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The Intersection of Gender Equality and Economic Growth: Pathways to Sustainable Development

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Abstract

This study examines the intersection of gender equality and economic growth within the context of sustainable development in India, focusing on regional disparities in educational attainment and gender development across states and union territories from 2001 to 2021. Utilizing key indicators such as Mean Years of Schooling (MYS) and the Gender Development Index (GDI), the research highlights significant progress in educational outcomes, with female MYS increasing from 3.284 years in 2001 to 5.45 years in 2021. However, persistent gender gaps remain, particularly in low-performing states like Bihar and Uttar Pradesh. The analysis identifies the critical role of targeted educational interventions and gender-sensitive policies in promoting equitable development. High-performing regions, including Kerala and the Andaman and Nicobar Islands, exemplify effective strategies that can be replicated in lagging states. Furthermore, the study emphasizes the need for socio-cultural transformation, enhanced healthcare access, and the leveraging of technology to improve educational equity. Key challenges, including plateauing trends in states like Goa and Arunachal Pradesh, necessitate sustained policy efforts to address infrastructural and socio-economic barriers. The findings underscore the importance of public-private partnerships and robust monitoring frameworks to inform policy decisions. Ultimately, the study advocates for a comprehensive approach that prioritizes gender parity and educational equity as pathways to sustainable development, thereby contributing to the achievement of the Sustainable Development Goals (SDGs) in India and fostering inclusive growth for future generations.

Introduction

The relationship between gender equality and economic growth has garnered increasing attention in recent years, particularly in the context of sustainable development. As the global economy grapples with challenges related to poverty, inequality, environmental degradation, and social injustice, it is becoming evident that gender equality is not merely a social issue but a critical driver of economic progress and sustainability. Achieving gender equality can

unlock economic potential, enhance productivity, and contribute to more inclusive, resilient, and sustainable development outcomes. However, despite its recognized importance, gender inequality persists in many parts of the world, hindering economic growth and development.

Gender equality refers to the equal rights, responsibilities, and opportunities for individuals, regardless of their gender. It encompasses various dimensions, including economic, social, political, and cultural equality. Economic growth, on the other hand, is the increase in the production of goods and services over time, typically measured by Gross Domestic Product (GDP). While these concepts may appear distinct, their intersection is fundamental to understanding how equitable development can be achieved.

The Importance of Gender Equality for Economic Growth

The significance of this study lies in its comprehensive examination of regional disparities and gender inequalities in educational attainment and gender development across Indian states and union territories over the past two decades. By utilizing key indicators such as Mean Years of Schooling (MYS) and the Gender Development Index (GDI), the study highlights both progress and persistent gaps in educational outcomes and gender equity.

This analysis is critical for policymakers, as it provides evidence of the uneven progress toward gender parity, with certain regions consistently underperforming. The study's longitudinal approach also underscores the importance of sustained interventions to bridge these disparities and highlights the role of socioeconomic factors, urbanization, and policy initiatives in shaping educational and gender development outcomes. Additionally, the research addresses an underexplored gap by integrating political, legal, and environmental dimensions into the broader discourse on gender inequality and development, thereby contributing to the broader goals of achieving Sustainable Development Goals (SDGs) in India.

Scope of the Study

This research focuses on analyzing regional disparities in educational attainment and gender development across Indian states and union territories between 2001 and 2021. Specifically, the study seeks to:

Examine Regional Variations in Educational Attainment: Investigate the differences in mean years of schooling (MYS) between regions, with a particular focus on the progress made by southern, northeastern, and union territories, as well as the challenges faced by states like Bihar, Uttar Pradesh, and Madhya Pradesh. Analyze the expected years of schooling for both boys and girls, and explore regional trends in gender parity in education, especially in high-performing states like Kerala and union territories like Andaman and Nicobar Islands.

Assess Gender Disparities in Education: Evaluate the narrowing gender gap in MYS over two decades, highlighting states that have achieved or are approaching gender parity (e.g., Sikkim, Kerala, Mizoram) as well as regions where gender gaps remain significant (e.g., Rajasthan, Bihar). Explore gendered educational outcomes in both urbanized and rural regions, examining the factors influencing access to education for boys and girls in different socioeconomic contexts.

