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RESEARCH ARTICLE

AN ANALYTICAL STUDY OF EDUCATIONAL PROGRESSION: RURAL-URBAN DISPARITIES IN INDIA

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Abstract: Education is a basic human right that equips children with the essential tools to create stable and successful futures. Yet, gender inequality in education remains a major obstacle for many children around the world. Besides gender disparity in education in India, rural-urban disparity in education is also a prominent feature in Indian society. This paper explores the persistent disparities in educational progression between rural and urban areas in India. The paper aims to address rural – urban disparity in literacy rate among male and female, gender-wise literacy growth rate, and analyze decadal literacy growth rate and their trend in India. Drawing on secondary data from various rounds of census, national surveys and reports such as NSSO, ASER, and UDISE+, it identifies significant variations in literacy rates in India. The paper reveals that there are significant rural – urban inequality in literacy rate for male and female. The paper has identified declining trend for male – female literacy rate in rural and urban areas.

Keywords: *Education, Literacy, Disparity, Rural, Urban.*

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INTRODUCTION

Since gaining independence, India's education system has made significant strides (Agale, 2023), particularly in terms of enrollment and literacy rates. However, there remain pronounced gaps in educational progression-referring to the advancement from primary to secondary and then to tertiary education-between rural and urban regions. These inequalities carry important consequences for social mobility, economic growth, and national cohesion. Education is widely acknowledged as a foundational driver of socio-economic development and individual empowerment (UNESCO, 2015; Tilak, 2002).

However, its equitable accessibility and quality remain significant challenges across various geographic and socio-economic contexts. In India, the educational divide between rural and urban areas has emerged as a deeply entrenched and multifaceted issue (Mehta, 2013; PROBETeam, 1999). Despite substantial governmental efforts, including large-scale policy initiatives such as the Sarva Shiksha Abhiyan (SSA) and the Right to Education Act (RTE) of 2009, disparities persist in critical indicators such as enrollment ratios, retention rates, academic performance, and access to secondary and tertiary education (Kingdon, 2007). Rural regions, in particular, often contend with inadequate infrastructure, shortage of trained teachers, and socio-cultural barriers, which collectively hinder the realization of educational equity (Govinda & Bandyopadhyay, 2008; ASER, 2022). These enduring disparities underscore the need for a comprehensive and data-driven examination of rural-urban educational progression in India.

REVIEW OF LITERATURE

Das (2025) in her paper focused on Urban-Rural Literacy Gaps in India and found that despite an overall decline in rural - urban literacy gap in India, states like Andhra Pradesh, Madhya Pradesh, Gujarat, and Karnataka still faced significant disparities in 2011. She also outlined the fact in her paper that despite literacy rising from 41% to

74 % between 1981 and 2011, significant inter- and intra-regional disparities persist in India (Das, 2025). Sadaf and Munir (2016) highlight that low literacy rates, along with significant disparities in literacy between males and females, rural and urban populations, and different age groups, are among the most pressing challenges faced by developing countries. As a developing nation, India not only struggles with low overall literacy but also with pronounced gaps in literacy between genders and between rural and urban areas (Sadaf & Munir, 2016).

Das (2023) address the challenge of rural-urban disparity in literacy rate in India and found that the states such as Rajasthan, Madhya Pradesh, Maharashtra and Gujarat have faced a high urban-rural differential in literacy, whereas, a significant improvement in rural literacy has been found in U.P, Haryana, Bihar, and Punjab in the period between 1981 and 2011 (Das, 2023).

Agrawal (2014) in his studied and found that the high extent of educational inequality in India; though the inequality declined between 1993 and 2009 the Gini index is above 50% in 2009. He highlights that a large part of overall educational inequality is accounted for by intra-sector inequality. Further, intra-sector inequality has increased and inter-sector inequality has narrowed during the above period (Agrawal, 2014).

OBJECTIVE

Based on the reviewed literature and the scope of the study, the following key objectives have been outlined.

