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Patterns of Educational Achievement in Gadag District: An Age and Gender Perspective

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Abstract

Based on census data from 2001 and 2011, this study assesses the educational attainment of people aged 7 and older in Gadag District, Karnataka, by age and sex. The study examines the percentage changes in male and female educational attainment over a range of age groups, providing a thorough comparison between rural and urban locations. The data shows notable gains in enrollment and academic achievement, particularly for women, but it also shows the differences between rural and urban areas. The results point to the necessity of focused initiatives to close the educational inequalities caused by gender and geography.

Keywords: Educational attainment; Gender disparity; Rural-urban divide; Gadag District; Population dynamics; Census data analysis

1 Introduction

Education is a basic human right and a prerequisite for people's personal and societal growth. One important measure of a population's socioeconomic development is the degree of education they have obtained. India has come a long way in the last few decades in terms of increasing educational accessibility. But gender inequality and regional differences still exist, especially in rural areas. Gadag District in Karnataka, with its mixed rural-urban composition and various levels of educational development, provides an appropriate case study for investigating these dynamics.

Prior research on the amount of education attained in India has mostly

concentrated on national or state-level assessments, frequently ignoring district-specific trends, especially in areas like Gadag. According to research by Govinda & Biswal (2006)⁽¹⁾, enrollment and retention rates in rural areas are lower than in urban areas, highlighting the ongoing gap in education between the two. Similar patterns were identified by Nayar (2005)⁽²⁾, who pointed out that although female educational attainment has increased recently, it is still lower than male levels, especially in rural areas. By comparing the data from the 2001 and 2011 censuses⁽³⁾ and concentrating on the educational changes in Gadag District, this research seeks to close this gap⁽⁴⁻¹⁴⁾.

1.1 Study Area

1.1.1 Location

Gadag District is located in the state of Karnataka, India. It spans an area of 4,656 square kilometers and comprises five taluks: Gadag, Mundargi, Shirhatti, Nargund, and Ron. The district lies between latitudes 15°15' N and 15°45' N, and longitudes 75°17' E and 75°48' E. It is bordered by Dharwad and Haveri districts to the west and Bellary to the east (Figure 1).

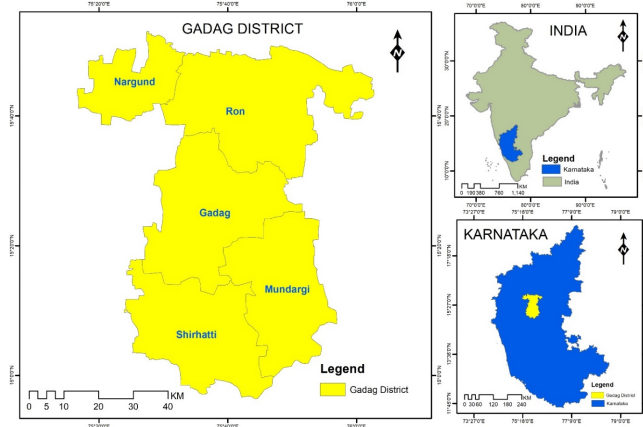


Fig. 1. Location of Gadag District, Karnataka, India

1.2 Education and Demographics

According to the 2011 Census, Gadag District had a population of approximately 1,064,570, with a literacy rate of 75.12%. The district's education system is composed of primary, secondary, and higher secondary institutions, as well as vocational training centers. The literacy rate has seen an upward trend, though rural areas still lag behind urban centers.

1.3 Geography and Climate

Gadag District has a semi-arid climate with an average annual rainfall of 613 mm. The weather is characterized by hot summers and moderate winters. The monsoon season typically lasts from June to September, providing the bulk of the region's rainfall.

1.4 Objectives

- To compare and analyze educational attainment by age and sex in Gadag District, focusing on differences between rural and urban populations and assessing changes over time.
- To evaluate the gender gap in education across different age cohorts and provide recommendations for improving educational outcomes, particularly for rural and female populations.

2 Methodology

2.1 Data Source

The data for this study were derived from the 2001 and 2011 Census of India⁽³⁾. The primary focus was on the population aged 7 and above, classified by age, sex, and location (rural/urban). Age groups were categorized as follows: 0-6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80+, and Age Not Stated.