Identify Trends in Gender Development (GDI): Analyze changes in the Gender Development Index (GDI) over time, with a focus on the progress made by high-performing states (Kerala, Sikkim, Meghalaya) and the challenges faced by low-ranking states (Bihar, Uttar Pradesh, Rajasthan). Investigate how factors such as socioeconomic development, urbanization, healthcare access, and gender-sensitive policy interventions have contributed to changes in GDI scores.

Highlight Key Challenges and Plateauing Trends: Investigate regions experiencing a slowdown in educational progress, such as Goa and Arunachal Pradesh, and explore the underlying socioeconomic and infrastructural factors that may contribute to plateauing trends in educational

outcomes. Examine the persistent challenges faced by low-performing states, where educational and gender development outcomes continue to lag behind national averages, despite improvements in access to schooling.

Review of Literature

The Review of Literature provides a comprehensive analysis of existing research, identifying key theories, findings, and gaps related to the study's topic. It contextualizes the research within broader academic discourse, enabling a critical understanding of prior work while highlighting areas for further investigation and informing the study's framework.

Dollar & Gatti (1999) explored the link between gender inequality and economic growth, asserting that gender disparities in education and labor force participation impede growth by limiting women's human capital. Additionally, it finds that economic growth tends to reduce gender inequality over time, promoting social equity.

Seguino (2000) analyzed the role of gender inequality in wages and employment in developing countries, highlighting that while wage disparities can enhance export competitiveness in the short term, they undermine long-term economic growth by constraining domestic demand, reducing productivity, and perpetuating inequality.

Klasen (2002) examined the impact of gender inequality in education on economic growth, finding that gender disparities hinder development by reducing talent availability and limiting female labor force participation. The study concludes that countries with lower female education rates experience slower economic progress, emphasizing the need for gender-inclusive educational policies.

Elborgh-Woytek et al. (2013) examined the economic benefits of increasing female labor force participation, showing that greater gender equality can boost productivity, diversify labor markets, and stimulate economic growth. The cross-country analysis advocates for policies targeting gender disparities to enhance overall economic performance.

Bandiera & Natraj (2013) analyzed the impact of gender inequality in education and labor markets on economic growth, finding that such disparities significantly hinder development. They argue that gender equality should be a core focus of economic policy to achieve sustained growth and broader development objectives.

McKinsey (2015) evaluates the global economic impact of gender inequality, estimating that achieving gender parity in labor markets, education, and political participation could increase global GDP by \$12 trillion by 2025. It highlights the economic potential of gender equality across regions and industries as a driver of growth.

Santosh R. & Indumathi (2020) evaluates the role of human development indices in achieving the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) globally. It critically examines progress across regions including Developing Countries, Latin America and the Caribbean, South Asia, and Sub-Saharan Africa, using secondary data from UNDP and UN reports, highlighting regional disparities in development outcomes.

Santosh R., Suresha C.N., & Indumathi (2022) analyzed gender development trends in India and its states since 2001, using data from the Global Data Lab, UNDP reports, and other national sources. The study finds a significant positive relationship between female literacy rates and India's Gender Development Index (GDI) rank, highlighting the role of education in promoting gender equity and inclusive development.

Research Gap

Existing research on gender inequality and economic growth in India primarily focuses on specific areas like education and labor force participation. However, comprehensive studies

that integrate broader aspects of gender inequality such as political empowerment and legal frameworks alongside India’s progress toward the Sustainable Development Goals (SDGs) are limited. Furthermore, a holistic analysis that addresses interconnected challenges like governance, environmental sustainability, and security in relation to gender development remains underexplored, especially within India’s diverse socio-economic regions and states. This gap highlights the need for broader, more integrated research.

Objective

To explore the relationship between female education attainment and Gender Development Index (GDI) rank of Indian states.

Methodology

This study employs a descriptive research design based on secondary data from the Global Data Lab, analyzing educational and gender equity trends in 2001, 2011, and 2021. Key indicators include the Education Index, Expected and Mean Years of Schooling, and the Gender Development Index (GDI) Score and Ranking. By summarizing and interpreting these indicators, the study identifies changes in educational outcomes and gender disparities over time. The use of reliable secondary data ensures the study’s validity, while temporal comparisons across the three time points provide a clear view of long-term trends and shifts in both educational achievements and gender-based disparities in the education system.

