



Responsibility, social aspirations, and contemporary low fertility: a case study of rural West Bengal, India

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ABSTRACT

West Bengal, a middle-ranking Indian state in terms of development indicators with more than two-thirds rural population, is on the verge of becoming a lowest low fertility zone. While the rural TFR (Total Fertility Rate) of West Bengal (1.6 births/woman) is on par with many developed countries (Norway, Germany, Netherlands, Belgium, etc.), its developmental stage is not—which poses a paradox. Using data from a primary survey of 405 mothers aged 15–35 years alongside focus group data of parents, the present study employs a society-specific approach to explain contemporary low fertility in rural West Bengal. We argue that the presence of high aspirations for children in an economically insecure setting initiates a distinctive sense of parental responsibility that generates a unique local *socio-ecology* of low fertility not previously observed in the context of rural fertility decline in India. Responsibility-laden aspirations toward children and reasoned-rational deliberations regarding fertility outcomes act as subliminal *motives* to have a small family, challenging common assumptions regarding the relationship between economic hardship, rurality, and fertility.

KEYWORDS

Fertility transition; low fertility; aspiration for children; multi-level models; West Bengal; India

1. Introduction

Globally declining marital fertility, beginning in the late nineteenth century (Bongaarts, 2009; Lee, 2003), sparked wide debate about its determinants (Van de Kaa, 1996). Both structural causes at the macro level and ‘individual and intra-individual’ decision-making processes at micro levels (de Bruijn et al., 2006; Greenhalgh, 1988; Susel, 2005) contribute to diverse perspectives on the phenomenon.

Apart from proximate factors of natural fertility (Bongaarts, 1978; Dolado et al., 2002; Skirbekk, 2008), several causal models have been put forth to understand fertility transition. Researchers have argued that it could be a matter of increased investment in the quality of children leading to a trade-off with child quantity (i.e., the rational choice models of home economics) (Becker, 1976); a decrease in the economic need for children with economic development (Caldwell, 1982), (Easterlin, 1975); increasing aspiration for upward social mobility (Dumont, 1890 cited in Greenhalgh, 1988); a shift in the value of children from material terms to emotional rewards (value-expectancy approach)

(Ajzen & Fishbein, 1980); and diffusion of fertility norms from low to high fertility areas (Cleland & Wilson, 1987). Micro-economic theories have been prominent, with more limited attention to cultural, psychological, institutional, and cognitive approaches, perhaps because they stand further from the objectivity and quantification valued in demography (de Bruijn et al., 2006). The two types of explanations are not necessarily incompatible, however, and may act in concert in fertility decline (Colleran et al., 2014 Shenk et al., 2013).

India has been experiencing a fertility transition since the 1960s, which has gained momentum in the past decade (IIPS & ICF, 2021). Over the past 30 years, India's TFR has declined from 3.4 in 1992–1993 (IIPS, 1995) to 2.0 in 2019–2021 (IIPS & ICF, 2021), and currently, the majority of Indian states have below-replacement fertility (<2.1 children). Nonetheless, there is still a 'North–South dichotomy' (Dyson & Moore, 1983) with fertility reaching below replacement levels in south India earlier than in most north-central states (Bhat, 1996; Guilmoto & Rajan, 2013; Kulkarni, 2011). Moreover, the General Fertility Rate (GFR) in India has decreased by 20 per cent over the past ten years, with rural areas experiencing a higher reduction (20.2 per cent) than urban areas (15.6 per cent) (Jha, 2022).

The eastern state of West Bengal, a middle-ranking state in terms of human development indicators with over 68 per cent rural population, does not conform to the north–south dichotomy (Basu & Amin, 2000) and represents a spatial discontinuity in India's fertility regime (Figure 1). West Bengal's fertility transition began even before India's independence (Dyson, 2001) and currently, the state has a TFR of 1.4 (RGI, 2020), along with an 'ultra-low' fertility zone in the capital city of Kolkata with a TFR of 1.1 (Ghosh, 2017). While the TFR of West Bengal is on par with highly developed countries, its developmental stage is not, posing a paradox. Indeed, even West Bengal's rural TFR of 1.6 births per woman is comparable to Germany (World Bank, 2020).

The gap between rural and urban fertility in West Bengal only began to narrow after 2000, driven by a remarkable decline in rural fertility (Das & Ghosh, 2021) (Table 1). Indeed, rural West Bengal had the largest change in average TFR between 2003–2005 and 2016–2018 (–32.0 per cent) among all Indian states (RGI, 2020). Notably, most of the districts that experienced significant fertility declines from 2001–2011 (RGI, 2011) rank low in the Human Development Index (Das, 2017), have a high proportion of rural population, a low female literacy rate (RGI, 2011), and a low age at marriage for girls (IIPS & ICF, 2021). Considering its relative stagnation in socioeconomics and infrastructure, West Bengal's rural fertility transition has outpaced expectations, yet research contributions to understanding it have been limited, perhaps because the necessary conceptual tools are not included in the standard demographic toolkit.

Table 1. Per cent change in average TFR (Total Fertility Rate) between 2003–2005 and 2016–2018 at the national and state level.

	Rural			Urban		
	2003–2005	2016–2018	% Change	2003–2005	2016–2018	% Change
India	3.2	2.4	–25.0	2.1	1.7	–19.0
West Bengal	2.5	1.7	–32.0	1.5	1.3	–13.3

Source: SRS Statistical Report 2016–2018.