- To assess rural – urban gap in female literacy rate in India.
- To analyze rural-urban gap in male literacy rate in India.
- To investigate gender wise growth rate of literacy rate in India.
- To examine rural-urban decadal growth rate trend of male and female literacy rates.

DATA SOURCE AND METHODOLOGY

The paper tries to explore regional disparity in literacy rate in India post-independence. It has also an attempt to trace gender-wise regional disparity in India. To meet out the objectives of the paper secondary data have been employed. The secondary data have been collected from various sources like different round of census, NSSO, ASER, and UDISE+ etc. Some appropriate statistical tools and techniques such as SPSS 27, MS-Excel, descriptive statistics, bar diagram, growth rate, decadal growth rate, trend analysis etc. are used to find the desirable results. To calculate the literacy growth rate, the following formula has been employed,

$$\textbf{\textit{Literacy growht rate}} = \frac{\boldsymbol{LR_t - LR_{t-1}}}{\boldsymbol{LR_{t-1}}} \times \mathbf{100}$$

Where LR_t represents literacy rate in year t and LR_{t-1} represents literacy rate in year t-1.

$$\textbf{\textit{Decadal growht rate (DGR) of literacy rate}} = \frac{\boldsymbol{LR_t - LR_{t-1}}}{\boldsymbol{LR_{t-1}}} \times \mathbf{100}$$

Where LR_t represents literacy rate in current decade and LR_{t-1} represents literacy rate in previous decade.

Trend line equation of decadal growth rate of literacy rate:

$$\boldsymbol{y = a + bx}$$

Where $\boldsymbol{y}$ is the dependent variable, $\boldsymbol{a}$ represents intercept of the trend line, $\boldsymbol{b}$ represents the slope of the trend line and $\boldsymbol{x}$ represents the time. Education is a transformative force for social change, and its equitable distribution between urban and rural population is crucial for enhancing a country's social welfare (Dreze & Sen, 1999; Das, 2025). There are numerous variables to address level of education and educational progression but due to need of the study and some limitation, literacy rate is used to address educational progression in India.

RESULT AND DISCUSSION

According to UNESCO (1946), literacy extends beyond the basic ability to read, write, and comprehend language - it also includes vital civic knowledge, personal hygiene, political awareness, and occupational skills that empower individuals to actively engage in their communities (Das, 2025). Despite various initiatives, such as the launch of the National Adult Education Programme (NAEP) in 1978, India still faces persistent challenges with widespread

illiteracy, especially in rural regions (Das, 2025).

Literacy rate in India was about 18% in year 1951 and increased to 73% in year 2011. It shows huge increment in literacy rate in India but after 77 years of independence, illiteracy still exists in the country. The country has multiple challenges at literacy front. There is not only the problem of illiteracy but also gender discrimination and regional discrimination in literacy rate has more attentive problems to be addressed in India. The earlier studies found that gender discrimination in literacy rate prevails in India as a whole and urban and rural India too (Tripathi & Kurariya, 2025). But in India, there is not only gender discrimination in literacy prevails but also intra- gender discrimination in literacy also exists. It can be seen from the Figure 1 given bellow,

