year plans, national health policies, and even FCs. Health is vital not only as an end in itself, but also because it contributes to economic growth. One extra year of population life expectancy raises GDP per capita by 4 per cent (Raj, *et al.*, 2023). There is no denying that there has been considerable improvement in health indicators over the years such as life expectancy at birth, infant mortality rate, increase in institutional births, improvement in

immunisation coverage, improved sanitation, and clean cooking (NFHS-5). India is now a smallpox free country, and many diseases such as malaria and tuberculosis have also been contained. India's health delivery system has also improved with a large pool of physicians and the nursing staff. As a result, the gap in India's health index has narrowed with respect to both advanced and developing economies over the years (Raj *et al.*, 2023). Despite this progress, India continues to lag far behind its peers in some crucial indicators of health (Table 19).

Table 19: Indicators of Health – India vis-à-vis its Peer Economies

Country	Life Expectancy		MMR (per 100,000 live births)		IMR (per 1,000 live births)		Health Expenditure (% of GDP)		OOPE (% of Current Health Exp)	
	1991	2021	1991	2021	1991	2021	2000	2021	2000	2020
Nepal	54.8	68.4	924	186	96.4	22.8	0.5	1.8	55.8	54.2
Bangladesh	54.2	72.4	589	173	101.0	22.9	0.5	0.4	61.8	74.0
India	59.1	67.2	570	133	88.8	25.5	0.8	1.1	71.7	50.6
Indonesia	63.2	67.6	348	177	61.8	18.9	0.5	2.2	45.2	31.8
Philippines	65.9	69.3	198	121	39.9	20.5	1.4	2.1	41.2	45.0
South Africa	63.3	62.3	162	119	47.8	26.4	2.7	5.0	14.5	5.4
Brazil	66.3	72.8	112	60	52.7	12.9	3.5	4.5	36.6	22.4
China	68.0	78.2	90	29	42.7	5.1	1.0	2.9	60.1	34.8
Sri Lanka	71.9	76.4	79	36	19.4	5.8	2.2	1.9	40.0	46.6

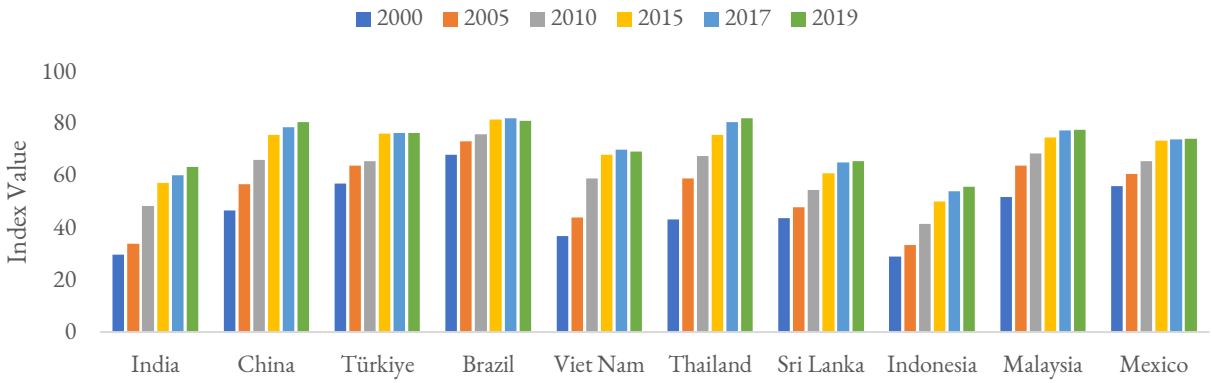
Source: World Development Indicators Database

In context of health, four major issues raise concerns: (i) universal health coverage goal remains elusive; (ii) low spending on health, with relatively neglect of primary health care, and consequently high OOPE; (iii) a massive shortage of human resources; and (iv) low spending on research.

Universal health coverage goal remains elusive

The Bhore Committee was a landmark development in that it was a step towards universal health coverage (UHC), which implies access to quality health services without incurring financial hardship. Moreover, the High-Level Expert Group on Universal Health Coverage constituted by the then Planning Commission in 2010 was also an example of a policy-level effort for achieving UHC. Despite some improvements, overall access to quality health services remains inadequate for the majority of the population. As a result, India continues to lag behind many of its peers in the UHC index. India is about 14 years behind China in UHC. India was ahead of Indonesia in UHC in 2000, but now it is almost at par with it (Chart 10).

Chart 10: UHC Service Coverage Index



Source: WHO database.

The ultimate test of India's healthcare system would be how quickly the country climbs up the ladder of the UHC index. Lack of universal healthcare, in fact, also represents large rural-urban divide in terms of health infrastructure, as has been alluded to before and also explained subsequently.

Low spending on health- A key concern

Better health outcomes, however, depend largely on public spending on health. The root of India's poor health performance is its abysmally low spending on health, which has resulted in a high OOPE relative to its peers. Post-Independence, India followed a model of planning in the form of Five-Year Plans (FYP), the focus of which was on industrial development to achieve commanding heights. As such, not much attention was paid to the social sector, including health. Economic services from the 1st FYP to 9th FYP were allocated over four-fifth resources to economic services, while the social sector, including health and education, and water supply, received the residual (Duggal, 2011).

One of the key features of NHP-2017 was to raise the share of States' expenditure on health to 8 per cent of their total expenditure. The FC-XV recommended unconditional grants amounting to Rs. 1 lakh crore for the health sector (for the time 2021- 26). In addition, it endorsed the NHP-2017 suggestion that by 2022, States should spend more than 8 per cent of their budget on health. However, on an average, States spend only 5 per cent of their budget on health with Delhi and Puducherry above the target, while some other States spend even less than 4 per cent of their budget on health. It is indeed distressing that States' health spending has remained unchanged over last 30 years.

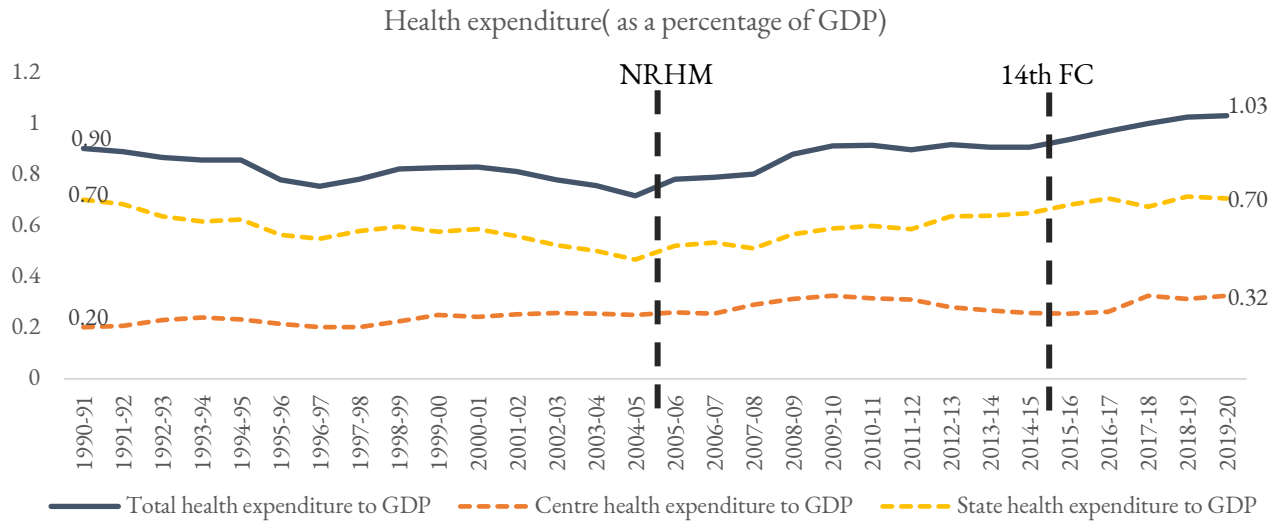
Every health policy introduced shares the overarching goal of ensuring more equitable access to health services across the diverse social and geographical landscape of the country. However, this can only be achieved by strengthening the healthcare resources which, in turn, depend on the public health spending in the country.

The NHP-2017 also aimed at increasing public health expenditure to 2.5 per cent of the GDP by 2025. The NHP-2017 noted that while general taxation would remain the largest means for financing healthcare, the government could consider imposing taxes on specific commodities such as tobacco,

alcohol, and foods having negative impact on health, and also levy taxes on extractive industries and pollution cess. In 2018-19, the Central Government announced a 4 per cent Health and Education Cess in place of the 3 per cent Education Cess on Income Tax and Corporation Tax to cater to the education and health needs of the poor and rural families. In 2022-23, Rs. 62,519 (RE) was estimated to have been collected through the health and education cess, which was an increase of 18.5 per cent over the amount collected in 2021-22. In 2020-21, the Central Government also introduced a 5 per cent health cess which is imposed as customs duty on certain medical equipment. This was to be utilised for financing health infrastructure and services in aspirational districts. In 2022-23, Rs. 870 crore was estimated to have been collected under this health cess (customs) (Economic Survey, 2020-21).

However, despite all the efforts, overall health spending remains low. Even 40 years after it was first articulated to be raised to 2.5 per cent of GDP, health spending is nowhere close to the target with the public expenditure on health at about 1 per cent of GDP. What is even more disappointing is that the share of 1 per cent of GDP has remained stagnant for the last 30 years. Health expenditure as percentage of GDP declined from 0.90 per cent of GDP to 0.72 per cent of GDP in 2004, before it started inching up again from 2004 onwards following the launch of NRHM (Chart 11).

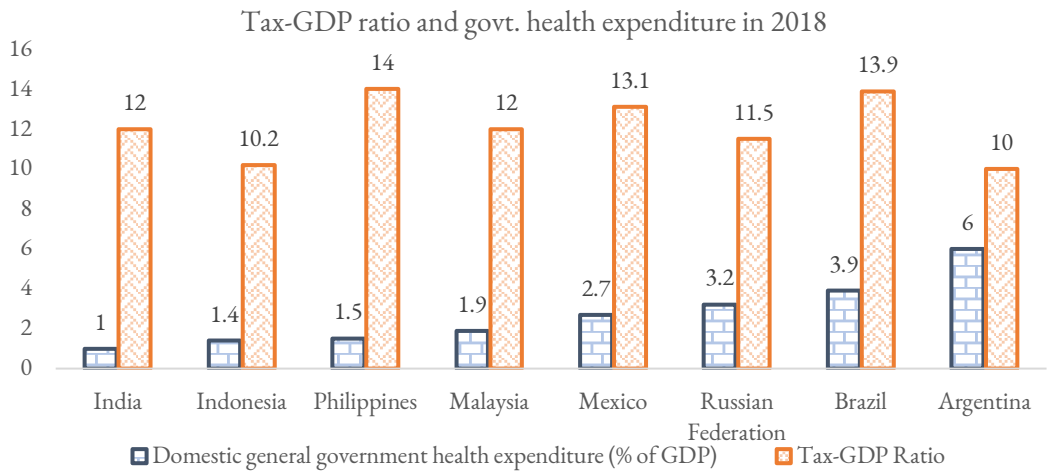
Chart 11: Health Expenditure – Centre VS State (1990-2019)



Source: RBI State Finances, A Study of Budget; Union budgets.
Note: Total health expenditure includes expenditure by the Centre and the States on Medical and Public Health and Family Welfare. Health expenditure by ministries other than the ministry of health has been excluded.

Public health spending has remained at a low level and compares unfavourable with health spending by other emerging market economies with similar Tax-GDP ratio (Chart 12).

