Inclusive Maternal Welfare and SDG Alignment: A Comparative Policy Analysis of PMMVY and TNMRMBS

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Abstract

Public health outcomes in the future will be significantly influenced by maternal health, particularly in developing countries, where systemic inequity prevents equal access to adequate care. To support its commitment to achieving external goals specified in the UN Millennial Plan for Sustainable Development by 2030, India has implemented many Conditional Cash Transfer (CCT) programs to improve access to prenatal care, promote institutional births, and encourage healthy child nutrition through maternity benefit payments. Two key maternal programs in India have similar objectives but are organized differently: (1) Pradhan Mantri Matru Vandana Yojana (PMMVY), a central government initiative that operates under "Mission Shakti (Samarthya)" and (2) Tamil Nadu Dr Muthulakshmi Reddy Maternity Benefit Scheme (TNMRMBS) the first state-led maternity cash transfer scheme to be established in India. Using a second data analysis approach based on official departmental policy guidelines, national household data collected via the National Family Health Survey (NFHS-4 and NFHS-5), and peer-reviewed research literature, this study compares and analyses differences in how each maternal welfare program was designed and implemented, including design elements, eligibility criteria, benefit levels (amounts and eligibility), sustainability, and global strategy alignment (focused on aligning with SDG 3 -Reduce maternal Mortality ratio and SDG 5 -Achieve Gender Equality). The findings show that Tamil Nadu has substantially reduced its maternal mortality ratio (MMR) from 73 per 1,000 live births in 2020-21 to an estimated 39.4 per 1,000 live births in 2024. Gujarat has already achieved the SDG target (MMR of less than/equal to 70) by 2030 and is one of the eight Indian states that have reached SDG targets and will do so by 2030.PMMVY has a broad scope, reaching more than 53.76 lakh recipients in FY 2023–24 and distributing 17,984 crore since its inception. In contrast, TNMRMBS has a higher benefit amount of 18,000 and strong community engagement/collaboration. The Discussion section also indicates that there are ongoing inequities across both informal sector workers and lower caste workers. The conclusion provides evidence-based recommendations for an integrated and equity-sensitive approach to designing policies to facilitate Universal Health Coverage (UHC). In the future, effective implementation of health schemes necessitates a primary focus on the role of frontline workers, specifically ASHA and AWW personnel, whose field-level engagement is vital for program success. To gauge real-world effectiveness, longitudinal impact assessments must be conducted to link cash transfer disbursements directly to maternal and neonatal health outcomes using robust coverage cascade frameworks. Furthermore, comparative analyses of central and state scheme integration models across various Indian states are essential to identify the best practices for co-branded

initiatives. Central to this discussion is the critical task of digital exclusion mapping, which identifies the proportion of eligible women sidelined by Aadhaar non-availability, banking access limitations, and technology gaps faced by frontline workers, ensuring that digital infrastructure serves rather than hinders vulnerable populations.

Keywords: PMMVY, TNMRMBS, Maternal Health, Conditional Cash Transfer, SDGs, MMR, Mission Shakti, Universal Health Coverage, Gender-Responsive Governance, Equity.

Introduction

The concept of maternal health is fundamental to social justice and sustainability in the following ways. India has one-fifth of worldwide deliveries, with over 25 million children born every year, and has a long history of being responsible for a large portion of the world's maternal fatalities (Mavalankar, 2008; Pathak et al., 2010). Over the last 30 years, India has made tremendous advancements in decreasing its Maternal Mortality Ratio at an accelerated pace, well above the international average (Balsarkar, 2023; Bhatia et al., 2021). A major contributor to this progress has been incentive-based strategies, primarily conditional cash transfer programs, which provide financial incentives to improve health-seeking behaviors for services such as antenatal check-ups, giving birth in a hospital or clinic, and getting vaccinations for children. One of the most important conditional cash transfer programs is the Pradhan Mantri Matru Vandana Yojana, which was launched on January 1, 2017, under the National Food Security Act, 2013 (Gramopadhye & Samudre, 2018; Jagannath & Chakravarthy, 2025) and subsequently integrated into the Mission Shakti Samarthya sub-scheme, the Government of India's flagship program for pregnant and breastfeeding women. The Tamil Nadu Dr. Muthulakshmi Reddy Maternity Benefit Scheme is an example of a state-level decentralized model, in operation since 1987 (Bhatia et al., 2021), which has been improved over time to provide 18,000 in assistance, based on the demographics and administrative abilities of each area. This study provides a comprehensive comparison of the two schemes through a systematic comparative analysis of each scheme's policy design, mechanisms of implementation, alignment to the SDG's and the equity implications of each scheme.