Table 1.1 Trends in Expected Years of Schooling by Gender Across Indian States and Union Territories

States/Uts	2001		2011		2021	
	Girls	Boys	Girls	Boys	Girls	Boys
Andaman and Nicobar Islands	10.89	12.13	11.19	10.94	12.82	12.2
Andhra Pradesh	6.83	8.859	10.82	11.71	12.08	12.1
Arunachal Pradesh	8.032	9.776	14.11	13.85	13.36	13.35
Assam	7.917	9.049	10.47	9.772	11.74	11.25
Bihar	5.457	8.097	10	10.77	11.4	11.95
Chandigarth	9.856	10.24	10.13	9.233	13.23	13.01
Chhattisgarh	10.58	12.73	10.87	11.47	12.34	11.63
Dadra and Nagar Haveli	10.39	14.07	10.68	12.68	10.98	10.16
Daman and Diu	10.07	10.57	10.34	9.529	11.09	10.4
Goa	9.494	10.81	13.87	13.05	13.72	13.54
Gujarat	7.035	9.019	9.386	10.85	10.41	10.98
Haryana	8.24	10.08	11.52	12.15	13.16	12.89
Himachal Pradesh	10.11	11.43	12.85	12.68	13.89	12.95
Jammu and Kashmir	7.78	10.13	12.46	12.85	14.47	14.3
Jharkhand	10.66	12.94	10.95	11.67	11.95	11.91
Karnataka	7.585	9.105	10.62	10.95	12.39	12.2
Kerala	10.06	11.01	12.94	12.96	14.82	13.91
Lakshadweep	11.38	12.41	11.7	11.19	13.39	12.62
Madhya Pradesh	6.742	8.921	10.23	10.55	11.27	11.56
Maharashtra	8.515	9.986	11.8	12.07	12.75	12.97
Manipur	8.977	10.35	10.33	12.55	13.23	13.37

Meghalaya	8.372	8.983	11.75	10.32	13.43	12.21
Mizoram	9.068	10.19	11.56	10.37	12.76	12.74
Nagaland	8.442	9.727	11.58	9.857	13.18	12.5
New Delhi	9.374	10.27	12.85	12.95	13.88	13.04
Orissa	7.152	8.939	9.918	10.16	11.13	11.29
Puducherry	13.02	13.82	13.38	12.46	13.73	12.56
Punjab	8.811	10.03	12.18	11.3	12.99	12.01
Rajasthan	5.934	9.51	9.179	10.86	12.53	13.02
Sikkim	8.907	9.862	12.64	11.77	14.42	13.64
Tamil Nadu	8.75	10.16	12.39	12.33	13.18	12.46
Telangana	10.46	11.76	10.74	10.6	12.69	12.53
Tripura	9.003	10.23	12.03	11.95	11.73	12.3
Uttar Pradesh	6.743	9.13	10.4	10.75	11.15	11.56
Uttaranchal	12.3	14.21	12.64	12.81	12.89	12.39
West Bengal	7.365	8.769	10.71	10.46	12.31	11.51
India	7.207	9.196	10.7	11.17	11.98	12.03

Source: Global Data Lab

Regional Disparities in Educational Attainment: Regional disparities in educational attainment in India persist despite significant overall progress. Southern and northeastern states, notably Kerala, Lakshadweep, and Sikkim, consistently demonstrate strong educational outcomes. Kerala, for example, witnessed a remarkable increase in girls' expected years of schooling from 10.06 in 2001 to 14.82 in 2021, highlighting the effectiveness of focused educational policies. In contrast, states like Bihar and Uttar Pradesh, while showing some improvement, continue to struggle, with girls in Uttar Pradesh achieving only 11.15 years of schooling in 2021, reflecting ongoing challenges in access and quality of education.

Strong Performance in Union Territories: Union Territories (UTs) in India, including the Andaman and Nicobar Islands, Puducherry, and Chandigarh, have demonstrated notable performance in educational attainment. For instance, the Andaman and Nicobar Islands reported an increase in girls' expected years of schooling from 10.89 in 2001 to 12.82 in 2021, reflecting significant progress in gender parity and access to education. Similarly, Puducherry has seen improvements in educational outcomes; however, the growth rate has decelerated since 2011, indicating the need for continued focus on educational initiatives.

Gender Parity in Advanced States: In contrast, states such as Kerala, Sikkim, and Mizoram exemplify the positive impact of sustained investments in education, achieving gender parity or even surpassing boys in expected schooling years. For example, girls in Sikkim are now expected to complete 14.42 years of schooling by 2021, exceeding boys' expected years of schooling at 13.64, showcasing the benefits of targeted educational policies and gender-sensitive approaches.

