When Progress Masks Prejudice: Interpreting Fertility And Sex Ratio Trends Through Public Data Systems In India

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INTRODUCTION

India's sex ratio has long been one of the most skewed in the world, reflecting deep-rooted gender inequality and a widespread preference for sons. The sex ratio at birth (SRB), in particular, continues to remain adverse to women, making it a key indicator of gender bias. While the sex ratio has been declining for decades, the most recent data from the National Family Health Survey (NFHS-5, 2019–21) introduces a surprising trend: for the first time, India has reported more women than men, with a sex ratio of 1020 females per 1000 males.

This apparent demographic turnaround has been widely interpreted as a sign of progress and as evidence that the status of women in India is improving. Alongside this, NFHS-5 also reports a decline in India's Total Fertility Rate (TFR) to below the replacement level of 2.0. These two developments—rising sex ratio and declining fertility—have prompted optimistic conclusions about gender equality in the country.

However, this paper argues that such optimism is premature and potentially misleading. The central question it seeks to explore is: **Can a declining fertility rate lead to a less biased sex ratio?** Or do these two trends, in fact, conceal a deeper contradiction? The aim is to examine the relationship between fertility decline and sex ratio distortion, particularly focusing on whether the preference for sons intensifies when families have fewer children. The paper draws on demographic data, national surveys, and scholarly studies to argue that these two trends may not support each other, and that the apparent progress could mask ongoing and systemic discrimination against girls and women.

Returning to the NFHS-5 data, it is important to note that while the overall sex ratio appears to have improved, the sex ratio at birth remains significantly skewed. NFHS-5 reports an SRB of 929 females per 1000 males, which is well below the natural biological norm. This suggests that pre-natal and post-natal gender discrimination remains widespread. Moreover, the NFHS-5 report itself advises caution in interpreting the data due to small sample sizes in several states and union territories. Historically, the Census of India has provided more reliable data because it involves full population enumeration. For example, the 1992–93 NFHS reported a sex ratio of 944, while the 1991 Census reported a lower and more concerning figure of 927. The census continues to be more trustworthy for capturing actual population trends, and the figures from the upcoming Census will be crucial for confirming or questioning NFHS-5 patterns.

The second key demographic trend under consideration is the dramatic decline in fertility. India's TFR has dropped from 5.6 births per woman in 1950 to 2.14 in 2017, and to 2.0 in NFHS-5. Some projections suggest it could fall further to 1.29 by 2100, leading to a potential population decline of 300 million by the end of the century. While this is often seen as a marker of development and women's empowerment, it also brings unintended consequences. A declining fertility rate can increase pressure to ensure at least one male child, leading to more frequent use of sex-selective practices.

There is a significant body of literature showing how female mortality—before and after birth—contributes to the gender imbalance. In his 1990 article in *The New York Review of Books*, Amartya Sen highlighted the concept of "missing women" and estimated that around 37 million females were missing from India's population due to sex-selective abortions, female infanticide, and neglect (Sen, 1990). Ansley Coale (1991) also argued that high masculinity ratios are driven by excessive female mortality, which offsets the natural

survival advantage of females. Sargent (1996) adds that although male infants face higher biological mortality, in India, social discrimination leads to excess female deaths in infancy and childhood. Shekhar and Hatti (2004) similarly note that while globally women tend to outlive men, India's gender bias reverses this natural pattern during early life.

According to the International Institute of Population Sciences (IIPS), life expectancy at birth in 2019 was 69.5 years for men and 72 years for women. In 2020, this declined slightly to 67.5 and 69.8 years, respectively. This longevity gap may improve the overall sex ratio in later years, but it does not reflect better conditions for women. Rather, it shows that women live longer—often in dependency and vulnerability—while the sex ratio at birth remains severely imbalanced.

In light of these dynamics, this paper aims to unpack the relationship between fertility decline and the sex ratio at birth. It explores how sex-selective practices, son preference, and systemic gender discrimination persist even as the overall sex ratio appears to improve. The central argument is that the two key trends reported by NFHS-5—declining fertility and rising sex ratio—may not be mutually reinforcing. Instead, they may be in tension, and together may not signify genuine progress for the status of women in India. Before moving into the empirical analysis, however, it is essential to consider the role of public information systems in shaping both the data and the discourse around these trends. Institutions such as the NFHS, Census of India, WHO, and UNFPA not only generate demographic knowledge but also influence how gender disparities are perceived and acted upon in policy and public life. The following section examines how these systems contribute to the construction of demographic awareness and the framing of gender inequality in India.