Despite considerable scholarship on individual maternal welfare schemes in India, a critical research gap persists: the absence of a systematic, equity-focused comparative analysis that simultaneously evaluates a central government CCT programme (PMMVY) and a pioneering state-led scheme (TNMRMBS) against a unified SDG alignment framework. Most existing studies either evaluate PMMVY in isolation as a national program (Jagannath & Chakravarthy, 2025; Gramopadhye & Samudre, 2018) or assess TNMRMBS as a demand-side financing case study (Bhatia et al., 2021; Swamynathan & Sivasubramanian, 2020), without cross-examining how the two schemes interact, overlap, or collectively address the structural inequities faced by marginalized women. Furthermore, existing evaluations predominantly rely on enrolment and disbursement metrics rather than effective coverage cascades that capture the quality-of-care continuum. This study addresses these gaps by: (i) the absence of bilateral policy analysis and inadequate SDG mapping in the maternal welfare scheme; (ii) examining the co-branded central–state integration model unique to Tamil Nadu as a potential national replication model with historical longitudinal perspectives; and (iii) centering equity outcomes and an intersectionality approach for informal sector workers, SC/ST communities, and documentation-poor populations who are systematically underserved by the current programme architectures. The novelty of this study lies in its limited research infrastructure and triangulated secondary data approach, combining official government guidelines, NFHS-4 and NFHS-5 household survey data, and peer-reviewed literature to produce a policy-relevant comparative assessment that bridges national program evaluation and state-level innovation, directly informing evidence-based pathways toward Universal Health Coverage.

Background and Rationale

Inclusive maternal health is a critical component of the Sustainable Development Goals (SDG), specifically SDG 3 and SDG 5 (Rathore et al., 2024). India's maternal mortality rate (MMR) has been shaped by a combination of factors, including health system capacity, socioeconomic determinants, and

the effectiveness of policies designed to reduce MMR. According to the Special Bulletin on Maternal Mortality, released by the Registrar General of India, MMR has shown a steady decline over the past five years, from 130 per lakh live births in 2014-16 to 122 per lakh live births in 2015-17, to 113 per lakh live births in 2016-18, to 103 per lakh live births in 2017-19 and finally, to 97 per lakh live births in 2018-20 (Balsarkar, 2023) The UN Maternity Mortality Estimation Inter-Agency Group report estimates India's current MMR at approximately 88 per lakh live births (Rathore et al., 2024). Although a significant decrease has been observed in MMR, achieving an MMR of less than or equal to 70 per lakh live births by 2030 (SDG3 and SDG1) will require major equitable policy actions (Rathore et al., 2024).

Tamil Nadu is a national benchmark with one of the most significant declines in MMR among Indian states over time(Joe et al., 2015; Padmanaban et al., 2009). The MMR was 73 (2020-21) and 52.2 (2022-23) and 45.5 (2023-24) (Archana & Rani, 2025), and there was a 6.7 point reduction in MMR during one year, which is much more than the average 2-3 point decline annually. Tamil Nadu has an MMR of approximately 39.4 as of 2024 (Paramasivan & Prakash, 2024), in addition to being one of eight Indian states that have already achieved the Sustainable Development Goals (SDG) 2030 targets (Archana & Rani, 2025). The successful accomplishment of this landmark has been made possible through a combination of state-specific programmatic efforts, such as the Tamil Nadu Maternity Program (TNMRMBS), and a national scheme (Balsarkar, 2023; Vaidyanathan et al., 2022).

Objectives and Scope of Study

The objectives of this study are:

To conduct a systematic analysis of the policies of PMMVY and TNMRMBS, comparing the design principles, eligibility frameworks, benefit structures, and implementation modalities.

To evaluate the contributions of each program to SDG 3 (Good Health), SDG 5 (Gender Equality), SDG 1 (No Poverty), and SDG 10 (Reduced Inequalities).

To provide evidence-based recommendations for improving inclusive maternal welfare policies in India.

This research uses secondary data only included government documents, national population surveys and academic papers published from 2024-2025 at the time of conducting the research. The research did not collect primary data from the field but used observations from an internship for the contextual background.

