Assessing SDG 4 in India: An Analysis of Educational Goals, Performance, and Government Initiatives

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Abstract

This study analyses India's progress toward achieving Sustainable Development Goal 4 by 2030, focusing on inclusive and equitable quality education. While India, guided by the National Education Policy 2020 and various government initiatives, demonstrates significant commitment and has made notable advancements in areas such as elementary school enrolment, substantial state-level disparities persist. Key challenges include high secondary dropout rates, unmet learning proficiency targets, and unequal educational attainment for vulnerable populations. The digital divide and infrastructure gaps further impede equitable access. This research, based on aggregated secondary data from NITI Aayog, identifies these disparities and highlights the need for targeted, context-specific interventions. The study underscores that sustained, integrated strategies are essential to realize SDG 4's holistic vision across the nation.

Keywords: SDG 4, Quality Education, Educational Disparities, NEP 2020

1. Introduction

The 2030 Agenda for Sustainable Development, adopted by the United Nations, sets forth a transformative vision for global prosperity. Central to this agenda are the 17 Sustainable Development Goals, addressing interconnected global challenges. Among these, SDG 4 mandates: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". This goal goes beyond basic schooling, viewing education as a universal right and a powerful catalyst for achieving all other SDGs. It strives to leave no individual behind, ensuring access to empowering learning experiences for everyone, irrespective of gender, socio-economic background, ability, or geographic location.

Historically, education has been recognized as fundamental for societal advancement. Thwe and Kalman (2023) highlight its role in alleviating poverty, reducing disparities, and fostering peaceful societies. Vindigni (2024) emphasizes that SDG 4's focus on quality education underscores its inherent value and its critical role in building resilient communities globally. The discourse around education policy has become increasingly globalized, with organizations like UNESCO and the OECD shaping frameworks aligned with SDG 4 (Vaccari & Gardinier, 2019). This highlights the complex nature of realizing SDG 4's ambitious targets.

1.1 The Multidimensionality of Quality Education

The concept of "quality education" within SDG 4 is multifaceted, encompassing various targets to enhance educational provision at all levels. Garcia et al. (2020) outline these, including universal completion of free, equitable, and quality primary and secondary education, leading to relevant

learning outcomes. SDG 4 also prioritizes universal access to quality early childhood development, care, and pre-primary education, and equal access to affordable and quality technical, vocational, and tertiary education. Lubis and Aryansah (2024) note that quality education is also measured by reliable teaching staff, lifelong learning opportunities, and complete facilities. Shukla et al. (2023) clarify that SDG 4 covers all educational dimensions, from early childhood to higher education and adult literacy, aiming for universal access and effective learning outcomes.

Crucially, SDG 4 also addresses the imperative for all youth and a substantial proportion of adults to achieve literacy and numeracy, and for all learners to acquire knowledge and skills necessary to promote sustainable development, human rights, gender equality, and global citizenship (Garcia et al., 2020).

1.2 Inclusive and Equitable Education: Principles and Persistent Challenges

Inclusivity, a cornerstone of SDG 4, requires education systems to cater to diverse learner needs, ensuring participation and success. Equitable education focuses on fairness, aiming to eliminate disparities in opportunities and outcomes due to background or circumstance. Despite these principles, Ainscow (2020) observes slow progress towards inclusive and equitable quality education globally. Vindigni identifies persistent barriers such as class disparities, gender inequities, and infrastructural deficiencies. Pearl (2024) elaborates on practical challenges for educators, including assessing diverse learning needs, adapting curricula, and ensuring comprehensive teacher training.

Garcia et al. (2020) emphasize that the supply of qualified teachers, especially in least developed countries, remains a critical concern. Ainscow (2020) points out that the COVID-19 pandemic exposed the fragility of education systems, leading to widespread learning losses, disproportionately affecting vulnerable populations. Vindigni (2024) concludes that overcoming these structural impediments requires interdisciplinary collaboration and innovative interventions tailored to specific contexts. Zickafoose et al. (2024) also identify misaligned policy, funding priorities, and inadequate teacher training as barriers in Sub-Saharan Africa.

1.3 Promoting Lifelong Learning Opportunities for All

Beyond formal schooling, SDG 4 stresses "lifelong learning opportunities for all." Thwe and Kalman (2023) explain this as a continuous learning process throughout an individual's lifespan, occurring in diverse settings—formal, non-formal, and informal. Lifelong learning (LLL) is characterized by flexibility, adaptability, and accessibility across various times and locations, moving beyond traditional education models.