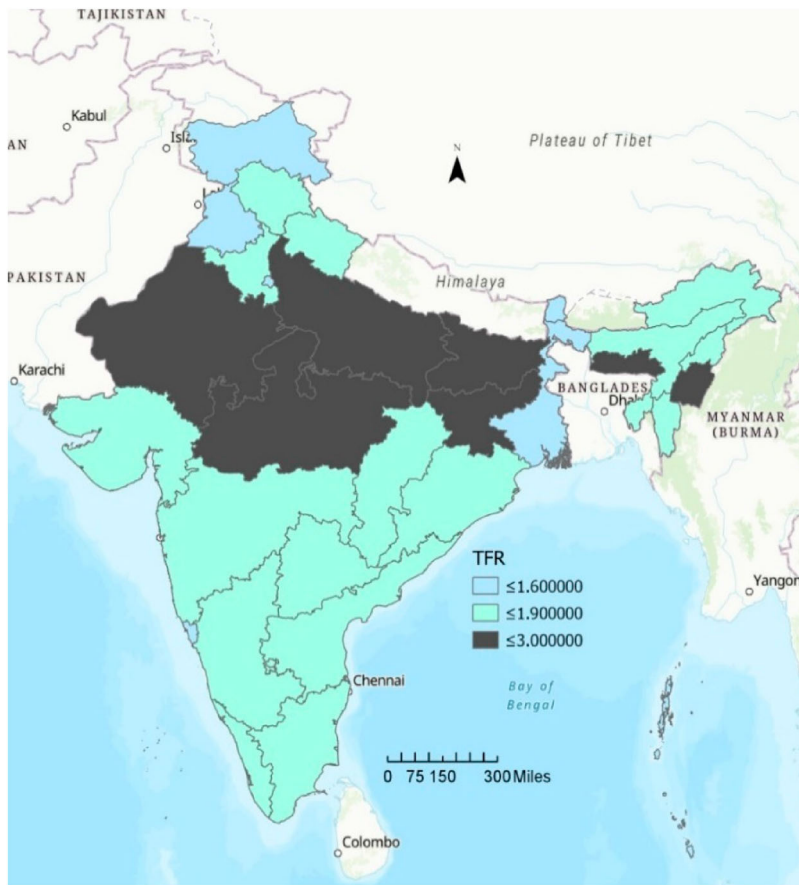


Figure 1. Spatial pattern of Total Fertility Rate (TFR) of India, 2019–2021. Source: Prepared from National Family Health Survey (NFHS5, 2019-21).

The demographic transition in West Bengal has been shaped by its past socio-political reforms. The elite-driven Kolkata politics empowered women and promoted progressive reforms, allowing them to make informed decisions about family structures (Devji, 2008; Sarkar & Sarkar, 2008). Simultaneously, land reforms and economic stability facilitated cultural transformation and empowerment among rural underprivileged communities (Maharatna, 2007). Though the family planning program was strengthened during 1979, the state never had a comprehensive family planning policy (Basu & Amin, 2000). Rather, it was the Left Front's organised grassroots mobilising network, early implementation of social/land reform, modern education and egalitarianism that served as a driving force for disseminating ideational change in fertility attitudes, particularly among the poor (Kamal, 2020; Maharatna, 2007).

Das and Ghosh (2021) have argued that, apart from the aforesaid factors, conscious decisions (or conscious choices) through planned behaviour (differential stopping behaviour or DSB) are evident in the state, especially in rural areas. Using NFHS data from various rounds the study found that by adopting contraception at first parity after having a boy or choosing modern methods over natural methods at second parity

after two successive boys, DSB may have contributed to the rural-urban convergence of fertility. Yet, although DSB is one of the *means* of fertility control, it does not confirm underlying *motive*.

Beyond the prevalent son-preference narrative, Desai's recent research (2023) underscores the need to highlight aspirations, alongside opportunities and constraints, in the context of India's fertility discourse amidst rapid global development. Emphasising the role of rising aspirations among the emerging middle-income groups in low- and middle-income countries, including India, Desai argues that they form an *aspirational class* that is increasingly delaying marriage, limiting fertility, and investing heavily in their smaller numbers of children. In 2021-22, nearly half of India's population belonged to the rising new middle class (those spending between \$2 and \$10 per capita per day) or the aspirational class category. The growth of the aspirational class was primarily driven by the lower middle-class category (\$2-\$4), which often engages in jobs similar to those of the poor (PRICE, 2020-21).

In a particularly strong example, Desai (2023) argues that an increasing number of women in India limit themselves to single child in whom they invest intensively (Basu & Desai, 2016). They argued that it is due to intense competition for a small number of educational places and highly competitive job market for professional jobs. In this context, the roles and aspirations of parents have also evolved significantly. Given the potential demographic shifts and the evolving challenges of an unequal society, parents may also feel a heightened sense of *responsibility* to nurture capable and socially valued individuals. They may perceive it as their obligation to foster qualities in their children that facilitate their success in an increasingly competitive and rapidly changing world. This could have also contributed to an improved sense of self-worth as aspirational parents.

The present study aims to explain the motives for contemporary fertility transition in rural West Bengal by analysing the *local socio-ecology* of values and attitudes regarding childbearing, childrearing, and/or aspirations for children using data from focus groups and a primary survey. We focus primarily on persistent socio-psychological changes (Eisenstadt, 1968) within which fertility decision-making behaviour occurs (McNicoll, 1980), attempting to bridge the gap between available theories and evidence, and drawing parallels between low fertility narratives in developed and developing nations.

2. Materials and methods

2.1. Data

The National Family Health Surveys (NFHS), Sample Registration System (SRS), Census of India, and West Bengal State Development Report were consulted to develop the primary survey.