Methodology

For this research, a comparative policy analysis approach was used as part of the methodological approach, with analysis based on a document review and triangulation of secondary data. The primary sources of data compared in this study are PMMVY (Mission Shakti Official Guidelines 2022-2026, MWCD, Government of India, 2022) and Tamil Nadu Government Orders and annual health reports (for TNMRMBS). Secondary data sources used in this study are the National Family Health Surveys (NFHS-4 and NFHS-5), Special Bulletins on MMR from the Sample Registration System (SRS), NITI Aayog SDG India Index reports, and peer-reviewed journal articles listed in PubMed and Google Scholar. Using the Criteria of Inclusion and Exclusion, Government policy documents and official guidelines were included if they were the most recent version and issued by the implementing ministry/department. Peer-reviewed literature was identified through PubMed and Google Scholar in the English language. Studies that focused solely on clinical (non-policy) outcomes or were not peer-reviewed (blogs, non-indexed preprints). After screening 82 initial records, 53 documents met the inclusion criteria.

The analytical framework used in the study examined the five components of the policy: (1) Policy Design and Legal Basis; (2) Eligibility and Benefit Structure; (3) Implementation and Delivery Mechanisms; (4) Monitoring, Financing, and Evaluation; and (5) SDG Alignment and Equity Outcomes. The comparative analysis was limited to secondary sources of data; all data collected and analyzed for this research study were collected from publicly available government publications and published peer-reviewed academic literature.

India's Mission Shakti Policy and State Initiatives

PMMVY Mission Shakti Guidelines

PMMVY provides cash help of 5,000 for the first-born child living, comprising two payments to expectant and nursing mothers, provided they register for ANC and show proof of having had one antenatal visit (Jagannath & Chakravarthy, 2025). For a second-born female child (only), the PMMVY 2.0 program provides a one-off payment of 6,000 after the child's birth to improve the female sex ratio at birth and prevent the practice of female foeticide (Jagannath & Chakravarthy, 2025).

The functioning of PMMVY 2.0 is supported by an electronically enabled governance framework that uses the PMMVY soft MIS portal, which allows for online facial recognition via UIDAI card as well as payment verification through the NPCI to enable direct cash transfers to the beneficiaries with minimal overpayment (Falcao, 2026). The CPGRAMS portal creates transparency by allowing beneficiaries to lodge and track grievances electronically, and it complies with the Sustainable Development Goal (SDG) 16 requirements/mandates through accountable institutions (Rana et al., 2016; Trivedi & Chaudhary, 2024).

Between April 1, 2023, and March 31, 2024, PMMVY had 53,760,000 beneficiaries and made cumulative payments of 1,798,400,000,000 to 39,000,000 recipients, of which there were a total of 43,700,000 enrolees as of March 31, 2025 (Jagannath & Chakravarthy, 2025; Kallol, 2026).

TNMRMBS: Decentralised System in Tamil Nadu

The Tamil Nadu Dr. Muthulalkhsmi Reddy Maternity Aliophia Scheme (TNMRMBS) was one of India's first and most sustained demand-side financing programs for maternal health (Bhatia et al., 2021). The cash benefit associated with the scheme increased progressively from 200 at its inception to 18,000 in 2017, paid out in a series of increments to beneficiaries through accounts linked with public health centers (Bhatia et al., 2021).

In Tamil Nadu, the design of the TNMRMBS has been significantly changed by creating a co-branded scheme between the TNMRMBS and PMMVY for first-time mothers. Eligible mothers receiving their first child will receive a total of 18,000, with 5,000 provided from PMMVY and 13,000 from TNMRSBS, and the two amounts will be treated as a single payment (Bhatia et al., 2021). The TNMRMBS includes the use of the Amma Baby Care Kit, which contains some of the required supplies for newborns and is made accessible through the vast network of community health workers in the state, such as Village-based Health Workers and ASHAs (Selvarajan et al., 2026; Swamynathan & Sivasubramanian, 2020).

Comparative Analysis of PMMVY and TNMRMBS

Table 1 provides a comprehensive side-by-side comparison of PMMVY and TNMRMBS across key policy dimensions:

Table 1 Comparative Overview of PMMVY and TNMRMBS

Parameter	PMMVY (Central)	TNMRMBS (State)
Implementing Agency	Ministry of Women and Child Development (MWCD) under Mission Shakti (Samarthya)	Tamil Nadu Dept. of Public Health & Family Welfare
Legal Basis	National Food Security Act, 2013; Mission Shakti Guidelines 2022–26	Tamil Nadu Government Orders; state-level health policy
Target Beneficiaries	Pregnant & lactating women (1st child; 2nd if girl)	All pregnant women delivering in government hospitals
Cash Benefit Amount	5,000 (1st child) | 6,000 (2nd child, if girl)	18,000 (in 4–5 instalments)
Mode of Transfer	Direct Benefit Transfer (DBT) via PMMVY portal with UIDAI/NPCI authentication	Direct credit via PHC-linked accounts; integrated with PMMVY for 1st child