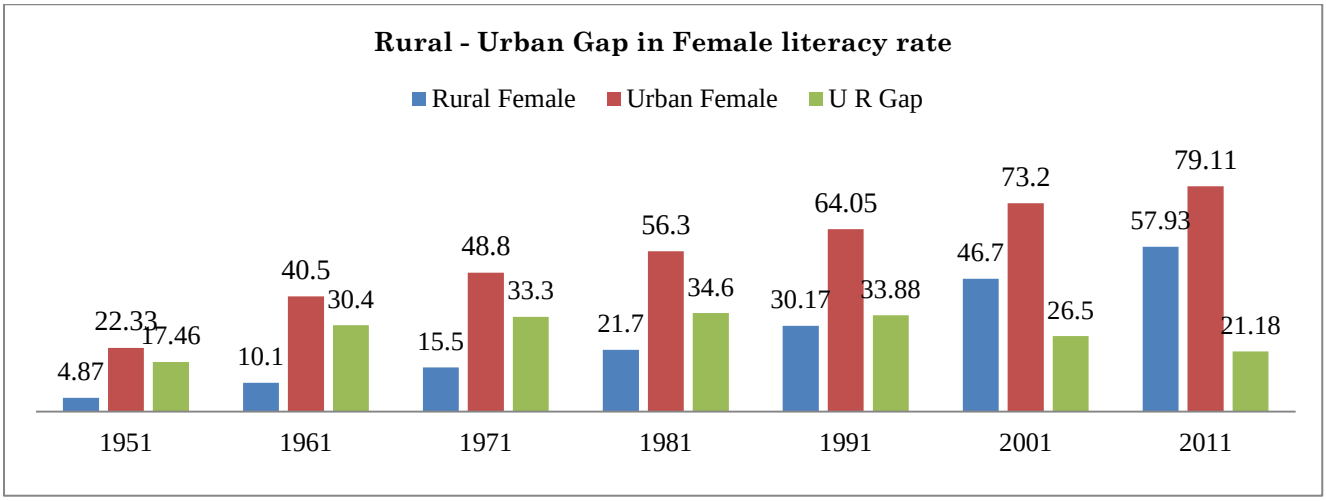


Figure 1: Region-wise literacy rate in India for female
Source: *Fig. is prepared by author himself using men women 2016 data*

The Figure illustrates that the female literacy rate in rural India has consistently remained lower than that in urban India at every recorded point in time (CSO, 2019). Each census highlights that rural women have a higher illiteracy rate compared to their urban counterparts. Although the literacy rate for women in both rural and urban areas has been steadily increasing over the years, a noticeable intra-gender gap in literacy still persists in India (CSO, 2019). This rural–urban literacy gap among females has not followed a uniform trend over time. From 1951 to 1981, the gap widened significantly from 17.46% in 1951 to 34.6% in 1981. However, after 1981, the gap began to decrease gradually, dropping to 21.18% by 2011. It could be seen that the disparity between them has fluctuated while female literacy has improved across both rural and urban areas. The gap initially widened until 1981 and has been narrowing since then, indicating that the rural–urban female literacy divide has shown an irregular trend over the decades. An interesting observation from Figure 2 is that the intra-gender gap in literacy rates exists not only among females but also among males.

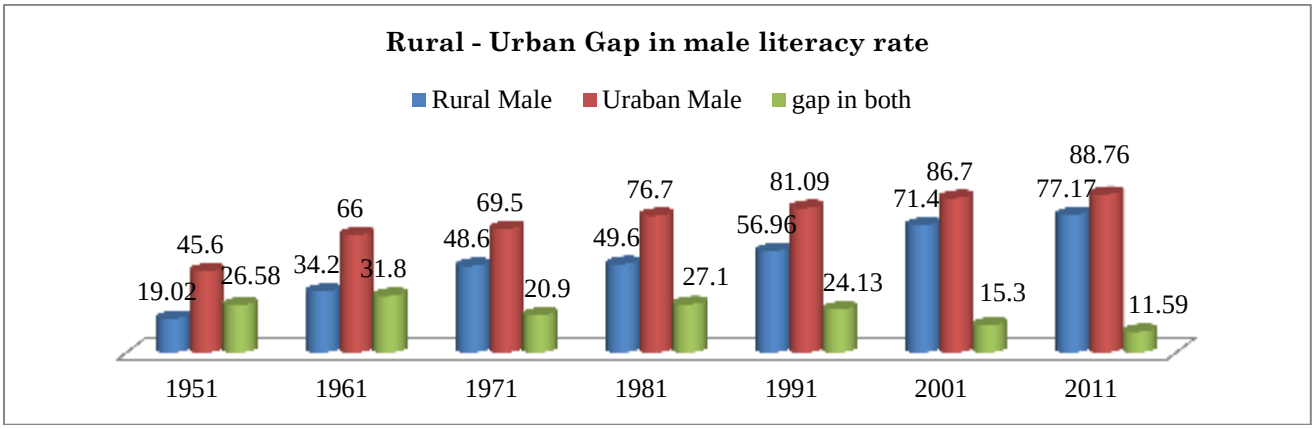


Figure 2: Region wise literacy rate in India for male
Source: *Self-created Fig. using various round of census.*