2. ROLE OF PUBLIC INFORMATION SYSTEMS IN DEMOGRAPHIC AWARENESS

Understanding gender disparities in India requires not only an analysis of demographic patterns but also a critical engagement with the systems that produce and circulate this information. The National Family Health Survey (NFHS), the Census of India, and international sources such as the World Health Organization (WHO) and the United Nations Population Fund (UNFPA) are central to shaping public and academic understanding of fertility trends, sex ratios, and life expectancy. These are not neutral datasets; they are powerful instruments of knowledge that influence how gender inequality is perceived, measured, and acted upon.

The NFHS, coordinated by the International Institute for Population Sciences (IIPS), functions as India's most accessible and comprehensive demographic data source after the Census. It is regularly cited in policymaking, academic research, and media reporting. Similarly, the Census, conducted every ten years, offers exhaustive demographic profiles of the nation's population and is used to formulate national plans, allocate resources, and evaluate development progress. WHO and UNFPA reports also contribute to a growing body of global public health data, with India-specific findings disseminated through open-access portals and policy briefs. Collectively, these institutions constitute a layered and authoritative system for producing demographic knowledge, particularly regarding gender and reproductive health.

Over the past two decades, the availability of such information has increased substantially through digital initiatives. NFHS reports are hosted on government websites and portals such as the Ministry of Health and Family Welfare and IIPS. Census data is likewise published online, with tabulated datasets and summary indicators downloadable in multiple formats. WHO and UNFPA provide regional and country-level datasets in interactive formats that aid comparative studies. These digital platforms significantly improve access to information, especially for researchers, educators, journalists, and civil society organisations. However, access is not always universal. Digital literacy, language barriers, internet availability, and socio-economic exclusion continue to limit the reach and impact of this data, especially among rural populations and marginalised communities.

In this context, libraries and information systems play a crucial mediating role. Public libraries, school and university libraries, and community resource centres can act as spaces where complex demographic data is explained, translated, and discussed. For example, many citizens may not understand the difference between the overall sex ratio and the sex ratio at birth, or how fertility decline intersects with gender preferences. These interpretative gaps can be bridged through curated content, workshops, translated summaries, and accessible

formats. Librarians and information professionals thus have a role not only in archiving data but also in facilitating its ethical and meaningful use.

Importantly, the interpretation of public demographic data is often filtered through political, social, and cultural narratives. The NFHS-5 finding that India now has more women than men (with a sex ratio of 1020) was widely reported as a sign of gender parity. However, the sex ratio at birth remains significantly below the natural level, and the NFHS report itself advises caution in interpreting the data due to limited sample sizes in certain regions. Without critical engagement, public discourse risks accepting surface-level indicators as signs of progress, overlooking deeper structural inequalities. The way data is reported, highlighted, or neglected in mainstream media and public policy documents has the power to either challenge or reinforce existing gender norms.

Moreover, the link between information and action is not automatic. Awareness of sex ratio trends does not always translate into behavioural or institutional change. This is where information equity becomes essential. Gender-sensitive knowledge dissemination, simplified presentation of complex indicators, and context-specific explanations can improve public understanding and contribute to policy engagement. A well-informed citizenry is better equipped to recognise persistent discrimination and demand accountability from the state.

In sum, demographic awareness in India is fundamentally shaped by the systems that produce, organise, and communicate population data. The NFHS, Census, and global public health data platforms are not only sources of information but also frameworks for understanding gender, fertility, and health. Their interpretation depends on accessibility, data literacy, and the ability to contextualise indicators within broader socio-cultural realities. By placing this paper within the domain of information systems, it becomes possible to see fertility decline and skewed sex ratios not just as demographic patterns, but also as challenges of knowledge distribution, interpretative justice, and public understanding.

With this understanding of how public information systems influence demographic awareness and shape the interpretation of gendered data, it becomes essential to examine the statistical trends themselves. The following section maps the patterns of sex ratio and fertility as presented in NFHS and Census data, offering a closer look at how these indicators have evolved and what they reveal about the status of women in India.

