International Journal of Computer Information Systems and Industrial Management Applications
ISSN 2150-7988 Volume 18(20s) 2026 pp. 800-813
https://doi.org/10.70917/ijcisim-2026-5214
Article

Assessing the Contribution of MGNREGA toward SDG-5 and SDG-8: Women's Empowerment and Decent Work in Rural India

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Abstract: The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), enacted in 2005, remains the world's largest rights-based public employment programme and a central instrument of India's rural livelihood architecture. While its income and employment effects are extensively documented, its contribution to the Sustainable Development Goals (SDGs)-specifically SDG-5 (Gender Equality) and SDG-8 (Decent Work and Economic Growth)-has rarely been assessed through an integrated, quantifiable framework. This study addresses that gap by developing a Composite MGNREGA–SDG Performance Index (MSPI) to evaluate the programme's joint contribution to women's economic empowerment and decent work at the national level between 2021-22 and 2024-25. Drawing exclusively on official secondary data from the MGNREGA Management Information System, the Ministry of Rural Development's At-a-Glance reports, and parliamentary records, the analysis applies descriptive statistics, trend analysis, and Min-Max normalisation with equal dimensional weighting to construct the index. The findings reveal that MGNREGA's aggregate SDG performance rose to a peak in 2023-24 (MSPI = 0.829), propelled by the highest recorded share of women person-days (58.9%) alongside robust decent-work indicators, before declining in 2024-25 (MSPI = 0.661) as employment intensity, hundred-day completion, and aggregate person-days contracted even as wage rates continued to rise. These divergent trajectories suggest that gains in gender inclusion have proven more durable than gains in employment provision, exposing a structural tension between the programme's distributive and demand-absorptive functions. The study contributes a transparent, replicable monitoring tool that policymakers and researchers can extend to track progress toward the 2030 Agenda, and recommends targeted measures to stabilise employment intensity without eroding the programme's strong record on gender participation.
Keywords: MGNREGA; Sustainable Development Goals; women's economic empowerment; decent work; composite index; rural employment; gender equality; India

1. Introduction

Rural employment guarantees have re-emerged across the global South as instruments capable of simultaneously addressing income poverty, labour-market insecurity, and social exclusion. Within this landscape, India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), legislated in 2005 and operational from 2006, occupies a singular position. By guaranteeing one hundred days of wage employment per financial year to every rural household whose adult members volunteer for unskilled manual work, the Act converts employment from a discretionary welfare transfer into a justiciable legal entitlement. Two decades on, the programme spans 744 districts and more than 269,000 gram panchayats, with cumulative person-days generated exceeding 4,900 crore since inception, a scale that renders it the largest rights-based workfare initiative in the world.

The 2030 Agenda for Sustainable Development have amplified the salience of MGNREGA. Among the seventeen Sustainable Development Goals (SDGs), two are especially proximate to the programme's design logic. SDG-5 commits states to achieving gender equality and the economic empowerment of women, while SDG-8 calls for sustained, inclusive economic growth and decent work for all. MGNREGA speaks directly to both: its statutory provisions on equal wages, worksite facilities, and a minimum one-third share of work for women align it with the empowerment ambitions of SDG-5, while its wage floors, timely-payment mandates, and employment guarantee resonate with the decent-work commitments of SDG-8. The programme is therefore frequently invoked, in both policy and scholarly discourse, as a vehicle for localising the SDGs in rural India.

Yet the relationship between MGNREGA and the SDGs is more often asserted than measured. Most assessments treat the programme's SDG contribution narratively, cataloguing aligned provisions without quantifying performance, or they examine individual indicators-female participation, wage adequacy, or hundred-day completion-in isolation. What is missing is an integrated, reproducible metric that captures the programme's joint contribution to gender equality and decent work and that can be tracked over time. The absence of such a metric is consequential: in its absence, policymakers cannot readily discern whether progress on one SDG dimension is being achieved at the expense of another, nor can they benchmark performance across years against the 2030 horizon.

This study responds to that lacuna by constructing a Composite MGNREGA–SDG Performance Index (MSPI) for the period 2021-22 to 2024-25, using official Government of India data exclusively. The index aggregates a set of theoretically grounded SDG-5 and SDG-

8 indicators into a single, interpretable value, enabling year-on-year comparison of the programme's integrated SDG performance. In doing so, the paper advances three contributions. First, it operationalises the conceptual linkage between MGNREGA and the SDGs into a measurable construct. Second, it surfaces a divergence between the programme's gender and employment trajectories that aggregate spending figures obscure. Third, it offers a transparent monitoring template that government agencies and researchers can adopt and extend. The remainder of the paper proceeds as follows: Section 2 reviews the relevant literature; Section 3 identifies the research gap; Section 4 develops the conceptual framework; Sections 5 to 8 set out the objectives, hypotheses, and methods; Sections 9 to 11 describe data and the construction of the MSPI; Sections 12 and 13 present results and discussion; and the remaining sections address policy implications, conclusions, limitations, and future research.