However, challenges persist in other regions. States like Goa have experienced a plateau in educational progress post-2011, where improvements in expected schooling years have become minimal. Low-performing states such as Madhya Pradesh and Uttar Pradesh continue to lag behind national averages, with Madhya Pradesh's girls' expected schooling rising only from 6.74 years in 2001 to 11.27 years by 2021. Despite overall improvements in access to education across India, regional and gender disparities remain pronounced. Thus, targeted policy efforts are essential to sustain growth, address plateauing trends, and bridge the educational gaps in states like Bihar, Uttar Pradesh, and Madhya Pradesh, ensuring that all populations benefit from equitable educational opportunities.

Table1.2 Trends in Mean Years of Schooling by Gender across Indian States and Union Territories

States/Uts	2001		2011		2021	
	Females	Males	Females	Males	Females	Males
Andaman and Nicobar Islands	7.544	7.603	7.161	7.983	7.344	8.146
Andhra Pradesh	2.412	4.524	3.037	5.458	4.476	6.464
Arunachal Pradesh	2.742	4.654	5.63	7.958	5.333	6.925
Assam	3.766	5.318	5.235	6.993	5.767	6.865
Bihar	1.833	4.944	2.31	5.281	3.291	6.364
Chandigarth	4.539	6.676	4.309	7.009	9.725	10.52
Chhattisgarh	3.405	5.627	3.232	5.908	4.614	7.105
Dadra and Nagar Haveli	7.901	8.268	7.499	8.681	4.899	7.635
Daman and Diu	6.625	8.137	6.289	8.543	6.571	8.556
Goa	6.227	7.21	7.803	9.937	9.09	9.927
Gujarat	4.022	5.997	4.599	6.888	5.439	7.735
Haryana	3.355	6.043	4.162	7.298	6.212	8.726
Himachal Pradesh	4.323	6.62	5.352	7.786	7.386	9.206
Jammu and Kashmir	2.931	5.472	4.555	7.198	6.021	8.486
Jharkhand	3.307	5.702	3.139	5.987	4.021	6.955
Karnataka	3.77	5.736	4.199	6.356	5.82	7.745
Kerala	7.138	7.144	8.274	8.558	9.482	9.316
Lakshadweep	7.803	8.436	7.407	8.857	8.201	9.216
Madhya Pradesh	2.345	4.888	2.85	5.771	4.413	6.975
Maharashtra	4.243	6.602	5.376	7.96	6.794	8.826
Manipur	5.364	7.81	8.629	10.97	7.757	9.457
Meghalaya	3.982	4.423	6.253	7.399	6.476	6.545
Mizoram	5.843	6.518	7.817	8.379	8.148	8.666
Nagaland	4.211	5.431	7.901	9.487	7.28	8.096
New Delhi	7.559	9.168	6.588	9.023	8.466	9.967
Orissa	2.595	4.841	3.485	5.771	4.825	6.825
Puducherry	8.603	9.466	8.166	9.939	8.212	9.837
Punjab	4.706	5.879	5.598	7.283	7.111	7.946
Rajasthan	1.72	4.889	2.183	5.726	3.894	7.405
Sikkim	3.516	5.072	5.157	6.629	7.28	7.926
Tamil Nadu	4.087	5.97	5.054	7.011	6.899	8.296
Telangana	4.442	6.629	4.216	6.96	4.54	7.075
Tripura	4.467	5.813	5.598	7.173	5.841	7.125
Uttar Pradesh	2.37	5.391	2.941	6.243	4.825	7.725
Uttaranchal	4.475	6.751	4.247	7.088	6.519	8.976
West Bengal	3.601	5.516	4.276	5.877	5.386	6.845
India	3.284	5.566	4.045	6.526	5.45	7.635

Source: Global Data Lab

The longitudinal analysis of the trends in mean years of schooling (MYS) across Indian states and union territories between 2001 and 2021 highlights significant patterns of progress, gender disparities, and regional variation in educational attainment.