Grotlusche et al. (2024) emphasize that promoting lifelong learning is critical for fostering adaptable workforces, enhancing personal development, and active citizenship. They assert that adult learning and education plays a pivotal role in realizing SDG 4 by boosting its visibility and support. Angrist et al. (2024) underscore the importance of higher education institutions in establishing these opportunities, necessitating a robust international knowledge base on their role.

1.4 Rationale and Significance of the Current Study

This research aims to contribute significantly by analyzing factors influencing SDG 4's realization. By synthesizing research, identifying effective strategies, and analyzing impediments, this study seeks to

provide actionable insights for policymakers, educators, and practitioners. The findings will foster nuanced policy development, targeted interventions, and collaborative efforts to accelerate progress towards the 2030 targets, ensuring quality education for every individual, thus fulfilling SDG 4's transformative promise.

2. Literature Review

2.1 SDG 4 in Developed Countries

The pursuit of Sustainable Development Goal 4—"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"—holds significant relevance for developed countries, despite their generally advanced educational infrastructures. Research indicates a consistent focus on improving education quality as a central policy objective across many developed nations (Camilleri & Camilleri, 2022).

A primary area of focus for SDG 4 in developed contexts is lifelong learning. Camilleri and Camilleri (2022) highlight that SDG 4 targets aim to develop individual skills and enhance labor market competencies in European island states like Malta and Cyprus. Benavot et al. (2022) observe that while the international community embraces LLL discourse, its practical implementation often prioritizes formal and early childhood education. However, the European Union and the OECD actively focus on LLL through adult education targets. Countries such as Canada, Germany, Japan, the Republic of Korea, and Singapore are deeply committed to implementing comprehensive LLL policies. Further research on LLL policies includes analyses of nine European countries by Amaral & Zelinka (2019), and studies on Sweden, Poland, Germany, and the UK by Penning et al. (2023), and Scotland, Germany, and Denmark by Sava et al. (2010).

Digital transformation and educational technology are also central to SDG 4 efforts in developed countries. Huang et al. (2024) note that many countries, particularly in Europe, are developing national policy frameworks leveraging digital technologies to promote equity and quality in education. These findings illustrate that developed countries are engaged in sophisticated efforts to achieve SDG 4, leveraging technology and focusing on lifelong learning within robust policy frameworks, while still navigating challenges related to true inclusivity and equitable implementation.

2.2 Literature Review: SDG 4 in Developing Countries

The pursuit of Sustainable Development Goal 4 presents distinct challenges and opportunities in developing countries, demanding targeted research. This review highlights key findings on inclusive education, quality, and lifelong learning across various nations.

In Sub-Saharan Africa, Zickafoose et al. (2024) identify significant barriers to SDG 4, including funding constraints, limited access, and inadequate teacher training. They also note misaligned policy, funding priorities, gender disparities, and physical barriers impeding progress. In Sierra Leone, Lurvink and Pitchford (2023) detail a learning crisis where many children and adolescents do not achieve minimal literacy and numeracy. Obasuyi and Rasiah's (2019) work on Sub-Saharan Africa confirms that wealth inequality and social exclusion severely impact educational attainment.

Lifelong learning and adult education are critical. Grotlusche et al. (2024) studied adult learning's role in Brazil, Jordan, Kyrgyzstan, South Africa, and Thailand, finding it crucial for supporting SDG 4.

In Southeast Asia, Phyo and Ilie (2025) reveal significant inequities in higher education access. Bahtiar and Retnawati (2021) discuss Indonesia's challenges in equitable access and quality, despite progress in gender equality. Supianto et al. (2023) compared education equity policies in remote areas of Indonesia and Malaysia. Cucio and Roldan (2020) emphasize inclusive education for ethnic minorities in the Philippines, advocating for alternative learning systems.

Pritchett and Viarengo (2021) analyzed learning outcomes in Cambodia, Ecuador, Guatemala, Honduras, Paraguay, Senegal, and Zambia, highlighting inequalities based on social disadvantage. Fernández et al. (2024) specifically examined education inequalities in Latin America and the Caribbean.

This literature collectively shows that while developing countries share common hurdles like funding, teacher training, and inequities, specific national contexts require tailored interventions. Technology and adult learning programs offer promise, but the digital divide and existing inequalities remain substantial challenges.

2.3 Literature Review: SDG 4 in India

India's commitment to Sustainable Development Goal 4 is significantly shaped by the National Education Policy 2020, which serves as a blueprint for reforming the nation's educational system. Shukla et al. (2023) affirm that NEP 2020 aligns with SDG 4 by pursuing universally accessible, inclusive, and equitable quality education, covering all dimensions from early childhood to higher education, vocational training, and adult literacy. Kanungo (2024) further elaborates that the policy critically examines historical challenges such as access barriers, equity issues, and rote learning, emphasizing universal access, foundational literacy, competency-based learning, and lifelong learning opportunities. Muralidharan et al. (2022) underscore NEP 2020's focus on quality-oriented and equitable education as crucial for raising living standards in the context of SDG 4.