Conditionality	ANC registration, one antenatal check-up, birth registration, immunization	Antenatal visits, institutional delivery (govt. hospital), nutritional compliance
Coverage (2023–24)	53.76 lakh beneficiaries (FY 2023–24); 4.37 crore enrolled by March 2025	~12 lakh beneficiaries annually
Total Disbursement	17,984 crore disbursed to 3.90 crore beneficiaries (as of March 2025)	Funded via state budget; amount varies annually
Institutional Linkage	Anganwadi / ICDS network; ASHAs for outreach	Linked with Amma Baby Care Kit & Nutrition Programme
Grievance Mechanism	CPGRAMS portal for complaint monitoring	District-level Public Health units; state helpline
SDG Alignment	SDG 1, 3, 5, 10, 16, 17	SDG 1, 3, 5, 10
Key Strength	Large national scale, digital DBT, sex-ratio incentive	Higher benefit amount, state-specific targeting, community integration
Key Gap	Exclusion errors for informal sector workers; caste-based barriers	Limited to govt. hospital deliveries; narrower geographic scale

Sources: MWCD Mission Shakti Guidelines 2022; GoTN Health Reports; IMPRI India (2025); Scribd/ TNMRMBS Summary.

Maternal Mortality Trends: India and Tamil Nadu

Table 2 presents the longitudinal decline in MMR for India and Tamil Nadu, contextualising scheme impacts within the broader policy environment:

Table 2 MMR Trend – India vs. Tamil Nadu (2014–2024)

Year	India MMR (per 1L live births)	Tamil Nadu MMR (per 1L live births)	Remarks
2014–2016	130		
2015–2017	122		
2016–2018	113		
2017–2019	103	58	Well below SDG target
2018–2020	97	54*	SDG target (≤70) achieved in TN
2020–2021	~97	73 (TNHD data)	COVID-19 impact noted
2021–2022	~97	90.5 (TNHD data)	Pandemic recovery period
2022–2023	88 (SRS)	52.2	Steady decline resumed
2023–2024	~88	45.5 → 39.4*	TN among top 8 SDG achievers

Sources: Registrar General of India SRS Bulletins; Tamil Nadu Health Department; PIB Press Releases (2022, 2025); *Estimates.

Tamil Nadu's MMR decline of 6.7 points in 2023–24 alone significantly exceeds the national average annual improvement, underscoring the effectiveness of its integrated state-level approach. The state has already attained an MMR of 49 per lakh (SRS 2019–21) and is on track to approach single-digit MMR figures in the medium term. Eight Indian states Kerala (20), Maharashtra (38), Telangana (45), Andhra Pradesh (46), Tamil Nadu (49), Jharkhand (51), Gujarat (53), and Karnataka (63) have already achieved the SDG target of MMR ≤70 per lakh live births.

SDG Alignment Framework

Table 3 maps the specific SDG contributions of both schemes across the 2030 Agenda:

Table 3 SDG Alignment of PMMVY and TNMRMBS

SDG	Goal	Linkage to Maternal Welfare	Scheme-Specific Example
SDG 1	No Poverty	Cash transfers reduce financial burden of pregnancy and childbirth	Both schemes; TNMRMBS provides higher cash benefit (18,000)
SDG 3	Good Health & Well-Being	Reduction in MMR, promotion of ANC, institutional delivery, and immunization	Core mandate of both PMMVY and TNMRMBS
SDG 5	Gender Equality	Recognizes women's reproductive roles; PMMVY 2.0 incentivizes girl-childbirth	PMMVY 2.0 provides 6,000 for 2nd child if girl
SDG 10	Reduced Inequalities	Targets marginalized communities; mandatory ANC registration	TNMRMBS reaches BPL women; PMMVY has income eligibility
SDG 11	Sustainable Cities & Communities	ASHA/AWW frontline workers link communities with services	Both schemes depend on community health workers
SDG 16	Peace, Justice & Institutions	CPGRAMS grievance portal; multi-layer DBT verification	PMMVY 2.0 digital governance model
SDG 17	Partnerships for Goals	Multi-agency collaboration: MoHFW, NIC, UIDAI, PFMS, NPCI	PMMVY integration with national digital infrastructure

Sources: UN SDG Framework (2015); MWCD Mission Shakti Guidelines (2022);(Bryce et al., 2013; Dada et al., 2023; Munos et al., 2017).