3. MAPPING DEMOGRAPHIC TRENDS: SEX RATIO AND FERTILITY THROUGH NFHS AND CENSUS DATA

This section aims to present and analyse historical and contemporary data on two critical demographic indicators: the **sex ratio** and the **Total Fertility Rate (TFR)**, based on findings from the **National Family Health Survey (NFHS)** and the **Census of India**. These indicators form the foundation for understanding gendered population dynamics in India. The section offers a comparative perspective to highlight how trends in fertility and sex ratios have evolved over time, and how the data must be carefully interpreted in the context of ongoing gender inequality.

3.1 Overview of NFHS: Scope and Relevance

The **National Family Health Survey (NFHS)** is a large-scale, multi-round survey carried out across India by the **Ministry of Health and Family Welfare (MoHFW)**. Conducted under the stewardship of the **International Institute for Population Sciences (IIPS), Mumbai**, NFHS provides vital data that inform policies focused on health, family welfare, and gender equity. Since its first round in **1992–93**, NFHS has completed five rounds, the most recent being **NFHS-5**, conducted during **2019–21**.

The data collection process for NFHS-5 included **636,699 households**, covering **724,115 women** and **101,839 men**. It spanned **67 indicators**, including fertility patterns, child health, contraception, maternal healthcare, and gender-based statistics. Although the survey provides valuable insights into the condition of women in India, this paper focuses specifically on **two core indicators**: the **sex ratio** and the **Total Fertility Rate (TFR)**. While these indicators may suggest change, the analysis in this paper critically examines whether such changes indicate structural improvements in women's status—or whether they obscure ongoing gender bias, particularly at birth.

3.2 NFHS vs Census: Sex Ratio Over Time

A comparative view of NFHS and Census data reveals significant variation in how the sex ratio has evolved:

NFHS Reported Sex Ratios:

NFHS Round	Sex Ratio (females per 1000 males)
1992–93	944
1998–99	957 (rural), 929 (urban)
2005–06	1000
2015–16	991
2019–21	1020

Census Reported Sex Ratios:

Census Year	Sex Ratio (females per 1000 males)
1981	934
1991	927
2001	933
2011	943

The NFHS reports suggest a steady upward trajectory in the overall sex ratio. NFHS-5 marked the first time that the sex ratio surpassed 1000, reaching 1020. Prior to this, NFHS-3 (2005–06) had reached parity at 1000, but the ratio dropped to 991 in NFHS-4. This upward shift in NFHS-5 has been interpreted by some as a sign of improving gender balance. However, the **Census of India** presents a more modest picture. Over three decades—from 1981 to 2011—the Census sex ratio improved by just 9 points (from 934 to 943). These divergent trends raise important questions about data reliability and interpretation. One key reason for the discrepancy lies in the **methodology**: NFHS uses **de facto enumeration** (counting individuals present the previous night), while the Census uses **de jure enumeration** (counting usual residents). The **NFHS-5 report itself cautions** readers about small sample sizes in certain states and advises careful interpretation (NFHS-5 Phase 1, 2020, p. 10). Scholars like **Mishra (2021)** have argued against drawing celebratory conclusions from sample-based surveys that do not reflect the full demographic reality.

3.3 State-wise Trends in Sex Ratio and SRB

The **sex ratio** remains an essential social indicator, offering a snapshot of gender disparities within a population. According to NFHS-5, **23 states and union territories** reported a sex ratio above 1000, while **six**, including **Delhi, Punjab, and Haryana**, reported ratios below 950. In NFHS-4 (2015–16), 18 states and UTs had a sex ratio above 1000, but **Delhi and Haryana** had extremely low ratios, falling below 900 (Pavithra, 2021).

However, it is the **Sex Ratio at Birth (SRB)**—the number of girls per 1000 boys born in the last five years— that reveals ongoing gender discrimination. NFHS-5 reports a marginal improvement in SRB: from **919 in NFHS-4** to **929 in NFHS-5**. Still, this remains far below the biological norm of around 950–975. Apart from **Tripura, Ladakh, and Lakshadweep**, all states continue to report a child sex ratio below 1000, indicating the persistence of **pre-natal sex selection** and **son preference.**

3.4 Fertility Decline: National and State-Level Patterns

The **Total Fertility Rate (TFR)** is defined as the average number of children a woman would bear if she experienced current fertility patterns throughout her reproductive years (ages 15–49). The data below show a consistent downward trend in TFR:

NFHS Round	TFR
NFHS-1	3.9
NFHS-2	2.85
NFHS-3	2.68
NFHS-4	2.2
NFHS-5	2.0

The **national TFR of 2.0 in NFHS-5** marks India's entry into **below-replacement fertility**. However, some states continue to report higher fertility. According to NFHS-5 Phase 2, **Madhya Pradesh, Rajasthan,**

Jharkhand, Uttar Pradesh, Bihar, Manipur, and Meghalaya still have TFRs above the replacement level (Dey, 2021). In contrast, the **2011 Census** recorded a national TFR of **2.4**, once again showing a gap between NFHS and Census data. This reinforces the argument that the upcoming Census will be critical in validating these demographic shifts.