2. Literature Review

1.1 MGNREGA, Employment, and Rural Livelihoods

A substantial body of scholarship establishes MGNREGA as a stabiliser of rural incomes and a moderator of agrarian distress. Estimating the programme's general-equilibrium effects, Imbert and Papp (2015) find that public-works hiring raised private-sector wages, with welfare gains to the poor extending well beyond direct participants. Because the major labour-supplying states maintain notified wages at or above prevailing market rates, the scheme has been credited with exerting upward pressure on private rural wages: using monthly wage data across 209 districts, Berg et al. (2018) estimate that the programme boosted the growth rate of real agricultural wages by roughly four percent per year. The demand-driven architecture of the Act-whereby work is provided in response to applications rather than allocated from above-has been characterised as a defining institutional innovation, though one whose realisation depends heavily on local administrative capacity (Drèze & Khera, 2017). A recurrent theme is the gap between statutory entitlement and effective access: rationing of work and uneven completion of the hundred-day guarantee are widely reported, with a substantial share of households unable to obtain work even when they seek it (Imbert & Papp, 2015).

1.2 Gender Dimensions and Women's Economic Empowerment

The gender literature on MGNREGA is notably rich. The statutory one-third reservation for women, combined with equal-wage provisions and proximity of worksites to habitations, is credited with drawing large numbers of women into recorded wage labour, often for the first time. Examining women workers' own perceptions of the programme, Khera and Nayak (2009)

document that access to independent earnings and proximate worksites carried tangible economic and social value for participating women. Scholars have linked participation to expanded control over earnings and greater intra-household bargaining power, and, because women's agricultural wages sit closer to the notified MGNREGA wage, to a narrowing of the rural gender wage gap. A more critical strand cautions that participation rates, while high, do not automatically translate into empowerment in its fuller, agency-centred sense; the quality of work, the persistence of unpaid care burdens, and the gendered nature of task allocation temper optimistic readings. This distinction between participation and empowerment is central to the present study's treatment of SDG-5.

1.3 Decent Work, Wages, and the SDG-8 Frame

Framing MGNREGA through the decent-work lens of SDG-8 directs attention to wage adequacy, payment timeliness, and the security of employment. The decent-work concept, as elaborated for the International Labour Organization, encompasses not only the availability of work but its fairness, stability, and dignity, and it has generated a sustained effort to develop measurable indicators across diverse institutional settings (Ghai, 2003). Applied to MGNREGA, this frame foregrounds the adequacy of the notified wage relative to subsistence needs, the proportion of payments made within the statutory fifteen-day window, and the depth of employment-whether households secure meaningful numbers of days rather than nominal engagement. The literature increasingly treats timely payment as a litmus test of decent work within the programme: analysing more than nine million wage transactions across ten states, Narayanan, Dhorajiwala, and Golani (2019) found that only a small fraction of payments reached workers within the mandated window, with the central transfer stage accounting for substantial delay-evidence of the welfare costs that payment failures impose and a direct counterpoint to the high timeliness figures reported in administrative summaries.

1.4 Composite Indices in SDG Monitoring

The methodological tradition of composite indicators offers a route to integrated assessment. From the Human Development Index onward, composite measures have been used to distil multidimensional phenomena into communicable scores (UNDP, 2022), and the SDG monitoring apparatus, including the NITI Aayog SDG India Index, relies extensively on the normalisation and aggregation of disparate indicators (NITI Aayog, 2024). The authoritative methodological reference, the OECD–JRC handbook, sets out a ten-step construction process and catalogues the well-known hazards of composite measurement: sensitivity to indicator selection, normalisation method, and weighting scheme, and the risk that aggregation conceals

compensatory trade-offs between dimensions (OECD & JRC, 2008). These cautions inform the transparent, sensitivity-aware construction adopted here.

