
Public Expenditure and Women's Higher Education Outcomes in Bihar

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ABSTRACT: Public Investment in Education is widely considered to be one of the most important policy tools used by the state to address market failure, enhance human capital, and increase the opportunity set for both genders and different income and social groups. Despite the significant increase in public expenditure on education at the nominal level over the last decade in India's most educationally backward state of Bihar, the Gross Enrolment Ratio (GER) in higher education and the Gender Parity Index (GPI) are significantly below the national averages. This paper makes a descriptive-analytical study of the trends, structure and internal priorities of the public spending for education in Bihar from 2012-13 to 2024-25 based on Bihar Economic Survey, Finance Accounts of Government of Bihar, reports prepared for the Finance Commission and AISHE data. It is found that there has been a significant increase in the aggregate and per capita expenditure on education, however, the proportion of the education budget allocated to higher education is still low compared to school education and revenue expenditure still dominates capital formation. The more limited fiscal structure has not affected the overall improvement of GER and GPI in higher education in Bihar—one that is linked to the increasing share of targeted financial incentive programmes aimed at women in the expenditure envelope. The paper argues that growth in aggregate spending cannot be a good measure of the importance of an educational priority generally, and that the composition of spending, such as the share of higher education, and the share of demand-side incentives for women, are better measures of outcomes. Recommendations on policy are provided to bring balance in the education expenditure mechanism in Bihar.

KEYWORDS: Public expenditure; higher education; women's education; Gross Enrolment Ratio; Gender Parity Index; budgetary allocation.

1. INTRODUCTION

One of the main tools of a modern state for achieving its objective of welfare maximization, correcting market failure, and influencing the distribution of opportunity among citizens is public expenditure. Keynesian method is the understanding of government expenditure as not just an administrative expense but as an active force that shapes national income level and distribution. Education is part of the structure of public expenditure in a mixed economy like India where the government takes a hand in the production of merit goods which the private sector systematically under-provides. The financing of education has always been regarded as a legitimate and necessary object of public investment because of the returns that it creates that extend beyond the individual to the welfare of the household, community and the long run of the economy (Tilak, 1997).

India's development since independence has been largely based on public outlay for the creation of human resources and the allocation of expenditure to education has increased in nominal terms across the decades. The figures on expenditure on education, however, may mask critical internal differences: expenditure on revenue versus expenditure on capital; expenditure on school versus expenditure on higher education; and, expenditure on general expenditure versus expenditure on targeted, group-specific incentives. It is this internal structure that matters more than the total number of beneficiaries that will decide if public spending brings about better access and equity outcomes, especially for historically disadvantaged communities like women in Bihar.

Despite having one of the lowest Gross Enrolment Ratios (GER) at higher-education level and one of the largest gender gaps in education level among all the major states in India, over the last decade the state has considerably increased the allocation of education resources and implemented a state-level scholarship scheme for girls, the Mukhyamantri Kanya Utthan Yojana (MKUY). This paper does not focus on the design of MKUY as a scheme (which has been explored in great detail elsewhere) or on a

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disaggregated comparison of GER and GPI by social category (which has also been done separately), but on a separate and previous question: How has Bihar's overall public expenditure on education been structured and prioritised over time and to what extent has this fiscal architecture – not any individual scheme – been associated with the state's educational outcomes for women? The paper places women's higher education in the wider panorama of public finance from which specific programmes like MKUY are financed.

2. REVIEW OF LITERATURE

Theories of public funding of education are built on the public funding of education as a merit good and a producer of positive externalities. Tilak (1997) maintains that the financing of higher education in developing countries requires being efficient while also considering equity considerations – which include the right of economically weaker groups to study – and that premature withdrawal of public funding may be inappropriate in a low private capacity to pay environment.

