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Gender Imbalance in Karnataka's Sex Ratio at Birth: A Regional Perspective

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ABSTRACT

Karnataka, which is a forward-looking state in India, is confronted with stark gender imbalances in its Sex Ratio at Birth (SRB), an indication of societal and demographic issues. This research paper discusses regional variations in SRB between Karnataka's districts, delving into the socio-economic, cultural, and health-related determinants of distorted sex ratios. The study brings to the fore a disturbing pattern of gender disparity, with some districts having a pronounced preference for male children that reflects on social systems and throws open concerns over child sex selection, son preference, and discrimination based on gender. The investigation applies quantitative data analysis of the National Family Health Survey (NFHS) 4 and 5, Sample Registration System(SRS) along with Census reports, to examine the differences in SRB across districts. Evidence shows a contrast between urban and rural constituencies, with urban areas having relatively even sex ratios, and rural constituencies exhibiting severe skewness. Socio-cultural behaviours, like the preference for boys and restricted healthcare access, further compound this disparity. It is recommended that there should be stronger implementation of the Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, greater promotion of awareness around gender equality-especially in rural regions-and improved access to healthcare for women and children. The research concludes that Karnataka's SRB disparity indicates entrenched socio-cultural prejudices. Redressing these through focused interventions, particularly in rural areas, is essential to ensure a balanced sex ratio and promote gender equality.

Keywords: *Sex Ratio at Birth (SRB), Gender Imbalance, Socio-cultural Factors and Regional Disparities*

Introduction

Gender imbalance at birth remains a significant issue in India, and Karnataka-despite its progress-is not exempt from these challenges. While the state reported a sex ratio of 973 females for every 1,000 males in the 2011 Census (Census of India, 2011), the sex ratio at birth (SRB) presents a more concerning picture. The natural SRB is typically around 950 females for every 1,000 males, but Karnataka shows deviations in specific regions, reflecting a strong preference for male children. These imbalances are not consistent across the state; instead, they reveal regional disparities shaped by a range of socio-economic, cultural, and institutional factors. A key driver of this imbalance is the deep-rooted cultural preference for sons, especially prevalent in rural and semi-urban areas. Sons are traditionally seen as the primary heirs-expected to carry on the family name and provide support to parents in their old age. This cultural norm contributes to practices such as prenatal sex determination and sex-selective abortions, even though these are legally prohibited under the Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act (Government of India, 1994). These practices tend to be more common in regions where literacy levels are lower and access to healthcare is limited-areas where traditional values have a stronger influence on reproductive decisions (Sharma & Sadhvi, 2020).

Urbanized regions like Bengaluru exhibit less pronounced SRB imbalances, with higher education levels, greater awareness, and better access to healthcare contributing to more balanced gender ratios (Kiran & Shetty, 2019). This urban-rural divide highlights the importance of adopting a regional approach when addressing gender imbalances, as strategies that prove effective in urban settings may not be suitable or sufficient for rural areas. In rural regions, targeted interventions such as improving access to reproductive health services and implementing programs that challenge traditional gender norms are crucial (Prakash & Srivastava, 2018). The consequences of gender imbalance are severe. They include a rise in gender-based violence, human trafficking, and difficulties in the marriage market. A scarcity of women, particularly in rural areas, can lead to social instability and further deepen existing gender inequalities (Sharma & Sadhvi, 2020). Moreover, the imbalance restricts women's opportunities and autonomy. The phenomenon of "bride scarcity" may even increase the demand for trafficked women, worsening the situation. Addressing this issue demands a multifaceted approach. This includes stricter enforcement of existing laws, improved education on gender equality, and expanded access to healthcare-especially in rural areas. By taking a regional perspective to understand the root causes of gender imbalance, Karnataka can design and implement tailored interventions that effectively address these issues at their source, fostering a more equitable future for both men and women across the state.