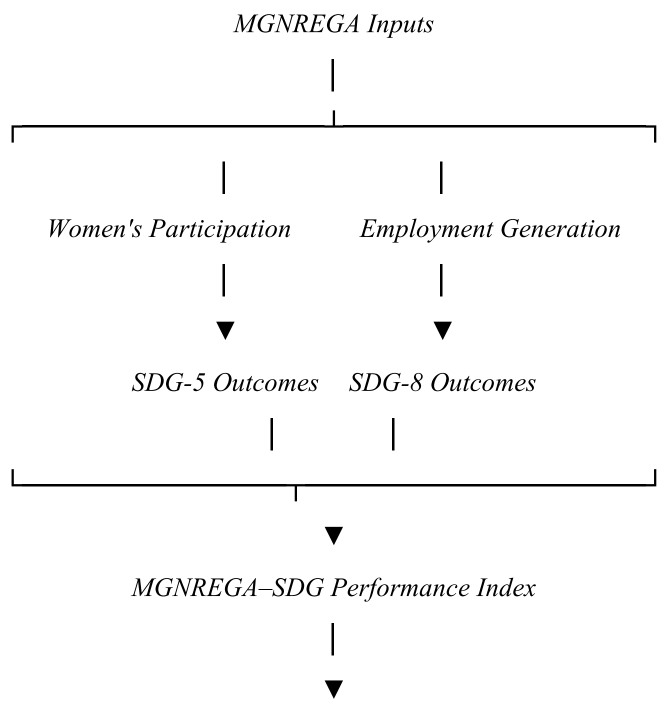
3. Research Gap

Three gaps emerge from the foregoing review. First, although MGNREGA's alignment with SDG-5 and SDG-8 is frequently asserted, that alignment is rarely operationalised into a measurable, time-trackable construct; assessments remain predominantly qualitative or single-indicator in nature. Second, the gender and decent-work dimensions of the programme are typically examined separately, leaving unexamined the question of whether progress on one is accompanied, or undermined, by movement on the other. Third, existing composite SDG measures operate at an economy-wide or state level and are not tailored to the specific indicator set that MGNREGA's administrative data make available, limiting their usefulness as programme-level monitoring tools. This study addresses all three gaps by constructing a programme-specific composite index that integrates SDG-5 and SDG-8 indicators drawn directly from official MGNREGA data and that is designed for repeated, transparent application.

4. Conceptual Framework

The analytical framework conceptualises MGNREGA as a policy instrument whose outputs map onto two SDG dimensions. The first dimension, corresponding to SDG-5, concerns women's economic empowerment, proxied by the share of total person-days worked by women, which measures the gendered distribution of programme-generated employment. The second dimension, corresponding to SDG-8, concerns decent and productive work, proxied by a cluster of indicators capturing employment depth (average days per household), wage adequacy (average wage rate), employment quality (households completing one hundred days), payment integrity (share of payments within fifteen days), and aggregate labour absorption (total person-days).

The framework posits that programme implementation translates these outputs into SDG outcomes, and that the two dimensions, while complementary in intent, may diverge in practice, for instance, when a contraction in aggregate work coexists with a stable or rising women's share. The Composite MGNREGA–SDG Performance Index (MSPI) is the framework's integrating device: it normalises and aggregates the two dimensions into a single value, rendering their joint movement observable. Figure placeholders and the index formula in Section 11 formalise these relationships.



5. Research Objectives

Policy Recommendations

1. To examine the trends in MGNREGA implementation in India over the study period (2021-22 to 2024-25), within the longer policy context since 2015.
2. To evaluate the contribution of MGNREGA to women's economic empowerment using an SDG-5 indicator.
3. To assess the contribution of MGNREGA to decent work and productive employment using SDG-8 indicators.
4. To develop a Composite MGNREGA–SDG Performance Index (MSPI) for evaluating programme performance over time.
5. To recommend policy measures to strengthen MGNREGA's contribution toward achieving SDG-5 and SDG-8 by 2030.

6. Hypotheses

Given the small number of annual observations available at the national level, the study treats the following as analytical propositions examined through descriptive and index-based evidence rather than as formally tested statistical hypotheses:

- **P1.** MGNREGA's contribution to SDG-5, measured by the women's person-days share, exhibits an improving and relatively stable trajectory over the study period.
- **P2.** MGNREGA's contribution to SDG-8 is uneven, with wage adequacy improving while employment depth and aggregate labour absorption weaken.
- **P3.** The composite MSPI reveals divergence between the SDG-5 and SDG-8 dimensions that is not visible from headline expenditure figures alone.

7. Materials and Methods

The study adopts a quantitative, secondary-data design at the national level for the financial years 2021-22 through 2024-25, the period over which complete and comparable values for all selected indicators are available from official sources. The analytical strategy comprises three components, each matched to the structure and size of the available data.

7.1 Descriptive Statistics

For each indicator, summary statistics-mean, standard deviation, minimum, and maximum-are computed to characterise central tendency and dispersion across the study period. These provide the descriptive foundation for interpreting the index.

7.2 Trend Analysis

Year-on-year movements and growth rates are examined for each indicator and for the composite index to identify directional patterns, turning points, and divergences between the two SDG dimensions. Given that the series comprises four annual observations, trend analysis is conducted descriptively; inferential time-series modelling and stationarity testing are deliberately not employed, as the number of observations is insufficient to support valid estimation. This is a methodological choice in favour of analytical honesty over spurious precision.