2.1.1. Quantitative survey

A multi-stage stratified sampling design was used to select districts, blocks, villages and households. Based on the predominance of rural population, absolute fertility decline 2001-2011, and the rural poverty rate, a combined ranking of districts with corresponding tercile positions (Q1, Q1-Q3, >Q3) was created. One district was selected from each tercile

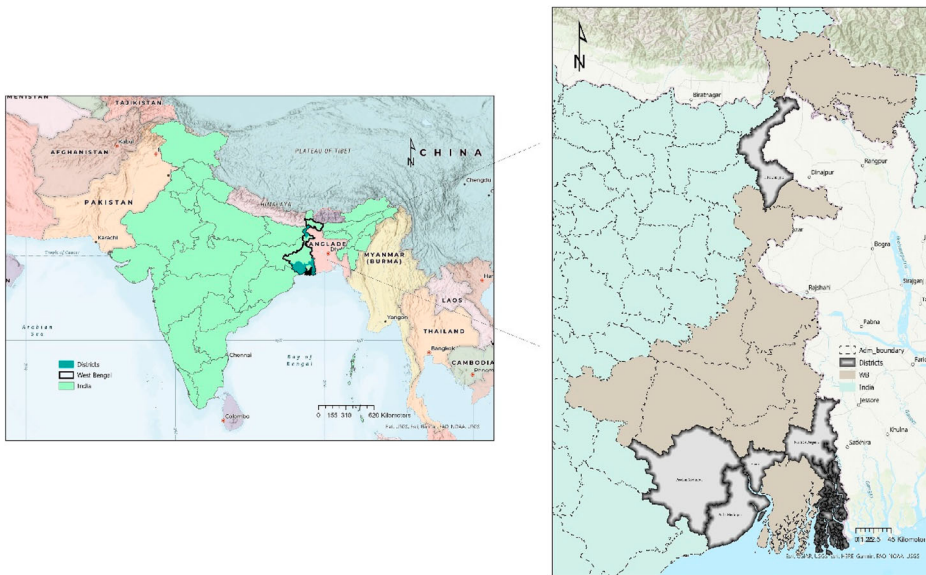


Figure 2. Map of the study area and sampling districts, West Bengal, India. Note: Original sampled districts were Medinipur (East and West), Uttar Dinajpur, and North 24 Parganas; Readjusted sampled districts are Haora, Medinipur (East and West), Uttar Dinajpur, and North 24 Parganas; Districts of East and West Medinipur are merged together to make the data compatible.

(Figure 2). Three blocks from each district were selected based on a composite index computed through percentage of female literacy, female workforce participation, and proportion non-SC/ST population—representing highest, middle and lowest terciles. Finally, three villages (primary sampling units, PSUs) were selected from each block using the probability proportional to size (PPS) sampling method, resulting in a total of $n = 27$ villages (9×3) for survey. Given logistical constraints, 15 households were selected at random from each village yielding a total of $n = 405$ (27×15) households. Finally, one woman aged 15–35 years, with at least one child or pregnant at the time of survey, was interviewed from each selected household. The study uses the age range of respondents as 15–35 years because West Bengal has the highest percentage of (cumulative) fertility by the age of 34 (95.1 per cent) among Indian states (SRS, 2020). Moreover, rural women in West Bengal increasingly attempt to complete their fertility by 24–29 years (SRS, 1991–20).

However, the selected sample units were readjusted due to the large-scale agitation against the implementation of The Citizenship (Amendment) Act, 2019. Two blocks of the sampled district of South 24 Parganas were replaced with blocks from the Howrah district with similar fertility characteristics, while the *Chopra* block was replaced by the *Itahar* block in Uttar Dinajpur. Consistency checks were performed between inter-district blocks, and an intra-district block to assure the appropriateness of replacement; they appeared to be highly correlated based on sampling indicators (not shown).

Pre-tested structured questionnaires were used to collect village, household, and individual-level information. Face-to-face interviews were conducted with randomly selected respondents. Questionnaires were translated and back-translated into the local

vernacular. Along with socio-demographic and economic characteristics, respondents were asked about desired and actual fertility outcomes, future fertility interests, expectations from and aspirations for children, reasons for a reduction in actual numbers of children, perceived value of children, old age dependency and security, etc.

2.1.2. Focus groups

A total of six focus group discussions (FGDs) were conducted in six study villages (two from each sampled district) to supplement quantitative findings and better understand the mechanism(s) underlying economic and socio-psychological dimensions of fertility change. A typical group included 8–10 mothers and fathers from various social classes, castes, religions, and ages, recognising that fathers frequently hold the role of primary decision-makers in a family, exerting influence over both economic and reproductive decisions. For mothers, the age range was 20–35 years, while for fathers it was 28–40 years. The discussions were recorded, and verbatim transcribed.

FGDs addressed changes in society, economy, family size, the value of children, the effect of autonomy and media exposure on reproductive decision making, aspirations for children, the concept of quality child and its diffusion, gender-power relations in fertility decisions, and related topics.

2.2. Variables

The primary outcome variable was developed in response to the question '*Do you want to have any more children in the future?*' (no = 1, yes/unsure = 0). Predictor variables are indicators of six categories: motivational utility; aspirational utility; mobility utility; personal values; security utility; and individual, household, and contextual level controls (for details see [Table 2](#)).

Gender-parity composition of children was calculated to understand future fertility intentions. Women are categorised by the number and sex composition of living children into parity 1 (0 sons, 1 son) and parity 2 (0 sons, 1, 2 sons). Our calculation is restricted to first and second parity since only 33 of 405 respondents had more than two children. To avoid the problem of zero-cells while carrying out econometric estimations, women having more than two children were excluded from econometric models.

The logarithm of per capita household expenditure was divided into three quintiles as the proxy for household economic status. Exposure to mass media is a scale variable based on nine dummy variables regarding how often (almost every day/at least once a week) respondents read newspapers; watched television; obtained news using radio, mobile phone, internet, and social media; discussed with husband or other family members; and talked with neighbours/friends/relatives. Occupational status of women was categorised as working (in last 6 months) and not-working. Working women include partial workers (3–4 h per day), (domestic helper, petty self-employed, agricultural/non-agricultural wage labourer) and full-time salaried workers. Husband's occupation is divided into blue-collar and white-collar. Agricultural, skilled and unskilled manual labourers, daily wage-based clerical, sales, and service jobs are categorised as blue-collar, whereas white-collar jobs include professional/technical/managerial regular salaried workers.