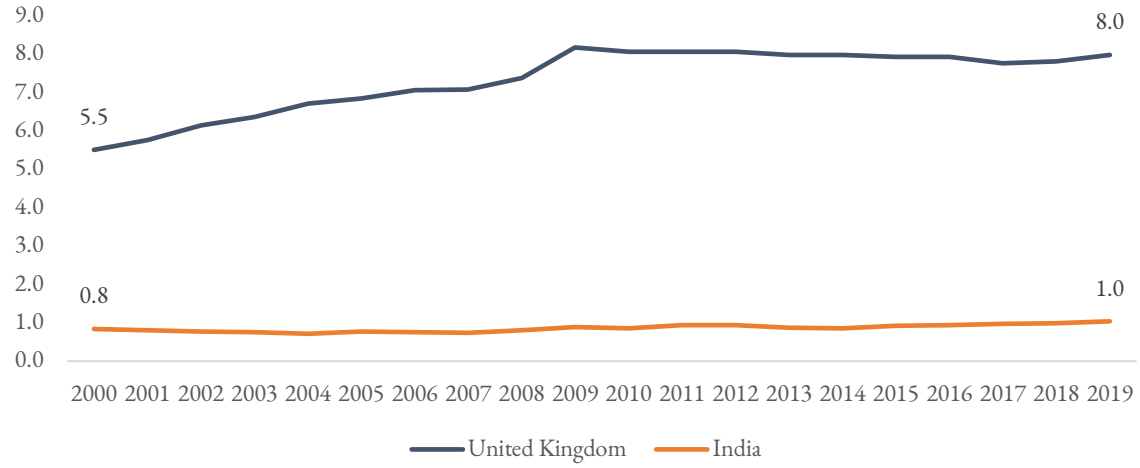
Chart 12: Tax-GDP ratio and Public Health expenditure in Select Emerging Market Economies



Source: World Bank

One of Bhore committee's key recommendations was a national health system for delivery of comprehensive preventive and curative allopathic services through a rural-focused multilevel public system financed by the government, which all patients would be able to reap irrespective of their ability to pay. However, the newly independent country faced with multiple challenges such as (i) widespread poverty; (ii) high morbidity and mortality due to several communicable diseases such as malaria, smallpox, plague, tuberculosis, among others; (iii) and a fragile economy and could not afford the NHS recommended by the Bhore committee. Incidentally, around the same time that the Bhore committee submitted its report in India, the United Kingdom enacted the National Healthcare Service Act in 1946, with the aim of establishing a health service to improve the physical and mental health of the people and to enhance the prevention, diagnosis, and treatment of illnesses.

Chart 13: Public Healthcare Spending (% of GDP)– India versus the UK



Source: Ministry of Health and Family Welfare; IndiaStat. Data for UK has been taken from Our World in Data based on Lindert (1994), OECD (1993), OECD Stat and excludes capital investment.

However, it needs to be underlined that NHS in the UK gave a huge boost to the healthcare spending. As a result, the gap between public health spending in the UK and India only widened over the years (Chart 13).

Apart from low spending on health in general, another major reason for inadequate health infrastructure in the country is the limited space for capital spending. This is because the bulk of the health budget of MoHFW is revenue in nature with capital budget constituting only 6.7 per cent. This does not augur well for developing adequate health infrastructure in the country.

In India, 'inverse care law' of Tudor (1971) is all pervasive, according to which "the availability of good medical care tends to vary inversely with the need of the population served." In other words, the individuals requiring the most medical attention receive the least. This phenomenon is due to wealth for two reasons. First, rich people can mitigate the burden of disease due to better nutrition, environment, education, and other favourable factors. Second, they also have access to high-quality healthcare throughout their life. It will be a huge challenge to reverse the Tudor law in India and it will not be possible unless public health spending is sharply stepped up. A study in the international context suggests that public spending on health would need to be raised to at least 5 per cent of GDP for progressing towards UHC or for meeting the basic healthcare needs (WHO, 2015, Mcintyre et al, 2017). We, therefore, have a long way to go, especially because there has not been any noticeable increase in public health spending in last 30 years. Insufficient funding in public health hampers the government's capacity to invest in essential health infrastructure, cultivate a skilled workforce, and guarantee universal access to fundamental healthcare services. This underinvestment has led to a preference among citizens for private healthcare facilities over public ones. Furthermore, this situation has additional repercussions, particularly for the economically disadvantaged, who find themselves compelled to allocate a larger portion of their personal finances towards basic healthcare needs.

Primary Healthcare – Not getting the attention it deserves

Primary healthcare, by providing services at the grassroot level, greatly reduces the chances of ailments requiring subsequent secondary or tertiary treatment. Therefore, primary healthcare becomes the key for providing adequate healthcare services, especially to underprivileged sections of society.

However, primary healthcare remains a neglected area even after 65 years. The need for primarily healthcare was first articulated by the Bhore Committee and its reiteration in/at various other reports/fora such as Alma-Ata Declaration, NHP-2002, NHP-2017, and the recommendation of FC-XV. However, government spending on primary healthcare in 2018-19 was only 55 per cent (as against the target of two-thirds or more articulated in NHP-2017 policy endorsed by the FC-XV); the share of secondary healthcare was 30.5 and that of tertiary 5.9 per cent (National Health Systems Resource Centre, 2022).

Reflecting the inadequate spending on primary healthcare, significant deficiencies continue to plague the healthcare delivery services in the country. Despite a manifold increase in rural primary

healthcare infrastructure in absolute terms, there continues to be a shortage in the number and distribution of Sub Centres, Primary Health Centres, and Community Health Centres in rural areas based on population norms. As per the Rural Health Statistics 2019, SCs, PHCs, and CHCs still do not meet the required coverage targets (Table 20).

The Standing Committee on Health (2021) noted that there are shortfalls of 23 per cent in SCs, 28 per cent in PHCs, and 37 per cent in CHCs. FC-XV also noted that there are critical gaps with respect to sub-centres, PHCs, CHCs, and wellness centres in some states. It noted that as of March 31, 2020, 885 PHCs and 33,886 SCs did not have the necessary infrastructure to meet the targets of the NHP-2017.

Table 20: Status of Primary Healthcare System (As on July 2022)

Indicator	National Norm		Status (2021)	
Rural Population covered by a:	**General**	**Tribal Area**	**Rural Area**	**Tribal Area**
Sub Centre	5,000	3,000	5,734	3,839
Primary Health Centre	30,000	20,000	35,602	25,507
Community Health Centre	120,000	80,000	163,298	103,756

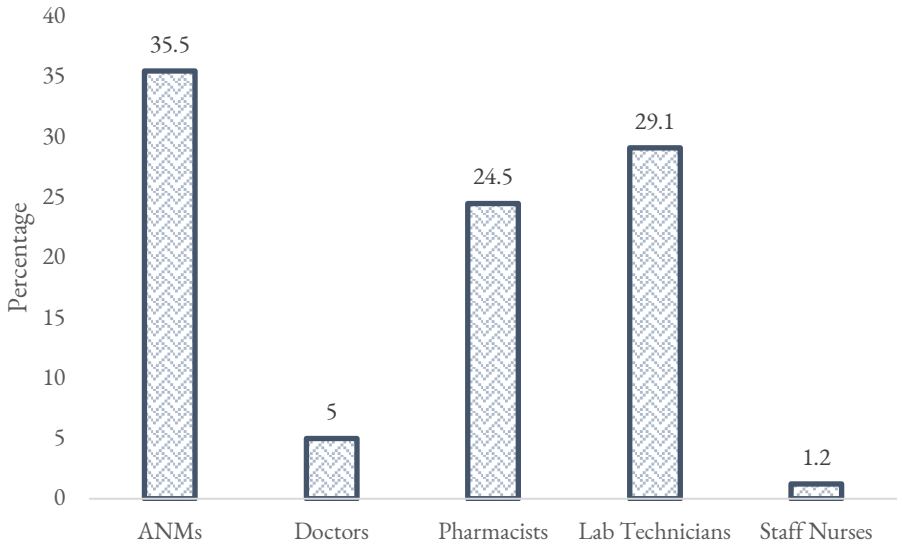
Source: Rural Health Statistics 2021-22

Inadequate Medical Human Resources

Inadequate health spending has resulted in a significant shortage of human resources. As alluded to before, there was a large shortage of health workers, doctors, and specialists in rural SCs, PHCs, and CHCs at the end of March 2017. This shortage continued till the end of March 2022, though there was some improvement in shortfall (from 21 per cent to 3.1 per cent in the case of doctors in rural SCs and PHCs; and from 81 per cent to 79.5 per cent in the case of specialists in rural CHCs).

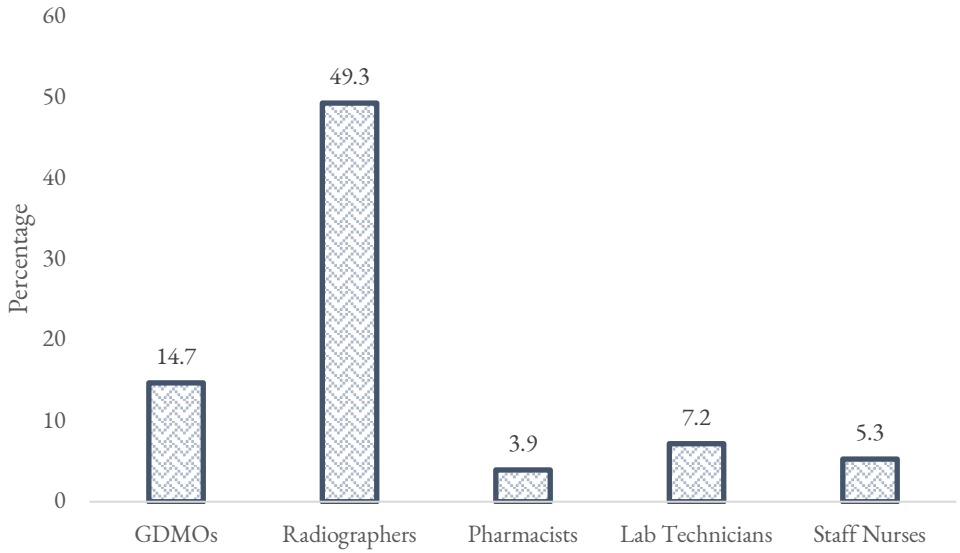
Apart from rural areas, there has also been a significant shortage of manpower such as ANMs, doctors, pharmacists, lab technicians, and nursing staff in urban PHCs (Chart 14). Urban CHCs also faced shortages, though not as severe as those in urban PHCs or rural CHCs (Chart 15).

Chart 14: Shortfall of Human Resources - Urban PHCs (2022)



Note: ANM stands for Auxiliary Nurse and Midwife. Source: Rural Health Statistics 2021-22

Chart 15: Shortfall of Specialists - Urban CHCs (2022)



Source- Rural Health Statistics 2021-22

The acute shortage of healthcare workers, particularly in rural areas, is a matter of concern. Although 71 per cent of India's population resides in rural areas, only 36 per cent of India's health workforce is stationed in these areas. About 80 per cent of doctors and 70 per cent of nurses and midwives are employed in the private sector, which is heavily concentrated in urban areas.

Low spending on Health research

The Standing Committee on Health and Family Welfare, in its 2020 report, observed that the financial allocation for the Department of Health Research was insufficient when compared to the requisite funds for health research. The Committee advocated for a minimum allocation of 10 percent of the Ministry of Health and Family Welfare's (MoHFW) budget specifically for health research purposes. Furthermore, it urged the MoHFW to elevate its investment in health research to align with the global average of 1.72 percent of GDP within a two-year timeframe. For the fiscal year 2021, the Committee proposed that health research funding should constitute 5 percent of the Ministry's total expenditure. Nonetheless, in the fiscal year 2023-24, the budgetary allocation for the Department of Health Research was recorded at Rs. 3,201 crore (BE), representing merely 4.0 percent of the overall MoHFW budget.

8. Summing Up

Healthcare policies in India have evolved over time to meet various emerging challenges. At the time of independence, India's healthcare was bleak, lacking in infrastructure and human resources, as the focus of colonial rulers was on their army personnel and administrators, not the common masses.

Post-Independence, the blueprint for healthcare in India was ready, as just a year before, the Bhore committee had submitted its well-documented report covering almost all aspects of healthcare. However, for nearly 35 years after independence, the focus was first on controlling/eradicating serious communicable diseases and then on ensuring the population's immunisation. Country-wide mass campaigns were launched against tuberculosis, smallpox, malaria, leprosy, cholera, etc.

Until 1983, India's healthcare decisions were driven by various committees' recommendations and successive five-year plans. One area that consistently engaged policymakers was the primary healthcare system in rural areas, a key recommendation of the Bhore committee. In the early 1960s, though the Mudaliar committee recommended its discontinuation due to a lack of necessary infrastructure, PHCs continued to expand, and the Fourth five-year plan emphasised strengthening them. Despite this, PHC infrastructure did not keep pace with the growing population and remained deficient, especially in rural areas.