The Figure shows that the male literacy rate in both rural and urban areas has been steadily increasing over time. However, a clear literacy gap exists between rural and urban males (CSO, 2019). Specifically, the literacy rate for males in rural India is consistently lower than that of males in urban India. This rural–urban gap in male literacy has not followed a uniform trend. In 1951, the gap stood at 26.58%, which increased to 31.8% by 1961. Over the next two decades, the gap began to narrow. Since 1981, when the gap was 27.1%, it has been steadily declining, reaching 11.59% by 2011.

This trend suggests that males, like females, also face disparities in literacy based on their area of residence. When we look at national averages, it becomes evident that the male literacy rate in urban areas has consistently been higher than the national male literacy rate in every census year. A similar conclusion can be drawn for females-the literacy rate among urban females has remained significantly higher than that of rural females across all recorded years (CSO, 2019).

A clearer picture of gender disparities in education emerges when we examine the growth rate of male and female literacy in India, as shown in Figure 3. While both male and female literacy rates have improved significantly over the decades, the rate of growth has not been equal. Female literacy has seen a faster growth rate compared to male literacy, particularly in recent decades. This reflects the impact of various government initiatives and awareness campaigns aimed at promoting girls' education and reducing gender-based disparities.

However, despite this encouraging progress, the overall literacy rate for females still lags behind that of males, indicating that gender inequality in education persists. The gap is especially pronounced in rural areas, where traditional socio-economic barriers continue to restrict educational access for girls. Figure 3 highlights that although the gender gap is gradually narrowing, sustained efforts are still needed to achieve true gender parity in education across all regions of the country.