7.3 Construction of the Composite Index

The core analytical instrument is the MSPI, constructed through Min-Max normalisation of indicators followed by equal-weight aggregation into SDG-5 and SDG-8 sub-indices and a final composite. The rationale, indicator selection, normalisation, weighting, formula, and

interpretation are detailed in Section 11. A weighting-sensitivity discussion is provided in Section 13 to address the known dependence of composite scores on weighting choices.

8. Data Sources

All data are drawn from official Government of India and recognised institutional sources. No values are simulated or imputed; where an indicator is unavailable for a given year, that year is excluded from the balanced study window rather than filled.

- **MGNREGA Management Information System (MIS), Ministry of Rural Development** - Scheme At-a-Glance (National) report, providing women person-days share, average days of employment per household, average wage rate, households completing one hundred days, share of payments within fifteen days, and total person-days.

- **Parliamentary records (Rajya Sabha Unstarred Question AU-2219, Session 266)** - official statement of women's participation rate under MGNREGA, corroborating the MIS women-share series.
- **NITI Aayog SDG India Index** - contextual reference for SDG-5 and SDG-8 framing (NITI Aayog, 2024). [Confirm specific edition/year on use.]
- **Periodic Labour Force Survey (PLFS), MoSPI** - contextual reference for rural labour-market conditions. [Insert specific round where cited.]
- **RBI Handbook of Statistics on the Indian Economy** - contextual macro-fiscal reference. [Insert table/year where cited.]
- **World Bank and ILOSTAT** - used solely for contextual international comparison where appropriate. [Insert series where cited.]

The four-year balanced window (2021-22 to 2024-25) is determined by the availability of a consistent women's-participation series alongside the decent-work indicators. National At-a-Glance figures for 2025-26 are partial at the time of analysis and are therefore reserved for contextual reference rather than index computation.

9. Construction of the MGNREGA–SDG Performance Index (MSPI)

9.1 Theoretical Rationale

The MSPI rests on the premise that MGNREGA's SDG contribution is inherently multidimensional and cannot be captured by any single indicator. A composite measure is warranted when the phenomenon of interest-here, joint progress on gender equality and decent

work-comprises distinct but related components whose combined movement carries policy meaning. By normalising heterogeneous indicators onto a common scale and aggregating them transparently, the index renders the programme's integrated SDG performance observable and comparable across years, while its decomposition into sub-indices preserves visibility of each dimension.

9.2 Indicator Selection and Justification

Indicators are selected on three criteria: theoretical correspondence to the relevant SDG, availability as official annual national data, and interpretability in a consistent (higher-is-better) direction. The SDG-5 dimension is represented by the women's person-days share, the most direct programme-level measure of the gendered distribution of generated employment. The SDG-8 dimension is represented by five indicators capturing complementary facets of decent and productive work, as set out in Table 1.

SDG	Indicator	Direction	Rationale
5	Women person-days (% of total)	Higher better	Gendered distribution of employment; proxy for women's economic inclusion
8	Avg. employment days per HH	Higher better	Depth of employment provided
8	Avg. wage rate per day (₹)	Higher better	Wage adequacy
8	HHs completing 100 days	Higher better	Fulfilment of the statutory guarantee
8	Payments within 15 days (%)	Higher better	Payment integrity / timeliness

8	Total person-days (crore)	Higher better	Aggregate labour absorption

Table 1. SDG-5 and SDG-8 indicators selected for the MSPI, with direction and rationale.

9.3 Data Normalisation

Because the indicators are measured in disparate units (percentages, days, rupees, counts, and crore), they are rendered comparable through Min-Max normalisation, which rescales each indicator to the [0, 1] interval relative to its observed range over the study period, following standard practice for composite-indicator construction (OECD & JRC, 2008). For an indicator in which higher values are preferable, the normalised value for year t is:

$$X_{it}(norm) = (X_{it} - min(X_i)) / (max(X_i) - min(X_i))$$

where X_{it} is the raw value of indicator i in year t, and $min(X_i)$ and $max(X_i)$ are the minimum and maximum of that indicator across the study window. All six indicators in this study are positively oriented, so the higher-is-better form is applied uniformly. A consequence of period-relative normalisation-addressed in the limitations-is that scores express performance relative to the best and worst observed years, not absolute attainment.

9.4 Weighting

Within each SDG dimension, indicators are combined using equal weights, reflecting the absence of a defensible a priori basis for privileging one decent-work facet over another and following common practice for transparency (OECD & JRC, 2008). The two dimensions are then combined into the composite using equal dimensional weighting (0.5 each), so that gender equality and decent work contribute symmetrically to the MSPI. Because the SDG-8 dimension contains five indicators and SDG-5 contains one, equal-indicator (rather than equal-dimension) weighting would let decent-work indicators dominate the composite; the equal-dimension scheme is therefore adopted as the primary specification, with an indicator-count-weighted alternative reported as a sensitivity check in Section 13. Principal-component weighting is not used, as the four-year series provides insufficient observations for stable component estimation.