Eligibility, Coverage, and Benefit Design

The Pradhan Mantri Matru Vandana Yojana (PMMVY) programme is designed for pregnant and lactating women aged 19 years and older to improve maternal and child health, maternal nutrition, and early child development by offering 5,000 financial assistance for the 1st child on the condition that expectant mothers register their pregnancy early, attend at least one antenatal clinic (ANC), and register their newborns, as well as 6,000 for the 2nd girl child (Bhatia et al., 2021; Gramopadhye & Samudre, 2018). In contrast, the Tamil Nadu Maternity Benefit Scheme (TNMBMS) is available to all pregnant women giving birth in government hospitals, regardless of family income level, and provides the largest maternity benefit in the country at 18,000 to replace wages lost due to maternity leave, pay for out-of-pocket delivery costs, and provide nutritional support (Bhatia et al., 2021; Lakshmi & Rajkumar, 2019). The TNMBMS requires childbirth at a government hospital, thus increasing access to institutional delivery services, and has directly contributed to the reduction of chronic malnutrition among children 0–59 months of age in Tamil Nadu from the basic rate (20.2) to the improved rate (18.6) in 2022 to 2024.

Key coverage gap: Limiting PMMVY to first births and the complicated verification of eligibility cause exclusion errors regarding women working in informal economic situations who do not have the necessary documents to prove their eligibility (Bhatia et al., 2021). The restriction of this scheme to government hospital deliveries may have ramifications for women who will not deliver in such facilities due to perceived differences in quality, as detailed in studies on barriers to healthcare access in rural Tamil Nadu (Arvind & Maheswari, 2025; KS et al., 2025).

Stakeholder Participation and Community Engagement

Successful implementation of both schemes further depends on frontline health workers: Accredited Social Health Activists and Anganwadi Workers under PMMVY and Village Health Nurses under TNMRMBS (Rammohan et al., 2021). These workers carry out beneficiary identification and registration, counselling, and compliance monitoring. The quality of community and stakeholder engagement has been shown to be a significant predictor of the effectiveness of maternal health programs in LMICs, especially when there

is credibility of messages and a two-way flow of communication (Abraham & Meléndez-Torres, 2023).

The realist review (Dada et al., 2023) looked into community engagement within Maternal and Newborn Health (MNH) programs in Low and Middle-Income Countries (LMIC). They found that communication modality, community ownership, and program acceptability were critical factors for effective community engagement. While both programs have a strong workforce infrastructure at the community or frontline level, both have equity-related gaps based on caste identity and social discrimination, which can limit access to services for the most at-risk women. Reducing structural inequities requires training frontline workers in anti-discriminatory practices and collaborating with community-level influencers who can utilize networks of trust within communities (Goswami & Pinto, 2022).

Financing, Monitoring and Evaluation Mechanisms (FMEV)

PMMVY is a centrallyfunded and sponsored scheme with a cost-sharing arrangement between the Union Government (CG) and State Governments. Cumulative expenditures for the PMMVY are projected to reach an excessive amount by March 2025 (Jagannath & Chakravarthy, 2025), illustrating the very high level of fiscal commitment required to sustain the program. In comparison, the TNMRMBS is fully funded by Tamil Nadu Government revenues; therefore, it is aligned with Tamil Nadu's historical commitment to social welfare funding and demand-side financing in the state (Bhatia et al., 2021). The dual-funding structure for 1st-child beneficiaries provides for optimized utilization of limited resources and avoids unnecessary duplication of services available to this population (Bhatia et al., 2021).

Monitoring systems are an important bottleneck in maternal healthcare programs across India (Hamal et al., 2018; Jagannath & Chakravarthy, 2025). Munos et al. asserted that there are inherent problems with the current systems of measuring coverage for reproductive, maternal, neonatal, and child health initiatives, and suggested that additional metrics need to be deployed that measure care quality and actual health outcomes beyond just enrollment numbers (Munos et al., 2017). Barros and Victora proposed the use of a "coverage cascade" to measure how many individuals receive care throughout each identified step and to what degree they progress through each step, as this is a better indicator of effective coverage than simply using enrolment or disbursement metrics (Barros & Victora, 2013). India's reliance on enrolment and disbursement numbers to determine whether cash transfers improve maternal health outcomes continues to hinder India's ability to produce valid assessments (Jagannath & Chakravarthy, 2025).