Before the first formal NHP in 1983, significant progress was made in reducing child and maternal mortality and increasing life expectancy. Smallpox had been eliminated, and plague ceased to be a problem. Mortality from cholera and related diseases had declined, and malaria was largely under control. However, leprosy and tuberculosis continued to have high incidence rates. By the early 1980s, the incidence of major NCDs had declined, though not fully under control, allowing authorities to shift their focus to improving healthcare facilities. An extensive network of dispensaries, hospitals, and institutions providing specialised curative care had been developed, primarily in urban areas, neglecting rural areas. To correct these disparities, the Sixth Plan articulated that further linear expansion of curative facilities in urban areas be allowed only in exceptional cases. The NHP-1983,

coinciding with the Sixth Plan, also focused on developing primary healthcare infrastructure. In the next 15 years, the primary healthcare infrastructure expanded, though it fell short of the requirement. Also, alongside, curative healthcare facilities in urban areas continued to expand, thus the gap in healthcare facilities in rural and urban areas remained wide.

The focus of the new NHP, rolled out in 2017, was on correcting all types of imbalances, including rural-urban, and to increase public health spending to 2 per cent of GDP. As a follow-up of this policy, two initiatives were undertaken, *viz.*, PMSSY and NRHM. These measures positively impacted healthcare in health indicators. A significant reduction was observed in child and maternal mortality rates. These measures also helped reverse the declining trend in health spending by States, though over last 30 years health expenditure (as a percentage of GDP) in state budgets remained virtually unchanged. Over the years, the burden of non-communicable and some infectious diseases had increased. There was also no evidence of a narrowing gap in health infrastructure between rural and urban areas. In 2015, NRHM was rechristened as NHM, with NRHM and NUHM as its two constituents.

NHP-2017 brought back the focus to universal healthcare and articulated raising public health spending to 2.5 per cent of GDP. However, the situation on the ground has not changed much even six years after the policy was announced. Health spending has continued to be low at around 1 per cent of GDP, and consequently, OOPE has remained one of the highest in the world. Health infrastructure also remains inadequate. More distressing than public health infrastructure is the massive shortage of health-related human resources, especially in rural areas, raising concerns. The inadequacy of health infrastructure and human resources was felt acutely during the Covid-19 pandemic, after which the Central Government initiated specific measures to strengthen health infrastructure.

A careful reading of a long history of healthcare in India clearly suggests two major disconcerting features. First, health has all along been a low priority in India. Policy after policy articulated to raise public health spending, but it has remained broadly unchanged in the last three decades. This has left the population, especially the poor and underprivileged, at the mercy of the private sector, resulting in one of the highest OOPE, causing impoverishment. One of the reasons for low health spending could be that health in India, in general, has never been a political or an electoral issue. Before the country embarked on economic reforms in the early 1990s, both physical and social infrastructure in general was ignored. Post economic reforms, the emphasis was laid on physical infrastructure, while social infrastructure continued to be neglected. It was a failure to justify health as an intrinsic value, which led to the relative neglect of the public health sector in the broader competition for support and resources (Rao, 2004). Policymakers always looked for some tangible benefits when it came to investing in health. For instance, much of the legitimacy of the malaria control and eradication programme in the 1950s rooted in the argument that malaria control would be beneficial for economic benefits. However, when it became hard to demonstrate or quantify benefits, the support for the programme diminished (Amrith, 2007).

Second, the focus of the healthcare system in India has been on curative health, while preventive health has been largely ignored. Since curative health infrastructure has been heavily concentrated in urban areas, this has created large rural-urban disparities in healthcare. These outcomes are all the more disappointing as various health policies articulated raising public health spending and correcting rural-urban imbalances. Low public spending on health has been at the root of many ills that the healthcare system faces today. While enhancing investment is undoubtedly essential, the actual outcomes are influenced more by the way these funds are allocated and utilised. Therefore, it is crucial to focus not only on the scale of finance but also on the strategic deployment of these resources to ensure their most effective use by focusing on the sector's most pressing needs.

The only way to improve healthcare delivery in India is to step up public health spending in a time-bound manner. Both the central and state governments should commit that in every single year, the health spending as a percentage of GDP ratio will rise by at least 0.2 percentage points. In order to achieve this, public health expenditure will need to grow every year by 22-23 per cent (from the existing growth rate of 15 per cent) in the next 7-8 years, assuming nominal GDP growth of 11 per cent. At this rate, we can reach the target of 3 per cent of GDP in the next 7-8 years, which is the average public health spending to GDP ratio of low- and middle-income countries. A certain percentage of health spending must also be committed for capital spending on health and health research. After reaching this stage, our next target should be to raise public health spending gradually to 5 per cent of GDP. Needless to add that money would also need to be spent efficiently. It is only then we can achieve the goal of universal health coverage and close the gap with our peers (Raj, 2023).

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APPENDIX

Appendix I: Plan Outlay on Health and Family Planning (in Rs. Crore)

Plan Period	Overall Public Sector	Total Service Sector	Health	Distribution to Public Sector (%)	Family Planning	Distribution to Public Sector (%)
1st Plan (1951-56)	1,960	472	90	4.7	-	-
2nd Plan (1956-61)	4,672	855	146	3.1	2	0.4
3rd Plan (1961-66)	8,577	1,493	226	2.6	25	0.3
Annual Plan (1966-69)	6,625	976	140	2.1	71	1.1
4th Plan (1969-74)	15,779	2,987	336	2.1	278	1.8
5th Plan (1974-79)	39,426	6,017	761	1.9	492	1.2
6th Plan (1980-85)	1,09,292	15,917	3,412			3.1
7th Plan (1985-90)	2,18,730	34,960	3,689	1.7	3,121	1.4
8th Plan (1992-97)	4,34,100	79,012	7,576	1.7	6,500	1.5

Source: India, GOI, FYP 1996-97

Appendix II: National AIDS and STD Control Programme

Since 1992, five National AIDS and STD Control Programme (NACPs) have been launched as detailed below:

National AIDS and STD Control Programme Phase-I (1992-1999)

Due to the persistent rise in the HIV epidemic, the main objective of the first phase of the NACP was to slow down the spread of HIV infections, and decrease the morbidity, mortality, and impact of HIV/AIDS in the country. Phase 1 also established institutional structures such as the National AIDS Control Board (NACB), the AIDS Control organisation (NACO), and the state-level Programme Management Units called the State AIDS Control Societies (SACS).

National AIDS and STD Control Programme Phase-II (1999-2007)

The second phase of the NACP was launched in 1999 with two objectives: (a) reduce the spread of HIV infection in India; and (b) increase India's capacity to respond to HIV/AIDS on a long-term basis. Two major initiatives in this phase were the establishment of facilities for Voluntary Counselling and Testing (VCT) and Prevention of Parent to Child Transmission (PPTCT); and constitution of National Parliamentarian Forum and National Council on AIDS.

National AIDS and STD Control Programme Phase-III (2007-2012)

In this phase, service delivery facilities were rapidly scaled up across India. HIV counselling and testing services were also offered to pregnant women as an essential component of ANC services.

National AIDS and STD Control Programme Phase-IV (2012-2017)

Major initiatives during this phase were (i) expansion of the reach of HIV screening services with facility integrated HIV counselling and testing Centres (FI-ICTC) as well as the launch of community-based screening (CBS) in the private sector; and the launch of the HIV and AIDS prevention bill in Rajya Sabha.

National AIDS and STD Control Programme Phase-IV Extension (2017-2021)

In this phase, the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017 was enacted. The bill ensured that people who are infected with HIV and AIDS do not have to face any type of discrimination in receiving treatment. Another initiative 'Mission *Sampark*' was launched to re-engage people living with HIV (PLHIV) who discontinued their treatment following the launch of antiretroviral therapy (ART).

National AIDS and STD Control Programme Phase-V (2021-26)

With an outlay of Rs. 15,472 crore, NACP phase V will build upon the systemised convergence with the existing schemes of the Central Government for ensuring resource optimisation. This phase has set the following goals: (i) reducing annual new HIV infections by 80 per cent; (ii) reducing AIDS related morbidity by 80 per cent; (iii) eliminating vertical transmission of HIV and Syphilis; (iv) promoting universal access to quality sexually transmitted infections (STI)/ reproductive tract infection (RTI) services to at risk and vulnerable populations; and (v) eliminating HIV/AIDS-related stigma and discrimination.

Appendix III: Sub Schemes of National Rural Health Mission (NHRM)

ASHAs: The Accredited Social Health Activists (ASHAs) is the first port of call for any health-related demands by deprived sections of the population, especially women and children, who find it difficult to access health services in rural areas. ASHAs are volunteers who are selected from the village itself and accountable to the community. They are trained to work as an interface between the community and the public health system. More than 884,000 community health volunteers contributed to this mission.

Rogi Kalyan Samiti (Patient Welfare Committee)/Hospital Management Society: It is a registered society that acts as a group of trustees to manage hospital affairs. A united fund looks after the funding and other financial assistance for these communities that are involved in patient welfare activities.

The Untied Grants to Sub-Centres (SCs): Untied grants to sub-centres have been used to fund grass-root improvements in healthcare. These include: (i) improved efficacy of Auxiliary Nurse Midwives (ANMs) in the field, who can now provide better antenatal care and other healthcare services, as they are better equipped with blood pressure monitors, stethoscopes, weighing machines; (ii) village health sanitation and nutrition committees (VHSNCs), which work at the grassroots levels to monitor the services provided by the Anganwadi Worker (Anganwadi is a type of rural child care centre in India), ASHAs, and sub-centres. They act as a sub-committee or statutory body of the Gram Panchayat.

Health Care Service Delivery: Health care service delivery requires intensive human resource inputs. NRHM has sought to address human resource shortages by deploying nearly 170,000 health service personnel to States on a contractual basis. This service includes 8,871 Doctors, 2025 Specialists, 76,643 ANMs, 41,609 Staff Nurses, etc. Many unserved areas were covered through mobile medical units (MMU).

Appendix IV: Activities under the National Rural Health Mission (2005–2013)

Human resources (new providers)	9,31,239 Accredited social health activists 27,421 Doctors at PHCs, 4078 specialists at CHCs 40,119 Staff nurses 72,984 ANM
Human resources (programme management)	618 District Programme Managers and 633 District Accounts Managers deployed
Ambulance	More than 30,000 ambulances deployed nation-wide
Community participation structure	4,99,210 Village level Health Sanitation and Nutrition Committees (VHSNCs) created
	29,063 Patient Welfare Committees created at public facilities
Web-based mother and child tracking system	Tracking 105 million mother-baby dyads
Finances provided	A total of 21 billion USD invested (2005–2015) by the Central Government
Other	Between 2009 and 2013, graduate medical capacity increased by 54 per cent and post graduate medical seats by 74 per cent.

Source: Mission Document, National Rural Health Mission (2005-2012)

Appendix V: Flexi Pools: Basis of Allotment

Flexi Pool	Basis of Allocation	GOI Share	State share
RCH-HSS	75% total population & 25% rural area	20%	
DCP	Disease burden basis	10%	
NCD	75% total population & 25% rural area	10%	40%
NUHM	50% weightage on urban population & 50% on slum population	10%	
Infrastructure Maintenance		10%	0
Total		**60%**	**40%**

Source: MoHFW, NHM Finance

Appendix VI: National Health Mission: Allocations

National Health Mission (NHM) (in Rs. Crores)					
SI.No.	Pools	BE (2021-22)	RE (2021-22)	Pool	BE (2022-23)
1	RCH Flexible Pool including RI,PPI and NIDDCP	6,273.32	5,650.00	Flexible Pool for RCH & Health System Strengthening, National Health Programme and Urban Health Mission	22,316.73
2	Health System Strengthening under NHM Flexible Pool	11,931.28	10,931.00		
3	AB-HWC (NRHM)	1,650.00	1,550.00		
4	ASHA Benefit Package (ABP)	836.99	500		
5	Flexible Pool for National Disease Control Programmes (NDCPs)	2,178.00	1,750.00		
6	NCD Flexible Pool	717	367		
7	National Urban Health Mission (NUHM)	1,000.00	500		
8	AB-HWC (NUHM)				
9	Pilot Project	20	12		
10	Infrastructure Maintenance (IM)	6,343.41	6,950.00	Infrastructure Maintenance (IM)	6,343.00
11	Strengthening of National Programme Management Unit (NPMU)	150	140	Strengthening of National Programme Management Unit (NPMU)	200
	Total	**31,100.00**	**28,350.00**		**28,859.73**

Source: MoHFW, NHM Finance

Appendix VII: NHM – Major Initiatives and Progress up to 2020-21

Addressing Shortage of Human Resources: The delivery of healthcare services requires intensive human resource inputs. There has been an enormous shortage of human resources in the public healthcare sector in the country. NHM has attempted to address shortages in human resources by providing nearly 2.40 lakh additional health workers to the States on a contractual basis[1]. In addition to supporting health personnel, the NHM has also emphasised the multi-skilling of medical professionals, such as doctors, at strategically situated facilities designated by the States. Similarly, due importance is given to capacity-building of nursing staff and auxiliary workers such as ANMs. Additionally, NHM supports the co-location of AYUSH services in PHCs, CHCs, and district hospitals.