Table 2. Variables tested for significance of association with not wanting any more children in multilevel binary logit regression models; M1 to M4.

1. Variables indicating motivational utility: <i>Specific characteristics of a couple, particularly the woman, encourage them to have a small family by raising their knowledge of their autarky and mobility potential.</i>
Respondent's age at marriage (continuous); Years of schooling (Upper primary, Up-to high secondary, more than higher secondary); degree of media exposure (continuous); work status/type of work (not-working and working for women; blue-collar and white-collar jobs for men); Degree of participation in decision making (continuous); and Member of any Self-Help Group (No, Yes)
2. Variables specifying aspirational utility: <i>Parents aspire to provide their children with a respectable upbringing in order to improve their social standing, paying special attention to their scholastic and occupational aspirations.</i>
Pursuing/want to pursue children's education in private English medium school (No, yes); Pursuing extra-curricular activities of children (No, yes); wish to provide expensive durable goods to children (no, yes); Future job aspirations of parents for their children (Has no specific wish, Any kind of blue-collar worker, Any kind of white-collar worker) and Desired qualification of children (up to higher secondary and graduation and above).
3. Variables pertaining to mobility utility: <i>Socio-psychological stimuli (of parents) associated with small families that can be altered by various forms of social learning over a lifetime.</i>
Social learning (learning from doctors, front line workers, mass-media, relatives, and/or neighbours; and learning from own life experience and/or perspectives of relatives within a household) and social mobility (Enhancing own social standing, others).
4. Variables specifying personal values: <i>Conventional value system and the filial bond between parents and their offspring, which affect the level of fertility and family size.</i>
Parents are compromising their living conditions for the betterment of their child (No, not at all, yes to some extent) and desired number of children needed (Non-numeric answers, At least one child, At least two children).
5. Variables specifying security utility: <i>A sense of reliability and stability that parents possess when their children provide them with financial and psychological security in their old age.</i>
Wealth flows from parent to child (fully agree and partially agree, do not agree at all); whether they expect to depend on children in old age (No, Yes)
6. Individual, household, and contextual level predictor variables: Marital duration (continuous); total number of children (continuous); number of own siblings (continuous); type of family (nuclear, joint/extended); religion (Muslim, Hindu); quintile of log per capita monthly expenditure (bottom quintile, middle quintile and upper quintile); Caste (backward caste, general caste); Average distance from the market (continuous); Average educational attainment (Up to secondary, more than secondary); Average age at marriage (<18 years, > 18 years).

Women's motives to have a small family are influenced by *social learning* including from doctors, front-line workers (FLWs), mass media, relatives (in or outside the household), neighbours, and own life experience. The *social mobility* variable refers to socio-psychological stimuli and is classified as follows: the impetus to improve respondent's social standing and spatial mobility (intra-generational mobility), and others, including responsibility towards children and/or intergenerational mobility.

2.3. Analytical model

The decision to have a small family does not occur in a vacuum; rather it may be most visible in socio-psychological context. Because our primary data has hierarchical structure, we aim to separate between-cluster effects from within-cluster effects using the multilevel modelling, which reveals the unobserved characteristics of each level (cluster). Multilevel modelling not only accounts for residual independence (Bressoux, 2020) and corrects standard errors for clustering within villages, but also treats them as additional sources of information (Merlo et al., 2005). A set of two-level binary logit regression

models was thus used to estimate a binary outcome in terms of the log-likelihood ratio of not wanting a future child modelled as follows:

$$\ln \frac{\emptyset_{ij}}{1 - \emptyset_{ij}} = \beta_0 + \sum_{m=1}^M \beta^m X_{ij}^m + u_j + e_{ij} \quad (1)$$

\emptyset_{ij} —Probability of not-wanting of another child(ren) for i^{th} woman of j^{th} village; X_{ij}^m —Covariates where m represents the number of covariates; u_j —Random intercept effect of j^{th} village; e_{ij} —Residual error of individual i nested in j^{th} village.

A cumulative model-building (M) process was adopted, starting with an intercept-only model and progressing to levels for the individual (M-1), household (M-2), and aspirational-mobility utility (M-3) variables. We contend that, even if parents' aspirational choices are highly personal, they also reflect the community in which they reside. At this level, variables pertaining to aspiration for children, mobility, personal values, and security are added as *aspirational-mobility utility* to understand fertility intentions collectively. The final model (M-4) includes village-level variables. Due to the high degree of similarity in TFR among districts and the small number of districts studied, we avoided treating districts as a random intercept.

Village level random intercepts and VPCs (Variance Partition Coefficients) were calculated to measure the share of variance between villages in the total unexplained variance, that is, $\sigma_j^2/(\sigma_j^2 + \sigma_i^2)$ —where σ_j^2 is the random intercept term representing the village and σ_i^2 is the random intercept term representing an individual woman. To understand future fertility intentions, multivariate logit regression was used. Data analysed in Stata 16.

Further, parity-specific multivariate binary logit regression models were used to explain how the gender and parity composition of previous children influenced reproductive decisions. We estimated adjusted and unadjusted predictive marginal effects (ME) and reported the predictor variables of interest after controlling potentially confounding variables. Due to brevity of space, we do not give details of regression equations and control variables.

3. Ethics statement

The study was approved by an independent Ethical Review Board appointed by the Institute for Development Studies, Kolkata. The survey was conducted with the consent of participants, and the data has been anonymised.

