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Mid-Day Meal Scheme Coverage and Funding Trends in Bihar, with the Nutritional Context of Gaya District

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Abstract

The Mid-Day Meal Scheme (MDMS), now PM POSHAN, is the world's largest school feeding programme. This paper reviews the empirical literature on the scheme and examines official data for Bihar, the state in which Gaya lies, for 2015–16 to 2019–20. The main comparison uses the four full years 2015–16 to 2018–19; the 2019–20 figures cover only part of the year and are shown separately. Primary-level coverage (children covered as a share of enrolled children) fell from 68 per cent in 2015–16 to 61 per cent in 2018–19, and upper-primary coverage fell from 66 to 55 per cent. Primary enrolment fell by 17 per cent over the same period, while the number of primary children covered fell by 26 per cent. Central fund allocation per enrolled child (Classes I to VIII) was almost unchanged in current rupees between 2015–16 and 2018–19 (Rs. 637 and Rs. 643) but fell by about 10 per cent in real terms (2015–16 prices), so tighter real funding per child may be one of several factors behind weaker coverage; the data cannot separate the causes. In Gaya, 87 per cent of the population is rural and 47 per cent of children under five were stunted in NFHS-5, against about 43 per cent for Bihar.

Keywords: *Mid-Day Meal Scheme, PM POSHAN, Primary Education, School Feeding, Enrolment, Bihar, Gaya.*

JEL classification: *I21, I28, I38*

Introduction

India's Mid-Day Meal Scheme provides cooked meals, free of cost, to children in government and government-aided schools. It began nationally in 1995 for Classes I to V, was extended to Class VIII by 2007 (Drishti IAS, 2025a), and was replaced by PM POSHAN, approved for 2021–22 to 2025–26 (Press Information Bureau, 2022). At approval it covered about 11.80 crore children of Classes I to VIII in 11.20 lakh schools (Press Information Bureau, 2022). After a Supreme Court directive at the end of 2001, states began providing cooked meals (Jayaraman & Simroth, 2015), and their staggered roll-out lets researchers identify the scheme's effects (Chakraborty & Jayaraman, 2019).

Bihar is an important case. NFHS-5 (2019–21) reports that about 43 per cent of its children under five were stunted and 23 per cent wasted (People's Archive of Rural India, n.d.-a), while 85 per cent of children aged 6–17 were currently attending school, so school-based feeding can reach most children if delivery works. Gaya, a district of south Bihar, has higher child stunting than the state (Section 4.4), which makes it a pertinent place to ask whether the scheme reaches the children it is meant to serve.

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The paper (i) reviews the evidence on the scheme's effects, (ii) examines the trend in enrolment, coverage and central funding, including funding per enrolled child in current and real terms, in Bihar for 2015–16 to 2019–20, and (iii) describes the nutritional context of Gaya. It asks whether the share of enrolled children covered rose or fell, and how enrolment and funding moved over the same years. The analysis is descriptive and does not test causal hypotheses. The meal data are for Bihar as a whole; Gaya is described through its nutritional indicators.

Review of Literature

Afridi (2010) used the randomness of whether a child's 24-hour food recall fell on a school day or a non-school day to estimate the scheme's nutritional effect: daily nutrient intake rose by 49 to 100 per cent of the value of the transfer, and the daily protein deficiency of a primary school student fell by 100 per cent, calorie deficiency by almost 30 per cent and iron deficiency by nearly 10 per cent. Singh, Park and Dercon (2014) found that in Andhra Pradesh the scheme acted as a safety net: children from drought-hit households lost height-for-age and weight-for-age, and meal access offset these losses through catch-up growth.

Jayaraman and Simroth (2015), using staggered state implementation and a panel of more than 420,000 schools observed from 2002 to 2004, found that mid-day meals substantially increased primary enrolment. Afridi (2011) found that the shift to daily cooked meals significantly improved the daily participation of children in lower grades, raising monthly attendance of grade-one girls by more than 12 percentage points, with no significant change in enrolment. Chakraborty and Jayaraman (2019) used the same roll-out across birth cohorts and found a robust positive effect of prolonged exposure on math and reading scores. Drèze and Goyal (2003) stressed that these benefits depend on meal quality.