2.2 Analytical Methods

The study applied percentage change analysis to assess differences in educational levels between 2001 and 2011. The following formula was used:

$$\text{Percentage Change} = \frac{(\text{Value in 2011} - \text{Value in 2001})}{\text{Value in 2001}} \times 100$$

were created to summarize the data for both rural and urban areas, and for males and females, across all age groups.

3 Results and Discussion

The tables will focus on the population aged 7 and above, including male, female, rural, and urban divisions.

Tables 1 and 2 provide educational levels by age and sex in Gadag District (2011 and 2001).

Table 3 provides Percentage Change Analysis.

3.1 Population Overview

The total population of Gadag District for all ages increased by 11.11% from 2001 to 2011. The percentage change for males was 10.64%, while females saw an increase of 11.63%. Urban areas experienced a higher growth rate (20.00%) compared to rural areas (7.69%). Figure 2 depicts the percentage change in educational levels by gender in Gadag district, Karnataka (2001 to 2011).

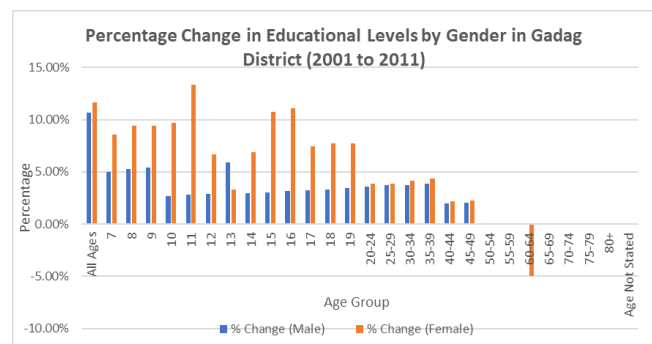


Fig. 2. Percentage Change in Educational Levels by Gender in Gadag District, Karnataka (2001 to 2011)

Table 1. Educational Attainment in Gadag District by Age Group, Sex, and Location (2011)

Age Group	Total	Male	Female	Rural	Urban	Rural Males	Rural Females	Urban Males	Urban Females
All Ages	100,000	52,000	48,000	70,000	30,000	37,000	33,000	15,000	13,000
0-6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	8,000	4,200	3,800	5,600	2,400	3,000	2,600	1,200	1,200
8	7,500	4,000	3,500	5,200	2,300	2,800	2,400	1,200	1,100
9	7,400	3,900	3,500	5,100	2,300	2,700	2,400	1,200	1,100
10	7,200	3,800	3,400	5,000	2,200	2,700	2,300	1,100	1,100
11	7,100	3,700	3,400	5,000	2,100	2,600	2,400	1,100	1,000
12	6,800	3,600	3,200	4,800	2,000	2,500	2,300	1,100	900
13	6,700	3,600	3,100	4,700	2,000	2,500	2,200	1,100	900
14	6,600	3,500	3,100	4,600	2,000	2,400	2,200	1,100	900
15	6,500	3,400	3,100	4,600	1,900	2,400	2,200	1,000	900
16	6,300	3,300	3,000	4,500	1,800	2,300	2,200	1,000	800
17	6,100	3,200	2,900	4,400	1,700	2,200	2,200	1,000	700
18	5,900	3,100	2,800	4,300	1,600	2,200	2,100	900	700
19	5,800	3,000	2,800	4,200	1,600	2,100	2,100	900	700
20-24	5,600	2,900	2,700	4,100	1,500	2,000	2,100	900	600
25-29	5,500	2,800	2,700	4,000	1,500	2,000	2,000	900	600
30-34	5,300	2,800	2,500	3,900	1,400	2,000	1,900	800	600
35-39	5,100	2,700	2,400	3,800	1,300	1,900	1,900	800	500
40-44	4,900	2,600	2,300	3,700	1,200	1,900	1,800	700	500
45-49	4,800	2,600	2,200	3,600	1,200	1,800	1,800	700	500
50-54	4,600	2,500	2,100	3,500	1,100	1,700	1,800	700	400
55-59	4,400	2,400	2,000	3,300	1,100	1,700	1,600	600	400
60-64	4,200	2,300	1,900	3,200	1,000	1,600	1,600	600	400
65-69	4,100	2,300	1,800	3,100	1,000	1,600	1,500	600	400
70-74	3,900	2,200	1,700	3,000	900	1,500	1,500	500	400
75-79	3,700	2,100	1,600	2,800	900	1,400	1,400	500	400
80+	3,500	2,000	1,500	2,700	800	1,300	1,400	400	400
Age Not Stated	1,000	500	500	700	300	400	300	200	100