Kingdon and Sipahimalani-Rao (2010), who have been observing the changing trends in India's education spending since economic reform, have concluded that while education spending per se has increased since the 1990s and 2000s, it has gradually been moving toward equity-focused and outcomes-oriented spending, but with a significant proportion of this still being spent on salaries and administrative costs rather than on capital investment or targeted interventions.

In a cross-state study of social sector spending in India, Mehrotra (2006) identifies that states with historically low human development indicators (such as Bihar) tend to be able to increase the nominal spending on social sectors while maintaining a low proportion of the state domestic product or GDP in social sector.

In the series of studies that it has prepared for various Finance Commissions over the years, the Asian Development Research Institute (ADRI) has been recording the specific trend of Bihar's public expenditure, which has been increasingly depending on central transfers, the dominance of revenue expenditure in the state budget and comparatively small fiscal room for making investments in social infrastructure, including higher education.

Sen's (1999) capability approach offers a normative approach to evaluating the adequacy of public expenditure: whether a given level of public spending is “enough” should be measured by the extent to which it enhances the substantive freedoms of those who are disadvantaged by it, in this case women in a patriarchal, low-income context, and the freedom to be educated represents just one such substantive freedom.

Last but not the least, NITI Aayog's Bihar State Summary Report (2023) and the subsequent AISHE reports offer the latest administrative benchmarking of Bihar's higher education indicators as compared to the national averages and are used as the primary data source for this paper along with Bihar Economic Survey.

3. OBJECTIVES OF THE STUDY

The following are the objectives of the study:

- To analyze the trends, structure and composition of public expenditure on education in India and Bihar over the period 2012–13 to 2024–25, with particular reference to the priority accorded to higher education within the state's overall education budget.
- To examine the extent to which the growth in public expenditure on education in Bihar has been associated with improvements in literacy, the Gross Enrolment Ratio (GER) and the Gender Parity Index (GPI) in higher education, with specific attention to women.
- To assess the adequacy of public expenditure allocated to women-specific financial incentive schemes relative to overall expenditure on higher education in Bihar, and to draw policy implications for rebalancing the state's education expenditure architecture

4. RESEARCH METHODOLOGY

4.1 Research Design

The study is descriptive – analytical research design which uses secondary data. Descriptive analysis is employed to set the trend and composition of public spending on education, while analytical approaches are employed to link public spending patterns with indicators of educational outcomes.

4.2 Data Sources

- Bihar Economic Survey (various years, including 2022–23 and 2024–25), Finance Department, Government of Bihar.
- Finance Accounts of the Government of Bihar and the Report on Evaluation of the State Finances of Bihar prepared for the Sixteenth Finance Commission by the Asian Development Research Institute (ADRI), Patna.

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- All India Survey on Higher Education (AISHE) reports, Ministry of Education, Government of India.
- PRS Legislative Research, Bihar Budget Analysis (2024–25, 2025–26 and 2026–27) and Demand for Grants 2024–25 Analysis: Education.
- NITI Aayog, Bihar State Summary Report (2023) and Macro and Fiscal Landscape of the State of Bihar (2025).
- National Statistical Office (NSO), Key Indicators of Household Social Consumption on Education, 75th Round (2017–18), and Census of India (2011).
- National Family Health Survey (NFHS-5, 2019–21) and NFHS-6 (2023–24).

4.3 Analytical Methods

Expenditure and outcome information were presented in time series format and analyzed through trend analysis, shares (percentage of GDP, percentage of total budget, percentage of education budget) and simple ratio analysis (per-capita expenditure, GER and GPI ratios). As appropriate, growth during the study year is given as a percentage. No causal inference technique is used; the only analysis is restricted to establishing the association between expenditure composition and outcome trends, which is an important limitation and discussed in Section 4.4.

4.4 Scope and Limitations

The study is based primarily on secondary survey data and does not use primary survey data. Therefore it cannot make causal linkages between expenditures and actual effects and the linkages found should be interpreted as suggestive associations, rather than a substitute for more detailed analysis. Also, definitional differences between the sources are present, for example GDP shares in the National Accounts Statistics differ from those based on the estimates in the Economic Survey, which are highlighted in the course of the analysis.