Despite these ambitious policy initiatives, challenges persist in realizing SDG 4 in India. Dutta and Das (2024) evaluate India's progress, acknowledging notable advancements in educational indicators but also highlighting significant state-level disparities in achieving SDG 4 targets. Chitturu (2023) emphasizes education as a lifelong process vital for fostering healthy lifestyles, developing skills, and reducing poverty, thus aligning with sustainable growth. Furthermore, Bordoloi et al. (2020) and Das (2025) discuss the pivotal role of Massive Open Online Courses, such as NPTEL and SWAYAM, in India for expanding lifelong learning opportunities, an effort actively fostered by NEP 2020's embrace of online education. These research findings collectively reflect India's multifaceted and evolving approach to realizing the transformative promise of SDG 4.

3. Research Gap

Despite India's National Education Policy 2020 aligning with SDG 4's goals for inclusive and equitable education, its practical implementation and overall impact remain areas needing comprehensive evaluation. Research highlights persistent challenges like significant state-level disparities in achieving SDG 4 targets, and the digital divide continues to be a substantial obstacle to inclusive education, particularly for vulnerable populations. While the policy aims for universal access and improved learning outcomes, a crucial research gap lies in empirically assessing how NEP 2020

mitigates these disparities and translates its transformative vision into widespread, equitable educational realities across India.

4. Research Objectives

This study aims to:

i. Investigate the current state of inclusive and equitable quality education in India, identifying regional disparities and specific barriers hindering universal access and participation.

ii. Analyze the effectiveness of existing policies and interventions in promoting lifelong learning opportunities for all Indian citizens, particularly in addressing the digital divide.

iii. Propose actionable strategies to accelerate India's progress towards achieving the holistic targets of SDG 4 by 2030, focusing on sustainable and scalable educational reforms.

5. Research Methodology

A descriptive and analytical research design has been used in this study. The research primarily relies on secondary data, drawing information from authoritative sources like publications from NITI Aayog. Data related to indicators and performance metrics directly relevant to SDG 4 across India's states and union territories has been collected. To analyse this data, qualitative content analysis has been utilized. This approach helps in the extraction and synthesis of critical information regarding Government schemes, existing policy frameworks, and reported outcomes related to sustainable and universal access to education.

6. Results and Discussion

6.1 SDG-4 Target

Table 1 shows India's 2030 targets for SDG 4.

Table 1: SDG-4 Target in India corresponding to Global SDG Target 2030		
Sr. No.	Indicators	Target
1	Adjusted Net Enrolment Rate (ANER) in elementary education (Class 1–8) (%)	100
2	Average annual dropout rate at secondary level (Class 9–10)	7.67
3	Gross Enrolment Ratio (GER) in higher secondary (Class 11–12) (%)	100
4	Percentage of students in Grade VIII achieving at least a minimum proficiency level in terms of nationally defined learning outcomes to be attained by the pupils at the end of the grade	100
5	Gross Enrolment Ratio in higher education (18–23 years)	50
6	Percentage of persons with disability (15 years and above) who have completed at least secondary education	100
7	Gender Parity Index (GPI) for higher education (18–23 years)	1
8	Percentage of persons 15 years and above who are literate	100
9	Percentage of schools with access to basic infrastructure (electricity and drinking water – both)	100
10	Percentage of schools with computers	100
11	Percentage of trained teachers at secondary level (Class 9–10)	100

12	Pupil–Teacher Ratio (PTR) at secondary level (Class 9–10)	30
Source: NITI Aayog SDG Report 2023-24		

India aims for ambitious SDG 4 targets by 2030, striving for universal access and quality education. Goals include 100% Adjusted Net Enrolment in elementary education and 100% GER in higher secondary. Secondary dropout rates are targeted at 7.67%, with higher education GER (18-23 years) at 50%. Key objectives also comprise 100% proficiency for Grade VIII students, complete secondary education for all persons with disability, and 100% adult literacy. Infrastructure is vital, with targets for all schools having basic amenities and computers, coupled with 100% trained secondary teachers and a Pupil-Teacher Ratio of 30.