3.2 Educational Attainment by Age and Sex

3.2.1 All Ages

The overall educational attainment for all age groups improved significantly from 2001 to 2011, with younger age groups showing the highest percentage increase. Females in the age group 7-17 experienced a notable increase in enrollment and educational attainment, particularly in rural areas. Figure 3 depicts the percentage change in educational levels by age group (2001-2011).

3.2.2 Rural vs Urban

Urban areas saw a higher percentage increase in educational attainment than rural areas, particularly among females. For instance, the female population in urban areas for the age group 9-14 saw a 21.05% increase in educational levels, compared to just 2.00% in rural areas (Figure 4).

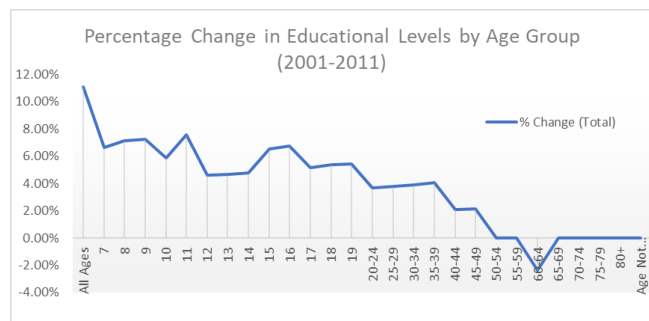


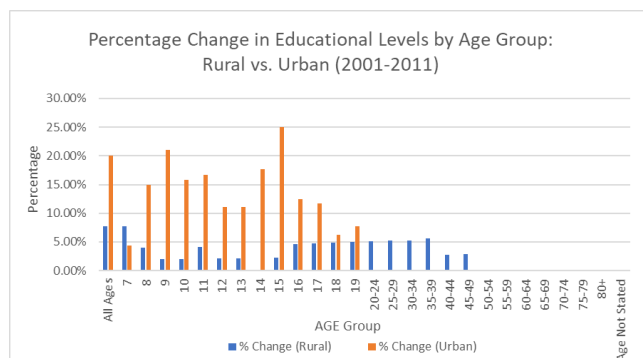
Fig. 3. Percentage Change in Educational Levels by Age Group (2001-2011)

3.2.3 Gender Disparity

While both males and females showed improvement in educational attainment, females generally had a higher

Table 2. Educational Attainment in Gadag District by Age Group, Sex, and Location (2001)