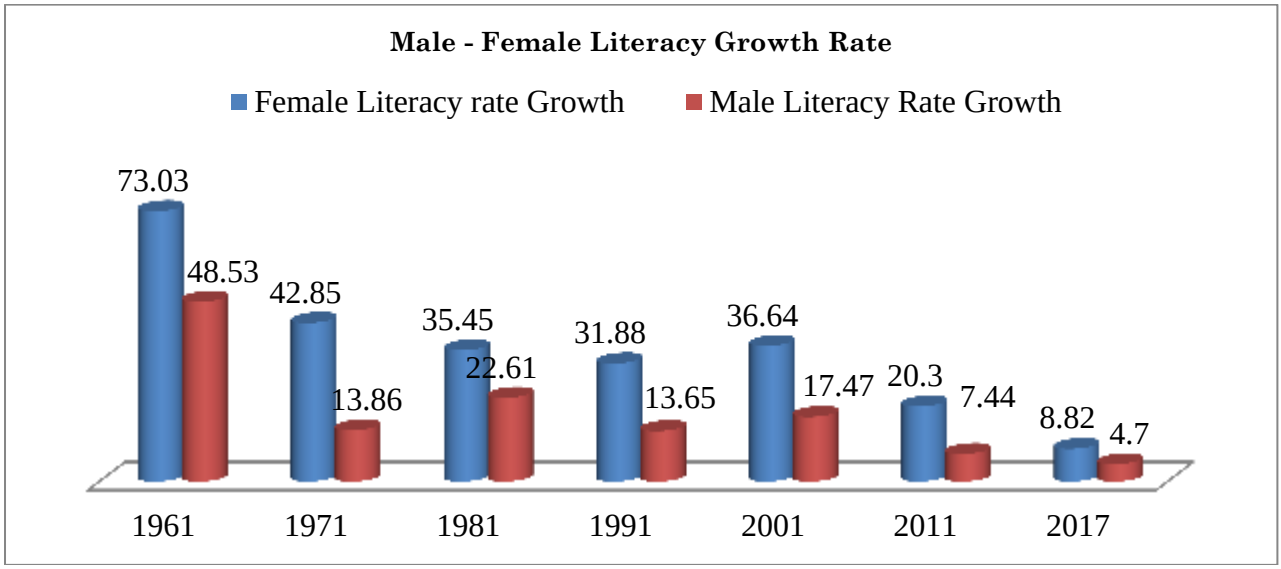
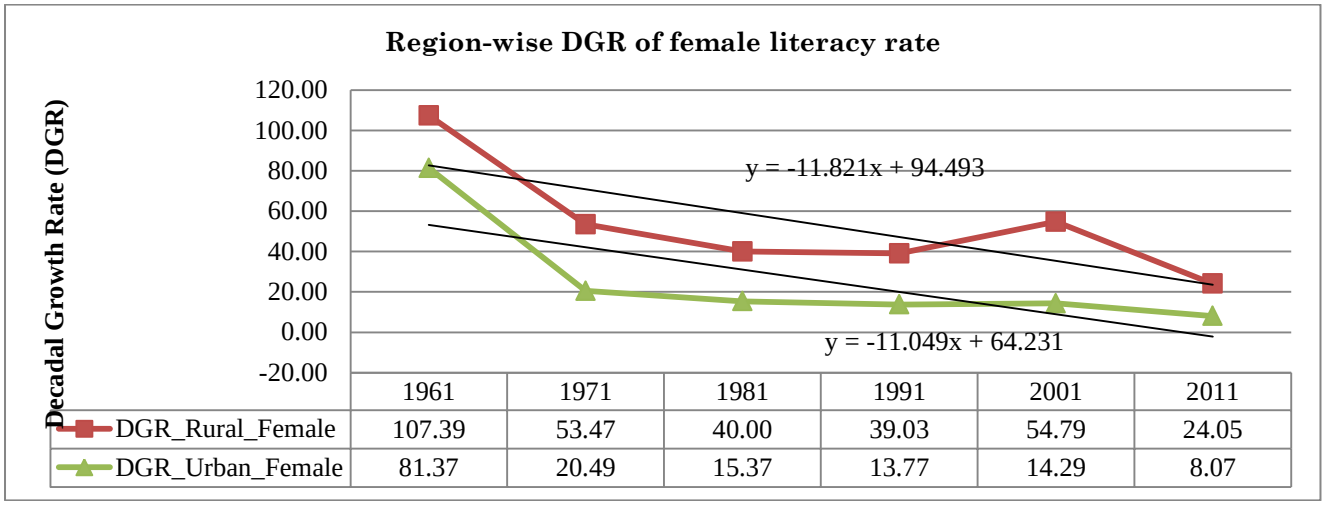


Figure 3: Gender wise literacy growth rate in India
Source: Self-created by author

The Figure illustrates the decadal growth in literacy rates for both males and females in India. It is evident that, across every time period, the decadal growth rate for female literacy has been higher than that for male literacy (Kumar, Kumar, & Rani, 2016). Although the female literacy rate has been consistently increasing over the decades, its growth rate has not followed a regular pattern. During the first decade (1951–1961), the growth in female literacy was the highest, recorded at 73.03%, while the male literacy rate grew by 48.53% during the same period. Despite the higher growth for females, the overall literacy level for men remained significantly higher. In the following two decades, the growth rate in female literacy began to decline. However, it increased again in 2001, reaching 36.64%, up from 31.88% in 1991. After 2001, the growth rate for female literacy has shown a downward trend, falling to just 8.82% by the

year 2017. The trend for male literacy growth is more erratic. It peaked at 48.53% between 1951 and 1961 but then dropped sharply to 13.86% in 1971. The following decades saw fluctuations: it increased in 1981, declined again in 1991, rose once more in 2001, and then continuously declined through to 2017. This zig-zag pattern reflects inconsistent progress in male literacy growth over the years. Despite these fluctuations, the male literacy rate has consistently remained higher than that of females in every decade. However, the female literacy rate has been growing at a faster pace, contributing to a gradual reduction in the gender gap in literacy rates over time (Kumar, Kumar, & Rani, 2016). For assessing regional disparity in literacy rate for male and female, decadal growth rate (DGR) has been calculated for both region – rural and urban – and for both gender – male and female literacy rate-in India. Region-wise decadal growth rate for female literacy rate is given below in the following Figure.