6.2 Raw data on performance of States & UTs

Table 2: Raw data on performance of States & UTs on indicators of SDG 4												
S. No.	States/UTs	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8	Target 9	Target 10	Target 11	Target 12
1	Andhra Pradesh	96.9	16.3	56.7	73.5	36.5	15.4	0.93	68	98.8	51.6	82.5	11
2	Arunachal Pradesh	100	11.7	53.7	74.5	36.5	10.3	0.9	80.6	61.6	34	91.2	11
3	Assam	100	20.3	40.1	72	16.9	16.8	1.09	69.3	75.4	18.9	63.5	11
4	Bihar	97	20.5	35.9	71.5	17.1	18.5	0.92	67.3	88.6	18.9	89.4	55
5	Chhattisgarh	90.7	9.7	68.1	69.5	19.6	17.2	1.23	74.8	95.7	89.4	89.5	15
6	Goa	86.9	9	73.7	78	35.8	32.4	0.99	94.4	100	55.3	98	9
7	Gujarat	89	17.9	48.2	81	24	22.8	0.9	82.8	99.9	98	97.1	29
8	Haryana	97.7	5.9	75.5	87	33.3	25.1	1.22	80.6	99	93.2	95.7	12
9	Himachal Pradesh	100	1.5	94.1	79.5	43.1	25.6	1.33	86.5	98.6	40.5	97.1	6
10	Jharkhand	94.4	9.3	46.4	74	18.6	16.9	1.01	74.6	94	85.2	94.9	35
11	Karnataka	100	14.7	56.6	76	36.2	20.9	1.01	77.8	98.8	56.4	82.9	18
12	Kerala	100	5.5	85	77	41.3	24.3	1.44	94.8	99.5	98.3	96.6	15
13	Madhya Pradesh	81.5	10.1	51.3	81	28.9	17.2	0.94	72.6	76.2	26	89.9	23

14	Maharashtra	100	10.7	71.5	78.5	35.3	25.7	0.9	85.1	94.6	81.4	98	21
15	Manipur	100	1.3	69.9	81	35.4	28.9	1.01	88.6	66	37	77.4	9
16	Meghalaya	100	21.7	46	60	25.4	12.3	1.24	94.3	20.5	18.3	62	12
17	Mizoram	100	11.9	61.3	70	32.3	17.4	1.06	99.3	81.5	53.5	80.8	9
18	Nagaland	80.3	17.5	35.8	76	18.8	11.9	1.28	94.4	55.8	57.4	67.7	10
19	Odisha	93	27.3	43.6	77.5	22.1	13.8	0.88	75.6	83.5	26.4	95.6	18
20	Punjab	99.2	17.2	82.1	91.5	27.4	23.4	1.19	81.4	99.9	99.6	97.7	11
21	Rajasthan	93.7	7.7	70.4	85	28.6	14.9	0.97	68.3	86.7	52	97.4	11
22	Sikkim	85.2	11.9	64.2	75	38.6	20.4	1.21	85.4	99.1	89.9	83.2	9
23	Tamil Nadu	99.5	4.5	81.5	67	47	19.1	1.01	83.9	100	78.4	99.9	13
24	Telangana	100	13.7	64.8	69.5	40	20.8	1.08	75.7	90.8	42.9	97.8	10
25	Tripura	100	8.3	56.3	77	20.7	13.4	0.89	92.2	53.4	32.6	86.1	14
26	Uttar Pradesh	94	9.7	50.7	68	24.1	17.8	1.02	72	89.4	27	88.4	27
27	Uttarakhand	100	5	78.8	77.5	41.8	24.7	1.09	83.5	84.0	58.3	96.9	11
28	West Bengal	100	18	62	77.5	26.3	16.6	1.03	80.6	97.0	18.4	97.2	17
29	Andaman and Nicobar Islands	68.7	5	65.8	76.5	22.6	28.5	1.3	91.9	92.7	66.8	92.5	7
30	Chandigarh	84.6	0	81.7	90.5	64.8	37.4	1.33	91.7	100	100	99.1	12
31	Dadra and Nagar Haveli and Daman and Diu	87.3	9.5	54.9	79.7	11.2	24.8	1.93	85.6	100	89.1	96.4	20
32	Delhi	100	4.8	94.9	80	49	41	1.03	86.2	100	100	97.7	28

33	Jammu and Kashmir	84.3	6	53.2	80.5	24.8	19.7	1.2	74.4	75.6	33.4	89.7	13
34	Ladakh	67.8	4.9	49.4	85	11.5	19.7	2.19	75.6	93.2	46.2	90	6
35	Lakshadweep	71.2	0	62.4	82.5	1.1	18	6.33	97.8	100	100	98.8	7
36	Puducherry	76.9	6.3	68.7	80	61.5	28.6	1.02	89.8	100	99.6	98.8	10
	India	96.5	12.6	57.6	77.2	28.4	19.3	1.01	76.7	88.6	47.5	92.2	18
	Target	100	7.67	100	100	50	100	1	100	100	100	100	30