Evidence from within Bihar is thinner. Pal et al. (2024) studied rural schools in Arwal district, adjacent to Gaya, and reported improvements in height, weight, enrolment, retention and attendance, with weaker results for academic ability. Sinha et al. (2024) surveyed 1,070 primary school children in Saran, Muzaffarpur and Patna and found high stunting, underweight and wasting among mid-day meal beneficiaries. The strongest causal studies use national or multi-state data, and none of the Bihar studies found for this paper covers Gaya.

Data and Methodology

The paper uses only secondary data. Enrolment, children covered and central assistance for Bihar come from the Ministry of Education's state brief on the scheme as on 6 February 2020 (Ministry of Education, 2020); 2019–20 figures run to 30 September 2019 and are provisional. Nutrition indicators for Bihar are from NFHS-5 summaries (People's Archive of Rural India, n.d.-a, n.d.-b) and the NFHS Policy Tracker (Geographic Insights Lab, 2023). Gaya's population figures are from the district portal's Census 2011 page (District Gaya, n.d.) and its nutrition indicators from the district nutrition profile (Singh et al., 2022). Recent state enrolment is from the UDISE+ 2024–25 report (Ministry of Education, n.d.), and the later trend in children covered is from a Ministry review (Drishti IAS, 2025b) and a news report on Programme Approval Board minutes (Shivani, 2025); the last two are secondary reports and are used only as indicative context, not as the basis of any calculation. To remove the effect of inflation, funds per child are also expressed in 2015–16 prices using the all-India Consumer Price Index (Combined, base 2012=100) (Reserve Bank of India, 2026).

The coverage ratio is the number of children covered divided by the number enrolled, multiplied by 100. Change is the percentage change between the first and last year, and funds released are expressed as a percentage of funds allocated. Funds per enrolled child are central funds (allocated or released, in rupees) divided by total enrolment in Classes I to VIII (primary plus upper-primary); this is possible from 2015–16 onwards, as enrolment for 2014–15 is not available in the source. Because the 2019–20 figures cover only part of the year and may be revised, the main comparison uses the full years 2015–16 to 2018–19, and 2019–20 is reported separately. The figures are administrative totals for the whole state, so no sampling or statistical inference is involved.

Findings

- **Enrolment and Coverage**

Table 1 and Figure 1 show that between 2015–16 and 2018–19 primary enrolment fell from 14.46 million to 11.94 million (−17.4 per cent), while the number of primary children covered fell faster,

from 9.87 to 7.32 million (−25.8 per cent). Primary coverage therefore fell from 68 per cent to 61 per cent. At upper-primary level, enrolment was almost stable (+0.8 per cent) but the number covered fell by 16.4 per cent; coverage fell from 66 per cent to 55 per cent. Taking Classes I to VIII together, coverage fell from about 68 per cent to about 59 per cent. The provisional 2019–20 figures (April to September 2019 only) show 62 per cent at primary level and 58 per cent at upper-primary level, a small rise from 2018–19. Because that year is incomplete and may be revised, the paper does not treat this as a confirmed recovery.

Table 1: Enrolment and coverage under the Mid Day Meal Scheme, Bihar

Year	Primary Enrolment	Primary Covered	Primary %	Upper-Primary Enrolment	Upper-Primary Covered	Upper-Primary %
2015–16	14,457,156	9,872,954	68	6,107,050	4,043,553	66
2016–17	14,074,077	8,902,071	63	6,678,964	3,781,988	57
2017–18	13,070,072	8,113,637	62	6,432,977	3,677,094	57
2018–19	11,939,705	7,322,351	61	6,155,453	3,382,257	55
2019–20*	11,268,110	6,969,171	62	5,971,302	3,463,886	58
Change, 2015–16 to 2018–19 (full years)	*−17.4%*	*−25.8%*	*−7 pts*	*+0.8%*	*−16.4%*	*−11 pts*
Change, 2015–16 to 2019–20 (provisional)*	*−22.1%*	*−29.4%*	*−6 pts*	*−2.2%*	*−14.3%*	*−8 pts*

Source: Ministry of Education (2020); percentage changes computed by the author. *Up to 30 September 2019 (provisional).