Several studies have provided evidence that data-driven decision-making in state systems, particularly in Uttar Pradesh, faces considerable barriers, including insufficient human resources, weak technology infrastructure, and political environments that create a disjointed approach to data utilization (Meghani et al., 2022; Prakash et al., 2021). In contrast, Tamil Nadu has implemented a very advanced and comprehensive health management information system (HMIS), which has allowed for the tracking of maternal mortality rates with a level of granularity sufficient to facilitate policy change on an annual basis, suggesting that this type of system may warrant implementation at the national level (Jagannath & Chakravarthy, 2025).

Table 4 presents the per-beneficiary cost-sharing structure between the Central Government and the Tamil Nadu State Government under the combined PMMVY–TNMRMBS framework:

Table 4 Per-Beneficiary Benefit Structure – Central and State Government Share

Particulars	Formula / Basis	Amount / Count
Central Government share per beneficiary	Fixed amount under PMMVY	5,000
State Government share per beneficiary	Fixed amount under TNMRMBS	13,000 (4000 as nutritional kit)
Total maternity benefit per beneficiary	5,000 + 13,000	18,000

Total Central Government expenditure in India	Given data	18,000 crores
Estimated total beneficiaries in India	18,000 crores ÷ 5,000 per beneficiary	3,60,00,000 (3.6 crore)

Source: Government of India, MWCD Mission Shakti Guidelines (2022); GoTN TNMRMBS Government Orders (2024). Note: Total Central Government expenditure figure is as reported in official data.

Table 5 disaggregates the Tamil Nadu-specific financial contribution, based on actual enrolled and paid beneficiary counts:

Table 5 Tamil Nadu – Financial Contribution Calculation (PMMVY + TNMRMBS)

Particulars	Formula / Basis	Amount / Count
Total enrolled beneficiaries (Tamil Nadu)	Given data	21,63,687
Total actual paid beneficiaries (Tamil Nadu)	Given data	19,16,817
Central Government contribution (PMMVY @ 5,000)	19,16,817 × 5,000	9,58,40,85,000
Central Government contribution (in crores)	Converted value	958.41 crores
Tamil Nadu Government contribution (TNMRMBS @ 13,000)	19,16,817 × 13,000	24,91,86,21,000
Tamil Nadu Government contribution (in crores)	Converted value	2,491.86 crores
Total maternity assistance in Tamil Nadu	19,16,817 × 18,000	34,50,27,06,000
Total maternity assistance (in crores)	Converted value	3,450.27 crores

Source: GoTN Department of Public Health and Family Welfare; PMMVY benefit structure per MWCD Guidelines (2022). Calculations derived from official beneficiary data.

The investment level in the state of Tamil Nadu for maternal wellbeing is substantial (Table 4 and 5). Total money invested in maternal wellbeing in Tamil Nadu is 3450.27 crore (approx. 345 billion Indian Rupees) with a central government contribution of approximately 958.41 crores (27%) and a state government contribution of approximately 2,491.86 crore (73%). This shows the state of Tamil Nadu's substantial investment in maternal health and wellbeing through the 1st phase maternal health PMMVY policy, but represents a disparity between registered beneficiaries (21,636,87) and actual beneficiaries receiving payments (19,168,17), with approximately 2.47 lakh unfulfilled beneficiaries that would indicate an administration bottleneck with the associated verification and documentation processes or DBT processing, to warrant use of targeted resources for resolving these issues.

Discussion and Critical Synthesis

The comparative analysis revealed that PMMVY and TNMRMBS are complementary rather than competing instruments. Sure. The Pradhan Mantri Matru Vandana Yojana (PMMVY) is a large-scale national initiative aimed at digital transparency and gender equity incentives for women based on the scheme's eligibility criteria. An example of a program with a higher benefit amount (compared to PMMVY) is the Tamil Nadu Dr. Muthulakshmi Reddy's Maternity Benefit Scheme (TNMRMBS), which seeks to target women who may have been missed in receiving benefits under PMMVY. Ongoing research documents the persistence of inequalities based on social and/or class structures within the PMMVY/TNMRMBS, as demonstrated in the South African context by van der Merwe and Grobbelaar (2018), who argue that systemic policies aimed at facilitating access to innovation for underrepresented groups (such as lower-income women) cannot simply expand nominal access (van der Merwe & Grobbelaar, 2018). India's examples have shown that, while universal CCT (Conditional Cash Transfer) programs are essential, the level of need remains for additional funding to reach women facing other barriers to access.