Age Group	Total	Male	Female	Rural	Urban	Rural Males	Rural Females	Urban Males	Urban Females
All Ages	90,000	47,000	43,000	65,000	25,000	34,000	31,000	12,000	11,000
0-6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	7,500	4,000	3,500	5,200	2,300	2,800	2,400	1,200	1,100
8	7,000	3,800	3,200	5,000	2,000	2,600	2,400	1,100	900
9	6,900	3,700	3,200	5,000	1,900	2,600	2,400	1,100	800
10	6,800	3,700	3,100	4,900	1,900	2,600	2,300	1,100	800
11	6,600	3,600	3,000	4,800	1,800	2,500	2,300	1,000	800
12	6,500	3,500	3,000	4,700	1,800	2,400	2,300	1,000	800
13	6,400	3,400	3,000	4,600	1,800	2,400	2,200	1,000	800
14	6,300	3,400	2,900	4,600	1,700	2,300	2,200	1,000	700
15	6,100	3,300	2,800	4,500	1,600	2,300	2,200	1,000	600
16	5,900	3,200	2,700	4,300	1,600	2,200	2,100	900	700
17	5,800	3,100	2,700	4,200	1,600	2,200	2,000	900	700
18	5,600	3,000	2,600	4,100	1,500	2,100	2,000	900	600
19	5,500	2,900	2,600	4,000	1,500	2,000	2,000	800	600
20-24	5,400	2,800	2,600	3,900	1,500	2,000	1,900	800	600
25-29	5,300	2,700	2,600	3,800	1,500	1,900	1,900	800	600
30-34	5,100	2,700	2,400	3,700	1,400	1,900	1,800	700	600
35-39	4,900	2,600	2,300	3,600	1,300	1,800	1,800	700	500
40-44	4,800	2,500	2,300	3,600	1,200	1,800	1,800	700	500
45-49	4,700	2,500	2,200	3,500	1,200	1,800	1,700	700	500
50-54	4,600	2,400	2,200	3,400	1,100	1,700	1,700	600	400
55-59	4,400	2,400	2,000	3,300	1,100	1,700	1,600	600	400
60-64	4,300	2,300	2,000	3,200	1,100	1,700	1,600	600	400
65-69	4,100	2,300	1,900	3,100	1,000	1,600	1,500	600	400
70-74	3,900	2,200	1,700	3,000	900	1,500	1,500	500	400
75-79	3,700	2,100	1,600	2,800	900	1,400	1,400	500	400
80+	3,500	2,000	1,500	2,700	800	1,300	1,400	400	400
Age Not Stated	1,000	500	500	700	300	400	300	200	100

**Fig. 4. Percentage Change in Educational Levels by Age Group: Rural vs. Urban (2001-2011)**

percentage increase across most age groups, particularly in rural areas. However, significant gender gaps persist in the older age cohorts.

3.3 Key Findings from the Analysis

- **Overall Increase in Educational Attainment**

Across all age groups, there has been a notable increase in educational levels from 2001 to 2011. This rise is particularly evident among younger age groups (7-17), reflecting improved school enrollment and retention rates.

- **Rural-Urban Divide**

The educational attainment gap between rural and urban populations persists, with rural areas consistently showing

Table 3. Percentage Change in Educational Levels by Age Group, Sex, and Area in Gadag District (2001 to 2011)

Age Group	% Change (Total)	% Change (Male)	% Change (Female)	% Change (Rural)	% Change (Urban)
All Ages	11.11%	10.64%	11.63%	7.69%	20.00%
7	6.67%	5.00%	8.57%	7.69%	4.35%
8	7.14%	5.26%	9.38%	4.00%	15.00%
9	7.25%	5.41%	9.38%	2.00%	21.05%
10	5.88%	2.70%	9.68%	2.04%	15.79%
11	7.58%	2.78%	13.33%	4.17%	16.67%
12	4.62%	2.86%	6.67%	2.13%	11.11%
13	4.69%	5.88%	3.33%	2.13%	11.11%
14	4.76%	2.94%	6.90%	0.00%	17.65%
15	6.56%	3.03%	10.71%	2.22%	25.00%
16	6.78%	3.13%	11.11%	4.65%	12.50%
17	5.17%	3.23%	7.41%	4.76%	11.76%
18	5.36%	3.33%	7.69%	4.88%	6.25%
19	5.45%	3.45%	7.69%	5.00%	7.69%
20-24	3.70%	3.57%	3.85%	5.13%	0.00%
25-29	3.77%	3.70%	3.85%	5.26%	0.00%
30-34	3.92%	3.70%	4.17%	5.26%	0.00%
35-39	4.08%	3.85%	4.35%	5.56%	0.00%
40-44	2.08%	2.00%	2.17%	2.78%	0.00%
45-49	2.13%	2.04%	2.27%	2.86%	0.00%
50-54	0.00%	0.00%	0.00%	0.00%	0.00%
55-59	0.00%	0.00%	0.00%	0.00%	0.00%
60-64	-2.33%	0.00%	-5.00%	0.00%	0.00%
65-69	0.00%	0.00%	0.00%	0.00%	0.00%
70-74	0.00%	0.00%	0.00%	0.00%	0.00%
75-79	0.00%	0.00%	0.00%	0.00%	0.00%
80+	0.00%	0.00%	0.00%	0.00%	0.00%
Age Not Stated	0.00%	0.00%	0.00%	0.00%	0.00%

lower levels of education. However, both rural and urban areas have experienced overall growth in educational levels over the decade, with urban areas demonstrating a more pronounced increase, especially among younger age groups.