	1961	1971	1981	1991	2001	2011
DGR_Rural_Female	107.39	53.47	40.00	39.03	54.79	24.05
DGR_Urban_Female	81.37	20.49	15.37	13.77	14.29	8.07

Figure 4: Rural-Urban decadal growth rate of female literacy rate in India
Source: Self-created Fig. by author using census data.

The above Fig. addresses decadal growth rate of female literacy rate for rural and urban India from 1961 to 2011 to capture disparity between these two regions or assess intra gender discrimination in literacy rate in India. The data reveals a systematic decline in DGR for both rural and urban female literacy rate over the five decades, though the magnitude and pattern of decline differ significantly between these two regions.

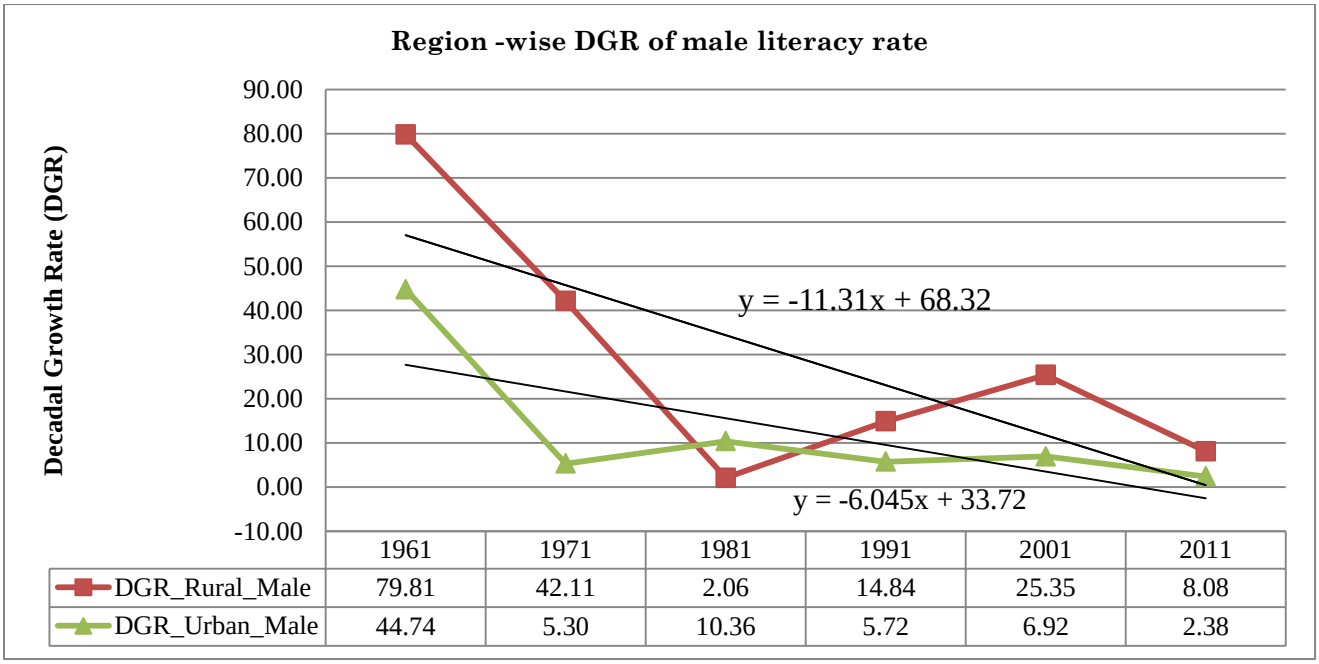
In 1961, the DGR for female literacy rate was particularly high in rural areas (107.39%) and urban areas (81.37%), likely reflecting the strong governmental push towards expanding access to education in the post-independence era. However, a steady decline followed in subsequent decades. By 2011, the DGR of literacy rate had fallen to 24.05% for rural females and 8.07% for urban females, indicating a reduction in the rate at which new female literates were added to the population.