Review of Literature

Gender imbalance at birth remains a critical issue in India, largely driven by a deep-rooted cultural preference for sons (Sen, 2015). In rural Karnataka, male children are often valued for their perceived economic support and the social status they bring, while daughters are frequently viewed as burdens, mainly due to dowry practices and inheritance traditions (Sharma & Sadhvi, 2020). The Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act of 1994 was introduced to curb sex-selective abortions, but it has seen limited success, particularly in rural regions where enforcement and awareness remain weak (Kiran & Shetty, 2019). Regional disparities in sex ratios are striking. Urban areas like Bengaluru show fewer imbalances, largely due to better access to healthcare, higher education levels, and greater awareness (Prakash & Srivastava, 2018). In contrast, rural areas continue to experience severe gender imbalances (Sharma & Sadhvi, 2020). These disparities have serious long-term consequences, including increased gender-based violence and a rise in human trafficking (Sundaram & Vanneman, 2018). In Karnataka, socio-economic development is closely linked to more balanced sex ratios, underscoring the importance of region-specific interventions (Kiran & Shetty, 2019). Gender imbalances in rural areas not only reflect existing inequalities but also further limit women's opportunities, deepening their social and economic marginalization (Sen, 2015). The persistence of traditional cultural norms continues to undermine the effectiveness of legal frameworks designed to protect gender equity (Jha et al., 2015). Therefore, addressing gender imbalance requires a dual approach: strengthening legal reforms and fostering a cultural shift away from son preference and gender bias (Sharma & Sadhvi, 2020).

Objectives

1. To analyse the trends in the Sex Ratio at Birth (SRB) at the national level, with a specific focus on Karnataka and across its various districts.
2. To examine the extent and patterns of gender imbalance in Karnataka's SRB, paying particular attention to regional disparities between urban and rural areas.
3. To identify the factors influencing SRB in Karnataka, with a special emphasis on rural areas where the imbalance is most pronounced.
4. To provide region-specific recommendations for policymakers aimed at addressing gender imbalances through legal reforms, public awareness campaigns, and socio-economic interventions.

Method and Material

This paper is based on a descriptive research design. The data used has been collected from the National Family Health Survey (NFHS) rounds 4 and 5, the Census of India, and several other available sources that provide more comprehensive information on the Sex Ratio at Birth (SRB). These sources include various editions of the Sample Registration System (SRS) and the Civil Registration System (CRS). The data covers India and its states, including Karnataka and its districts. The sex ratio at birth, for the purpose of this study, is defined generally as "the number of female live births per 1,000 male live births at a given time in a defined area." The data presented below spans different sources and years, including Census (2001, 2011), NFHS (2005-06, 2015–16), SRS (2010–12, 2011–13, 2012–14), and CRS (2011–2014), along with the level of birth registration by percentage for the years 2011 to 2014.

Results and Discussion

The Sex Ratio at Birth (SRB) in India, along with the SRB in its states, including Karnataka and its districts, is discussed below to provide a clearer understanding of the gender imbalance. This section presents an in-depth analysis of the SRB patterns across India, highlighting the variations between different states and Karnataka. Special attention is given to the factors contributing to the gender imbalance, which can vary based on regional, socio-economic, and cultural factors. By examining these patterns, we aim to better understand the scope and nature of the gender imbalance in birth rates, both at the national and state levels, with an emphasis on Karnataka and its district.

Table 1: Sex Ratio at Birth (Females per 1,000 Males) for India and Major States based on Census, SRS, CRS and NFHS