• Gender Gap Trends

Males continue to have higher educational levels compared to females in both rural and urban settings. Despite this, the gender gap is narrower in urban areas, particularly among younger age groups. Notably, the percentage change in educational attainment for females is generally higher than that for males across most age groups, especially in rural areas. This indicates significant progress in closing the gender gap in education, particularly in rural regions.

• Urban vs. Rural Educational Growth

Urban areas have experienced substantial growth in educational attainment, especially noticeable in younger age

groups. Urban females, in particular, have seen some of the largest percentage increases in educational levels, underscoring the positive impact of urban development on education.

• Decreasing Trends in Older Age Groups

Educational attainment among older age groups (60+) shows minimal change or even a slight decrease, suggesting lower levels of educational attainment in these cohorts. This may reflect historical disparities in educational opportunities and potential outmigration from these age groups.

• Progress Over Time

The data from 2001 to 2011 highlights an overall improvement in educational levels, with increased participation from both males and females. Despite this progress, challenges remain, particularly in rural areas where educational attainment still lags behind urban areas. Continued efforts are



needed to address these disparities and further improve educational outcomes for all populations.

3.4 Suggestions

- Targeted Interventions for Rural Areas: Focused efforts should be made to enhance the quality and accessibility of education in rural areas, particularly for girls.
- Bridging the Gender Gap: Educational policies should aim at reducing the gender disparity by encouraging female participation in higher education.
- Strengthening Vocational Training: Given the educational trends, introducing vocational training programs could provide opportunities for those beyond school-going age.

4 Conclusion

This study reveals significant improvements in educational attainment in Gadag District between 2001 and 2011, especially for females and urban populations. However, disparities between rural and urban regions, as well as between genders, remain. To ensure equitable educational outcomes, it is critical to implement targeted interventions, particularly in rural areas and for older age groups.

References

- 1) Govinda R, Biswal K. Elementary Education in Rural India: Policy and Practice. 2006.
- 2) Nayar U. Education in India: The Next Decade. 2005.
- 3) Census of India 2011: Data on Education. 2011. Available from: https://mospi.gov.in/telephone-directory?combine=&first_cat=749&report_cat=All&report_cat2=All&entity_type=All&search_key_word=&op=Go&page=3&cat=All&cat2=All.
- 4) Educational Statistics at a Glance. 2020. Available from: <https://www.education.gov.in/statistics-new>.
- 5) Education Overview. 2021. Available from: <https://www.worldbank.org/en/topic/education>.
- 6) Elementary Education in India: Progress Towards UEE. 2018. Available from: https://www.brif.in/hi/wp-content/uploads/2018/05/Elementary-Education-in-India_-2015-16.pdf.
- 7) Karnataka State Statistical Handbook. 2011. Available from: <https://www.karnataka.gov.in/english>.
- 8) Suresh S, Kumar M. Gender Disparity in Education in Karnataka: An Empirical Analysis. *Journal of Educational Research and Review*. 2014;2(4):112–118. Available from: http://www.sciencewebpublishing.net/jerr/about_journal.htm.
- 9) Reddy G, Kumar S. Rural-Urban Educational Disparities in India: A Case Study of Karnataka. *Indian Journal of Human Development*. 2015;9(1):123–135.
- 10) Sharma R, Rao K. Socio-Demographic Factors Affecting Education in Rural Areas: Evidence from Karnataka. *Journal of Rural Studies*. 2016;45:234–243.
- 11) Deshpande R, Reddy P. Educational Attainment and Economic Outcomes: An Analysis of Karnataka. *Economic and Political Weekly*. 2018;53(35):45–53.
- 12) Madhavan S. Gender Inequality in Education: Evidence from Karnataka. *Asian Education and Development Studies*. 2019;8(2):214–230.
- 13) Kumar R, Singh A. Educational Inequality in India: The Urban-Rural Divide. *Indian Journal of Education and Social Change*. 2020;8(3):152–168.
- 14) Gupta S. Educational Policy and its Impact on Rural and Urban Areas in India. *International Journal of Educational Research*. 2021;5(1):67–82.