Over the past two decades, India has made significant progress in educational attainment, with the national mean years of schooling (MYS) increasing for both genders. For females, MYS rose from 3.284 years in 2001 to 5.45 years in 2021, while for males, it increased from 5.566 years to 7.635 years. Despite this improvement, a gender gap persists, with males having an average of 2.185 more years of schooling than females in 2021. However, the gap has narrowed as female MYS grew by 66% compared to a 37% increase for males.

States like Kerala, Chandigarh, and Himachal Pradesh have achieved near gender parity in education, with Kerala leading at 9.482 years of schooling for females and 9.316 for males in 2021. Goa and Union Territories like Puducherry and Chandigarh also show balanced outcomes. Low-performing states like Bihar and Rajasthan have seen improvements, with Bihar’s female MYS rising from 1.833 years in 2001 to 3.291 in 2021, though they still lag behind the national average, particularly in rural and marginalized communities.

A positive trend is emerging in states where females have outpaced males in MYS growth. In Himachal Pradesh, for instance, female MYS increased from 4.323 years in 2001 to 7.386 years in 2021, while male MYS rose from 6.62 to 9.206 years. Tamil Nadu and Chandigarh are also approaching gender parity, with females in some areas surpassing males. Challenges remain in sustaining progress in some regions. For example, Arunachal Pradesh experienced a decline in female MYS from 5.63 years in 2011 to 5.333 years in 2021, reflecting the difficulties of maintaining gains in geographically remote and disadvantaged areas.

Interstate disparities are also prominent, with southern states like Kerala and Tamil Nadu consistently performing well, while northern states like Bihar, Uttar Pradesh, and Madhya Pradesh lag behind. Urbanized states and Union Territories, such as New Delhi and Goa, benefit from better infrastructure and socioeconomic advantages, further boosting their educational outcomes.

In conclusion, while India has made substantial progress in expanding educational access for both genders, regional and gender disparities persist. Targeted interventions are essential to bridge these gaps, especially in low-performing and marginalized regions.

Table 1.3: GDI (Gender Development Index) Scores and Rankings of Indian States and Union Territories

States/Uts	2001	Rank	States/Uts	2011	Rank
Andaman and Nicobar Islands	0.886	1	Mizoram	0.904	1
Kerala	0.882	2	Kerala	0.896	2
Puducherry	0.88	3	Andaman and Nicobar Islands	0.891	3
Lakshadweep	0.879	4	Nagaland	0.891	4
Daman and Diu	0.864	5	Meghalaya	0.888	5
New Delhi	0.863	6	Puducherry	0.884	6
Goa	0.86	7	Goa	0.882	7
Mizoram	0.858	8	Lakshadweep	0.882	8
Punjab	0.847	9	Punjab	0.877	9
Chandigarh	0.846	10	Sikkim	0.876	10
Meghalaya	0.845	11	Daman and Diu	0.866	11
Dadra and Nagar Haveli	0.841	12	Tamil Nadu	0.859	12
Sikkim	0.835	13	New Delhi	0.858	13

Telangana	0.83	14	Himachal Pradesh	0.854	14
Nagaland	0.829	15	Tripura	0.854	15
Tripura	0.829	16	Arunachal Pradesh	0.853	16
Himachal Pradesh	0.828	17	Chandigarth	0.852	17
Uttaranchal	0.822	18	Assam	0.849	18
Tamil Nadu	0.82	19	West Bengal	0.849	19
Manipur	0.815	20	Dadra and Nagar Haveli	0.845	20
Assam	0.812	21	Maharashtra	0.841	21
Maharashtra	0.812	22	Karnataka	0.839	22
Karnataka	0.805	23	Jammu and Kashmir	0.838	23
West Bengal	0.804	24	Telangana	0.838	24
Gujarat	0.798	25	Manipur	0.831	25
Chhattisgarh	0.797	26	Uttaranchal	0.831	26
Arunachal Pradesh	0.794	27	Haryana	0.823	27
Haryana	0.793	28	Andhra Pradesh	0.816	28
Jharkhand	0.792	29	Gujarat	0.816	29
Jammu and Kashmir	0.78	30	Orissa	0.815	30
Andhra Pradesh	0.772	31	Chhattisgarh	0.807	31
Orissa	0.766	32	Jharkhand	0.802	32
Madhya Pradesh	0.748	33	Madhya Pradesh	0.8	33
Uttar Pradesh	0.735	34	Uttar Pradesh	0.79	34
Bihar	0.706	35	Bihar	0.783	35
Rajasthan	0.702	36	Rajasthan	0.766	36
India	0.779	-	India	0.822	-

Continue.....