India and Major States	Census[1]		National Family Health Survey[2]		Sample Registration System[3]			Civil Registration System[4]				Level of Registration of Births[4] (%)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	2001	2011	2005 -06	2015 –16	2010 -12	2011 -13	2012 -14	2011	2012	2013	2014	2011	2012	2013	2014
India	**905**	**899**	**920**	**n.a**	**908**	**909**	**906**	**909**	**908**	**898**	**887**	**83.6**	**84.4**	**85.6**	**88.8**
Andhra Pradesh	951	924	876	914	914	916	919	983	985	954	955	79.8	74.8	98.5	100
Assam	948	930	1033	929	922	920	918	920	872	909	902	85.8	87.6	97.7	100
Bihar	917	892	893	934	909	911	907	n.a	n.a	924	868	59.8	74.7	57.4	64.2
Chhattisgarh	928	948	972	977	979	970	973	915	895	925	934	55.1	74.2	87.8	100
Delhi	852	869	848	n.a	884	887	876	893	886	895	896	100	100	100	100
Gujarat	834	868	906	907	909	911	907	901	902	901	886	100	100	100	95
Haryana	786	824	762	836	857	864	866	833	832	840	843	100	100	100	100
Himachal Pradesh	845	948	901	n.a	939	943	938	918	916	906	896	100	100	100	93.1
Jammu and Kashmir	951	774	912	n.a	895	902	899	913	n.a	923	914	69.9	69.8	71.8	75.5
Jharkhand	907	903	1,10 2	n.a	918	913	910	n.a	847	885	886	60.7	61.9	77.7	82
Karnataka	**936**	**922**	**922**	**910**	**950**	**958**	**950**	**983**	**971**	**943**	**926**	**98.9**	**100**	**96**	**97.8**
Kerala	969	977	902	n.a	966	966	974	939	955	942	948	100	100	100	100
Madhya Pradesh	903	908	960	927	921	920	927	897	912	904	908	86.5	87.2	84.1	82.6
Maharashtra	877	862	867	924	896	902	896	861	894	901	911	100	100	100	100
Odisha	928	910	963	933	948	956	953	902	896	886	880	95.6	96.4	93.9	98.5
Punjab	787	843	734	860	863	867	870	852	844	876	880	100	100	100	100
Rajasthan	864	899	847	887	893	893	893	911	861	859	799	96.7	98	98.4	98.2
Tamil Nadu	935	934	896	954	928	927	921	905	904	853	834	100	100	100	100
Uttar Pradesh	901	890	949	n.a	874	878	869	n.a	930	883	881	64.9	57.5	68.6	68.3
West Bengal	975	937	976	960	944	943	952	924	926	913	897	100	100	92.8	92.5
	Note: Both SRS and CRS provide SRB whereas NFHS provides SRB for children born in the last five years. The Census data refers to at ages 0 and 1 combined. Sources: (1) Office of the Registrar General (2012, 2014, 2016b). (2) Kishor and Gupta (2009); IIPS (2007, 2016). n.a- not available														

Table-1 illustrates that the trends in the Sex Ratio at Birth (SRB) in India have been declining over time. According to Census data, the SRB has dropped from 905 female births per 1,000 male births to 899 over a span of 10 years, indicating a continued deficit in the number of daughters being born. Similarly, Karnataka's SRB has also experienced a decrease, from 936 in 2001 to 922 in 2011, signalling a troubling trend. Among the southern states, Karnataka has witnessed a decline in its SRB, while Tamil Nadu has seen only a marginal decrease, from 935 in 2001 to 934 in 2011. Data from the Civil Registration System (CRS) in 2014 highlighted that Haryana and Rajasthan had the most concerning SRB, with figures of 843 and 799, respectively. Karnataka's SRB decline is particularly noteworthy, falling from 983 in 2011 to 926 in 2014, despite the state's socio-economic

advancements. The trends reflected in the National Family Health Survey (NFHS) and the Sample Registration System (SRS) show similar patterns, with Karnataka's sex ratio at birth aligning with broader regional trends. In contrast, Kerala stands out as the only southern state with a relatively higher SRB, reported at 948 in 2014.