The trend line for DGR in literacy rate for rural female, represented by the equation y = -11.82x + 94.49, demonstrates a steeper decline than the urban trend line, y = -11.04x + 64.23. It shows that the slope of trend line of rural female literacy rate (11.82) is higher than that of urban female literacy rate (11.04) indicating rapid decline of DGR of literacy rate in for female in rural areas than that of urban areas. This suggests that although rural regions initially experienced significant improvements in female literacy, the momentum waned more sharply over time.

An anomaly appears in the year 2001, when rural DGR rose to 54.79%, potentially as a result of targeted literacy interventions, such as adult education programs and community-based initiatives implemented in the late 1990s. However, this increase was short-lived, followed by a substantial drop in the subsequent decade.

Urban areas, by contrast, exhibit a more gradual and consistent decrease in DGR throughout the entire period. The absence of significant fluctuations in urban data may indicate that these regions reached a near-saturation point in female literacy earlier, leaving fewer illiterate individuals to benefit from educational efforts (Mitra, 2020).

Notably, the gap in DGR between rural and urban areas has narrowed significantly over time. While rural regions initially lagged far behind urban centers, the trends suggest a convergence by 2011. Nevertheless, it is important to recognize that a declining DGR does not necessarily signal regression in literacy development. Instead, it may reflect a diminishing base of illiterate individuals, as a greater proportion of the female population becomes literate (Basu & Desai, 2018; Sharma & Rai, 2019). These findings underscore the need for sustained and region-specific policy interventions, especially in rural areas that continue to face structural and socio-cultural barriers to female education. The importance of female literacy in driving improvements in health, social equity, and economic development is well-documented, and thus maintaining progress in this area remains a critical component of national development strategies (UNESCO, 2019). After addressing rural urban disparity in decadal growth rate of female literacy rate, it is the time to capture inequality between rural-urban decadal growth rates of male literacy rate in India. It has been discussed below in the following Figure.



	1961	1971	1981	1991	2001	2011
DGR_Rural_Male	79.81	42.11	2.06	14.84	25.35	8.08
DGR_Urban_Male	44.74	5.30	10.36	5.72	6.92	2.38

Figure 5: Rural-Urban decadal growth rate of male literacy rate in India
Source: Self-created Fig. by author using census data

The analysis of the Decadal Growth Rate (DGR) of male literacy rate across rural and urban regions of India from 1961 to 2011 reveals significant shifts in the pace and pattern of literacy growth. While the overall male literacy rate has steadily increased during this period, the rate at which new literates are being added each decade has declined, indicating a transition from literacy expansion to near-saturation-particularly in urban areas.

In 1961**,** the DGR of literacy rate for rural males stood at 79.81 %**,** nearly double that of urban males **(**44.74 %**),** underscoring the initial gap in educational access between rural and urban populations. This disparity reflects the legacy of underinvestment in rural education prior to and immediately after India's independence (Dreze & Sen, 2013).

Governmental efforts during the 1950s and 60s, including the establishment of village schools and adult education programs, likely contributed to the high growth observed in this early phase (Kingdon, 2007).

However, by 1971, rural DGR of literacy rate had declined to 42.11% and urban DGR of literacy rate to 5.30%**,** marking the beginning of a steady deceleration. The trend line equations -y = -11.31x + 68.32 for literacy rate of rural males and y = -6.045x + 33.72 literacy rate for urban males - quantify this long-term decline.

The magnitude of slope of decadal growth rate of urban male is -6.04 and that of rural male is -11.31 which ultimately reflects that decadal growth rate of male literacy rate in rural areas is declining more rapidly than that of urban areas.

The steeper rural trend line indicates a faster rate of reduction in DGR of literacy rate, likely due to an initial surge in literacy interventions that could not be sustained without addressing structural challenges such as poverty, poor infrastructure, and teacher shortages (PROBETeam, 1999; Tilak, 2002).