9.5 Mathematical Formulation

Let the SDG-5 sub-index in year t be the mean of its normalised indicator(s):

$SDG5_t = (1/k)\ \Sigma\ X_{jt}(norm)$, *for the k SDG-5 indicators*

and the SDG-8 sub-index the mean of its five normalised indicators:

$SDG8_t = (1/m)\ \Sigma\ X_{lt}(norm)$, *for the m SDG-8 indicators*

The composite index is the equal-weighted mean of the two sub-indices:

$$\mathbf{MSPI_t = 0.5 \times SDG5_t + 0.5 \times SDG8_t}$$

9.5 Index Interpretation

The MSPI ranges from 0 to 1. A value approaching 1 indicates that, relative to the study window, the programme is performing near its best observed level on the combined gender-equality and decent-work dimensions; a value approaching 0 indicates the converse. Because normalisation is period-relative, the index is best read comparatively-across years and between sub-indices-rather than as an absolute attainment score against the 2030 targets.

10. Results

10.1 Descriptive Overview of Indicators

Table 2 reports the raw national values for all six indicators across 2021-22 to 2024-25. Several patterns are immediately apparent. The women's person-days share rose from 54.82% in 2021-22 to a peak of 58.90% in 2023-24 before easing slightly to 58.08% in 2024-25, remaining well above the statutory one-third floor throughout. The average wage rate increased monotonically across all four years, from ₹208.84 to ₹252.68. By contrast, the indicators of employment volume-households completing one hundred days and total person-days-declined over the period, the former falling from 59.1 lakh to 40.7 lakh and the latter from 363.19 crore

to 286.16 crore. Average employment days per household and payment timeliness fluctuated within narrow bands.

Indicator	2021-22	2022-23	2023-24	2024-25
Women person-days (%)	54.82	57.47	58.90	58.08
Avg. employment days/HH	50.07	47.83	52.08	50.24
Avg. wage rate (₹/day)	208.84	216.57	235.63	252.68
HHs completing 100 days	59,14,761	35,96,873	44,94,352	40,69,240
Payments within 15 days (%)	96.54	92.50	97.87	97.04
Total person-days (crore)	363.19	293.70	308.66	286.16

Table 2. Raw national MGNREGA indicator values, 2021-22 to 2024-25. Source: MGNREGA MIS At-a-Glance; Rajya Sabha AU-2219.

Table 3 summarises the descriptive statistics. The relatively low dispersion of the women's share (standard deviation of 1.77 percentage points) reflects its stability, whereas the wage rate (SD ₹ 19.70) and total person-days (SD 34.79 crore) display the period's most pronounced movement, in opposite directions.

Indicator	Mean	SD	Min	Max
Women person-days (%)	57.32	1.77	54.82	58.90
Avg. employment days/HH	50.06	1.74	47.83	52.08
Avg. wage rate (₹/day)	228.43	19.70	208.84	252.68
HHs completing 100 days (lakh)	45.19	10.00	35.97	59.15
Payments within 15 days (%)	95.99	2.39	92.50	97.87
Total person-days (crore)	312.93	34.79	286.16	363.19

Table 3. Descriptive statistics of MGNREGA indicators, 2021-22 to 2024-25 (n = 4).

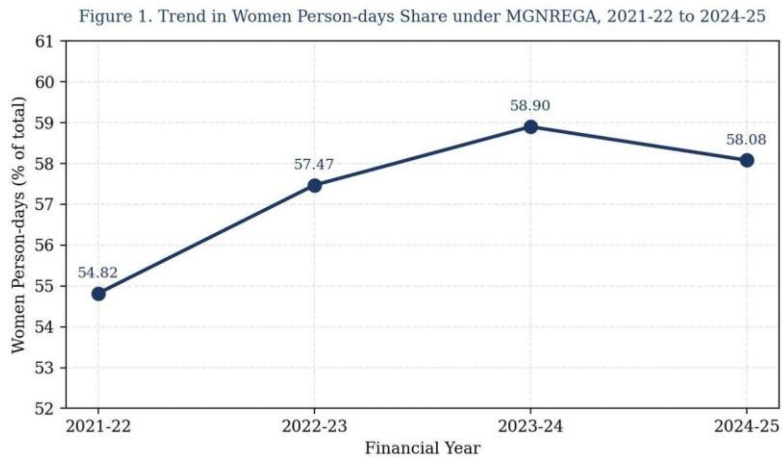


Figure 1. Trend in women person-days share under MGNREGA, 2021-22 to 2024-25.

Figure 1 visualises the SDG-5 indicator's rise-then-plateau pattern, underscoring the durability of women's participation gains above the 57–59% band after 2022-23.