Table-2: Sex ratio at birth for children born in the last five years (females per 1,000 males) in Karnataka and its districts

S.No	India/State/District	Total		S.No	District	Total	
		NFHS-5 (2019-20)	NFHS-4 (2015-16)			NFHS-5 (2019-20)	NFHS-4 (2015-16)
-	**India**	**929**	**919**	15.	Gadag	911	872
-	**Karnataka**	**978**	**910**	16.	Gulbarga	976	914
1.	Bagalkot	879	799	17.	Hassan	872	1,140
2.	Bangalore	1,163	727	18.	Haveri	805	974
3.	Bangalore Rural	1,177	1,313	19.	Kodagu	1,190	1,226
4.	Belgaum	892	967	20.	Kolar	919	829
5.	Bellary	1,072	886	21.	Koppal	952	997
6.	Bidar	898	1,075	22.	Mandya	1,041	915
7.	Bijapur	885	924	23.	Mysore	1,123	886
8.	Chamarajanagar	953	1,141	24.	Raichur	1,033	1,017
9.	Chikkaballapura	1,110	788	25.	Ramanagara	781	928
10.	Chikmagalur	849	1,444	26.	Shimoga	1,111	855
11.	Chitradurga	1,050	932	27.	Tumkur	1,133	926
12.	Dakshina Kannada	1,038	1,136	28.	Udupi	1,093	794
13.	Davanagere	797	1,029	29.	Uttara Kannada	724	867
14.	Dharwad	1,110	865	30.	Yadgir	922	950

Source: International Institute for Population Sciences (IIPS) and ICF. 2020. National Family Health Survey (NFHS)-5, State and District Factsheets, Karnataka. Mumbai: IIPS.

Table-2 reveals significant regional disparities in the Sex Ratio at Birth (SRB) trends across Karnataka. In urban areas like Bangalore, the SRB showed a remarkable improvement, increasing from 727 (NFHS-4) to 1,163 (NFHS-5), reflecting significant progress in gender balance in urban centers. Similarly, district like Chikkaballapura also saw positive shifts in their SRB, with Bangalore Rural and Kodagu maintaining relatively high figures despite a slight decrease. Bellary and Chikkaballapura both showed improvements, indicating on-going positive trends. However, some rural districts such as Chikmagalur, Hassan, and Uttara Kannada faced dramatic declines, with Chikmagalur dropping from 1,444 to 849, Davanagere from 1,029 to 797 suggesting challenges in rural areas in achieving better gender balance. Additionally, districts like Belgaum, Koppal and Raichur experienced minimal increases or slight declines, indicating mixed progress in these regions.

When analysing regional trends, Southern Karnataka, including districts like Mysore, Kodagu, and Dakshina Kannada, outperformed other regions with higher SRB values and overall improvements, despite some declines in areas like Chamarajanagar and Chikmagalur. In contrast, Northern Karnataka, which includes districts such as Bagalkot, Bijapur, and Gadag, showed mixed results. Some districts improved, but others like Haveri, and Yadgir faced challenges, with minimal or negative changes in their SRB.

Central Karnataka, including districts like Shimoga, Tumkur, and Mandya, demonstrated positive growth in SRB, though areas like Koppal and Yadgir experienced minor declines. These regional disparities highlight the need for targeted interventions, especially in rural and northern parts of the state, to address gender imbalances and promote better gender balance policies.

Sex Ratio at Birth by Residence

In general, urban residents tend to be socio-economically better off and culturally more advanced than those in rural areas. As a result, urban populations often have greater access to modern sex determination technologies, which, unfortunately, have been misused illegally. This misuse has contributed to a lower sex ratio at birth (SRB) in recent decades.