***Janani Shishu Suraksha Karyakram* (JSSK):** To promote universal health care, the government started the *Janani Shishu Suraksha Karyakram* (JSSK) initiative under NRHM. This scheme entitles all pregnant women delivering in public health institutions to free delivery, including caesarean operations, along with complimentary transportation, drugs, diagnostics, blood tests, and meals. This service can be accessed through a toll-free call to a dedicated call centre.

Janani Suraksha Yojana: *Janani Suraksha Yojana* (JSY) is a safe motherhood intervention under the National Health Mission. The objective is to reduce maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.

Free Drugs: An initiative has been launched to ensure provision of quality free essential drugs such as facility-wise essential drug list (EDL); robust procurement system; IT backed logistics and supply chain management; proper warehousing; and necessary drug regulatory and quality assurance mechanism.

Free Diagnostic Service Initiative: To improve the quality of care, support is provided to states for offering essential diagnostics free of cost in public health facilities. Three types of diagnostic services have been implemented: (i) free diagnostics laboratory; (ii) free diagnostics CT Scan services; and (iii) free tele-radiology services.

Biomedical Equipment Maintenance and Management Programme (BMMP): This initiative was established to tackle the challenge of malfunctioning equipment in public health facilities. Through the BMMP, diagnostic services have seen significant improvement, with a 95 percent equipment uptime, leading to reduced healthcare costs and enhanced quality of care in these facilities.

National Ambulance Services (NAS): Provision of basic transport to patients has been one of the components of NRHM. The ambulance service operating under Dial 108 or 102 is a part of this initiative. Dial 108 predominantly serves as an emergency response system, primarily designed to attend to patients requiring critical care, trauma care, and support for accident victims, among others.

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[1] These includes 11,028 GDMOs, 3144 Specialists, 54,414 Staff Nurses, 82,512 auxiliary nurse mid-wives (ANMs), 39,605 Paramedics, 429 Public Health Managers, 17,179 Programme Management staffs, etc.

Meanwhile, Dial 102 services focus on basic patient transport, catering primarily to the needs of pregnant women and children. However, these services are not limited to the aforementioned groups can be availed by other categories of patients as well.

National Mobile Medical Unit (MMU): The objective of the MMU is to facilitate access to public healthcare, particularly for people living in remote, difficult, underserved, and unreachable areas. It provides a wide range of healthcare services, including treatment for minor ailments, communicable and non-communicable diseases, reproductive and child health, family planning services, etc.

Emergency Response Service Vehicles (ERSV): Currently, there are several ESRVs and empanelled vehicles available for transporting patients—particularly pregnant women and sick infants—from their home to public health facilities and back.

My Hospital / *MeraAspataal* Initiative: '*Mera Aspataal*' is a patient-centric initiative featuring a simple, intuitive, and multilingual ICT-based system. It quickly captures feedback from patients regarding the services they receive at both public and private empanelled health facilities. This is achieved through user-friendly multiple channels such as Short Messaging Service (SMS), Outbound Dialling (OBD), a mobile application, and a web portal.

Untied grants for Healthcare: This includes ANMs and VHSNC at the rural level as part of the NRHM, as previously mentioned. The same institutional mechanism is mandated in urban areas as well. VHSNCs receive an annual untied fund of Rs. 10,000, which may be increased based on the previous year's expenditure. As of December 2018, more than 5.40 lakh VHSNCs had been established across the country. In many states, capacity-building activities for VHSNC members about their roles and responsibilities are also being conducted to maintain the health status of the villages.

Rashtriya Bal Swasthya Karyakram (National Child Health Scheme): This initiative, launched in 2013, provides child health screening and early intervention services. It focuses on the early detection and management of the 4Ds: defects at birth, diseases, deficiencies, and development delays, including disability. Additionally, it offers free management of 30 identified health conditions. Children between 0-18 years of age are expected to be covered in a phased manner across the country.

District Hospital as Knowledge Centre for Clinical Care & Training: Under this scheme, district hospitals are strengthened to provide multi-specialty healthcare, including dialysis care, intensive cardiac care, cancer treatment, mental illness treatment, emergency medical and trauma care, etc. These hospitals provide knowledge and support for clinical facilities down the line through a telemedicine centre located in the district headquarters. They also serve as training centres for paramedics and nurses.

24 X 7 Services and First Referral facilities: To ensure service provision for maternal and child health, 24x7 services at the PHCs have been made available. A total of 9,698 PHCs have been made operative 24x7. Additionally, 3,135 facilities (including 714 DH, 737 SDH and 1684 CHCs and other level) have been operationalised as First Referral Units (FRUs).

Kayakalp Scheme: A Kayakalp Scheme was launched in 2015 with a view to: (i) maintain a higher level of hygiene and sanitation in public hospitals through various methods, including outsourcing; and (ii) change the mindset and perception about public hospitals.

National Quality Assurance Programme: National Quality Assurance Programme aims at providing quality health services at public health facilities. Launched in November 2013, the initiative has been implemented in all the states and UTs. Under the programme, there are National Quality Assurance Standards (NQAS) for various facilities: district hospitals, community health centres, primary health centres, and urban-primary health centres. The quality standards and assessor training programme have received international accreditation from the International Society for Quality in Healthcare (ISQUA). Currently, 310 health facilities have received national quality certification, while 509 are quality certified at the state level.

Appendix VIII: Key Initiatives under the NHM- Progress Made

- As of March 31, 2022, 1,17,440 Ayushman Bharat-Health & Wellness Centres were operationalised, surpassing the cumulative target of 1,10,000.
- As of March 31, 2021, a total of 5,34,771 ASHAs, 1,24,732 Auxiliary Nurse Midwife (ANMs), 26,033 Staff Nurses and 26,633 Primary Health Centre (PHC) Medical Officers had been trained on non-communicable diseases (NCDs).
- Around 6.58 crore doses of Rotavirus vaccine were administered in all States/UTs.
- Around 204.06 lakh doses of Pneumococcal Conjugated Vaccine (PCV) were administered in six states.
- Around 3.5 crore adults have been vaccinated with adult Japanese Encephalitis Vaccine.
- National Ambulance Services (NAS).
- As of March 31, 2021, there is a total pool of 10.69 lakh ASHAs across the country.
- 24x7 Services and First Referral facilities: During 2020-21, 1,140 facilities were added as FRUs operationalisation.

Source: MoHFW, Government of India

Appendix IX: Facilities available under CHGS

i. OPD Treatment including issue of medicines
ii. Specialist Consultation at Government Hospitals
iii. Hospitalisation at Government and Empanelled Hospitals
iv. Investigations at Government and Empanelled Diagnostic Centres
v. Cashless treatment facilities in empanelled hospitals and diagnostic centres for pensioners and other identified beneficiaries
vi. Reimbursement for emergency treatment in private unrecognised hospitals
vii. Reimbursement for expenses incurred for purchase of Hearing Aid, Artificial Limb, etc.
viii. Family Welfare & MCH Services
ix. CGHS Beneficiaries can avail medical facilities in any Wellness Centre across cities covered by CGHS
x. Tele-consultation services through e-Sanjeevini application started in August 2020
xi. Restricted Drugs (Life Saving Medicines): Now delivered at CGHS Wellness Centres in Noida, Faridabad, Ghaziabad, and Gurugram of NCR region. Previously available only at CGHS, MSD, Gole Market, New Delhi.

xii. The myCGHS mobile app for services like appointment booking, medical history, card details, medical reimbursement details, etc., with SMS alert system.

Eligibility for CGHS

i. All Central Government employees and their dependant family members in CGHS covered areas.

ii. Central Government Pensioners and their eligible family members getting pension from Central Civil Estimates

iii. Sitting and Ex-Members of Parliament, Ex-Governors & Lt Governors, Freedom Fighters

iv. Ex-Vice Presidents

v. Sitting and Ex-Judges of Supreme Court & High Courts

vi. Employees and pensioners of certain autonomous organisations in Delhi.

vii. Journalists (in Delhi) accredited with PIB (for OPD & hospitalisation facilities at Dr RML Hospital, New Delhi)

viii. Delhi Police Personnel in Delhi only

ix. Railway Board employees

x. Central Government Servants who (through proper channel) got absorbed in Central Public Sector Undertakings/Statutory Bodies/Autonomous Bodies and receive pension from Central Civil Estimates.

Source: CGHS website, MoHFW (*www.cghs.gov.in*)

NOTES

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[1] https://www.cabdirect.org/globalhealth/abstract/20103159699

[2] Malaria cases rose from around 0.1 million in the early 1960s to 6.4 million in the mid-1970s.

[3] With effect from 1990-91, vaccination programme became universalised in geographical coverage and the target of UIP was increased to over 100 per cent of the infants (Lahariya, 2014).

[4] New Delhi: Ministry of Health and Family Welfare; 1986. Government of India. *Circular of Government of India on National Technology Mission*.

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[5] Madras: Tamil Nadu State Archive, Health Department, no. 809; 1950. Undated press note (but the note is accompanied by a covering letter dated 28 May 1948)

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UNICEF. World declaration on the Survival production and development of children: the challenge. World summit for Children. 1990. (Accessed on May 30, 2012).

[6] With the launching of the Community Development Programme in October 1952, a modest beginning was made to implement a programme of setting up of Primary Health Centres (PHCs) as an integral component for all-round development of rural areas. A PHC with three sub-centres for every Community Development Block covering approximately 60,000 people was designed to provide integrated curative, preventive and promotive services to rural population. The PHCs were envisaged as the focal point from which primary healthcare services would radiate through sub-centres under each PHC (GOI, 2017).

[7] Maternal Mortality Ratio as of January 2000.

[8] Emergency Response and Health Systems Preparedness Package – Phase I and Phase-II were centrally sponsored schemes introduced to prevent, detect and respond to the threat posed by the Covid-19 pandemic and strengthen the national health systems for emergency response and preparedness across the country. These packages were implemented through the NHM. The total amount approved under

ECRP-I was Rs. 15,000 crore. For ECRP -II, a total budget of Rs. 23,132 crore was approved with a centre share of Rs. 15,000 crore.

[9] Under the scheme, Rs 20,308.70 crores are to be spent by states out of which Rs 12,185.70 crore is to be provided by the Central Government and Rs 8,123 crore is to be provided by state governments.

[10] The FC-XV also recommended that Centrally Sponsored Schemes (CSS) in health should be flexible enough to allow states to adapt and innovate, and the focus of these schemes should shift from inputs to outcomes. It also recommended strengthening local governments in terms of resources, health infrastructure and capacity building which would enable them to play an enhanced role in health care delivery, including in crisis times (Demand for Grants Report, PRS 2022-23).

[11] This budget allocation is for the Department of Health and Family Welfare, *i.e.*, it does not include expenditure relating to Department of Health Research.

[12] PMSSY, which was earlier as a part Medical Education Training & Research, is now included under central sector schemes.

[13] National Aids and STD Control Programme, which was earlier a part of public health, is now categorised under central sector schemes.