4. Results

4.1. Sample characteristics

The social and demographic profiles of sampled households are given in Table 3. The respondents are mostly poor (46.7 per cent), Hindu (74.3 per cent), from other backward castes (38.2 per cent), and live in joint/extended families (58 per cent). Despite low levels of education (8.8 years) and a high rate of women remaining outside the workforce (74.6 per cent), women have only 1.6 children on average. The median age of respondents is 26 years. Their median age at marriage is 18 years, with a median age at conception of 19.5 years. Approximately 41 per cent of respondents married before the legal marriage age

Table 3. Background characteristics of the surveyed respondents, rural West Bengal.

Descriptive statistics	Number	Percentage (mean)
<i>Individual level variables</i>		
Median age of respondents (range)	405	26 (15-35)
Age of the respondents		
15-24	140	34.6
25-29	145	35.8
30 or more	120	29.6
Median age of respondents' partners (range)	405	33 (20-50)
Mean years of schooling of respondent	405	8.8
Education of the respondents		
Up-to upper primary	171	42.2
Up-to high secondary	186	45.9
More than higher secondary	48	11.8
Mean years of schooling of respondents' partners		8.4
Respondent's occupation		
Not working	302	74.6
Working Partially	90	22.2
Working fulltime	13	3.2
Partner's occupation		
Primary activities	88	21.7
Secondary activities	194	47.9
Tertiary activities	123	30.4
Median age at marriage (range)	405	18.0 (12-28)
Median age at first conception (range)	405	19.3 (14-28)
Per cent of respondents exposed to family planning messages in any mass media/ to FLWs ^a	356	87.9
Degree of media exposure (range)	405	2.2 (0-9)
Mean number of children ever born	405	1.9
Mean number of living children	405	1.6
Mean number of living sons	405	0.8
Mean number of living daughters	405	0.7
Mean number of child losses	405	0.3
Mean level of participation in household decision-making by the respondents (range) ^b	405	2.7 (0-4)
<i>Household level variables</i>		
Wealth quintiles		
Lower quintile	189	46.7
Middle quintile	93	23.0
Highest quintile	123	30.3
Type of family		
Nuclear	170	42.0
Joint/extended ^c	235	58.0
Religious affiliation		
Hinduism	301	74.3
Islam	104	25.7
Caste of the Respondent		
General Caste	123	30.4
Scheduled Tribe	21	5.2
Scheduled Caste	106	26.2
Other Backward Caste ^d	155	38.2
<i>Village level supply side variables</i>		
Average distance to the nearest market town	405	6.6km
Average age at marriage	405	18.3
Average girls who have completed higher-secondary	165	40.7
Average number of villagers who have a fixed-salary occupation or own business	180	44.4
Total cases		405

Source: Primary survey data, 2019-2020, rural West Bengal.

^aCalculated by adding a series of connected variables such as heard family planning from any kind of discussion at a community level, heard family planning on digital or print media, and discussion with the FLWs during last year. If the respondent is exposed to any of the above, then she is considered to be exposed to family planning messages.

^bScale variable created by adding four separate variables, namely, whether the respondent has any say in obtaining own healthcare, major household purchases, daily needs of a household, or visiting her own friends/relatives. These dummy variables are added and treated as continuous ranging from 0 (has no say in any decision) to 4 (participates in all decisions).

^cA family with more than one married couple.

^dOther backward caste (OBC) includes both Hindu and Muslim respondents who reported as OBC.

and only 3.5 per cent married after 23 years, similar to data in the last round of NFHS (IIPS & ICF, 2021). Women from North 24 Parganas, affirmed:

They (girls) used to get married around 16, 15 or even 14. Marriage at 15–16 still happens. Yeah ... but it has reduced nowadays. Actually, girls get married a little late because they get 'Kannashree' (A conditional cash transfer scheme) at this point.

Despite limited media exposure, respondents are quite involved in major family decisions (Table 3). 87.9 per cent of women were exposed to family planning messages through print and/or digital media or from FLWs. Most of the surveyed villages are located beyond a 5 km radius of a market town and are primarily dependent on the informal economy.

4.2. Future fertility intentions

Table 4 shows the unadjusted and adjusted predictive percentages of mothers who did not want future children by the gender-parity composition of previous children. 76 per cent of women with only one daughter want to have another child, while this figure declines to 50 per cent among mothers with only one son. In the second parity, couples are 15 per cent more likely to want another child when they have two successive daughters, but the likelihood drops to 1 per cent if they have at least one son. Notably, 80 per cent of mothers with three children ($n = 33$) stated the third pregnancy was inadvertent (not shown in the Table).

Kajal Bibi, a mother of one girl and a boy admitted that *Both are necessary, but ... undoubtedly, a boy child is needed*. Another woman participant supported her by saying *Yes, that's true. No matter how good I am, whether I'm smart or even strong, a woman needs someone behind her-a kind of bodyguard*.

Table 5 shows the primary reasons given for wanting fewer children based on current parity, revealing that women with only one child often avoid having an additional child to ensure a dignified and quality life for their child. The choice becomes more economical when the mother has two children since 46 per cent of such mothers ($n = 69$) believe

Table 4. Unadjusted and adjusted predictive margins of want of future children according to gender-parity composition.

	Unadjusted [@]	Adjusted Want of future children	Total no. of cases
<i>Parity 1</i>			
No son	71.6***	76.4**	95
One son	45.8***	49.7**	96
			191 (47.2%)
<i>Parity 2</i>			
No son	37.4***	15.3***	37
One son	4.4***	1.3*	91
Two sons	2.8***	0.7**	44
			172 (42.5%)

Source: Primary survey data, 2019–2020, rural West Bengal.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

[@]Unadjusted models did not include control variables, while adjusted models include all other potentially confounding variables. Predictive margins were converted into percentages for ease of interpretation.