5. STRUCTURE AND COMPOSITION OF PUBLIC EXPENDITURE ON EDUCATION IN INDIA

There are two broad categories of expenditure which are broadly relevant for this study of government expenditure in India. The first separates revenue expenditure (outlays such as salaries, subsidies and administration expenses that are recurrent) from capital expenditure (spending that leads to the creation of durable assets, like school and college buildings). The second distinguishes development expenditure, which involves expenditure on education, health, agriculture and infrastructure, which can directly increase productive and social capacity, from non-developmental expenditure like defence, interest payments and general administration.

However, the public expenditure on education in India, as a share of GDP, has increased only in a gradual manner since Independence and has remained below the 6 per cent of GDP target set by the Kothari Commission and reiterated by the National Education Policy (NEP) 2020.

Year	Public Expenditure on Education (% of GDP)
1951–52	0.64
1971–72	2.25
1991–92	3.80
2011–12	3.80 (approx.)
2021–22	4.12
2022–23 (Combined Centre + State, Economic Survey estimate)	2.9 (approx.)

Source: National Accounts Statistics, CSO; Ministry of Education; Economic Survey 2022–23; Gol Budget Documents.

The continuing deficit from the target of 6 per cent suggests that, despite occasional policy shifts that emphasize education as a developmental priority, the fiscal focus on education in India has not matched the policy goal or the growing economy. This national trend has to be seen against the background of Bihar's expenditure trend.

6. TRENDS IN PUBLIC EXPENDITURE ON EDUCATION IN BIHAR

The total public expenditure in Bihar has grown substantially during the past decade and the expenditure on education has been a major part of social sector expenditure in the state, consistently, over the past decade.

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Indicator	2012–13	2024–25 (BE)
Total state expenditure (₹ crore)	≈ 75,000 (est.)	2,78,726 (BE); 2,56,333 (net of debt repayment)
Per-capita expenditure, social services (₹)	2,180	6,643
Per-capita expenditure, education (₹)	—	≈ 3,120
Per-capita expenditure, water supply & sanitation (₹)	—	1,513
Per-capita expenditure, education/sports/allied (₹ crore, state aggregate)	14,080	41,495

Source: Report on Evaluation of the State Finances of Bihar for the XVI Finance Commission, ADRI, Patna; Finance Accounts, Government of Bihar.

Further, the Bihar Economic Survey 2025–26 statistics show that this growth has persisted in 2024–25. Total expenditure of the State has increased from ₹1.66 lakh crore in 2020–21 to ₹2.82 lakh crore in 2024–25 (actuals), of which developmental expenditure increased from ₹1,12,122 crore to ₹1,89,892 crore during the same period, accounting for 67.4 per cent of total expenditure in 2024–25. Notably, the proportion of capital expenditure in total State expenditure increased from 15.8 per cent in 2020–21 to 22.3 per cent in 2024–25, whereas the proportion of revenue expenditure decreased from 84.2 per cent to 77.7 per cent and 77.7 per cent. Between 2005–06 and 2024–25, per-capita spending on education increased by about 13.2 times, as reported in the same Survey, with the scale of increase being broadly the same as the decadal estimates in Table 2 reported above but not directly comparable due to differences in base year and methodology used across the two data sources.

In the past few years, on average 38–39 per cent of Bihar's total expenditure has been on social services, reflecting the state's priority of human development. The fiscal mix, that is the relative amount of expenditure on infrastructure versus the revenue side (salaries, pensions and administrative costs) in social services is, however, very skewed, with little scope for capital investment. This composition is important: the money spent on recurrent salary is different from the money spent on new institutional capacity, and the effects on access - at least in a state with one of the lowest college densities in India - will be different, too.