Table-3: Sex ratio at birth for children born in the last five years (females per 1,000 males) in Karnataka and its districts by residence

National Family Health Survey – 4 of 2015 -16									
S.No	India/State/District	Urban	Rural	Total	S.No	District	Urban	Rural	Total
-	**India**	**899**	**927**	**919**	15.	Gadag	1,077	757	872
-	**Karnataka**	**874**	**934**	**910**	16.	Gulbarga	985	869	914
1.	Bagalkot	652	884	799	17.	Hassan	-	1,226	1,140
2.	Bangalore	729		727	18.	Haveri	-	892	974
3.	Bangalore Rural	-	1,305	1,313	19.	Kodagu	-	1,255	1,226
4.	Belgaum	-	890	967	20.	Kolar	1,057	708	829
5.	Bellary	897	880	886	21.	Koppal	-	932	997
6.	Bidar	-	1,062	1,075	22.	Mandya	-	950	915
7.	Bijapur	-	1,074	924	23.	Mysore	867	900	886
8.	Chamarajanagar	-	1,079	1,141	24.	Raichur	-	1,045	1,017
9.	Chikkaballapura	-	869	788	25.	Ramanagara	-	928	928
10.	Chikmagalur	-	1,622	1,444	26.	Shimoga	697	938	855
11.	Chitradurga	-	852	932	27.	Tumkur	-	784	926
12.	Dakshina Kannada	1,017	1,235	1,136	28.	Udupi	-	806	794
13.	Davanagere	966	1,057	1,029	29.	Uttara Kannada	-	769	867
14.	Dharwad	850	887	865	30.	Yadgir	-	802	950
Source: International Institute for Population Sciences (IIPS) and ICF. 2020. National Family Health Survey (NFHS)-4, State and District Factsheets, Karnataka. Mumbai: IIPS.									

Table-3 presents data from the National Family Health Survey-4 (2015-16), which reveals significant variations in the SRB between rural and urban areas in Karnataka. Urban areas show a mixed trend. For instance, Bangalore has a lower SRB of 729, while other urban centers such as Mysore (867) and Dakshina Kannada (1,017) report higher SRBs. However, urban districts like Dharwad (850) and Bagalkot (652) show relatively lower SRBs, which may indicate gender imbalances in these areas. In contrast, rural areas such as Bangalore Rural (1,305) and Kodagu (1,255) demonstrate much higher SRBs, suggesting that rural areas tend to have more favourable gender ratios at birth. Nonetheless, there are rural districts like Gadag (757) and Uttara Kannada (769) that show a significant decline in SRB, signalling a negative trend in these regions.

The analysis of regional trends highlights the disparity between rural and urban SRB figures. In Southern Karnataka, districts such as Kodagu, Dakshina Kannada, and Mysore generally show higher SRBs in both rural and urban areas. However, Mysore urban (867) has a lower SRB compared to Dakshina Kannada (1,017) urban and Kodagu (1,255) in rural area. In Northern Karnataka, while districts like Bijapur (1,074) and Bagalkot (884) exhibit relatively high SRBs in rural areas, others such as Raichur (1,045) and Haveri (892) show higher figures. Central Karnataka, including districts like Shimoga (938) and Dharwad (887), presents with higher SRBs in rural areas compared to urban ones. These regional differences emphasize that rural areas tend to have better gen

der balance at birth, although there are exceptions. In fact, some urban areas show more favourable SRB trends than others. The variations across regions and between rural and urban areas suggest that policies aimed at improving SRB should be region-specific, taking into account the distinct contexts of both rural and urban areas.

The Factors Influencing SRB

The SRB in Karnataka highlights a complex interplay of socio-cultural, economic, and healthcare-related factors contributing to the observed gender imbalances.

1. **Impact of Socio-Cultural Factors**:

- A major driver of the skewed SRB in Karnataka is the cultural preference for male children. In regions with lower SRB, particularly rural areas, there is a deeply rooted belief in the social and economic value of male offspring. This has led to sex-selective practices such as prenatal sex determination and selective abortion.
- The preference for sons is often tied to traditional views on inheritance, family lineage, and the economic role sons play in supporting aging parents. In rural districts of Karnataka, where these practices are more common, the SRB is notably skewed.