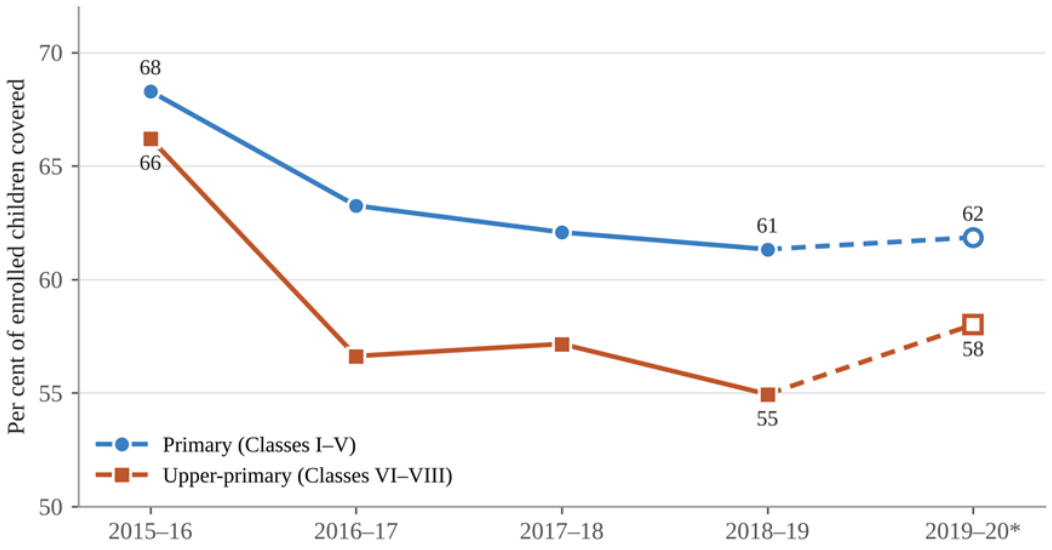


Figure 1: Share of enrolled children covered by the Mid Day Meal Scheme, Bihar

Source: Computed from Ministry of Education (2020). *2019–20 figures up to 30 September 2019.

A fall of 17 per cent in primary enrolment in three years is large. Part of it may reflect changes in how enrolment was recorded, such as the removal of duplicate or inactive entries, so the trend is read as reported and not as a change in actual schooling.

- **Central Assistance**

Central funds allocated to Bihar fell from Rs. 147,831.71 lakh in 2014–15 to Rs. 119,797.43 lakh in 2019–20 (−19.0 per cent; Table 2). Most of that fall happened between 2014–15 and 2016–17; from 2015–16 to 2018–19 the allocation fell by 11.2 per cent. Funds released ranged from 81 per cent of the allocation in 2017–18 to 97 per cent in 2018–19.

Total funds are a poor guide to support per child, because enrolment also fell. Table 2 therefore divides funds by total enrolment in Classes I to VIII. In current rupees, allocation per enrolled child was Rs. 637 in 2015–16, dipped to Rs. 577 in 2016–17, and was Rs. 643 in 2018–19 (+0.9 per cent over the full years); it was Rs. 695 in provisional 2019–20. Funds actually released per enrolled child ranged from Rs. 502 in 2017–18 to Rs. 621 in 2018–19.

Prices rose over the same years, so Table 3 restates the per-child figures in 2015–16 prices using the all-India Consumer Price Index (Reserve Bank of India, 2026), which rose by 11.9 per cent between 2015–16 and 2018–19. In real terms, allocation per enrolled child fell by 9.8 per cent, from Rs. 637 to Rs. 575, and funds released per child fell by 4.9 per cent, from Rs. 584 to Rs. 555, with a low of Rs. 464 in 2017–18, when only 81 per cent of the allocation was released. Central funding per child was therefore flat in rupee terms but weaker in real terms. A fall of this size may have made regular delivery harder for schools, but central assistance is only part of the total cost of the scheme, so the data do not show how much of the fall in coverage, if any, is due to funding.