While the data from NFHS-5 may suggest progress through a rising overall sex ratio and declining fertility, these figures require careful and critical interpretation. The continued distortion in the sex ratio at birth, along with persistent regional disparities in both fertility and gender indicators, reflects that deeply rooted structural inequalities remain intact. The contrast between sample-based NFHS data and the more exhaustive Census figures further complicates any celebratory reading of the current trends. These patterns underscore those demographic improvements do not necessarily translate into substantive changes in the lives of women and girls, particularly at birth. If the apparent rise in the number of women is largely the result of greater female life expectancy rather than a decline in gender bias, then the narrative of progress risks becoming misleading. As such, any analysis of the sex ratio or fertility rate must be situated within a broader understanding of the social and cultural forces that shape reproductive choices and gendered life chances in India.

4. SEX RATIO AT BIRTH AND THE PERSISTENCE OF GENDER INEQUALITY: MISSING DAUGHTERS IN INDIA

Building on the previous section's analysis of fertility and overall sex ratio trends, this part of the paper examines the persistent skew in India's sex ratio at birth and its implications for the actual status of women. While recent data from NFHS-5 suggests that the overall sex ratio has improved, this section critically explores whether this change coexists with or contradicts the reality of continued gender discrimination, particularly during the prenatal and early childhood years.

The demographic evidence from both Census and NFHS data points to the long-standing masculinization of India's population. Despite ongoing socio-economic modernization, gender imbalance remains entrenched. The 2011 Census revealed a disturbing deficit of 7.1 million girls in the 0–6 age group, up from 6 million in 2001 and 4.2 million in 1991. Between 1991 and 2011, the child sex ratio declined by 3.3 percent. The most plausible explanation for this trend lies in the widespread use of medically-enabled prenatal sex determination, followed by selective abortion of female fetuses. A study published in *The Lancet* by Jha et al. (2011) provided robust empirical evidence of sex-selective abortions, highlighting their large-scale prevalence in India.

Demographers have long attributed worsening sex ratios to elevated female mortality during infancy and childhood. This is particularly alarming given that, biologically, male infants are more vulnerable and typically experience higher mortality rates in early life. Yet in India, social discrimination reverses this pattern. In 1991, the sex ratio for children under the age of seven stood at 950 females per 1000 males, with over 70 percent of the shortfall attributed to excess female mortality (Sargent et al., 1996, p. 3). This imbalance contributes not only to demographic distortion but also to broader gender-based vulnerabilities, including declining female labour force participation, significant wage gaps, and heightened exposure to violence. As the Global Gender Gap Report 2021 reveals, India dropped 28 ranks between 2020 and 2021 to 140th among 156 countries, ranking 155th on the Health and Survival Index—largely due to the persistence of sex-selective practices (Pandey, 2021, p. 01). The World Bank has projected that India's sex ratio could decline further to 936 by 2031, which would be lower than the 1951 level of 946.

Among the primary drivers of this imbalance is the low sex ratio at birth, largely due to sex-selective abortions and pre- and post-natal discrimination. The Child Sex Ratio (CSR), which captures the number of girls per 1000 boys aged 0–6, reflects this crisis. According to the 2001 Census, the CSR was 927, which declined to 919 by 2011. State-level disparities further deepen the concern. In 2011, Arunachal Pradesh had the highest CSR at 972, while Haryana recorded the lowest at 834 (Office of Registrar General of India, 2011). NFHS-5 shows a modest improvement in the SRB to 929 from 919 in NFHS-4. Yet, this remains significantly below the natural benchmark of 952 needed to ensure long-term parity. Only 17 states and union territories report SRBs exceeding 952, up from 11 in NFHS-4. Some improvements are notable—Uttarakhand's SRB rose from 888 to 984, and Karnataka's from 910 to 978. Punjab and Haryana have also shown progress, but both remain below acceptable thresholds, with SRBs of 904 and 893 respectively (Deshbandhu and Bharadwaj, 2021).