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IPPR

Integrating Government Transfers and Grants with SDGs

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Abstract

Government transfer and grants play a crucial role in performing allocating, distributive and regulatory functions. India is one of the signatory members and fully support for the implementation of Sustainable Development Goals (SDGs) which was established by the United Nations in 2015. This commentary evaluate how various centrally sponsored programs are standing out in fulfilling SDGs particularly, sustainable goal 1, 2, 3, 5, 8 and 10. Further, states and union territories performance has been assessed by looking at sustainable index score that revealed disproportionate state-wise situation. Thus, the commentary comes up with the suggestive measures to achieve the targets of SDGs, and development outcomes particularly by shedding light on mechanism of vertical transfer along with creating competitive environment amongst the states, in order to align with SDG target achievements in the long run.

Keywords: Flexible inflation targeting; India; supply shocks; expectations channel; market imperfections; coordination

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1. Introduction

The United Nations' Sustainable Development Goals (SDGs), established in 2015, serve as a global framework to address social, economic, and environmental challenges. India, being one of the signatories to the SDGs, has recognized the importance of aligning its policies and programs with the targeted goals to ensure the well-being and prosperity of its citizens. This commentary aims to comprehend the implication of government transfers and grants in achieving the target of SDGs. Further, the commentary shall come up with a structural mechanism and framework of fiscal transfer allocation among the different Indian states after aligning with state specific SDGs' attainment and performances. This commentary will therefore also posit a criterion for such an allocation process for Indian states.

Government transfers and grants refer to financial resources provided by the government to individuals, households, communities, and organizations for poverty alleviation, social protection, education, healthcare, infrastructure development, and environmental conservation. These transfers could be in the form of cash transfers, subsidies, and grants, or other types of financial assistance. The design, degree, structure, framework of government transfer and grants is significantly governed by the fiscal externalities where the government's decision on taxation and expenditure affects well-being by changing consumer or producer prices (Dahlby, 1996). Further, we have the 'grants economy' that integrate transfer mechanisms (the bilateral and unilateral transfer) in the economic activities. The grants economy acts as a macroeconomic 'regulator', where benefits are transferred to the recipient in the form of output maximization, infrastructure development, employment generation, etc.

Such steps would help in fulfilling the SDGs. Transfers and grants promote social welfare through allocative, distributive, stabilizing, and regulatory functions (Musgrave, 1959; Oates, 1972). The Indian government recognizes the significance of these financial instruments in achieving inclusive and sustainable development, and has implemented various programs and initiatives to address the SDGs. The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Jan Dhan Yojana (PMJDY), Pradhan Mantri Garib Kalyan Anna Yojana, National Food Security Mission, Beti Bachao Beti Padhao (BBBP) scheme, the Mahila Shakti Kendras (MSKs), and Skill Development Mission are some of the centrally sponsored programs intended to align with the SDGs (NITI Aayog, 2024).

2. Integrating Government Transfers and Grants with the SDGs

One of the primary goals that the government intends to address through transfers and grants is the elimination of poverty. India has a significant population living below the poverty line, and the transfer mechanism could play a crucial role in reducing poverty rates. MGNREGS, for example, guarantees a minimum number of days of employment to rural households, providing them with a source of income and reducing their vulnerability to poverty. Further, PMJDY ensures financial inclusion for people with low incomes by opening bank accounts and enabling them to access government transfers and subsidies directly. These kinds of initiatives contribute to poverty

alleviation, income generation, and improved livelihoods, thereby supporting Goal 1, Goal 2 (Zero Hunger), and Goal 3 (Good Health and Wellbeing).

In India, education is another crucial sector addressed by government transfers and grants, which aligns with Goal 4 (Quality Education). The Sarva Shiksha Abhiyan (SSA) and the Mid-Day Meal Scheme (MDM) are prominent examples of government programs that provide financial assistance to ensure access to education and promote quality learning outcomes. The SSA focuses on universalizing elementary education, while the MDM scheme provides free meals to children in government schools, addressing both educational and nutritional needs. These initiatives have improved educational outcomes along with the overall development of children.

Healthcare is another crucial aspect, aligning with Goal 3. The National Health Mission (NHM) and Ayushman Bharat are significant government initiatives to improve healthcare access. The NHM focuses on strengthening healthcare infrastructure, providing essential drugs and supplies, and promoting maternal and child health services. Ayushman Bharat is a health insurance scheme that offers financial protection for vulnerable populations, particularly those below the poverty line. These programs have led to improved healthcare access, reduced out-of-pocket expenses, and enhanced health outcomes, contributing to the achievement of Goal 3.

Furthermore, various programs, such as the BBBP scheme and MSK initiative, aim to empower women, promote their rights, and ensure active participation in social and economic development. These programs provide financial assistance for education, skill development, and entrepreneurship, fostering gender equality and women's empowerment.

Although government transfers and grants have demonstrated significant impacts on SDG fulfilment, yet transparent governance, efficient targeting mechanisms, and robust monitoring systems are essential to maximizing the impact of these financial instruments on SDG attainment.

3. National and State-wise SDGs Attainment: Current Situation

SDG1 aims to end extreme poverty (people surviving on less than USD 1.25 a day) from everywhere across all dimensions by 2030. The performance of states and union territories has been evaluated through five indicators:

- percentage of the population that lives below the poverty line (head count ratio)
- percentage of households with any member covered by health insurance,
- percentage of persons who demanded employment under MGNREGA,
- percentage of the population receiving social protection benefits under Pradhan Mantri Matru Vandana Yojana, and
- percentage of households living in *kacha* houses.

According to NFHS-5 (2019–2021), in India, 4.6% of households live in *kacha* houses, with Arunachal Pradesh having the highest percentage (28.6%) of such households, and Kerala the lowest (0.3%).

Regarding maternity benefits, 46.29% of the total enrolled beneficiaries have social protection benefits under the PMMVY in 2023–2024. The states and UTs that are leading in providing 100% protection are Tamil Nadu, Punjab, Ladakh, Dadra & Nagar Haveli, and Daman & Diu. In contrast, Bihar and Arunachal Pradesh are lagging behind in securing an SDG index score [1]of less than 50. Such differences could be due to disparity in resource distribution (horizontally and vertically), where the percentage change in Grants-in-Aid from the Centre to Bihar is -5%, and for Arunachal Pradesh, it is -27%.

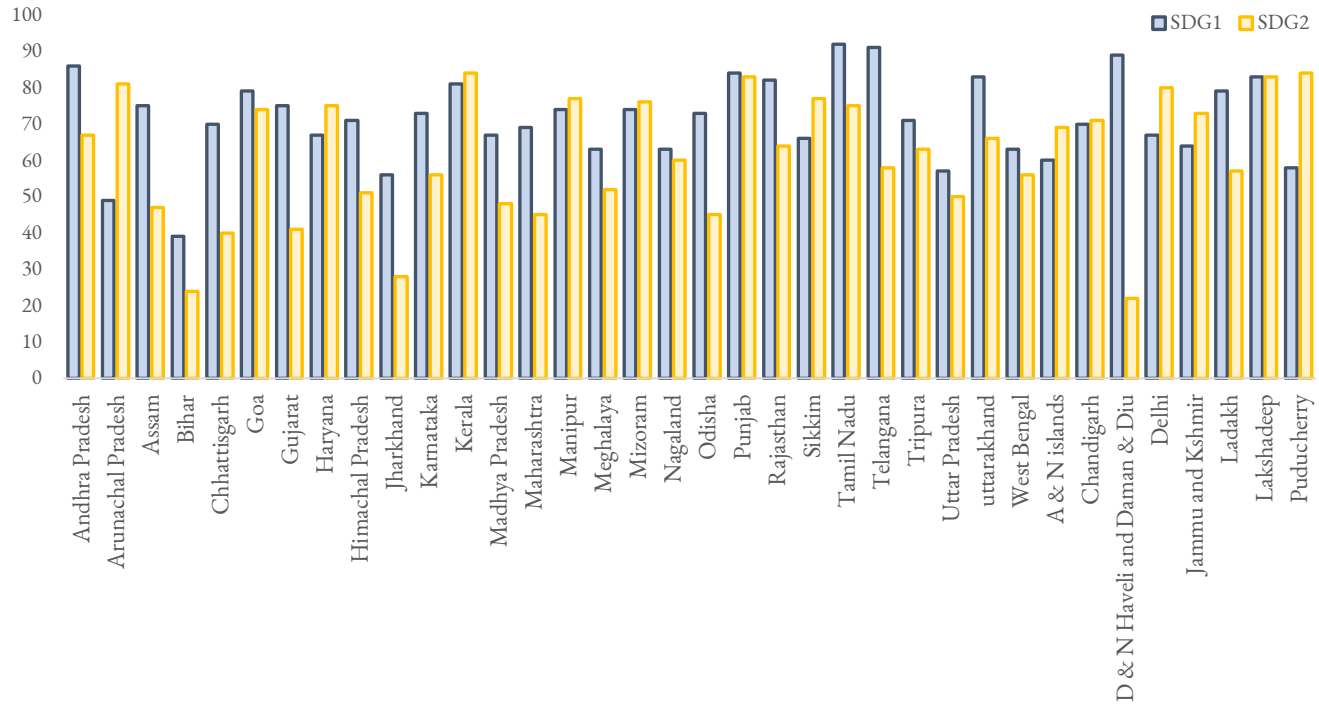
SDG 2 intends to end all forms of hunger and malnutrition by 2030, including children having sufficient and nutritious food all year. This comprises sustainable agriculture, supporting small-scale farmers, and equal access to land, technology, and markets. It also requires international cooperation to ensure investment in infrastructure and technology to improve agricultural productivity. The goal targets doubling agricultural productivity, maintaining genetic diversity of seeds, plants, and animals, and strengthening the capacity for climate change-adaptive agriculture.

States and UTs performance are measured using seven indicators:

- beneficiaries (%) covered under the National Food Security Act (NFSA), 2013,
- percentage of children (<5 yrs) who are underweight and stunted,
- percentage of pregnant women aged 15 to 49 years who are anaemic,
- percentage of women (aged 15–49 years) whose Body Mass Index (BMI) is below 18.5,
- rice and wheat produced per unit area (three-year average) (kg/ha), and
- Gross Value Added (constant prices) in agriculture per worker (in lakh rupees/worker).

Kerala and Puducherry are leading in getting the highest SDG index. In contrast, Madhya Pradesh, Assam, Maharashtra, Odisha, Gujarat, Chhattisgarh, Jharkhand, and Bihar have secured SDG index of less than 50. The figure below illustrates the detailed SDGs attainment index of all states and UTs.

Figure One: Index Score of States/ UTs

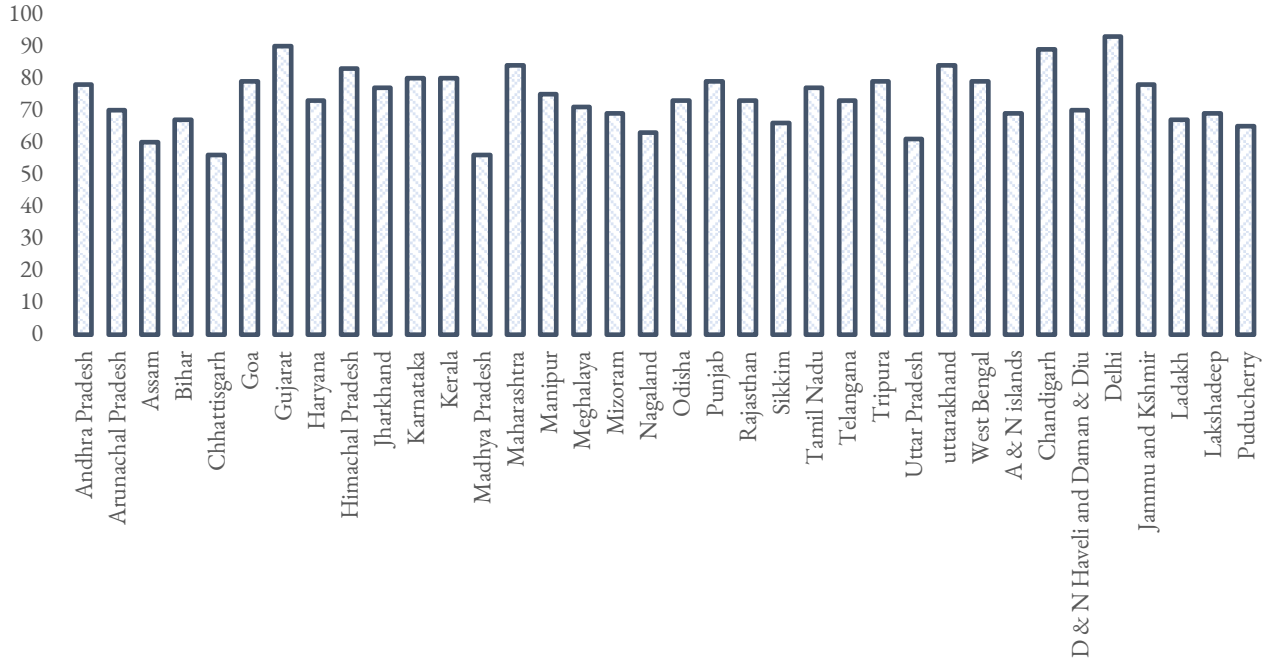


Source: NITI Aayog Report (2023-24)

SDG 3 emphasizes good health, economic and social equalities, rapid urbanization, and combating climate and environmental threats. It also calls for a focus on abating mental health problems. SDG 3 highlights universal health coverage, which includes access to quality healthcare services and safe, effective, quality, and affordable medicines. The good part is that Gujarat and Delhi (Figure Two) are the top performers in these parameters, and there are no aspirants[2] that means states have achieved all the targets or are nearing the target outlined by the SDGs. Kerala, Maharashtra, Telangana, Andhra Pradesh, Tamil Nadu, Jharkhand, Gujarat, and Karnataka have achieved the national target of a maternal mortality ratio of less than 97 per 100,000 live births.