Table 2 highlights raw data on progress of various states and UTs towards SDG 4 as per NITI Aayog SDG Report 2023-24. Analysis of "Table 2: Raw data on performance of States & UTs on indicators of SDG 4," when compared with the targets in Table 1, reveals significant regional disparities in India's journey toward SDG 4 by 2030. While states like Kerala and Himachal Pradesh demonstrate strong performance in areas like elementary enrolment and dropout rates, others, such as Odisha and Meghalaya, face considerable challenges in reducing secondary dropout rates. Universal access to basic infrastructure and computers in schools, crucial for equitable education, remains largely unmet across many regions, with some states showing alarmingly low percentages. Moreover, the aspirational target of 100% student proficiency in Grade VIII and 100% completion of secondary education for persons with disability presents a substantial gap nationally. These variations underscore the need for targeted, context-specific interventions to ensure inclusive and equitable quality education for all across India.

6.3 Index score on performance of States & UTs

Table 3: Index score of States & UTs on indicators of SDG 4													
S. N o	States/UT	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8	Target 9	Target 10	Target 11	Target 12	SDG 4 Index Score
1	Andhra Pradesh	90	56	33	34	72	6	42	2	98	41	54	100	52

2	Arunachal Pradesh	100	79	28	36	72	0	17	41	52	19	77	100	52
3	Assam	100	36	7	30	32	7	100	6	69	1	4	100	41
4	Bihar	91	35	0	29	33	9	33	0	86	1	72	0	32
5	Chhattisgarh	71	90	50	24	38	8	100	23	95	87	72	100	63
6	Goa	59	93	59	45	71	25	92	83	100	45	95	100	72
7	Gujarat	66	48	19	53	47	14	17	47	100	98	92	100	58
8	Haryana	93	100	62	68	66	16	100	41	99	92	89	100	77
9	Himachal Pradesh	100	100	91	49	86	17	100	59	98	27	92	100	77
10	Jharkhand	83	92	17	35	36	7	100	22	92	82	87	80	61
11	Karnataka	100	64	32	40	72	12	100	32	99	47	55	100	63
12	Kerala	100	100	77	43	82	16	100	84	99	98	91	100	82
13	Madhya Pradesh	43	88	24	53	57	8	50	16	70	9	73	100	49
14	Maharashtra	100	85	56	46	70	17	17	54	93	77	95	100	67
15	Manipur	100	100	53	53	70	21	100	65	57	23	41	100	65
16	Meghalaya	100	29	16	0	50	2	100	83	0	0	0	100	40
17	Mizoram	100	78	40	25	64	8	100	98	77	43	49	100	65
18	Nagaland	39	50	0	40	36	2	100	83	44	48	15	100	46
19	Odisha	78	0	12	44	43	4	0	25	79	10	88	100	40
20	Punjab	98	51	72	79	54	15	100	43	100	100	94	100	75
21	Rajasthan	80	100	54	63	56	5	75	3	83	41	93	100	63

22	Sikkim	54	78	44	38	77	11	100	55	99	88	56	100	67
23	Tamil Nadu	98	100	71	18	94	10	100	51	100	74	100	100	76
24	Telangana	100	69	45	24	80	12	100	26	88	30	94	100	64
25	Tripura	100	97	32	43	40	3	8	76	41	18	63	100	52
26	Uttar Pradesh	81	90	23	20	47	8	100	14	87	11	69	100	54
27	Uttarakhand	100	100	67	44	83	16	100	50	80	49	92	100	73
28	West Bengal	100	47	41	44	52	7	100	41	96	0	93	100	60
29	Andaman and Nicobar Islands	3	100	47	41	44	20	100	75	91	59	80	100	63
30	Chandigarh	52	100	71	76	100	30	100	75	100	100	98	100	84
31	Dadra and Nagar Haveli and Daman and Diu	61	91	30	49	21	16	100	56	100	87	91	100	67
32	Delhi	100	100	92	50	98	34	100	58	100	100	94	100	85
33	Jammu and Kashmir	51	100	27	51	48	10	100	22	69	18	73	100	56
34	Ladakh	0	100	21	63	21	10	100	25	92	34	74	100	53
35	Lakshadweep	11	100	41	56	0	9	100	93	100	100	97	100	67
36	Puducherry	28	100	51	50	100	20	100	69	100	100	97	100	76
	India	89	75	34	43	56	10	100	29	86	36	79	100	61

Target	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 3 shows index score of progress of various states and UTs towards SDG 4 as per NITI Aayog SDG Report 2023-24. There is significant variation in performance across India. Delhi leads with an SDG 4 Index Score of 85, followed closely by Chandigarh and Kerala, indicating strong overall progress towards quality education. In contrast, Bihar, Meghalaya, and Odisha exhibit the lowest index scores, highlighting substantial challenges in achieving SDG 4 targets. Nationally, India scores 61, revealing that while some states are excelling, many lag in areas like elementary enrolment, reducing dropout rates, infrastructure, and adult literacy. This underscores the need for targeted interventions to address these persistent disparities and accelerate progress.