Table 2: Central assistance to Bihar under the Mid Day Meal Scheme (Rs. lakh), and per enrolled child

Year	Funds Allocated	Funds Released	Released (%)	Enrolment, Classes I-VIII	Allocated per Enrolled Child (Rs.)	Released per Enrolled Child (Rs.)
2014–15	147,831.71	136,532.10	92	n.a.	n.a.	n.a.
2015–16	131,067.50	120,013.29	92	20,564,206	637	584
2016–17	119,833.15	114,257.02	95	20,753,041	577	551
2017–18	120,621.99	97,871.58	81	19,503,049	618	502
2018–19	116,406.50	112,448.94	97	18,095,158	643	621
2019–20*	119,797.43	109,313.34	91	17,239,412	695	634

Source: Ministry of Education (2020); per-child figures computed by the author as funds divided by primary plus upper-primary enrolment in Table 1. The 2019–20 release is stated in the source after adjusting an unspent balance of Rs. 4,413.11 lakh from the previous year. *Enrolment up to 30 September 2019 (provisional). n.a. = enrolment for 2014–15 not available in the source. Figures are in current rupees.

Table 3: Central assistance per enrolled child in current rupees and in 2015–16 prices (Rs.)

Year	CPI (2012=100)	Allocated, Current	Allocated, 2015–16 Prices	Released, Current	Released, 2015–16 Prices
2015–16	124.7	637	637	584	584
2016–17	130.3	577	553	551	527
2017–18	135.0	618	571	502	464
2018–19	139.6	643	575	621	555
2019–20*	146.3	695	592	634	541
Change, 2015–16 to 2018–19	*+11.9%*	*+0.9%*	*−9.8%*	*+6.5%*	*−4.9%*

Source: Computed by the author from Table 2 and the all-India Consumer Price Index (Combined, base 2012=100), annual average (Reserve Bank of India, 2026). 2015–16 is the base year. *Enrolment up to 30 September 2019 (provisional).

- **Recent Trends in Bihar**

More recent reports point the same way. A Ministry of Education review found that government school enrolment fell in 23 states and union territories in 2024–25, with Bihar's decline of 6.14 lakh the second largest (Drishti IAS, 2025b); reports on Programme Approval Board minutes indicate that Bihar's children covered fell by 4.91 lakh between 2023–24 and 2024–25 (Shivani, 2025). The UDISE+ 2024–25 report records total school enrolment in Bihar of 21.13 million (Ministry of Education, n.d.); it states that its 2024–25 data are not strictly comparable with reports up to 2021–22, so this paper does not compute a change from earlier UDISE+ years. Stunting among children under five in Bihar fell from 48.3 per cent in NFHS-4 to 42.9 per cent in NFHS-5 (People's Archive of Rural India, n.d.-b).

- **Gaya District**

According to Census 2011, Gaya has a population of about 4.38 million, 87 per cent of it rural (District Gaya, n.d.), so government schools, and hence the mid-day meal, are the main school-based service for most children. Table 4 shows that in NFHS-5, 47 per cent of children under five were stunted, 24 per cent wasted and 43 per cent underweight, with stunting above the Bihar figure of 42.9 per cent (Singh et al., 2022). Stunting fell by six percentage points and underweight by ten between the two rounds, but wasting fell only from 26 to 24 per cent and severe wasting rose from 8 to 9 per cent. The meal enrolment and coverage figures in Section 4.1 are for Bihar as a whole and are not a measurement for Gaya.

Table 4: Child Nutrition and Women's Education Indicators, Gaya District

Indicator	NFHS-4 (2015–16)	NFHS-5 (2019–21)	Bihar, NFHS-5
Children under 5 stunted (%)	53	47	42.9
Children under 5 wasted (%)	26	24	22.9
Children under 5 severely wasted (%)	8	9	n.a.
Children under 5 underweight (%)	53	43	41.0
Women with 10+ years of schooling (%)	25	31	28.8
Women aged 20–24 married before 18 (%)	54	43	40.8

Source: Singh et al. (2022) for Gaya; People's Archive of Rural India (n.d.-b) for Bihar stunting; Geographic Insights Lab (2023) for other Bihar values. n.a. = not available in the sources used.