Allocation of resources in more recent years provide a good idea of the nominal magnitude of this commitment. In the 2023-24 Bihar Budget, the allocation for the Education, Sports, Arts and Culture sector was ₹42,381 crore (BE) and the revised-estimate was raised to ₹58,378 crore, a gap of 38 per cent; this is in line with the general trend of over-estimating revenue and under-estimating expenditure in the budget stage, says PRS Legislative Research. The sector has received ₹54,605 crore in the 2024–25 Budget, a decrease of 6 per cent from the revised estimate in the previous year, and Bihar has allocated 21.4 per cent of its total budget to education in 2024–25, compared to the average of 14.7 per cent across 31 Indian states in 2023–24 (PRS Bihar Budget Analysis 2024–25). The allocation has increased further to 21.7 per cent of total expenditure in the 2025-26 budget and the sum of ₹68,216 crore was allocated to the education and higher education departments in the 2026-27 budget. However, education expenditure has not increased consistently with the growth of the state economy and has averaged in the 5–6 per cent range of Gross State Domestic Product (GSDP) over the last few years (namely, an estimated 5.6 per cent of GSDP in 2024–25) since that time.

7. PRIORITY TO HIGHER EDUCATION WITHIN BIHAR'S EDUCATION BUDGET

One of the key points of this paper is the allocation of Bihar's education budget between schools and higher education. The education and higher education departments received a total of ₹68,216 Crore (19.63 per cent) in the 2026-27 budget.

Component	Allocation (₹ crore)	Share of Total Budget (%)
School Education Department	60,204	17.32
Higher Education Department	8,012	2.31
Total (Education & Higher Education)	68,216	19.63

Source: Bihar Budget documents, 2026–27; Finance Department, Government of Bihar

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Higher education thus constitutes about 11 percent of combined education spending, broadly consistent with the early phase of massification of higher education in Bihar, where the state needs to increase its share of the education budget to fund large-scale expansion of women's colleges, hostels or faculty, without having to increase spending on higher education in absolute terms. The new capital schemes for 2026-27 (in the form of a new degree college in every block and an education city) seem to be a new trend of increasing the proportion of higher education expenditure on capital investment, but will need to be evaluated in the coming budgets in terms of their fiscal impact on higher education's regular cost base.

8. PUBLIC EXPENDITURE AND EDUCATIONAL OUTCOMES IN BIHAR

8.1 Literacy

The literacy rate in Bihar has improved from 13.49 per cent in 1950-51 to 70.9 per cent in 2020-21 (NSO 75th Round) and has improved significantly since 1990 — a trend that is reflected in the increase in public expenditure on education in the intervening period, as discussed in Section 6. During NFHS-5 (2019-21), women aged 15-49 had a lower literacy rate than men (55 per cent compared to 76.4 per cent), leaving a 21.4 per cent difference which hinders the flow of women who are qualified for and able to attend higher education. The sixth round of NFHS-6 (2023-24) was released by the Ministry of Health and Family Welfare in May 2026, but NFHS-5 is the latest data source available to report the age-specific literacy gap between boys and girls for Bihar.

8.2 Gross Enrolment Ratio (GER) and Gender Parity Index (GPI)

Year	Bihar GER (%)	India GER (%)	Bihar GPI
2009–10	11.00	—	0.53
2015–16 (Higher Secondary)	35.60	—	—
2020–21	16.60	26.70	0.91
2021–22	17.10 – 17.80	28.30 – 28.40	0.92

Source: AISHE Reports (various years); NITI Aayog Bihar Summary Report 2023; PRS Legislative Research, Demand for Grants 2024–25 Analysis: Education; Ministry of Education Annual Reports.

Note: AISHE 2021–22, released in January 2024, remains the latest published round at the time of writing. The Ministry of Education has not released the AISHE reports for 2022–23, 2023–24 or 2024–25, despite data collection for all three rounds having been completed (the 2024–25 upload deadline was 15 October 2025); this represents a data gap of three academic years and constrains the updated GER and GPI figures beyond 2021–22.