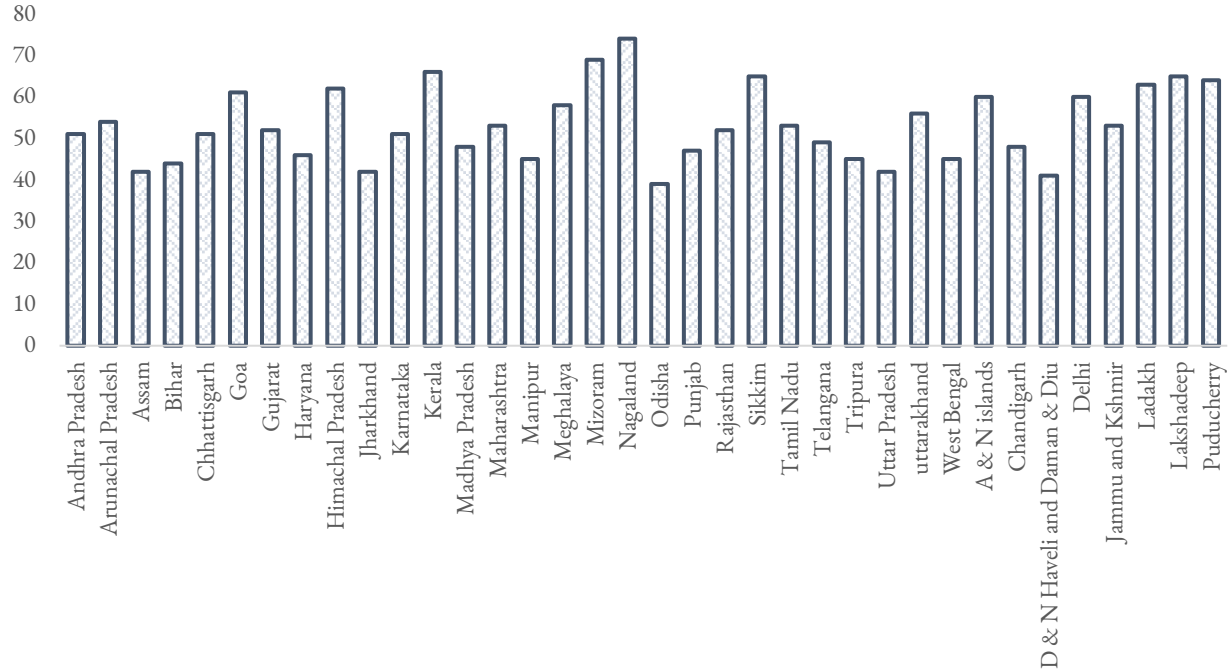
SDG 5 targets to end all forms of discrimination and violence against all women and girls everywhere, including trafficking and sexual exploitation. It also seeks to eradicate all inhuman practices, including child (early and forced) marriage and female genital mutilation. Figure three demonstrates an astonishing result where 12 states and two UTs are in the aspirant category indicating states are yet to achieve SDG targets. The average wage earned by Indian women is around three-fourths of that of men among regular-wage employees (PLFS 2022–2023). State-wise, Rajasthan has the highest female-to-male wage ratio at 0.91, followed by Goa at 0.90. Odisha has the lowest ratio at 0.59. Delhi is the best performer, with a female-to-male wage ratio of 1, followed by Ladakh at 0.87.

Figure Two: Index Score of States/ UTs



Source: NITI Aayog Report (2023-24)

Figure Three: Index Score of States/ UTs

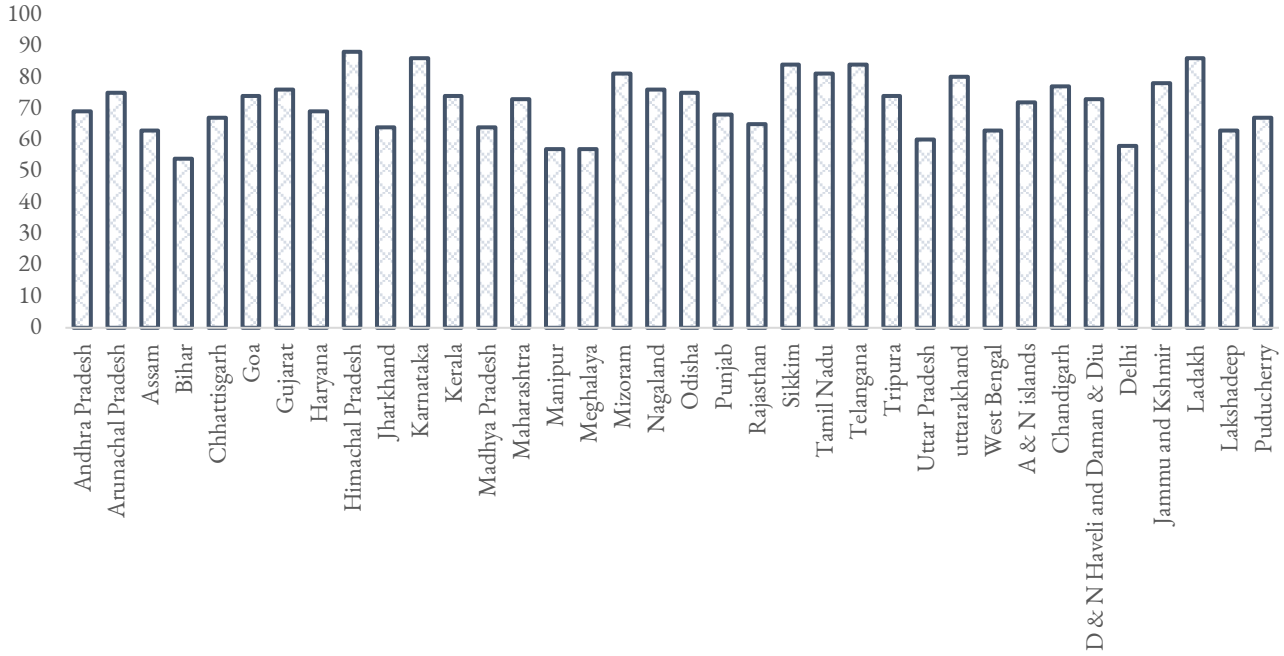


Source: NITI Aayog Report (2023-24)

SDG 8 calls for sustained economic growth, targeting a minimum annual GDP growth of 7% in the least developed countries. It also seeks to foster development-oriented policies that encourage productive activities, decent job opportunities, entrepreneurship, creativity, innovation, and the

formalization and expansion of micro, small, and medium-sized enterprises (MSMEs). By 2030, it the aim is to achieve full and productive employment, decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value. Around 53.9% of salaried employees employed in the non-agricultural sector do not have social security benefits. Mizoram, with 11%, is the best-performing state; Chhattisgarh has 68.9% of employees without social security benefits.

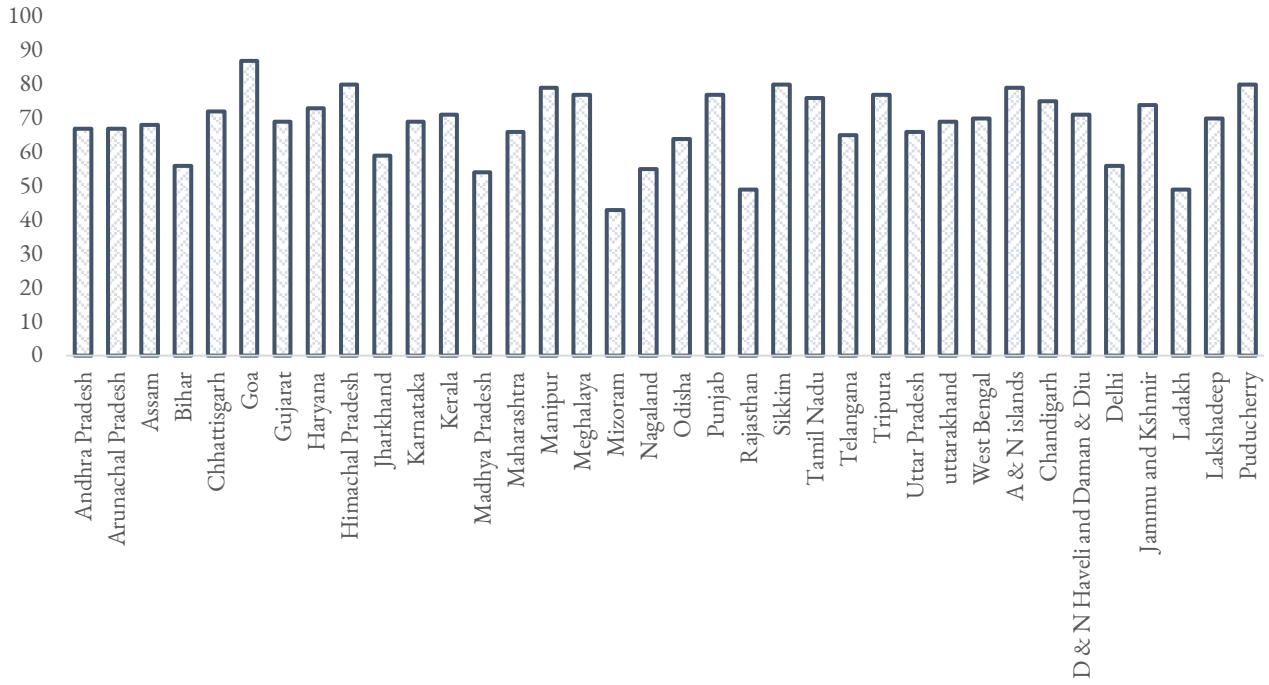
Figure Four: Index Score of States/ UTs



Source: NITI Aayog Report (2023-24)

SDG 10 talks about reducing income inequalities, ensuring access to equal opportunities, and promoting social and political inclusion for all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or any other status relevant within a society. Goa and Puducherry are the top performers. However, Rajasthan, Mizoram, and Ladakh have index scores of less than 50.