States/Uts	2001	Rank	States/Uts	2011	Rank
Mizoram	0.904	1	Kerala	0.911	1
Kerala	0.896	2	Meghalaya	0.898	2
Andaman and Nicobar Islands	0.891	3	Sikkim	0.892	3
Nagaland	0.891	4	Punjab	0.89	4
Meghalaya	0.888	5	Andaman and Nicobar Islands	0.889	5
Puducherry	0.884	6	Goa	0.889	6
Goa	0.882	7	Lakshadweep	0.888	7
Lakshadweep	0.882	8	Puducherry	0.888	8
Punjab	0.877	9	Chandigarth	0.886	9
Sikkim	0.876	10	Mizoram	0.883	10
Daman and Diu	0.866	11	Nagaland	0.882	11
Tamil Nadu	0.859	12	New Delhi	0.881	12
New Delhi	0.858	13	Tamil Nadu	0.877	13
Himachal Pradesh	0.854	14	Himachal Pradesh	0.876	14
Tripura	0.854	15	West Bengal	0.867	15
Arunachal Pradesh	0.853	16	Daman and Diu	0.866	16

Chandigarth	0.852	17	Arunachal Pradesh	0.864	17
Assam	0.849	18	Assam	0.863	18
West Bengal	0.849	19	Jammu and Kashmir	0.858	19
Dadra and Nagar Haveli	0.845	20	Karnataka	0.858	20
Maharashtra	0.841	21	Manipur	0.856	21
Karnataka	0.839	22	Maharashtra	0.855	22
Jammu and Kashmir	0.838	23	Uttaranchal	0.853	23
Telangana	0.838	24	Haryana	0.852	24
Manipur	0.831	25	Andhra Pradesh	0.848	25
Uttaranchal	0.831	26	Telangana	0.845	26
Haryana	0.823	27	Tripura	0.845	27
Andhra Pradesh	0.816	28	Chhattisgarh	0.844	28
Gujarat	0.816	29	Dadra and Nagar Haveli	0.843	29
Orissa	0.815	30	Orissa	0.837	30
Chhattisgarh	0.807	31	Gujarat	0.835	31
Jharkhand	0.802	32	Madhya Pradesh	0.824	32
Madhya Pradesh	0.8	33	Jharkhand	0.819	33
Uttar Pradesh	0.79	34	Rajasthan	0.816	34
Bihar	0.783	35	Uttar Pradesh	0.815	35
Rajasthan	0.766	36	Bihar	0.801	36
India	0.822	-	India	0.843	-

Source: Global Data Lab

India has made notable progress in gender development over the last two decades, as reflected by the rise in its Gender Development Index (GDI) score from 0.779 in 2001 to 0.843 in 2021. This improvement signals efforts to bridge gender disparities in education, health, and economic participation.

Top Performers: States like Kerala and union territories such as Andaman and Nicobar Islands, Puducherry, and Lakshadweep have consistently ranked high in GDI scores. Kerala improved from a GDI of 0.882 in 2001 (2nd place) to 0.911 in 2021 (1st place), driven by its focus on social development, education, and women’s empowerment. Similarly, Andaman and Nicobar Islands, though dropping from 1st in 2001 to 5th in 2021, maintained a high GDI score of 0.889, reflecting the advantages of small populations and better resource allocation in union territories.

Rapid Improvements: States like Meghalaya and Sikkim made significant strides in gender development. Meghalaya jumped from 11th in 2001 (GDI: 0.845) to 2nd in 2021 (GDI: 0.898), while Sikkim rose from 13th to 3rd in the same period, underscoring improvements in female education and health services. Punjab also saw a rise, moving from 9th in 2001 to 4th in 2021.

Consistent Performers: Mizoram, Goa, and New Delhi have maintained steady progress, consistently placing in the top 10. Mizoram ranked 10th in 2021 with a GDI of 0.883, while Goa and New Delhi both recorded GDI scores of 0.889 and 0.881, respectively, due to sustained efforts in gender equality across education, employment, and health services.

Challenges in Low-Performing States: Despite overall national progress, states like Bihar, Rajasthan, and Uttar Pradesh continue to struggle. Bihar’s GDI improved from 0.706 in 2001 to 0.801 in 2021, but it remains the lowest-ranking state. Rajasthan, too, despite some gains, ranked 34th in 2021 (GDI: 0.816), reflecting persistent gender inequality issues, particularly in female literacy and healthcare access.