In Tamil Nadu, the institutional delivery rate has increased, in part, due to the Tamil Nadu Maternity and Infant Mortality Reduction Project requirement for women to deliver at government hospitals before receiving financial assistance from the government. This reflects the success of aligning supply and demand to deliver maternal

health services. Identifying institutional delivery as an important driver of India's significant decrease in maternal mortality ratio (MMR) along with improved emergency obstetric care and skilled attendance during childbirth (Bhushan et al., 2024), Bhushan et al. also emphasized that women will only benefit from increased usage of these services if the quality of care delivered by institutions is improved. (Amouzou et al. (2019) and Marsh et al. (2020) proposed using effective coverage cascades as a framework for evaluating institutional maternal healthcare services based on both service access and whether the accessed services improve service users' health outcomes. PMMVY and TNMRMBS evaluations will require data on the quality of antenatal care, skilled attendance during childbirth, follow-up care received after childbirth, and actual nutritional status measured in addition to the above financial disbursement metrics.

The gains described from the author's perspective are mitigated by continued exclusion errors. Informal workers, women without valid documentation, and marginalized social groups frequently have difficulties meeting verification requirements, meaning that the data on enrolment and disbursement are over-representative of the actual inclusivity of the programme. TNMRMBS provides significantly higher benefit amounts in Tamil Nadu, is significantly linked to government hospital deliveries, and has strong community support through health visitors and a robust health information system. This has helped the state achieve a rapid and sustained reduction in maternal mortality and meet SDG targets before many other states.

Taken together, the comparative findings suggest that PMMVY and TNMRMBS work best as complementary instruments: the former provides scale and digital governance at the national level, whereas the latter demonstrates how deeper integration with local health infrastructure and community engagement can translate cash transfers into concrete health outcomes. However, the analysis also stresses that true progress requires an explicit equity lens, addressing caste and digital barriers, and adopting effective coverage cascades that track quality of care and outcomes rather than just enrolment. From the author's perspective, the core message is that India's path to SDG-aligned maternal welfare lies not only in expanding schemes but also in redesigning them so that the most vulnerable women are systematically identified, reached, and supported across the entire continuum of care.

Strategic Recommendations for Inclusive Maternal Welfare

All efforts must be made to ensure that PMMVY and TNMRMBS participate in developing a more inclusive approach to maternal welfare by developing targeted ways of identifying and providing services to the most marginalized populations (including SC/ST, internal migrants, and those without documentation) using a community-based approach with ASHAs and VHNs (Bango & Ghosh, 2022; Das et al., 2022; Kumar & Singh, 2015; Mishra et al., 2021). Simultaneously, service delivery quality must be enhanced through mandatory anti-discrimination and gender-sensitive training for frontline workers and prioritizing hiring from the communities served to build trust and increase access to the most excluded groups (Agarwal et al., 2019; Babu, 2021; Chawla et al., 2025; Lyngdoh et al., 2018; Rammohan et al., 2021). The monitoring framework should evolve to include an effective coverage cascade focused on tracking the entire continuum of care from registration to immunization and publishing disaggregated data to monitor services annually for accountability (Amouzou et al., 2019; Bango & Ghosh, 2022; Das et al., 2022; Sheffel et al., 2024). Finally, integrated planning for maternal welfare programs across sectors is needed through a unified case management system with other initiatives, such as the POSHAN Abhiyan, Swachh Bharat Mission, and Beti Bachao Beti Padhao (Bakshi et al., 2024; Balsarkar, 2023).Finally, to resolve equity paradoxes inherent in restricting cash transfers to the first child, which disproportionately affects lower socioeconomic strata, consideration must be given to extending support to all pregnancies using equity-based targeting criteria (Bhatia et al., 2021; Jagannath & Chakravarthy, 2025).

Pathways forward for SDG-Informed Policy Integration

Achieving SDG 3, 1 and SDG 5 requires a

systems-thinking approach to maternal welfare policy that recognises interdependencies across social, economic, and health determinants. Drawing on Balk's framework (Wirth et al., 2006) for equity-sensitive Millennium Development Goal monitoring, future SDG-aligned maternal welfare policy must:

Establish transparent, standardised effective coverage metrics that measure quality of care and real health outcomes, not merely access or enrolment (Amouzou et al., 2019; Marsh et al., 2020).

Foster inclusive community and stakeholder co-design of programmes, ensuring that beneficiary needs and priorities drive design decisions (Dillip et al., 2024; Howard-Grabman et al., 2017; Till et al., 2023).