6.4 Key Government Initiatives towards SDG

A brief overview of the government schemes which has enabled India to achieve overall score of 61 has been presented in Table 4.

Table 4: Key Programmes/Initiatives of Government of India	
S. No.	Name
1	Samagra Shiksha
2	New India Literacy Programme
3	Mid-day Meal Scheme (PM POSHAN)
4	Pre and Post matric Scholarship schemes for SCs
5	PM SHRI (School for Rising India)
6	Eklavya Model Residential Schools
7	Rashtriya Avishkar Abhiyan (RAA)
8	National Means cum Merit Scholarship
9	Padhe Bharat Badhe Bharat (PBBB)
10	Skill Strengthening for Industrial Value Enhancements (STRIVE) - EAP
11	PM Uchchatar Shiksha Abhiyan (PM-USHA)
Source: NITI Aayog SDG Report 2023-24	

The Government of India has implemented several key initiatives to accelerate progress towards SDG 4, focusing on a holistic approach to education. Programs like Samagra Shiksha aim for universal access and quality across all levels of school education (NITI Aayog, 2024). The New India Literacy

Programme directly addresses adult literacy and numeracy, crucial components of lifelong learning for all (NITI Aayog, 2024).

Equity in access is promoted through initiatives such as Pre and Post matric Scholarship schemes for SCs and National Means cum Merit Scholarship, which support disadvantaged students in pursuing further education (NITI Aayog, 2024). Schemes like the Mid-day Meal Scheme indirectly enhance attendance and retention by addressing nutritional needs (NITI Aayog, 2024).

For quality enhancement and infrastructure development, PM SHRI focuses on upgrading schools, while Rashtriya Avishkar Abhiyan aims to foster innovation and improve learning outcomes, particularly in STEM (NITI Aayog, 2024). Eklavya Model Residential Schools provide specialized education for tribal children, ensuring inclusivity. Foundational learning is bolstered by Padhe Bharat Badhe Bharat (NITI Aayog, 2024).

Furthermore, Skill Strengthening for Industrial Value Enhancements and PM Uchchatar Shiksha Abhiyan target vocational and higher education, respectively, preparing individuals for employment and promoting lifelong learning opportunities aligned with SDG 4's comprehensive vision (NITI Aayog, 2024).

7. Conclusion

India demonstrates a strong commitment to achieving SDG 4, largely driven by the National Education Policy 2020 and various government initiatives such as Samagra Shiksha and the New India Literacy Programme (Kanungo, 2024; NITI Aayog, 2024; Shukla et al., 2023). While notable advancements have been made in educational indicators nationally (Dutta & Das, 2024), particularly in universalizing elementary education enrollment and maintaining favorable pupil-teacher ratios (NITI Aayog, 2024), persistent disparities across states and Union Territories remain a critical concern (Dutta & Das, 2024). Challenges, including high secondary dropout rates, unmet proficiency targets for Grade VIII students, and limited educational attainment for persons with disabilities, highlight significant gaps when compared to the 2030 targets (NITI Aayog, 2024). Furthermore, addressing the digital divide and inadequate school infrastructure, especially in technology access, is imperative for equitable learning opportunities (Mandal, 2025; Muralidharan et al., 2022; NITI Aayog, 2024). Realizing the holistic vision of SDG 4 by 2030 will necessitate targeted, context-specific interventions and a sustained focus on inclusive and equitable quality education for all (Rangarajan et al., 2023).

8. Limitations

The primary limitation of this study lies in its use of aggregated secondary data from national reports, such as the NITI Aayog SDG India Index Report 2023-24. Although effective for macro-level trends, this data restricts detailed analysis of sub-state disparities and localized factors impacting educational outcomes. Thus, it may not fully reveal the practical effectiveness of policies or community-specific obstacles. This approach ultimately curtails the qualitative depth needed for customized intervention strategies.