The 1981 data presents a significant inflection point, with rural male DGR dropping sharply to 2.06 %**,** falling below the urban male DGR of 10.36 %**.** This rare reversal may reflect stagnation in rural educational outreach, compounded by high dropout rates and limited access to quality schooling (Ramchandran, 2004).

Conversely, urban areas maintained modest gains, likely benefiting from better schooling infrastructure and parental awareness of education's value. Between 1991 and 2001**,** the rural male DGR rebounded to 25.35 %**,** reflecting renewed policy focus through programs like the District Primary Education Programme (DPEP) and Sarva Shiksha Abhiyan (SSA)**.** These interventions aimed at universalizing elementary education and expanding rural school access (UNESCO, 2019).

However, by 2011**,** the rural male DGR again dropped to 8.08%**,** indicating that while access may have improved, other barriers such as educational quality and socio-economic inequality persist.

Urban male literacy followed a more stable trajectory, with DGRs gradually declining from 44.74% (1961) to 2.38% (2011)**.** This trend reflects an early saturation of basic literacy in urban settings, where the majority of the male population had already been reached by formal education systems by the 1980s (Basu & Desai, 2018). Urban DGR remained relatively low and steady after 1971, highlighting the challenge of further increasing literacy once most individuals are already literate. Importantly, the declining DGR should not be misinterpreted as educational stagnation**.**

Rather, it indicates that fewer illiterate individuals remain to be educated**,** especially among males in urban regions. This pattern is consistent with global literacy transitions, where high initial growth rates taper off as universal literacy nears (UNESCO, 2019). The data also suggests a convergence in rural and urban DGRs by 2011, narrowing the historical literacy gap between the two. While rural regions have made significant progress, achieving equity in educational quality**,** learning outcomes**,** and post-primary educational access remains a challenge.

Moreover, the low DGRs in both regions signal a need for a policy shift-from expanding access to ensuring the quality and relevance of education for the male population (Dreze & Sen, 2013). Precisely, the Fig. captures the trajectory of male literacy growth in India, reflecting both the success of educational expansion and the emerging need to adapt strategies for a population that is increasingly literate but not uniformly educated.

CONCLUSION AND POLICY SUGGESTIONS

The present study examines regional disparities in literacy rates among males and females across urban and rural areas. The findings reveal that the urban–rural gap in female literacy has shown an irregularly increasing trend between 1951 and 2011, whereas the urban-rural disparity in male literacy has displayed an irregularly declining trend over the same period.
This indicates a contradictory pattern in the urban-rural literacy trends for males and females in India. The study highlights that urban-rural inequality in female literacy has widened, while the gap in male literacy has narrowed during the study period.

Furthermore, the paper analyzes the decadal growth rates of male and female literacy in urban and rural areas, concluding that the overall decadal growth is shrinking. However, the convergence in urban–rural literacy rates is happening more rapidly for males than for females. To enhance educational development and reduce the urban–rural divide in education—particularly in literacy-the following measures are recommended:

- Although male and female literacy rates in both rural and urban India have increased significantly since independence, they still remain below desirable levels. The government should ensure effective implementation of its educational policies to improve literacy outcomes.

- The increasing urban-rural gap in female literacy from 1951 to 2011 indicates insufficient attention to female education in rural areas. Therefore, both the government and civil society must place special emphasis on promoting female education to reduce this disparity.
- Despite the persistence of a patriarchal system in Indian society, the existence of an urban–rural gap in male literacy remains a concern. This should be addressed through a comprehensive review of current policies and their implementation, with the aim of gradually eliminating this disparity.
- The study clearly shows that the urban–rural gap in male literacy is closing faster than that in female literacy. This suggests that educational outcomes are influenced not only by government policies but also by deep-rooted socio-cultural practices. Therefore, coordinated efforts between the government and society are essential to eliminate social evils and harmful practices that hinder educational equity.
- Widespread social awareness campaigns should be launched across the country to address and eliminate urban-rural disparities in male and female literacy rates.

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