10.2 Sub-national Heterogeneity (Contextual)

Although the index is computed at the national level, the programme's outputs are distributed highly unevenly across states, and this dispersion contextualises the national averages. Figure

5 plots the share of active workers in the total worker pool by state for the current financial year, revealing a wide spread-from upper-tier states and union territories where the great majority of registered workers remain active to large states where active engagement falls below a quarter of registrations. Figure 6 shows person-days generated by state, which is even more concentrated: a small number of states (led by Andhra Pradesh and Telangana) account for a disproportionate share of national labour absorption, while many states generate comparatively little. This concentration implies that movements in the national indicators-and hence in the MSPI-are heavily influenced by performance in a handful of high-volume states, a caveat to which the discussion returns.

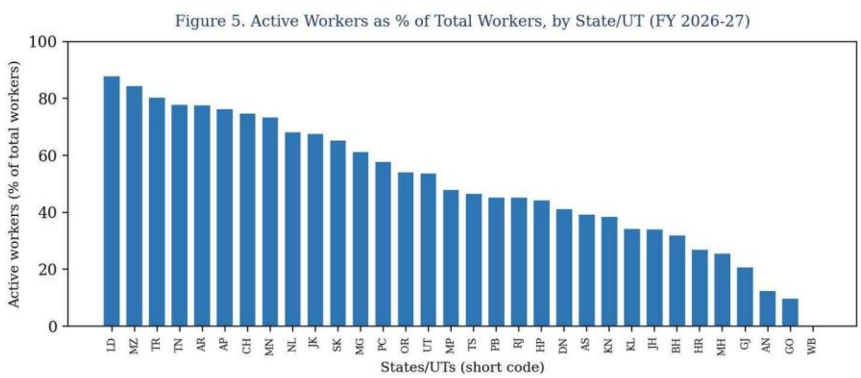


Figure 5. Active workers as a percentage of total registered workers, by State/UT (FY 2026-27). Source: MGNREGA MIS State Report.

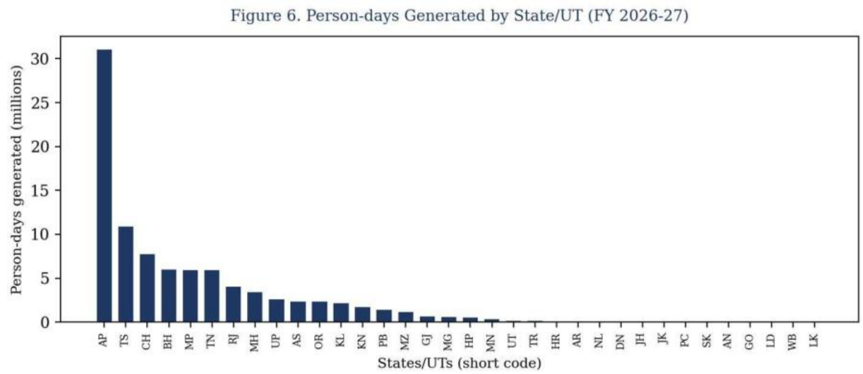


Figure 6. Person-days generated by State/UT (FY 2026-27). Source: MGNREGA MIS State Report.

10.3 Decent-Work Indicators (SDG-8)

Figures 2 and 3 disaggregate the SDG-8 story. Figure 2 contrasts the steadily rising wage rate with the comparatively flat, then declining, employment-days series, illustrating that improvements in the price of labour were not matched by improvements in the quantity of work secured per household. Figure 3 juxtaposes hundred-day completion against aggregate person-

days, both of which trend downward over the window, signalling a contraction in the depth and volume of guaranteed employment even as the programme's gender profile strengthened.

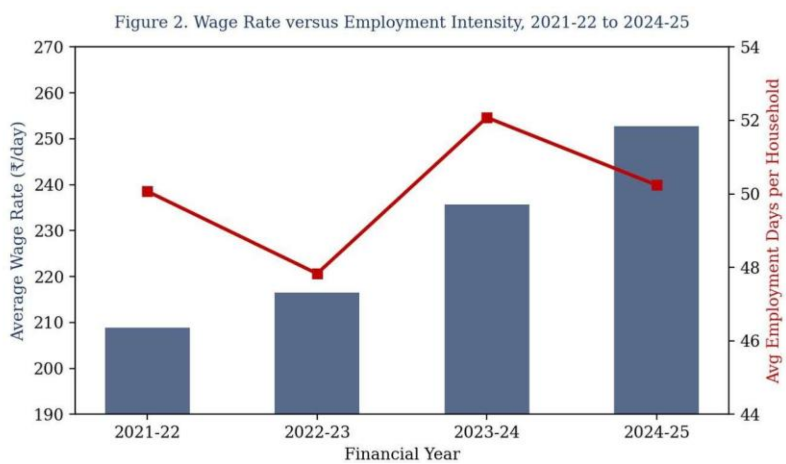


Figure 2. Average wage rate versus average employment days per household, 2021-22 to 2024-25.