Table 5. Primary reason for a desire to have a particular number(s) of child(ren) among mothers who do not want to have any future children.

Mothers with only one child	Number of respondents	Percentage (mean)
Need to have fewer and quality children	35	44.3
Cost of childbearing and childrearing is very high	21	26.6
Others*	23	29.1
Total	79	
Mothers with two children		
Need to have fewer and quality children	41	27.3
Cost of childbearing and childrearing is very high	69	46.0
Others*	40	26.7
Total	150	

Source: Primary survey data, 2019-2020, rural West Bengal.

*Others include different reasons such as time cost, late age at marriage, health-related issues, obtained desired sex composition, and normative issues.

childrearing and bearing are becoming more expensive nowadays. The majority of parents, especially fathers, have encountered the socio-economic pressures associated with raising children. According to them,

Everyone has hopes and dreams (aspirations) ... I wouldn't even consider having another child unless I had more land or money. Considering this, expanding my family would be irresponsible.

4.3. Multilevel analysis

Table 6 shows odds ratios of the multilevel binary logit model for respondents' lack of desire for future children. Until M2, husband's employment status is significant in explaining mothers' lack of desire for a future child. However, after the aspirational-mobility utility variables are included, it loses significance. There were no significant differences between respondents from M1 to M4 in terms of employment status, membership in self-help groups, household level variables such as caste, family type, whether parents compromised for their children, old-age assistance, or reversed intergenerational wealth flow when explaining low fertility desire.

Taking a closer look at the table reveals the likelihood of having an additional child increases significantly with age, yet, contrary to global patterns, also with mother's educational attainment. The desire for an ideal parenting experience and the aspiration for specific qualities in children (educating them in private English medium schools, providing them with expensive items and a good education, seeing them engage in occupations outside of agriculture) has a significant positive effect on the intention of couples to refrain from having a second or higher-order child.

A 41-year-old man from Purba Medinipur reported *It is my wish that I will let my children study well and get a good respectable job. To achieve that, I must make reasonable economic choices.*

There is intriguing evidence that women who based their parenting intentions on their own lived experiences were three times less likely to want another child than those who learned from societal influences and norms. According to Sujata, a 25-year-old mother of two children from North 24 Parganas, *the sex of the children does not matter as long as parents fulfil their responsibility of providing them with a good life.*

Table 6. Odds ratios of multilevel logit model for not-want of future children among respondents aged 15–35, who have at least one living child or were pregnant at time of survey.

	Intercept only	Model 1 (SD) ^a	Model 2	Model 3	Model 4
<i>Individual level</i>					
Women's age (continuous)		0.49* (0.38)	0.48* (0.38)	0.42** (0.43)	0.47* (0.43)
Educational attainment (continuous)		0.91* (0.05)	0.91** (0.05)	0.84** (0.06)	0.85** (0.06)
Number of siblings one has (continuous)		1.94*** (0.39)	1.36*** (0.42)	7.46*** (0.44)	7.12*** (0.46)
<i>Husband's occupation</i>					
Blue collar worker (ref)		1.00	1.00	1.00	1.00
White collar worker		1.92* (0.36)	1.77* (0.36)	1.22 (0.39)	1.15 (0.39)
<i>Respondents' work status</i>					
Not-working (ref)		1.00	1.00	1.00	1.00
Working		0.77 (0.36)	0.84 (0.36)	0.90 (0.38)	0.91 (0.39)
<i>Degree of media exposure (continuous)</i>		0.93 (0.10)	1.12 (0.10)	1.68* (0.28)	1.65* (0.28)
<i>Member of Self-Help Group</i>					
No (ref)		1.00	1.00	1.00	1.00
Yes		1.42 (0.63)	1.25 (0.32)	1.38 (0.36)	1.36 (0.36)
<i>Household/Community level</i>					
<i>Family type</i>					
Joint/extended (ref)		Na	1.00	1.00	1.00
Nuclear		Na	1.17 (0.35)	1.09 (0.37)	1.04 (0.37)
<i>Religion</i>					
Muslim (ref)		Na	1.00	1.00	1.00
Hindu		Na	2.94** (0.51)	4.30** (0.91)	4.30** (0.91)
<i>Caste of the respondent</i>					
Backward caste (ref) ^b		Na	1.00	1.00	1.00
General caste		Na	1.52 (0.43)	1.80 (0.42)	1.65 (0.42)
<i>Log of asset quintiles (continuous)</i>		Na	1.52 (0.43)	1.26 (0.44)	0.92 (0.47)
<i>Variables specifying aspirational-mobility utility</i>					
<i>Parents compromising their living conditions for the betterment of their child</i>					
No, not at all (ref)		Na	Na	1.00	1.00
Yes, to some extent		Na	Na	0.63 (0.36)	0.61 (0.37)
<i>Pursuing children's education in private English medium school</i>					
No (ref)		Na	Na	1.00	1.00
Yes		Na	Na	5.75** (0.85)	7.61** (0.87)
<i>Wish to provide expensive durable goods to children</i>					
No (ref)		Na	Na	1.00	1.00
Yes		Na	Na	7.85** (0.86)	6.82** (0.87)
<i>Future job aspirations of parents for their children</i>					
Has no specific wish (ref)		Na	Na	1.00	1.00
Any kind of blue-collar worker		Na	Na	4.65** (0.57)	4.14** (0.59)
Any kind of white-collar worker		Na	Na	3.32** (0.59)	2.77* (0.61)
<i>Desired qualification of children</i>					
Up to higher secondary (ref)		Na	Na	1.00	1.00
Graduation and above		Na	Na	2.64** (0.44)	2.75** (0.44)
<i>Whether expect to depend on children in old age</i>					
Not agree at all (ref)		Na	Na	1.00	1.00
Fully/partially agree		Na	Na	0.83 (0.36)	0.81 (0.37)
<i>Wealth flows from parent to child</i>					
Fully agree and partially agree (ref)		Na	Na	1.00	1.00
Do not agree at all		Na	Na	0.59 (0.37)	0.70 (0.38)
<i>Social learning</i>					
Learning from Doctors, FLWs, and neighbours (ref)		Na	Na	1.00	1.00
Learning from own life experience		Na	Na	3.90* (0.74)	3.46* (0.74)
<i>Social mobility</i>					

(Continued)

Table 6. Continued.