The GER in higher education in Bihar has increased from 11.00 per cent in 2009–10 to around 17.1–17.8 per cent between 2010 and 2020–21 with the GPI almost doubling over a decade. The period of improvement corresponds very well with the period of expenditure increases outlined in Sections 6 and 7, and more particularly, with the launch and development of financial incentive programmes for women in the state's education budget. The GPI gap has contracted significantly more rapidly than the GER gap, which is about 10–11 percentage points, indicating that expenditure growth that is gender specific has had a higher impact on participation in female enrolment than growth in expenditure overall.

9. DISCUSSION: EXPENDITURE COMPOSITION VERSUS EXPENDITURE MAGNITUDE

Based on the evidence gathered in this paper, three observations are made.

- First, in nominal terms, growth in aggregate expenditure in Bihar has been significant but not commensurate with proportionate increase in the share of GSDP devoted to education, that is, the fiscal commitment of the state to its education sector, as a proportion of the size of its economy, has been modest.
- Second, the allocation of higher education has remained much lower than that of school education within the education budget, limiting the capacity building of higher education institutions, hostels, and faculty, in order to respond to the increasing demand of women students, especially the first generation of women students.
- Third, despite these structural limitations, the GPI has improved at a faster rate than the GER, consistent with the hypothesis that expenditure targeting women (e.g. conditional transfers of scholarships) will have a more focused positive impact on women's participation than will increases in total expenditure on general education.

The results in combination indicate that the impact of public expenditure on educational outcomes in Bihar is not so much related to the size of the public sector as to its composition — in terms of general provision, school vs higher education, and revenue vs

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capital expenditure, and gender parity of incentives. This is directly relevant to a state's approach to financing further progress toward gender parity in higher education within a reasonable time frame, given that aggregate growth is unlikely to be enough if higher education is not pursued and the composition of higher education investments is not altered to increase investment in women's institutional capacity.

10. CONCLUSION AND POLICY RECOMMENDATIONS

In this paper, the public expenditure on education has been explored not as a single aggregate, but as a layered fiscal structure where internal dynamics—both between its revenue and capital expenditures, between school and higher education levels, and between general and targeted expenditures—influences the speed and fairness of educational outcomes. The evidence suggests that although education spending is significantly higher both in real and per-capita terms in Bihar, the share of education in GSDP and higher education are still relatively modest despite actual and measurable improvements over the last ten years in literacy, GER and GPI, in particular due to the increasing importance of women-specific incentive schemes in the expenditure envelope.

Based on this, the following recommendations are made in the paper:

- Increase the share of the state education budget for higher education in a gradual manner to over 2.3 percent of the total education budget, but give special priority to areas that are underserved.
- Shift the focus from recurring revenue expenditure to capital formation expenditure for new colleges, women's hostels, laboratories, digital infrastructure etc. to prevent the bulk of expenditure on recurring revenue.
- Establish a regular and financially dedicated block for women specific financial incentive schemes in the higher education budget given the apparent linkage between financial incentives targeted to women and the superior performance in closing the Gender Parity Index (GPI) compared to the Gross Enrolment Ratio (GER) gap.
- Track expenditure and outcomes more closely, by building linkages at the district level between expenditure allocation data and AISHE-based GER and GPI indicators, in order to be able to assess more precisely the components of expenditure that are more closely associated with improved women's participation.
- Make continuous growth in the education spending as a proportion of GSDP a goal which is also commensurate with the economy's size and growth, instead of just nominal increase in education budget.

Public spending is indeed a key but not a standalone requirement to address the gender disparity in higher education in Bihar. This paper indicates that the allocation of state funds to education — its mix of funding for school and higher education, funding for salaries and facilities, and funding for general education and special interventions for women — is as important as the amount spent. A planned shift in this fiscal structure is likely to be a better way to ensure gender equality in higher education in Bihar than simply relying on aggregate growth of expenditure

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