Figure Five: Index Score of States/ UTs

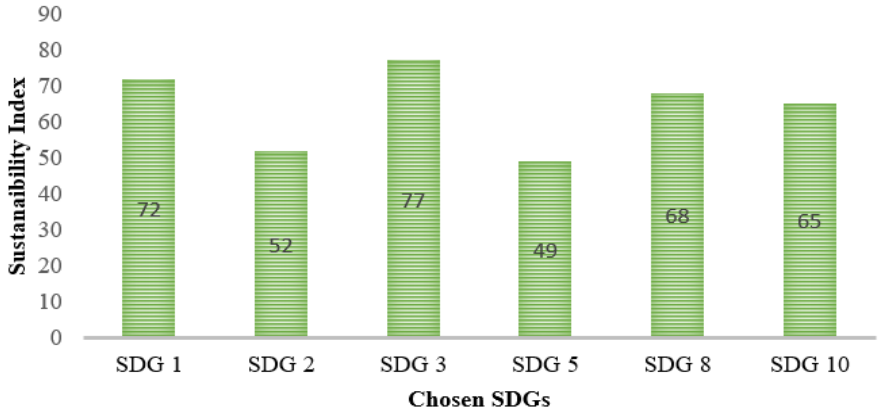


Source: NITI Aayog Report (2023-24)

4. Discussion and Insight

The Fifteenth Finance Commission (FC-XV) was constituted on 27 November 2017 for the period 2020-25. The FC assigned with the dual responsibility of ascertaining the allocation of net tax revenues between the Union and the States, as well as evaluating and providing recommendations on the structure of fiscal rules governing various grants. There are five types of grants, and these are revenue deficit grants, grants for local governments, grants for disaster management, sector-specific grants, and state-specific grants. It is being observed that the size of the grants varied from 26.1% of total transfers under the FC-VI to 7.7% of total transfers under the FC-VII. While the FC-XIII recommended grants amounting to 15.15% of total transfers, the FC-XIV recommended 11.97% of total transfers as grants-in-aid. Hence, a significant variation is apparent in the distribution of grants that may have a direct impact on the SDGs attainment, specifically SDG 5 (Gender Equality) and SDG 2 (Zero Hunger), where sustainability index values are 52 and 49, respectively, and are comparatively low (Figure six) for India.

Figure Six: SDGs attainment in India



Source: NITI Aayog Report (2023-24)

Considering the Global Gender Gap 2024 report, India has a Gender Gap Index score of 0.9, 1.0, and 0.9 in enrolment in primary, secondary, and higher education, respectively, that may have a substantial impact on SDG 5 (Talukder, 2024). Further, enrolment rates fall sharply with age, starting from 103% at the primary level, to 54% at the higher secondary level, and 28% at the higher education level (2021-22).

Between the ages of 14-17, enrolment falls sharply, from 73 to 42%, indicating unwillingness of the students to undertake the transition from secondary to higher secondary level along with minimal disparity of male female enrolment rates.. A strong gender parity in education does not mean that if 50% of students drop out, they get immediately absorbed into informal labour markets, as many of them are unprepared job seekers, which thereafter can impact poverty, inequality, and hunger, thereby impacting SDG1, SDG2, and SDG 10.

Considering the report of National Council of Applied Economic Research authored by Jayanta Talukder in 2024 who states that the Indian labour market is more likely to absorb a male school dropout in a job rather than a female school dropout. Hence, there is a need for evaluation and innovation of the labour market, to create new labour-intensive jobs for women. Moreover, fund transfers may have cascading impacts on the attainment of SDG5, where a persistent absence of a proper female washroom can impinge upon the female labour force participation rate in the Indian labour market. If the states fail to provide public services, then federal fiscal transfers stand out essential to balance the vertical and horizontal fiscal imbalance. Thus, it would be helpful in aligning with the achievement of SDGs. Hence, there is a need for the states to deliver public services towards the attainment of SDG5, SDG1, SDG2, SDG 10.

The FC of India uses resource distribution criteria like population, poverty, backwardness, income distance, inverse income, area, infrastructure, fiscal discipline, tax effort, and forest cover of states (T. Lakshmanasamy, 2022).

These criteria may not be helpful in allocating sufficient financial resources to achieve SDG targets because if we take the example of Bihar, we could observe a backward pull in achieving SDG 1 and

SDG 2. Odisha is lagging in promoting gender equality, having the lowest female-to-male wage ratio at 0.59. Similarly, Mizoram and Rajasthan failed to provide decent living conditions for workers.

Table One (below) has been constructed to reveal the marginal increase in total transfer in terms of percentage of GDP. The data reveals a constant transfer rate; therefore, increasing the transfer percentage is necessary to enhance allocative and distributive efficiency for SDG target achievement.

Table One: Transfer to the States

Finance Commission	Total transfers (in percentage of GDP)
FC-XII (2005-10)	6.03
FC-XIII (2010-15)	5.76
FC-XIV (2015-19)	6.30
FC-XV (2020-21)	6.43

Source: Finance Commission Report (2021-26)

Looking at vertical transfer (Table Two) for the aspirant states like Bihar, Arunachal Pradesh, Jharkhand, Bihar, Assam, Maharashtra, Odisha, Gujarat, Chhattisgarh, Haryana, Uttar Pradesh, Tripura, Rajasthan, and Mizoram (Figure Seven), there have been disparities in the resource distribution. Such disparity might be lessened by giving more resources to the states, particularly in key sectors like social welfare, nutrition, rural development, health and family welfare, climate-resilient roads and bridges, infrastructure, and agriculture when certain states will be able to lobby more with the centre in seeking and receiving these resources.

One of the consequences of integrating state specific grant transfers to states can be an enhancement of the disparities between the states which can happen from such fiscal transfers to a state under discretionary heads of the SDG and not following a formulaic transfer. Such a transfer will be contingent upon the political alignment between the centre and the state government. Further, the actionable impact of such a fiscal transfer based on SDGs at the local level for the recipient state government under the discretionary head can unknowingly become dependent on local political factors. Therefore, to mitigate such unintended consequences a constant, regulatory oversight will be required within the federal structure deciding the fiscal transfer based on the SDGs.

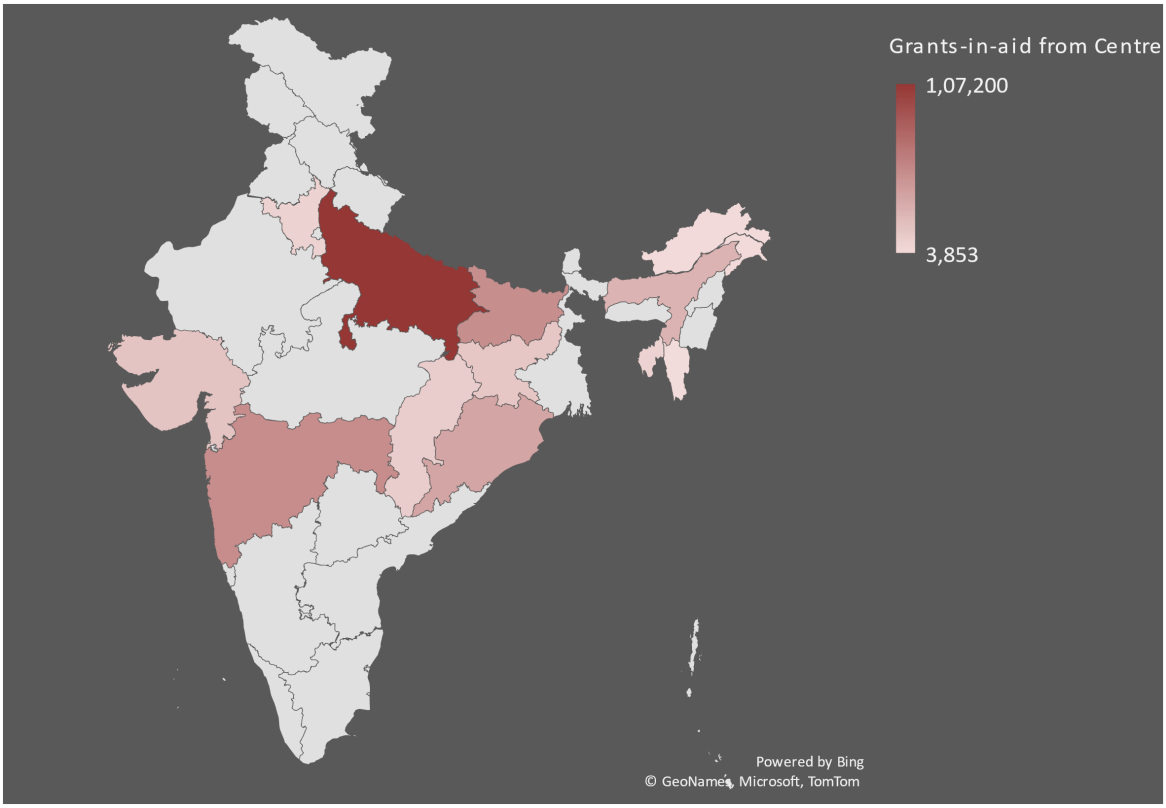
Table Two: Vertical Transfers to the Aspirant States

Aspirant States	Grants-in-aid from the Centre (in Rs crore)
Bihar	52,161
Arunachal Pradesh	4,798
Jharkhand	16,961
Bihar	52,161
Assam	28,924
Maharashtra	52,715
Odisha	37,768
Gujarat	18,783

Chhattisgarh	13,148
Haryana	9,512
Uttar Pradesh	1,07,200
Tripura	10,098
Mizoram	3,853
Arunachal Pradesh	52,161

Source: PRS Legislative Research (2024-25)

Figure Seven: Aspirant States Receiving Grants in Aid from Centre (in Rs crore)

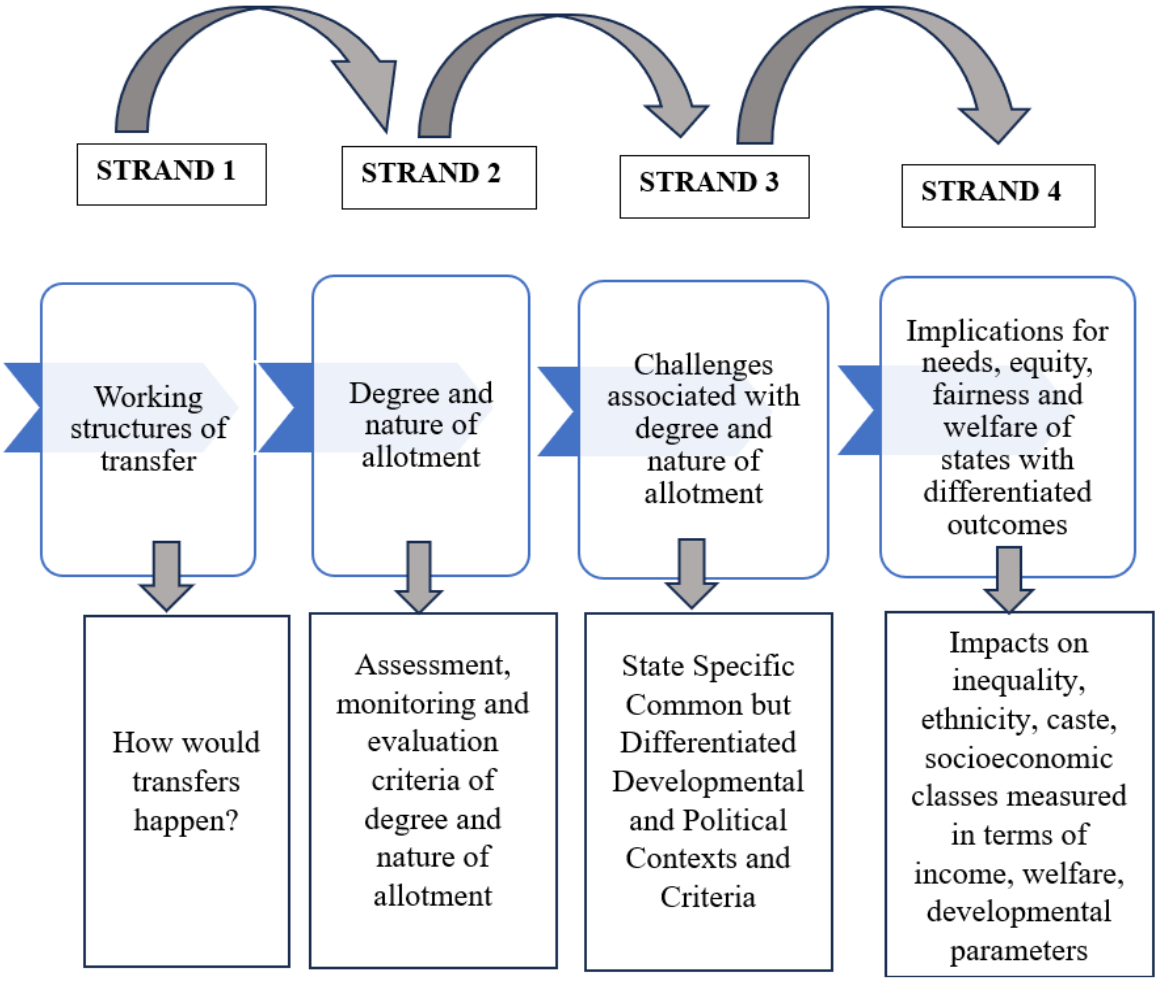


Source: Authors' Creation

5. Structural Framework of Resource Transfer Based on SDG Achievement

The proposed new framework (Figure Eight) has four key strands and elements, dealing firstly with the process of transfer, secondly evaluation, monitoring, and assessment of the transfer, third the state-specific, common-but-differentiated criteria of transfer, and lastly the impact of the transfer on the inequality, fairness, development, and welfare of states. By complementing fiscal transfers with robust monitoring and evaluation criteria and mechanisms, the framework functions more like a process flow, starting from the transfer's cause and ending with its impact on the states.