References

1. Ainscow, M. (2020). Promoting inclusion and equity in education: lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, *6*(1), 7.

https://doi.org/10.1080/20020317.2020.1729587

2. Amaral, M. P. do, & Zelinka, J. (2019). Lifelong learning policies shaping the life courses of young adults. An interpretative analysis of orientations, objectives and solutions. *Comparative Education*, *55*(3), 404. https://doi.org/10.1080/03050068.2019.1619333

3. Angrist, N., Evans, D. K., Filmer, D., Glennerster, R., Rogers, H., & Sabarwal, S. (2024). How to improve education outcomes most efficiently? A review of the evidence using a unified metric [Review of *How to improve education outcomes most efficiently? A review of the evidence using a unified metric*]. *Journal of Development Economics*, *172*, 103382. Elsevier BV. https://doi.org/10.1016/j.jdeveco.2024.103382

4. Bahtiar, R. S., & Retnawati, H. (2021). Multivariate analysis on gross participation rate in primary school or equal by indicators of gender, residence and expenditure in indonesia year 2018, 2019 and 2020. *International Journal for Educational and Vocational Studies*, *3*(4), 280. https://doi.org/10.29103/ijevs.v3i4.4370

5. Benavot, A., Hoppers, C. A. O., Lockhart, A. S., & Hinzen, H. (2022). Reimagining adult education and lifelong learning for all: Historical and critical perspectives. *International Review of Education*, *68*(2), 165. https://doi.org/10.1007/s11159-022-09955-9

6. Bordoloi, R., Das, P., & Das, K. (2020). Lifelong learning opportunities through MOOCs in India. *AAOU Journal/AAOU Journal*, *15*(1), 83. https://doi.org/10.1108/aaouj-09-2019-0042

7. Camilleri, M. A., & Camilleri, A. C. (2022). Quality Education, Social Cohesion and Active Labour Market Policies: A Comparative Analysis of Two European Island States. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4159977

8. Chitturu, S. (2023). Education for Sustainable Development: Trends and Prospects in India. In *Springer eBooks* (p. 1). Springer Nature. https://doi.org/10.1007/978-3-030-91262-8_86-1

9. Cucio, M. R. R., & Roldan, Ma. D. G. Z. (2020). Inclusive Education for Ethnic Minorities in the Developing World: The Case of Alternative Learning System for Indigenous Peoples in the Philippines. *European Journal of Sustainable Development*, *9*(4), 409. https://doi.org/10.14207/ejsd.2020.v9n4p409

10. Das, P. P. (2025). Perspective Chapter: MOOCs in India: Evolution, Innovation, Impact, and Roadmap. *arXiv*. https://doi.org/10.48550/ARXIV.2501.14780

11. Dutta, S., & Das, K. Ch. (2024). Ensuring Quality Education: Holistic Child Development and the New Education Policy. In *India studies in business and economics* (p. 115). Springer Nature. https://doi.org/10.1007/978-981-99-8901-0_5

12. Fernández, R., Pagés, C., Székely, M., & Acevedo, I. (2024). *Education Inequalities in Latin America and the Caribbean*. https://doi.org/10.3386/w32126

13. Garcia , É. G., Magaña, E. C., & Ariza, A. C. (2020). Quality Education as a Sustainable Development Goal in the Context of 2030 Agenda: Bibliometric Approach. *Sustainability*, *12*(15), 5884. https://doi.org/10.3390/su12155884

14. Grotlusche, A., Belzer, A., Ertner, M., & Yasukawa, K. (2024). The role of adult learning and education in the Sustainable Development Goals. *International Review of Education*, *70*(2), 205. https://doi.org/10.1007/s11159-024-10066-w

15. Huang, R., Liu, D., Kanwar, A., Zhan, T., Yang, J., Zhuang, R., Mengyu, L., Li, Z., & Adarkwah, M. A. (2024). Global Understanding of Smart Education in the Context of Digital Transformation. *Open Praxis*, *16*(4), 663. https://doi.org/10.55982/openpraxis.16.4.761

16. Kanungo, S. S. (2024). *A Critical Analysis of India's National Education Policy 2020 and its Alignment with the UN SDGs*. https://doi.org/10.53555/kuey.v30i4.1561

17. Lubis, A. S., & Aryansah, J. E. (2024). The Quality of Education in 50 Countries Reviewed from Sustainable Development Goals: Systematic Literature Review. *NATAPRAJA*, *11*(2), 185. https://doi.org/10.21831/natapraja.v11i2.67156

18. Lurvink, A.-F., & Pitchford, N. (2023). Introduction of an EdTech intervention to support learning of foundational skills in Sierra Leone: policy, teacher, and community perspectives. *Frontiers in Education*, *8*. https://doi.org/10.3389/feduc.2023.1069857

19. Mandal, B. (2025). *Digital Divide in Online Education: A Statewise Survey of Internet Accessibility and Usage Patterns in India* (p. 135). https://doi.org/10.9734/bpi/mono/978-93-48859-10-5/ch12