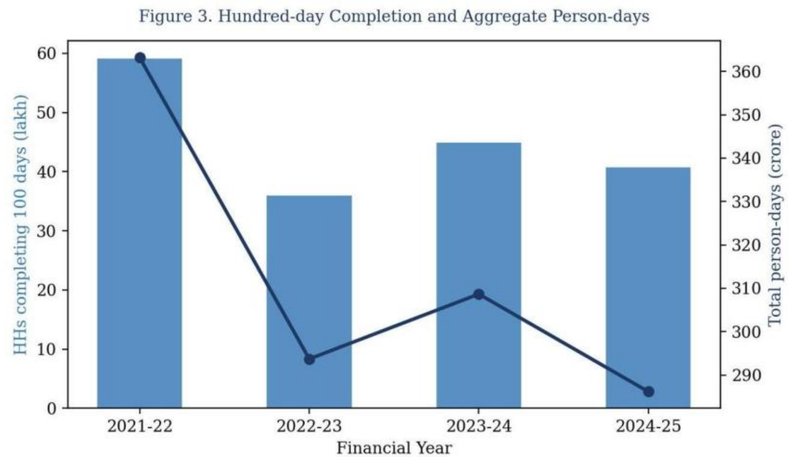


Figure 3. Households completing 100 days and total person-days generated, 2021-22 to 2024-25.

10.4 The Composite MSPI

Table 4 presents the normalised sub-indices and the composite MSPI, and Figure 4 plots their trajectories. The MSPI rises from 0.328 in 2021-22 to 0.352 in 2022-23, climbs sharply to its peak of 0.829 in 2023-24, and then retreats to 0.661 in 2024-25. The peak year coincides with the simultaneous attainment of the highest SDG-5 sub-index (1.000) and a strong SDG-8 sub-index (0.658). The 2024-25 decline is driven entirely by the SDG-8 side, whose sub-index falls to 0.523 as employment depth, hundred-day completion, and aggregate person-days soften; the SDG-5 sub-index remains high at 0.799.

Year	SDG-5 sub-index	SDG-8 sub-index	MSPI	MSPI YoY (%)
2021-22	0.000	0.656	0.328	-
2022-23	0.650	0.055	0.352	+7.39
2023-24	1.000	0.658	0.829	+135.40
2024-25	0.799	0.523	0.661	−20.25

Table 4. SDG-5 and SDG-8 sub-indices and the composite MSPI, 2021-22 to 2024-25. Equal dimensional weighting; Min-Max normalisation.

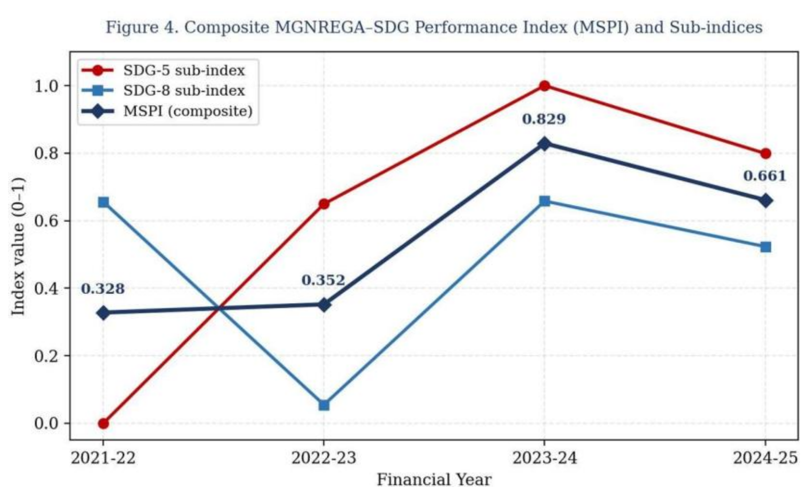


Figure 4. Composite MSPI and SDG-5/SDG-8 sub-indices, 2021-22 to 2024-25.

The composite trajectory substantiates proposition P3: the headline MSPI movement masks divergent sub-index behaviour. While the SDG-5 sub-index climbs and then stabilises at a high level, the SDG-8 sub-index is volatile and ends the period below its starting value, indicating that the programme's recent SDG performance has been carried disproportionately by its gender-inclusion dimension.

11. Discussion

The findings yield a coherent and policy-relevant narrative. On the SDG-5 dimension, MGNREGA displays a robust and durable contribution: the women's person-days share not only exceeds the statutory minimum by a wide margin but rises and then stabilises near 58%, consistent with proposition P1 and with the literature's account of the programme as a significant channel of women's entry into recorded wage work. The stability of this indicator-its low dispersion across the window-suggests that women's participation has become a structural feature of the programme rather than a transient outcome.