	Intercept only	Model 1 (SD) ^a	Model 2	Model 3	Model 4
Enhancing self-social standing (ref)		Na	Na	1.00	1.00
Others		Na	Na	2.05 (0.44)	2.18*(0.45)
<i>Village/Contextual level</i>					
Distance of a village from the nearest market (continuous)		Na	Na	Na	0.93* (0.04)
Average age at marriage					
<18 years (ref)		Na	Na	Na	1.00
>18 years		Na	Na	Na	2.39*(0.48)
Constant	0.677***	7.412	3.191	2.062	4.043
Village level variance	0.56*** (0.26)	1.34*** (0.65)	0.94** (0.52)	0.41** (0.40)	0.31** (0.35)
Village level VPC	0.146*** (0.06)	0.290*** (0.15)	0.223** (0.10)	0.111* (0.10)	0.087 * (0.09)
Statistics	405	405	405	405	405
N	–253.831	–167.013	–161.538	–142.301	–139.123
11		76.851	74.734	78.984	77.6438
Chi2					
11_c	–262.981	–176.636	–167.052	–143.283	–139.784
Chi2_cc					

* $p < .05$; ** $p < .01$; *** $p < .001$.

Source: Authors' own calculation.

Na— not applicable.

^aStandard Deviation.

^bSC, ST and OBC caste categories are merged to form backward castes.

- Likelihood ratio test was carried out for each of the three models respectively to compare them with a simple logit model. Tests justified usage of multilevel random intercept model.
- Due to multicollinearity, age at marriage, marital duration, desired number children, and village level average educational attainment were dropped from the models.
- Various interactions were also considered, but not reported due to brevity of space.

A couple who had a girl and desired a future son stated *If my son makes something with his hands for me ... that will be Insha'Allah. But, when I raise him, my priority is for him, to provide a good career. Then there are other considerations, such as how I will live, where I will live, and so on ... When you are raising them, you have these thoughts (they can stand on their own feet).*

As number of siblings increases, respondents' desire for an additional child decreases substantially in the final model. Similarly, mothers who want to elevate their children's quality of life are more likely to plan to abstain from having further children than those who want to improve their own social standing.

A father of two sons from Paschim Medinipur, reported *I want to do any kind of work even in my 60s or 70s so that I will not become a burden on my children. I am doing savings as well so that in our old age my children do not face pressure due to our medical bills.* Likewise, a father of one son from South 24 Parganas, said *We (2 brothers and 2 sisters) did not even have a proper house when we were young and I had to enter the casual labour market for that. Accordingly, I always want to provide good life for my child, so that he never curses me in my old age.*

Table 7 describes the distribution of total variance in the dependent variable (not-want of future children) by components of different multilevel regression models. The intercept-only model serves as a baseline for observing changes in the distribution of variance in the dependent variable across model components as we add explanatory variables. The fixed component of the intercept-only model, the mean of the dependent variable, accounts for only 14.6 per cent of the total variance in the dependent variable. The high random intercept variance in M2 ($\sigma_j^2 = 1.34$) indicates significant differences

between villages even after adding individual-level variables. At this level, the village random component shows that ~29 per cent of the total unexplained variation can be attributed to between-village differences.

A significant reduction in the random intercept variance (σ^2_η ; from 0.94–0.41) is obtained when household and aspirational variables are included (M2 and M3), indicating aspirational utility plays a major role in future fertility intentions. Upon adding variables relating to social learning, social mobility, and the perceived value of a child, the explanatory power of fixed effects increased by more than 10 per cent, whereas the VPC became low, explaining only about 11.1 per cent of the total unexplained variation in M3. The random intercept variance (σ^2_η) reduced marginally from 0.41 in M3 to 0.31 in M4 and remained significant. Contextual variables, including proximity to a market-town and average female age at marriage above 18 years, significantly facilitate having fewer children. The fixed effect component of M4 explained about 91.3 per cent of the total variation in fertility preferences across villages.

5. Discussion and conclusion

Our qualitative work has uncovered two primary *motives* underlying contemporary low fertility in rural West Bengal. First is **reproductive responsibility**, locally understood as an individual’s/couple’s moral, social, and economic accountability for fertility decisions. Parents feel responsible to make fertility decisions that do not create hardship or challenges for their children and seek to give children what is needed to make them healthy and secure, even if they limit fertility to a single child. The second motive arising from our data is **social aspiration**, a longing to achieve a higher or more secure social status. In the context of rural West Bengal, people aspire to a high-quality life in which their children can escape poverty and achieve economic stability and upward social mobility. Parents consciously and strategically evaluate the impact of fertility decisions on the ability of children to attain personal fulfilment and wellbeing under prevailing socio-economic conditions. These motivations, and especially the latter, echo Desai’s (2023) argument that social aspirations are key drivers of demographic shifts, including the shift to lower fertility and higher parental investment, in contemporary India and elsewhere in the developing world.

Conscious choice models manifested through the desire for an additional child based on the gender composition of previous births, as well as the increased adoption and usage of contraception (Das & Ghosh, 2021), are too reductionist to explain fertility patterns in this context (Greenhalgh, 1995). They focus on the means of fertility reduction, rather than providing motives. This study addresses the fundamental question of ‘why’ rather than ‘how’. It conceptualises aspirations for children as a separate element from the direct effects of social and economic forces.