20. Muralidharan, K., Shanmugan, K., Klochkov, Y., Muralidharan, K., Shanmugan, K., & Klochkov, Y. (2022). The New Education Policy 2020, Digitalization and Quality of Life in India: Some Reflections. *Education Sciences*, *12*(2), 75. https://doi.org/10.3390/educsci12020075

21. NITI Aayog. (2024). *SDG india index report 2023-24*. Government of India. https://www.niti.gov.in/sites/default/files/2024-07/SDA_INDIA_0.pdf

22. Obasuyi, F. O. T., & Rasiah, R. (2019). Addressing education inequality in sub-Saharan Africa. *African Journal of Science Technology Innovation and Development*, *11*(5), 629. https://doi.org/10.1080/20421338.2019.1567655

23. Orr, D., Rampelt, F., & Knoth, A. (2020). *"Bologna Digital"—Actively Shaping the Digital Transformation in European Higher Education* (p. 583). https://doi.org/10.1007/978-3-030-56316-5_36

24. Pearl, J. (2024). Realizing inclusivity in schools. *I-Manager s Journal on School Educational Technology*, *19*(3), 16. https://doi.org/10.26634/jsch.19.3.20379

25. Penning, N., Crossdale, R., & Reichert, M. (2023). THE IMPORTANCE OF LIFELONG LEARNING FOR AVOIDING EXCLUSION—POLICY FRAMEWORKS AND EXPERIENCES OF OLDER WORKERS. *Innovation in Aging*, *7*, 545. https://doi.org/10.1093/geroni/igad104.1789

26. Phyo, L. W., & Ilie, S. (2025). Toward 2030: Inequities in Higher Education Access in Southeast Asia. *Social Sciences*, *14*(10), 592. https://doi.org/10.3390/socsci14100592

27. Pritchett, L., & Viarengo, M. (2021). *Learning Outcomes in Developing Countries: Four Hard Lessons from PISA-D*. https://doi.org/10.35489/bsg-rise-wp_2021/069

28. Rangarajan, R., Sharma, U., & Grové, C. (2023). Inclusion and equity in India's new National Education Policy (NEP): an analysis using the Context Led Model of Education Quality. *International Journal of Inclusive Education*, 1. https://doi.org/10.1080/13603116.2023.2295907

29. Sava, S., Nuissl, E., Lupou, R., & Ungureanu, D. (2010). Coherency in strategies of lifelong learning national approaches in Scotland, Germany and Denmark. *Procedia - Social and Behavioral Sciences*, *2*(2), 3065. https://doi.org/10.1016/j.sbspro.2010.03.466

30. Shukla, T. D., Singh, H., Bishnoi, A., & Padda, A. S. (2023). Alignment of India's National Education Policy 2020 with the United Nations' Sustainable Development Goals: A Path towards Quality Education for All. *World Journal of Advanced Research and Reviews*, *19*(3), 49. https://doi.org/10.30574/wjarr.2023.19.3.1768

31. Supianto, S., Marmoah, S., Poerwanti, J. I. S., Istiyati, S., Mahfud, H., & Sukarno, S. (2023). Comparative Study of Education Equity Policy in Remote Areas in Indonesia and Malaysia. *Tarbawi Jurnal Ilmu Pendidikan*, *19*(2), 125. https://doi.org/10.32939/tarbawi.v19i2.2866

32. Thwe, W. P., & Kalman, A. (2023). Lifelong Learning in the Educational Setting: A Systematic Literature Review. *The Asia-Pacific Education Researcher*, *33*(2), 407. https://doi.org/10.1007/s40299-023-00738-w

33. Vaccari, V., & Gardinier, M. P. (2019). Toward one world or many? A comparative analysis of OECD and UNESCO global education policy documents. *International Journal of Development Education and Global Learning*, *11*(1). https://doi.org/10.18546/ijdegl.11.1.05

34. Vindigni, G. (2024). Overcoming Barriers to Inclusive and Equitable Education: A Systematic Review Towards Achieving Sustainable Development Goal 4 (SDG 4) [Review of *Overcoming Barriers to Inclusive and Equitable Education: A Systematic Review Towards Achieving Sustainable Development Goal 4 (SDG 4)*]. *Deleted Journal*, *1*(5), 3. https://doi.org/10.59324/ejahss.2024.1(5).01

35. Zickafoose, A., Ilesanmi, O., Manrique, M. A. D., Adeyemi, A. E., Walumbe, B. W., Strong, R., Wingenbach, G., Rodriguez, M. T., & Dooley, K. E. (2024). Barriers and Challenges Affecting Quality Education (Sustainable Development Goal #4) in Sub-Saharan Africa by 2030. *Sustainability*, *16*(7), 2657. https://doi.org/10.3390/su16072657