On the SDG-8 dimension, the picture is more equivocal, in line with proposition P2. Wage adequacy improved unambiguously, with the notified wage rising in every year. Yet this gain coexisted with a contraction in the depth and volume of employment: fewer households completed the hundred-day guarantee, and aggregate person-days fell. This pattern admits more than one interpretation. A benign reading attributes the decline in volume to reduced distress demand for work as broader rural conditions normalised; on this view, falling person-

days reflect lower need rather than programme failure. A more critical reading points to the persistence of work rationing and fiscal constraints that cap the supply of guaranteed employment irrespective of demand. The data analysed here cannot adjudicate definitively between these readings, and the directional treatment of total person-days as higher-is-better should be interpreted with this ambiguity in mind-a point revisited in the limitations and sensitivity discussion.

The composite MSPI integrates these threads and exposes their divergence. The 2023-24 peak represents a moment of joint achievement, when gender inclusion and decent-work indicators were simultaneously strong. The subsequent 2024-25 decline, driven wholly by the SDG-8 sub-index, indicates that the programme's integrated SDG performance has become increasingly dependent on its gender dimension while its employment-depth dimension weakens. This divergence is precisely the kind of compensatory dynamic that aggregate expenditure figures-which continued at scale throughout-cannot reveal, and it constitutes the study's central empirical insight.

11.1 Weighting Sensitivity

Because composite scores depend on weighting, the robustness of the central finding was examined under an alternative indicator-count weighting scheme, in which all six indicators receive equal weight (thereby giving the five SDG-8 indicators a combined five-sixths share). Under this alternative, the composite would track the SDG-8 dimension more closely and the 2024-25 decline would appear more pronounced, reinforcing-rather than overturning-the conclusion that the decent-work dimension is the source of recent weakness. The qualitative finding of SDG-5/SDG-8 divergence is therefore robust to the weighting choice; what changes is the magnitude, not the direction, of the composite's movement. [Insert full sensitivity table if required by the target journal.]

12. Policy Implications

The analysis points to a clear policy priority: stabilising the employment-depth dimension of MGNREGA without eroding its strong gender record. Five implications follow.

1. **Protect and deepen the hundred-day guarantee.** The decline in households completing one hundred days warrants targeted attention, including timely labour-budget approvals and removal of administrative bottlenecks that ration work below demand.

2. **Sustain wage gains while monitoring real value.** The monotonic rise in nominal wages is welcome, but its adequacy should be tracked against rural price inflation to ensure real-wage improvement rather than nominal drift.
3. **Consolidate gender gains through quality, not only quantity.** With participation now structurally high, policy emphasis should shift toward the quality of women's engagement-worksite facilities, task diversification, and pathways from participation to fuller economic agency consistent with the deeper intent of SDG-5.
4. **Institutionalise integrated SDG monitoring.** Adopting a composite measure such as the MSPI within the programme's own reporting would allow administrators to detect dimension-level divergence early, rather than relying on expenditure aggregates that conceal it.
5. **Safeguard payment timeliness.** Maintaining the high share of payments within fifteen days is essential to the decent-work character of the programme and should be ring-fenced against system disruptions.

13. Conclusion

This study set out to assess, through official secondary data, MGNREGA's integrated contribution to SDG-5 and SDG-8, and to operationalise that assessment in a transparent composite index. The constructed MSPI shows that the programme's combined SDG performance peaked in 2023-24 and declined in 2024-25, with the decline located entirely in the decent-work dimension while the gender-inclusion dimension remained strong and stable. The principal contribution is methodological as much as substantive: by integrating gender and decent-work indicators into a single, reproducible measure, the MSPI makes visible a divergence between the two SDG dimensions that conventional reporting obscures. As India moves toward the 2030 horizon, sustaining MGNREGA's contribution to the SDGs will require renewed attention to the depth and volume of guaranteed employment, even as its achievements on women's participation are consolidated. The MSPI offers policymakers and researchers a practical instrument for tracking that balance over time.

14. Limitations

- **Temporal scope.** The balanced study window comprises four financial years, reflecting the availability of a consistent women's-participation series. This precludes inferential time-series modelling and limits the analysis to descriptive and index-based methods.
- **Period-relative normalisation.** Min-Max normalisation expresses performance relative to the best and worst observed years rather than against absolute SDG targets; index values should therefore be read comparatively.
- **Indicator coverage.** SDG-5 is represented by a single national indicator (women's person-days share), a measure of participation rather than of empowerment in its fuller, agency-centred sense.
- **Directionality assumptions.** Treating total person-days as higher-is-better does not distinguish between contractions driven by reduced distress demand and those driven by work rationing; this ambiguity is acknowledged in the discussion.
- **National aggregation.** The national focus masks substantial inter-state and intra-state heterogeneity in programme performance.

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