Discussion

The literature shows consistent benefits for nutrition, enrolment and learning when delivery is regular. In Bihar, the share of enrolled children covered fell between 2015–16 and 2018–19, particularly at upper-primary level, even though central funding per enrolled child was unchanged in current rupees (it fell by about 10 per cent in real terms). The data do not show why. The decline cannot be attributed to any one cause. Possible explanations include children being enrolled but not attending; enrolment and coverage being recorded on different bases, or enrolment being revised for reasons unrelated to actual attendance; funds per child tightening in real terms, or not reaching schools on time, as the low release in 2017–18 suggests; or a lack of kitchen infrastructure, as the state brief notes (Ministry of Education, 2020). Two implications follow. First, monitoring should track the coverage ratio, not only the number of schools implementing the scheme. Second, because benefits accumulate with years of exposure (Chakraborty & Jayaraman, 2019), interruptions in coverage have costs that outlast the school year. In Gaya, where stunting is above the state average and most people live in rural areas, the scheme's role as a daily source of nutrition is likely to be larger than in better-off districts.

Limitations

The enrolment, coverage and funding data are for Bihar as a whole, so the paper cannot make claims about coverage in Gaya. The latest coverage figures are for 2019–20, cover only part of that year and are provisional, so the main comparison stops at 2018–19. The series ends before the COVID-19 school closures that began in March 2020, which disrupted the scheme's delivery, and it therefore says nothing about the period since. The analysis is descriptive and cannot establish causation. Administrative figures depend on school reporting and were not independently verified; the large reported fall in enrolment may partly reflect changes in recording. Funds per child use central assistance only, and the real-terms figures are deflated with the general consumer price index, not a food price index. The Gaya profile labels its survey rounds 2016 and 2020 and may differ slightly from the final NFHS-5 district fact sheet. The 2023–24 to 2024–25 fall in children covered comes from a news report on official minutes, and the 2024–25 fall in government school enrolment from a secondary summary of a Ministry review; both are indicative only. The UDISE+ 2024–25 enrolment figure is not strictly comparable with earlier UDISE+ years.

Conclusion

The scheme has a strong evidence base for gains in nutrition, enrolment and learning. For Bihar, official data show coverage of enrolled children weakening between 2015–16 and 2018–19, from 68 to 61 per cent at primary level and from 66 to 55 per cent at upper-primary level, while central allocation per enrolled child was flat in current rupees and about 10 per cent lower in real terms. The

provisional, part-year figures for 2019–20 show a small rise that cannot yet be treated as a recovery. In Gaya, where child stunting is above the state average and most people live in rural areas, reliable meal delivery is likely to matter more than in better-off districts.

References

1. Afridi, F. (2010). Child welfare programs and child nutrition: Evidence from a mandated school meal program in India. *Journal of Development Economics, 92(2)*, 152–165. https://doi.org/10.1016/j.jdeveco.2009.02.002
2. Afridi, F. (2011). The impact of school meals on school participation: Evidence from rural India. *Journal of Development Studies, 47(11)*, 1636–1656.