Promote enhanced coordination between central and state governments, institutionalising mechanisms to scale up successful state innovations at the national level (Kruk et al., 2016; Paul et al., 2011; Vora et al., 2009).

Leverage national digital infrastructure to improve accountability while simultaneously creating simplified pathways for beneficiaries who face digital exclusion (Falcao, 2026).

Invest in district-level HMIS capacity, particularly in EAG states, to enable data-driven annual policy refinement on the Tamil Nadu model (Kiran et al., 2022; Paul et al., 2011).

Conclusion

PMMVY and TNMRMBS serve as complementary pillars of India's maternal welfare strategy, with Tamil Nadu's low maternal mortality rate highlighting the efficacy of integrating these schemes with a strong public health infrastructure. Nevertheless, significant equity gaps persist for marginalized women. Achieving the nation's SDG goals requires moving beyond mere scale to prioritize equity-sensitive targeting, strengthening frontline support, and fostering intersectoral integration, ensuring that progress is defined by the inclusion of the most vulnerable. This study had some limitations. It relies exclusively on secondary data and official statistics, which may under represent informal sectors and undocumented beneficiaries. Cross-state generalizability is limited, as Tamil Nadu's outcomes reflect a specific administrative and health infrastructure context that is not easily replicated elsewhere. Finally, the absence of primary beneficiary-level data limits our ability to establish causal links between the scheme's design and health outcomes.

Future Research Directions

This study, grounded in secondary data and comparative policy analysis, identifies several promising directions for future empirical and policy-oriented research:

Primary Field-Based Beneficiary Evaluations. Future research should conduct mixed-methods field studies that directly capture the lived experiences of PMMVY and TNMRMBS beneficiaries, with purposive sampling across caste categories (SC/ST/OBC), informal occupational groups (daily wage laborers, domestic workers, and migrant women), and documentation-poor populations. Such studies would provide ground-level evidence of exclusion errors, access barriers, and the quality of frontline worker interactions that secondary data cannot reveal.

Longitudinal Effective Coverage Impact Assessment. Longitudinal cohort studies should be undertaken to link cash transfer disbursement data with measurable maternal and neonatal health outcomes, including ANC quality, skilled birth attendance rates, postnatal follow-up compliance, and infant nutritional status, using the effective coverage cascade framework proposed by Barros and Victora (2013). This would shift program evaluation from mere enrolment metrics to outcome-linked accountability.

Replicability of the Tamil Nadu Co-Branding Model. Tamil Nadu's co-branded integration of PMMVY and TNMRMBS into a unified 18,000 benefit structure represents a potentially replicable model for other Indian states. Comparative research should examine whether analogous central–state scheme integration is feasible in Empowered Action Group (EAG) states with weaker health infrastructure (e.g., Bihar, Uttar Pradesh, and Madhya Pradesh) and what structural prerequisites in terms of HMIS capacity, frontline worker density, and inter-departmental coordination are required for successful adaptation.

Digital Exclusion and DBT Accessibility. Given Falcao's (2026) critique of "digital washing" in India's public welfare delivery, there is an urgent need for research that quantifies the extent to which UIDAI-linked biometric authentication requirements and NPCI-based transfer pathways exclude women with irregular documentation, limited mobile connectivity, or low digital literacy. Studies should also assess whether simplified beneficiary identification pathways, such as community health worker-mediated enrolment, can effectively bridge these digital divides without compromising governance integrity.

Equity-Sensitive Extension of Birth-Order Restrictions. PMMVY's restriction of full benefits to first and second (girl) births disproportionately excludes higher-parity women from lower socioeconomic strata. Future policy research should model the equity and fiscal implications of extending coverage to all pregnancies using means-tested or vulnerability-indexed targeting, drawing on frameworks used in comparable LMIC conditional cash transfer programs (e.g., Brazil's Bolsa Família) to inform a revised eligibility architecture for PMMVY 3.0.

Intersectoral Program Integration Research. Future studies should evaluate the synergistic effects of linking maternal welfare schemes with nutrition (POSHAN Abhiyan), sanitation (Swachh Bharat Mission), and girl child education (Beti Bachao Beti Padhao) programs through a unified case management architecture. Implementation science frameworks can be applied to assess whether co-located beneficiary registration, shared HMIS platforms, and integrated frontline worker roles produce measurable improvements in holistic maternal and child well-being outcomes beyond those attributable to cash transfers alone.

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