Progress in Low-Performing States: Though still lagging, Uttar Pradesh, Bihar, and Rajasthan have made notable improvements. Uttar Pradesh's GDI increased from 0.735 in 2001 to 0.815 in 2021, indicating steady but slow progress, particularly in female literacy and healthcare.

Lagging States: States like Madhya Pradesh, Jharkhand, and Chhattisgarh have made limited progress in gender development. Madhya Pradesh ranked 33rd in 2001 (GDI: 0.748) and improved only slightly to 32nd in 2021 (GDI: 0.824), facing challenges due to rural-urban disparities, poverty, and limited women's access to healthcare and education.

Impact of Policy Interventions: States with high GDI scores, such as Kerala and Sikkim, have benefited from policy interventions targeting social development, education, and healthcare. Kerala's focus on female literacy and health initiatives stands out, as does Sikkim's inclusive governance and gender-sensitive policies. These findings suggest that targeted policy measures are crucial in enhancing gender development.

India's GDI trends from 2001 to 2021 highlight significant progress but reveal enduring regional disparities. While states like Kerala and certain union territories serve as benchmarks for gender equality, states like Bihar and Rajasthan continue to face substantial challenges. Bridging these disparities requires sustained policy efforts, focusing on female education, healthcare, and addressing socio-cultural barriers to gender equality.

Suggestions for Pathways to Sustainable Development

Based on the analysis of regional disparities in educational attainment and gender development across Indian states and union territories from 2001 to 2021, several pathways can be proposed to ensure sustainable development:

Targeted Educational Interventions: Focus on low-performing states like Bihar, Rajasthan, and Uttar Pradesh by improving infrastructure, teacher training, and curriculum relevance. Implement programs such as conditional cash transfers and scholarships to boost female enrollment and retention.

Promoting Gender-Sensitive Policies: States with high Gender Development Index (GDI) scores, like Kerala and Sikkim, highlight the need for inclusive governance frameworks that prioritize gender equality across sectors, ensuring equitable access to education, healthcare, and employment for women.

Socio-Cultural Transformation: Address deep-seated socio-cultural norms that restrict women's participation through awareness campaigns and community engagement, particularly in northern and central states. Engaging local leaders and NGOs is crucial for changing discriminatory attitudes.

Improving Healthcare Access: Invest in healthcare infrastructure, especially maternal and child health, to enhance GDI scores in lagging regions. Expanding universal healthcare in rural and tribal areas will ensure women can fully participate in education and society.

Leveraging Technology: Expand digital learning platforms and e-learning tools in remote areas to provide equitable educational opportunities, particularly for girls.

Fostering Public-Private Partnerships: Collaborate with the private sector and civil society to develop education infrastructure and vocational training, scaling successful local solutions for broader impact.

Addressing Urban-Rural Disparities: Implement rural-urban equity policies to reduce disparities in educational attainment and access to services, prioritizing investments in rural education and employment.

Gender-Responsive Infrastructure: Invest in safe transportation and accessible facilities to promote women's participation in education and the workforce.

Monitoring and Evaluation: Establish robust frameworks for data collection and analysis to track gender disparities, enabling evidence-based decision-making.

Capacity Building: Strengthen local institutions to implement gender-sensitive policies, empowering them to address regional needs effectively.

Achieving sustainable development in India demands a multifaceted approach that tackles educational disparities and gender inequality. By prioritizing targeted interventions, gender-sensitive policies, and healthcare access, while leveraging technology and fostering public-private partnerships, India can promote inclusive growth and contribute to Sustainable Development Goals (SDGs) for future generations.

Conclusion

The trends in educational attainment and gender development across India from 2001 to 2021 highlight significant progress alongside persistent challenges. To ensure pathways to sustainable development, it is imperative to prioritize educational equity and gender parity, particularly in lagging states. Focused interventions addressing the unique socio-economic and cultural barriers faced by marginalized communities are essential. By investing in targeted educational initiatives, fostering gender-sensitive policies, and enhancing community engagement, India can create a more inclusive and equitable society. Such efforts will not only improve educational outcomes but will also contribute to broader socio-economic development and gender equality, ultimately fostering sustainable development for future generations.

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