Figure Eight: Transfer Structural Framework



Within the above proposed framework, the following institutional and governance structure will be followed to respond to the various strands:

Strand 1: Transfers will happen by means of a new independent regulatory commission complemented by constant guidance and direction from an advisory body, the steering committee. The advisory body will comprise independent experts, policy makers, and state representatives.

Strand 2: Assessment and monitoring will be done by an Independent regulatory body, which will continuously assess, monitor, and evaluate the criteria, degree, nature, and extent of allotment across states of India based on the SDG Matrix. Within this matrix, a functional mapping of the existing centrally sponsored scheme addressing SDG will be completed first, and then they will be considered with the weightage of 50%. The remaining 50% weightage will be given to the additional grants, which will be linked to the SDGs, and which are over and above the existing Centrally Sponsored Scheme-based transfer linked to SDG and based on the performance of state. The body will also review and revise the SDG matrix of resource allocation on an annual basis.

Strand 3: The development position of each state across the SDG indicators will be mapped and measured, and then a common, normalized norm (by giving equal weights to the SDG Indicators) of

common-but-differentiated state indicators will be developed and measured to ascertain the degree and nature of allotment and outcomes.

Strand 4: State-specific inequality, ethnicity, caste, and welfare indicators will be identified, and impacts on these indicators from the transfer processes will be regularly monitored and disseminated through a dashboard to create a transparent SDG-centric transfer process across states of India. In this process of indicator identification and in assessing the impact on them, equal weightage will be given to all indicators.

Hence, as per the above-proposed framework, in order to achieve the targets of SDGs, vertical transfer from the centre has to be differentiated based on states' SDG performance rather than criteria-based resource distribution. In the past, previous finance commissions recommended fiscal grants for states based on SDG indicators focussing on health and nutrition. Recommendations of 15th Finance Commission for state transfer focussed on performance-based grant with an emphasis on climate change, biodiversity and ecological benefits for states.

However, this SDGs-centric fiscal transfer of 15th finance commission lacked a holistic approach of assessing ecosystem service solutions for future by integrating local community, social networks and culture, appropriate social, environmental and governance safeguards. The proposed SDG-centric state-specific fiscal transfer will give a weightage to the local community, social networks and culture, appropriate social, environmental and governance safeguards as one of the deciding criteria or means for deciding the volume of transfer. Further, a weightage will be also assigned on how the safeguards and institutions to maintain the safeguards are performing across the states, which will decide their long-term rate of receipt of fiscal transfers from the Centre.

This state-specific, situation-based resource transfer supported by the above proposed framework and transparent system of a dashboard will also create a situation where the announcement of vertical transfers for states (based on their SDG achievement status) could create competition amongst states for providing social, environmental, governance safeguards, institutions at the local level for communities, and incentives for states to implement more developmental activities, create strong local institutions to reduce inequality at the local level that will ultimately align with SDG target achievements in the long run for the future.

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Notes

[1] SDG India index was started by NITI Aayog in 2018 for monitoring and to track the progress of Sustainable Development Goals (SDG) implementation within India. The SDG index score act as a strategic instrument for States/UTs to commence dialogues concerning SDGs and the associated challenges in their attainment.

[2] The States are categorized into four classifications based on the score of each state across all 16 SDGs. A state with a score of 100 designated as an Achiever. Any state achieving a score of 65 or more will be designated as a Front Runner and states above 50 are classified as Performers. The state comes under Aspirant category when the Index score is less than 50.

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IPPR

The Fine Print on AI: Debunking AI Myths

Book review of "AI Snake Oil" by Arvind Narayanan & Sayash Kapoor

Adya Madhavan*

The foray of artificial intelligence into practically every domain, has led to a massive volume of claims about its abilities. On the one hand, there are claims about how self-driving cars are likely to be a possibility for all – something that sci-fi has featured for years, which is a growing reality today. On the other hand, there are reports that AI is sentient, which is currently beyond the realm of possibility, and seems like an outlandish claim. Those without a technical background especially, often struggle to weed out facts from fantasies.

Arvind Narayanan and Sayash Kapoor's 'AI Snake Oil' attempts to cut through the noise and answer some of our most burning questions about AI and its abilities. Authored by a PhD student and a Professor of Computer Science at Princeton University, the book has one fundamental objective: to equip the general public with the information they need to identify AI 'snake oil', which is how the authors describe artificial intelligence that doesn't work as claimed. With the advent of models like ChatGPT and Gemini bringing AI into our daily lives, there is much talk of its transformative power. Narayanan and Kapoor aim to demystify the capabilities of AI, and simultaneously clarify many common misconceptions.

The biggest strength of the book lies in the fact that it assumes its readers don't have a tech background. Before delving into the myths and seemingly magical abilities of AI, Narayanan and Kapoor help readers understand what constitutes AI: an umbrella term that is used to describe some dated technology as well. For instance, they provide examples of technologies such as spell check software or robot vacuum cleaners. These are technologies that technically qualify as AI, but are not regarded as such, since they are simple and ubiquitous – in comparison to (more advanced) AI, that is seen as cutting-edge.

The book makes three important arguments: firstly, that predictive AI is inherently flawed, and 'does not and cannot work as advertised'; secondly, that generative AI comes with both its strengths and weaknesses, and should be utilised with caution; and last of all, that the utilisation of AI to mitigate some of the issues of social media is misguided and often oversimplified. Each of their three central arguments is bolstered by a fair amount of context setting through a brief history of the technology and comparisons to other developments that help readers go beyond the surface. For

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instance, the chapter on generative AI highlights the development of ImageNet, a database for visual object recognition.

It was interesting to read a book about AI that acknowledged some of the obscurity that exists when classifying technology as artificial intelligence, with cognisance of the fact that there has always been a lack of a constant definition. The fact that once advanced technologies have now faded into the mundane provides much food for thought: perhaps today's advanced technologies, too, will one day be seen the same way.

The authors then distinguish between generative and predictive AI before going into the meat of the book. The authors' conversational tone is jargon-free for the most part, making it a relatively light read despite the dense and somewhat technical subject matter. Their use of examples and analogies that are simple to understand from a layman's perspective makes an otherwise complex topic much more accessible. For example, the authors compare the lack of understanding about AI to 'vehicles' in an alternate universe, wherein that word is essentially an umbrella term that refers to all forms of transportation, leading to chaos and confusion.

While the tone throughout the book emphasises caution, Narayanan and Kapoor do not take away from the many areas where AI excels, such as the automation of mundane tasks and tasks such as image classification and generation. They also acknowledge that they utilise AI for a range of purposes, such as simply doing *better* than they would without its aid, or in areas where it simplifies tasks that would otherwise be tedious and time-consuming, such as generating citations.

Narayanan and Kapoor also tackle a question that is repeatedly brought up: will the advancement of AI be an existential threat to humanity? Their take is that fundamentally, humans are responsible for when and how they deploy AI, and therefore, a sentient, all-powerful superintelligence will not be spontaneously born and take over the world as we know it.

They argue that AI has developed through a 'ladder of generality', where developments are built upon previous progress. The analogy essentially means that each higher rung stands for more flexible systems capable of performing new tasks – more 'general' systems. AI, in its current form, is on the middle rungs of the ladder (pre-trained models and instruction-tuned models). Because we do not know what developments could take place in AI, the ladder of generality has an unknown number of rungs, and one can only speculate what comes next or what direction things will take.

Given that technologies are built upon previous progress, the future development of artificial intelligence will likely follow a similar trajectory and allow people to adapt and implement safeguards. However, there is a caveat—there's no way to know if the current trajectory can be lead to more general AI or if it is a path that leads nowhere. In every wave of AI, researchers have believed that the paradigm they believe in can lead to advanced developments in AI.

The existential threat that AI could prove to be is one of the major concerns about AI in mainstream discourse. Still, Narayanan and Kapoor take it with a pinch of salt and don't seem to give it too much weight. Not to say they aren't cognizant of *any* of the threats posed by AI; they warn

against areas where it can have detrimental effects, but reiterate the need to focus on combating specific issues, instead of fretting over a speculative doomsday scenario with little scientific basis.

They use analogies to explain why it is merely an extreme hypothetical situation and not an actual threat, spending a fair amount of time on going into the explanation. One thought experiment frequently used to justify fears of an existential threat posed by AI is the 'Paperclip Maximiser' experiment. In this experiment, an AI system eradicates humans accidentally in an effort to maximise paperclip production. In this scenario, the AI sees a need for more resources to produce paperclips, and realises the human race is hindering acquiring those resources. However, Kapoor and Narayanan argue that this reasoning assumes that AI is mighty but lacks fundamental concern for human well-being– a flawed premise. They believe that such mindless literalness is not a feature of modern AI systems that have certain in-built safeguards and a more nuanced process of interpretation. An intuitive AI (AGI) – a system even more advanced than modern AI that is in use currently – should be able to discern that this is bad for humanity and exit performing the function if need be.

On the subject of what safeguards need to be implemented if AGI comes into being, the authors argue that this is only a consideration if AGI displays behaviours that are inherently 'power-seeking'. Safeguards can also only be built when there is more clarity as to what the problems of the systems will be. The other alternative could then be to not attempt to build such a system, but this will require surveillance like never before, as well as international cooperation.

Some of the book's recommendations seem to fall short, such as the need to fix 'broken institutions'-- such as underfunded public schools that fuel the need for AI snake oil. These schools lack the infrastructure and number of staff they require, and end up resorting to using quick AI fixes, and sometimes utilise tools that are ineffective or inaccurate. While Narayanan and Kapoor spend a few pages outlining what these broken institutions look like, they spend little over a paragraph explaining what the solutions to this issue are. For some of these systemic problems, it would be useful to have more clarity on how to find solutions.

Other recommendations are arguably great ideas, albeit ones where we are yet to see what implementation will look like on a large scale. For instance, the authors suggest the use of partial lotteries for the allocation of limited resources such as insurance or research grants, instead of using predictive AI to 'optimise' the selection process based on pre-set criteria. The example they use is a partial lottery for university applications, where applicants are selected randomly, out of a larger pool of applicants who meet the wider pre-set criteria. The same logic can be used for research grants, where according to the authors, instead of focusing on grant applications, if the selection process if more random, researchers can focus on actual *research* more.

While the idea of partial lotteries solves for a lot of the issues of both (faulty and biased) AI or human committees, there are decades of acceptance of these systems that will have to be reversed. For instance, currently students focus on volunteering and developing unique skills to stand out in their applications, something which is encouraged by both families and educational institutions alike. If a partial lottery system were to be used, these internalised practices would have to be changed.

Nonetheless, if implemented, it would be interesting to see how such systems would play out in the long run.

Even though the implementation of some of the book's recommendations require long-term change, radical ideas and new thinking could be the need of the hour. In terms of what seems to be the book's focus – providing readers with a non-technical background the information they need to understand this technology and navigate the many gimmicky AI products– the book does an excellent job. Given the emphasis on emerging technologies in today's world, AI Snake Oil equips readers with a compact guide to understanding some of the nuances of artificial intelligence, which are becoming increasingly important.

"AI Snake Oil" by Arvind Narayanan and Sayash Kapoor, 2024, Princeton University Press, Pages 352.

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