2. Healthcare and Access to Technology:

- Advances in healthcare and prenatal technology have influenced the regional variations in SRB across Karnataka. In urban areas like Shimoga, Bagalkot and Davanagere had better access to healthcare services and family planning has resulted in a more imbalanced SRB. However, rural and remote districts, where access to modern healthcare and sex-selective technologies is limited, show less skewed SRBs.
- The availability of gender-neutral healthcare plays a crucial role in ensuring that both male and female children receive equal medical attention at birth and during their early years.

3. Government Interventions:

- The Government of India, alongside state governments, has implemented several policies to curb sex-selective practices, such as the Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, as well as awareness campaigns. However, the effectiveness of these policies remains limited in certain districts of Karnataka, especially in more traditional areas where socio-cultural attitudes toward gender are deeply ingrained.
- Despite some progress in improving the child sex ratio through government initiatives, challenges persist in achieving gender parity at birth, particularly in more conservative and rural areas.

4. Regional Disparities within Karnataka:

- The study reveals that southern districts of Karnataka generally exhibit a more balanced SRB, reflecting relatively progressive socio-cultural attitudes toward gender equality. These areas have seen greater investments in education and women's empowerment, contributing to a healthier gender ratio at birth.
- In contrast, northern districts exhibit a more pronounced gender imbalance, with SRB ratios closer to or below the national average. These areas may require targeted interventions, such as improving girls' education, raising awareness about gender equality, and increasing healthcare access.

Conclusions and Recommendations

While Karnataka's SRB is slightly better than the national average, significant gender imbalances persist, particularly in rural and more traditional districts. Cultural preferences for male children, coupled with improved healthcare access, are the primary factors contributing to the skewed SRB in urban than rural areas. Government interventions to curb sex-selective practices have made some progress, but the persistence of gender biases and the practice of sex-selective abortion in certain areas indicate the need for further action.

Recommendations:

- **Targeted Awareness Campaigns**: Focused efforts should be made in low SRB recorded districts of Karnataka with focus on urban areas to raise awareness about the dangers of sex-selective practices and promote gender equality from an early age.
- **Improved Healthcare Access**: Enhancing access to affordable healthcare services and gender-neutral medical care for rural populations is essential. Strengthening the implementation of policies like the PCPNDT Act can also help curb sex-selective practices.
- **Educational Initiatives**: Investment in the education of girls and women's empowerment programs could further reduce gender biases and improve the SRB over time.
- By addressing these socio-cultural and healthcare-related issues, Karnataka can move closer to achieving gender parity at birth and ensuring a more balanced SRB across all its districts.

References

1. Census of India 2011**.** "Population Enumeration Data (Provisional) – 2011." Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India.
2. Government of India. (1994). *Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act*.
3. Kiran, K., &Shetty, V. (2019). *Regional Analysis of Sex Ratio at Birth in Karnataka*. Indian Journal of Health Policy, 23(4), 49-55.

4. Kiran, R., &Shetty, P. (2019). *Impact of the PCPNDT Act on sex-selective abortions in rural Karnataka*. Indian Journal of Public Health, 63(2), 88-95.

5. Prakash, M., &Srivastava, A. (2018). *Regional disparities in sex ratios: A study of urban and rural Karnataka*. Economic and Political Weekly, 53(6), 24-32.

6. Prakash, P., &Srivastava, S. (2018). *Sex Ratio at Birth in India: Analyzing Trends and Regional Variations*. Journal of Population Studies, 41(3), 209-228.

7. Sen, A. (2015). *Gender imbalances and social implications in South Asia*. Journal of Gender Studies, 12(3), 45-58.

8. Sharma, R., & Sadhvi, M. (2020). *Cultural factors contributing to gender imbalances in rural Karnataka*. International Journal of Social Sciences, 15(4), 67-83.

9. Sharma, S., & Sadhvi, R. (2020). *Gender Imbalance in Karnataka: A Study of Socio-economic Determinants*. Indian Journal of Social Sciences, 45(2), 117-134.

10. Sundaram, A., &Vanneman, R. (2018). *The social and economic implications of gender imbalances in India*, Journal of Population and Development, 34(1), 105-123.