Historical trends reveal that the sex ratio has steadily declined since 1961. The national CSR dropped from 945 in 1991 to 927 in 2001, and state-wise data reveal even sharper declines. In 1991, nineteen states and union territories had CSRs between 959 and 999; this number fell to eight by the 2011 Census (Shekhar and Hatti, 2005, p. 11). This indicates that skewed sex ratios are most severe at birth and in early childhood—stages that determine the foundation of gender imbalance in the population. Amartya Sen's concept of "missing women," first articulated in 1990, continues to resonate. Sen argued that millions of women are effectively "missing" due to gender-discriminatory mortality. He proposed calculating the number of missing women by estimating how many additional women would have survived if health and nutrition were equitably distributed. In India, he estimated 37 million missing women by the early 2000s, second only to China (Sen, 1990, 1992; Hassan, 2014; Shekhar and Hatti, 2005).

Subsequent research has confirmed that excess female mortality from the prenatal stage through childhood is the major cause of skewed sex ratios in India. This imbalance is driven by a web of factors, including skewed SRB, sex-selective abortions, unequal child mortality, gendered migration patterns, and underreporting of female births (Chandrasekarayya and Sujhata, 2009, p. 6). Scholars such as Sen (1990), Coale (1991), Agnihotri (2000), Dasgupta and Bhat (1995), and Miller (1981, 1989) have all emphasized the systemic nature of female deficits across regions. Coale, in particular, identified increased female mortality as the singular cause behind masculine sex ratios in many Asian countries and estimated that gender discrimination had led to the disappearance of nearly 60 million women in countries including India, China, Pakistan, Nepal, and Egypt. Despite the NFHS-5 figure of 1020 females per 1000 males, India's gender imbalance remains deeply entrenched, especially in childhood. NFHS-5 also reports an SRB of 929—far below the expected range—and several states, including Chhattisgarh, Jharkhand, Odisha, Bihar, Kerala, Maharashtra, and Delhi, have shown a decline in SRB compared to NFHS-4. The union territories of Dadra and Nagar Haveli and Daman and Diu recorded the lowest urban SRB at 775, while Delhi reported the lowest rural SRB at 859. These numbers indicate that even as India records an increase in the overall number of women, this improvement is not grounded in better outcomes for girls at birth.

The marginal 10-point improvement in the national SRB from NFHS-4 to NFHS-5 underscores the persistence of gender bias in reproductive choices. With fertility rates declining, the pressure to bear sons becomes more acute, which further deepens gender discrimination. Elisabeth Croll (2001) noted that, alongside female infanticide, neglect of girl children in areas such as nutrition, healthcare, and education continues to contribute to excess female mortality. These patterns are rooted in a deeply patriarchal valuation of women, where girls are seen as economic liabilities, especially due to dowry, and are less likely to receive investment in their health and future.

The social and economic devaluation of girls, coupled with insufficient legal enforcement and cultural norms, continues to skew the sex ratio—particularly at birth—even in an era of demographic transition.

5. FERTILITY DECLINE AND LIFE EXPECTANCY: A PARADOXICAL GENDER CRISIS

While the previous sections explored the statistical patterns and regional disparities in India's sex ratio and fertility trends, this section investigates a deeper contradiction embedded within them. On the one hand, Indian women are now living longer than men, contributing to a seemingly improved overall sex ratio. On the other hand, the number of girls born remains alarmingly low. This section examines how longer female life expectancy and a declining fertility rate coexist with continued son preference, sex-selective abortion, and gender-based discrimination. It argues that these trends, far from signaling progress, expose a demographic and ethical paradox that reinforces rather than resolves gender inequality.

5.1 Women Live Longer, But the Numbers Mislead

The latest World Health Organization (WHO) report (2020) offers crucial insights into life expectancy in India. According to the report, India ranks 117th globally, with an average life expectancy of 70.8 years—69.5 years for males and 72.2 years for females. This marks a significant demographic achievement: in 1970, life expectancy in India was just 47 years. Over five decades, women have seen an average increase of 24 years, reaching 71 years, while men have gained 20 years to reach 68. Notably, the gender gap has reversed since the early 1980s, when men slightly outlived women. Today, at age 60, Indian men have an average remaining life

span of 15 years, while women live approximately 17 more years (Guillot, 2010, p. 7). However, unlike other regions where fewer girls are born but more women survive and eventually outnumber men, India remains an exception. Despite women now living longer, they continue to comprise less than half of the total population (Shekhar and Hatti, 2005, p. 3).