   https://doi.org/10.1080/00220388.2010.514330
3. Chakraborty, T., & Jayaraman, R. (2019). School feeding and learning achievement: Evidence from India's midday meal program. *Journal of Development Economics, 139*, 249–265. https://doi.org/10.1016/j.jdeveco.2018.10.011
4. District Gaya. (n.d.). *Demography details as per 2011 Census*. Government of Bihar, District Administration, Gaya. https://gaya.nic.in/demography/
5. Drèze, J., & Goyal, A. (2003). Future of mid-day meals. *Economic and Political Weekly, 38(44)*, 4673–4683. https://mpra.ub.uni-muenchen.de/17386/
6. Drishti IAS. (2025a, January 31). *Bihar government revamps mid-day meal menu*. https://www.drishtiias.com/state-pcs-current-affairs/bihar-government-revamps-mid-day-meal-menu/print_manually
7. Drishti IAS. (2025b, May 21). *Enrolment drop in government schools and PM-POSHAN*. https://www.drishtiias.com/daily-updates/daily-news-analysis/enrolment-drop-in-government-schools-and-pm-poshan/print_manually
8. Geographic Insights Lab, Harvard University. (2023, March). *NFHS factsheet for parliamentary constituencies, 2016–2021: Gaya (SC), Bihar (Version 2)*. India Policy Insights. https://geographicinsights.iq.harvard.edu/nfhs-tracker-pc
9. Jayaraman, R., & Simroth, D. (2015). The impact of school lunches on primary school enrollment: Evidence from India's midday meal scheme. *Scandinavian Journal of Economics, 117(4)*, 1176–1203. https://ideas.repec.org/a/bla/scandj/v117y2015i4p1176-1203.html
10. Ministry of Education, Government of India. (n.d.). *UDISE+ 2024–25 report booklet*. UDISE+ dashboard. https://dashboard.udiseplus.gov.in/report2026/static/media/UDISE+2024_25_Booklet_existing.118ba29d4773e6372f72.pdf
11. Ministry of Education, Government of India. (2020). *Brief note on Mid Day Meal Scheme (Bihar) (as on 06-02-2020)*. PM POSHAN portal.

    https://pmposhan.education.gov.in/Files/State_brief/2020/Feb-20/AS/
12. Pal, A., Ananda, K. R., Kumar, S., Gupta, S. K., & Sharma, A. (2024). The impact of Mid-Day Meal Scheme on the nutritional and educational status among rural school children in Bihar, India. *European Journal of Nutrition & Food Safety, 16(8)*, 149–155. https://doi.org/10.9734/ejnfs/2024/v16i81503
13. People's Archive of Rural India. (n.d.-a). *National Family Health Survey (NFHS-5) 2019–21: Bihar* [Summary of the report published May 2021].

    https://ruralindiaonline.org/en/library/resource/national-family-health-survey-nfhs-5-2019-21-bihar/
14. People's Archive of Rural India. (n.d.-b). *National Family Health Survey (NFHS-5) 2019–20 fact sheets: Key indicators – 22 states/UTs from Phase-I*.

    https://ruralindiaonline.org/library/resource/national-family-health-survey-nfhs-5-2019-20-fact-sheets-key-indicators---22-statesuts-from-phase-i

15. Press Information Bureau, Government of India. (2022, April 1). *PM POSHAN* [Press release]. Ministry of Women and Child Development.
https://www.pib.gov.in/PressReleasePage.aspx?PRID=1812421

16. Reserve Bank of India. (2026, July 31). *Table 34: Consumer price index – annual average* [Data table]. https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=23859

17. Shivani, K. N. (2025, June 13). *Mid-day meal scheme loses 36 lakh kids in 1 year; govt wants review*. Careers360. https://news.careers360.com/midday-meal-scheme-36-lakh-fewer-children-pm-poshan-one-year-education-ministry-wants-review-pab-minutes-2025-26

18. Singh, A., Park, A., & Dercon, S. (2014). School meals as a safety net: An evaluation of the Midday Meal Scheme in India. *Economic Development and Cultural Change, 62(2)*, 275–306. https://doi.org/10.1086/674097

19. Singh, N., Nguyen, P. H., Jangid, M., Singh, S. K., Sarwal, R., Bhatia, N., Johnston, R., Joe, W., & Menon, P. (2022, March). *District nutrition profile: Gaya, Bihar*. International Food Policy Research Institute and NITI Aayog. https://www.niti.gov.in/sites/default/files/2022-06/Gaya-Bihar.pdf

20. Sinha, N., Upadhyay, K., & Akhatri, S. (2024). Assessment of nutrition status of mid day meal beneficiaries and pattern of its utilization in three districts of Bihar: A state in eastern India. *Indian Journal of Public Health Research & Development, 15(4)*, 264–270. https://doi.org/10.37506/bpfakx54.

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