Table 7. Distribution of total variance in not-want of future children by components of multilevel regression (in %).

Components of Variance	Intercept only	Model 1	Model 2	Model 3	Model 4
Model (\hat{Y}) explained	14.65	71.00	77.28	88.91	91.33
Village random effect	85.35	29.00	22.28	11.09	8.67

Source: Authors’ own calculation.

In line with Das and Ghosh (2021), the present study argues that although differential stopping behaviour (DSB) exists in rural West Bengal, it is 'attitudinal' implying daughters are acceptable in the family as much as sons in practice though not at an ideational level. We further argue that if a particular fertility control behaviour (like DSB) is socially acceptable and feasible, as in the case of West Bengal, individuals' attitudes and social imitations have a mutual shaping effect. Over the course of socio-political reforms in the state, even the rural poor have plausibly been able to adopt cognitive reforms and foster social aspirations. Indeed, recent NFHS data shows that nearly 72 per cent of rural poor women in West Bengal with two living daughters and no living son do not want any future children, compared to only 43 per cent of rural poor women across India (IIPS & ICF, 2021).

We find that low-income Bengali mothers articulated their 'aspiration for children' by wishing to provide them with a meaningful quality of life, which can be understood using Amartya Sen's capability approach (Biggeri et al., 2011). Mothers saw *quality children* as those who are well-educated and capable of obtaining a stable job (preferably in the government) and becoming self-reliant—and, above all, have the potential to become good and dignified human beings, *bhalokore manush kora* in Bengali (Robbins, 2003). The aspiration is to provide children with a high level of economic welfare and stability, gaining greater life satisfaction for both children and parents.

Our analysis suggests that low fertility outcomes among poor and marginalised parents of rural West Bengal are not merely coping mechanisms focused on upward financial and materialistic aspirations leading to quality-quantity trade-offs. Rather, the quest for advancing children's prosperity and being regarded as respectable individuals may have led to a decrease in fertility despite little change in socioeconomic conditions (Davis, 1963; Dumont, 1890 cited in Greenhalgh, 1988). Unlike Becker's (1976) analogy of children as consumer durables, our findings suggest that the *social cost* (Greenhalgh, 1996) of having lower-quality children is very high, even among less educated and unemployed/underemployed mothers/couples, possibly due to '*responsibility utility*' leading parents to choose quality over quantity.

In rural West Bengal, poor people view *opportunity costs* from the standpoint of being regarded as respectable people both by society and especially their own children. In contrast, they show limited motivation to enhance their own spatial or social mobility. Following Greenhalgh (1988), we broaden our definition of *mobility* to encompass social, economic, and psychological aspects alongside occupation. Yet we differ on the grounds of *security utility*, as in this context people conceptualise 'security' to include not just securing a comfortable position but ranging from the survival of children to old-age security. The growing belief that daughters without brothers can care for their elderly parents further incentivises small families (Allendorf, 2012). Parents thus try to achieve security-utility by giving children a quality/secure life and not becoming a burden on them, and indeed 81 per cent said they would *not* have another child provided they had money.

Following Easterlin (1975), lived-experience plays a significant role in the cause-effect calculations of fertility decisions, as women with more siblings are less likely to want another child. Unanticipated in previous theories, such personal experiences might coincide with the current socio-economic environment in rural West Bengal, leading respondents to believe that providing a good life for their children is their responsibility

and the first step toward intergenerational social mobility. Further, wealth-flow theory (Caldwell, 1982) does not hold as 78 per cent of respondents said that resource flow from children to parents is absent, and parents state that they do not expect to receive support from children. Consequently, we argue that the present shift in fertility behaviour in rural West Bengal may result from a *conceptual revolution in the value of children*.

We acknowledge the limitations of the paper. The study is based on small-scale survey and focus group data only from rural West Bengal and is exploratory in nature, limiting our ability to generalise. Our data is cross-sectional; thus causality cannot be established. Finally, only mothers were surveyed, thus some information could be skewed by post-marital rationalisation.

Nonetheless, the present study demonstrates that the influence of individuals' life experiences with economic insecurity and low social mobility, rather than the diffusion of technologies and/or values, may lead to the responsibility-laden aspiration of having a quality child in rural West Bengal—an ideal which is widespread regardless of socioeconomic status. As this plausibly necessitates economic investment, and is influenced by a household's current economic status, the rural couple acts more rationally than ever before (Simon, 1987) to limit their fertility and thus provide a secure and dignified life for their children within their limited economic framework, creating a unique local *low fertility socio-ecology*. Here fertility decline is caused more by the 'affordability clause' than 'opportunity costs'.

Low fertility outcomes in rural West Bengal likely result from *deliberate choices* made through *purposeful actions* to achieve high levels of investment in children under competition and economic constraint. Specifically, poor parents face limited resources alongside limited economic opportunities, leading to high relative child costs, competition for limited job opportunities (Shenk et al., 2016), and a strong motivation for parents to concentrate investment in a small number of children. Similar trends are more commonly found in highly competitive urban contexts including in South Korea (Anderson & Kohler, 2013; Shin, 2022), Japan (Atoh, 2008), and Singapore (Suga, 2020). Such dynamics have rarely been recorded in rural regions of developing countries and thus require further investigations in similar settings for generalisation.

In terms of policy, our findings suggest that under conditions of relatively economic scarcity and social competition people may be especially sensitive to concerns about high child costs and rising aspirations. In such contexts, aspirational messaging may help motivate individuals to reduce fertility regardless of economic insecurity. Yet in such contexts the primary policy concern is more likely to be low fertility than high fertility.

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No potential conflict of interest was reported by the author(s).

Data availability statement

Derived data supporting the findings of this study are available from the corresponding author (SG) on reasonable request.

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