This demographic shift has led to a marginal increase in the overall sex ratio, primarily due to the growing number of elderly women. However, longevity alone does not indicate progress in women's status. According to World Health Statistics and NFHS-5, although women's health has marginally improved—reflected, for example, in the decline of women with low BMI from 22.9% in NFHS-4 to 18.7% in NFHS-5—women in India do not necessarily enjoy better health outcomes despite living longer (Chakrabarti, 2021). The intersection of longer life expectancy and a consistently low sex ratio at birth reveals a disturbing contradiction: women are living longer, but many girl children are never born.

5.2 Declining Fertility and Deepening Gender Bias

The co-existence of fertility decline and skewed sex ratios is not complementary—it is paradoxical and dangerous. Declining fertility, which is generally viewed as a marker of development, can have unintended consequences in a society where sons are preferred. As fertility falls, families are more likely to resort to sex-selective abortions to ensure the birth of a male child. This is exacerbated by long-standing social and cultural norms that devalue daughters. Daughters are often seen as financial liabilities, largely due to the dowry system, and are therefore less desired. The practice of dowry reinforces the perception of girls as burdensome, whereas sons are viewed as economic assets who will bring returns in the form of marriage payments or future support (Jayachandran, 2015, p. 15; Ansari, 2018, p. 3).

Beyond financial implications, daughters face systemic disadvantages in terms of inheritance, mobility, and social value. The expectation that daughters will marry and move away while sons remain to support ageing parents further intensifies son preference (Das Gupta, 1995; Kandiyoti, 1988). Keera Allendorf (2012, p. 13) reinforces this point, noting that it is usually sons and daughters-in-law who assume elder care responsibilities. Cultural and religious beliefs also play a role, particularly in Hindu households, where the performance of funeral rites by a son is seen as essential to achieving spiritual salvation (Corcos, 1984; Ansari, 2018).

5.3 Technology and the "Reactionary Revolution"

Technological advancement has made sex-selective practices more accessible. The proliferation of ultrasound machines in the 1970s, while intended for fetal health monitoring, provided families with the means to determine and selectively abort female fetuses. According to Shekhar and Hatti (2005), this convergence of technology and patriarchal norms has resulted in a 'technological revolution of a reactionary kind.' Census data also points to the widespread use of sex-selective abortion and neglect of girl children through disparities in nutrition and healthcare. Scholars such as Bhat (2002) have noted that even improvements in census enumeration cannot account for the magnitude of the skew in child sex ratios.

Sex-selective abortion, or female selective abortion (FSA), has become a dominant factor in gender imbalance across Asia. National demographic surveys have documented rising sex ratio disparities in countries like India, China, Pakistan, and South Korea (UNFPA, 2004; Visaria, 2007; Kumar, 2010). Rohini Pandey (2021, p. 1) has described FSA as part of a longer continuum of daughter aversion that includes female infanticide, poor health access, and marginalisation in education and employment.

5.4 Policy Response and Its Limitations

The legal response to this crisis came in the form of the Pre-conception and Pre-natal Diagnostic Techniques (PCPNDT) Act of 1994, which prohibits sex selection before or after conception. However, despite the legal prohibition and awareness campaigns, enforcement remains weak. Studies show that many women still express a desire to know the sex of their unborn child, and some admit a willingness to terminate a pregnancy if it is female—especially when they already have daughters (Banker et al., 2018, pp. 3–5). The cumulative effect of declining fertility and son preference has intensified discrimination against unborn daughters.

Estimates suggest that India will experience around 6.8 million fewer female births by 2030, with Uttar Pradesh projected to have the highest deficit. The annual number of missing female births is expected to rise from 469,000 (2017–2025) to 519,000 (2026–2030) (UNFPA report). India already faces an estimated shortfall of

4.6 crore females, due to both prenatal selection and excess postnatal female deaths. Between 2015 and 2020 alone, the country lost around 5.9 lakh female children to sex-selective abortions and 3.6 lakh to excess female mortality. India also held the world's highest female mortality rate in 2012 at 13.5 per 1000, with one in nine female deaths under age five attributed to postnatal sex discrimination (UNFPA report).

5.5 A Crisis of Values, Not Just Demographics

The convergence of declining fertility, the persistence of sex-selective abortion, and longer female life expectancy presents a paradox. While more women may survive into old age, fewer girls are allowed to be born. This skews not only the sex ratio at birth but also long-term population structures, marriage markets, and economic participation. As Elisabeth Croll (2001, p. 4) has argued, excess female mortality is not simply a result of direct violence but also of structural neglect—visible in gaps in nutrition, healthcare, and social investment. Cultural preferences for sons, exacerbated by economic incentives and technological tools, continue to shape parental choices in ways that marginalise female life. Without stronger legal enforcement, public awareness, and a shift in the cultural valuation of daughters, India's demographic future will remain deeply gender-unequal.

CONCLUSION

The relationship between declining fertility rates and the sex ratio in India is complex, context-dependent, and ethically troubling. While some demographic theories suggest that fertility decline might improve gender equity by encouraging greater investment in daughters or reducing the burden of repeated childbirth on women, this paper finds little empirical support for such optimism in the Indian context. A number of scholars have explored this intersection—some suggesting that fertility decline could contribute to a more balanced sex ratio (Das Gupta & Bhat, 1997; Jayachandran, 2017; Coale, 1991; Basu, 1999; Bhat & Zavier, 2003; Chung & Das Gupta, 2007; Das, 1987), while others examine how it may influence broader gender systems (Malhotra, 2009; Mason, 1997; Reher, 2011; Allendorf, 2012). Yet, as Allendorf (2012) rightly notes, it is difficult to isolate the causal role of fertility decline in transforming gender inequality. What emerges from this literature and from India's demographic data is not a straightforward path toward equality, but rather a paradoxical relationship in which progress in one domain may conceal regression in another.

As the paper has shown, although declining fertility may contribute to improvements in women's day-to-day well-being—such as reduced reproductive burden or better investment in single daughters—its relationship with the sex ratio, especially at birth, remains overwhelmingly negative. The NFHS-5 data underscores this contradiction: while the overall sex ratio has improved slightly, the sex ratio at birth remains low or has declined in many states and union territories. Regions such as Chhattisgarh, Jharkhand, Odisha, Tamil Nadu, Chandigarh, Dadra and Nagar Haveli, Goa, Himachal Pradesh, Kerala, and Meghalaya have reported a drop in the sex ratio at birth compared to NFHS-4. Meanwhile, states like Rajasthan, Manipur, Mizoram, Telangana, and West Bengal show only marginal improvement. These patterns are consistent with earlier Census data from 2001 and 2011, both of which showed stagnation or decline in the sex ratio at birth even as the overall sex ratio improved.

This contradiction is further complicated by rising female life expectancy. While women now live longer than men, particularly in older age groups, this does not reflect substantive improvements in gender equality. Instead, it reveals a demographic structure where fewer girls are born but more women survive into old age—many of whom are economically and socially vulnerable. In rural areas especially, the lack of property rights, financial security, and access to care exacerbates their dependency. This structure paints a misleading picture of gender progress. The continued use of sex-selective technologies, despite legal prohibitions under the PC-PNDT Act, along with entrenched son preference and discriminatory inheritance practices, shows that the deeper structural drivers of gender imbalance remain intact.

As highlighted in this paper, part of the challenge lies in how demographic information is interpreted and disseminated. Public data systems such as NFHS, the Census, and global health databases play a crucial role not just in producing knowledge but in shaping how it is received and acted upon. When surface-level improvements in the overall sex ratio are celebrated without considering the persistent skew at birth, it distorts the public and policy understanding of gender inequality. Moreover, unequal access to information, low

demographic literacy, and media oversimplifications reinforce this problem. Without critical engagement, public knowledge can mask structural prejudice rather than expose it.

In sum, the co-existence of fertility decline and a skewed sex ratio reflects a demographic and informational paradox. India's current trends should not be read as indicators of women's empowerment without deeper scrutiny. A transformation in how demographic knowledge is produced, distributed, and interpreted is as necessary as reforms in law and social norms. The promise of progress remains fragile—and unless gender equity is grounded in structural change and informed public understanding, the vision of balance will remain incomplete. A more reliable assessment awaits the results of the next Census, and until then, any claims of transformation must be tempered with caution, context, and critical analysis.

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